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GRADUATE RESEARCH IN EDUCATION SEMINAR (GREduc 2019)

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13TH DECEMBER 2019

FACULTY OF EDUCATIONAL STUDIES,

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THE GRADUATE RESEARCH IN EDUCATION SEMINAR 2019

PROCEEDINGS

STREAM 1 – CURRICULUM AND INSTRUCTION

034 : Blending Flipped Classroom with Inquiry Learning as an Innovative Approach to Teaching Science

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ABSTRACT

Technology has always played a crucial role in science teaching and learning. Research studies shows pedagogical approaches employed need to be more interactive in engaging students in order for students to successfully help to achieve mastery of fundamental concepts. Meanwhile the pedagogy used in the delivery of content needs to meet the demands of the 21st century. As students at all levels interact with digital technology on a regular basis, digital media can be used to reform education from conventional to learning based on technology. Flipped classroom has gained popularity as an innovative approach to be utilized in teaching science at different levels. Flipped classroom accompanied with inquiry learning involves a paradigm shift is utilizing digital technology and online resources to leverage learning where more time can be spend interacting with students and engaging students in active learning. Inquiry learning has been a strongly supported strategy to teach science as for many years it has helped students to acquire science concepts, skills and abilities to understand scientific inquiry and encourage active engagement of students. Advancement in the technology and the passion, young generation have for digital media can be used to reform education from conventional to technology-based education by blending flipped classroom with inquiry learning in science teaching and learning. Aided with technological tools, flipped classroom with inquiry can transform the learning environment from a teacher-centered to learner-centered, make learning more interactive and supportive for science teaching in the 21st century.

Keywords: Flipped classroom, flipped learning, innovation, inquiry learning

1.0 INTRODUCTION

Science and technology have strong links as major accomplishments in science are often led by advancement in the applications of technology. Technology has always been used as a tool to aid instruction in science as well as learning of science content and processes of scientific work (National Research Council, 2000). Learning of science is a vision essential for social change for which citizens need to take an active part in the future. As stated by Harlen (2015), issues that are faced globally today are essentially technical in nature such as climate change, energy resources, food production and genetic modification (Weiman, 2008) creating an urgent need for young people to becomes aware of the underlying scientific ideas, technological and ethical issues in order to address them and make wise decisions.

Research studies clearly demonstrates there is a problem in the traditional pedagogical approach. Pedagogical approaches employed need to be more interactive in engaging students in order for students to successfully help to achieve mastery of fundamental science concepts (Weiman, 2008). Consequently, pedagogy used in the delivery of science needs to meet the demands of the 21st century. As students at all levels interact with digital technology on a regular basis, the passion students have for digital media can be used as a stepping stone to reform education from conventional to learning based on technology (Halili & Zainuddin, 2015). Thus, approaches used in teaching science can make use of the innovative approaches and technologies in the delivery of lessons and teacher-student interaction (Cagande & Jugar, 2018).

Innovation translates similar to its literal meaning referring to the introduction of the new; content, methods, techniques and technologies. According to Walder (2014), innovation refers to the adjustment, improvement, development, modernization, reform or renewal, primarily associated with advancement in science and technology. In education, innovation is of particular importance to meet the demands of the society and educate the present generation for the challenges of the 21st century, making the best use of the resources available. Hence, innovation is an instrument crucial for positive change, needed for any

system to remain sustainable (Serdyukov, 2017). In spite of the wide application of innovative technology in education, the role of traditional physical attendance to the classroom for face-to-face interaction cannot be ignored. Therefore a new approach which combines traditional with digital and online technologies emerged, referred as 'flipped classroom' (Halili & Zainuddin, 2015).

Flipped classroom has emerged as an innovative approach to be utilized for teaching science or any other discipline at different levels (Cagande & Jugar, 2018; Cormier & Voisard, 2018; Fautch, 2015 & Peterson, 2016). It has been gaining popularity with teachers and students since the early 21st century (Cormier & Voisard, 2018; Jenkins, 2019). According to Sams and Washington (2012) flipped classroom paradigm involves use of various internet technology to leverage learning where more time can be spent interacting with students and engaging students in active learning. Bortnik, Stozhko, Pervukhina, Tchernysheva and Belysheva (2017) suggests that one way in which information technology has been employed in teaching different disciplines of science is through the use of technological tools such as Wiki, Moodle, Blackboard and other similar tools allowing to organize modes of interaction. Flipped classroom is a strategy that can employ these tools to enhance the learning process. Much of the research on cognitive and education is based on the basic principle that students create their own understanding when they learn. As a consequence, effective teaching should facilitate the processes which help students to engage and think deeply about the subject and be able to monitor thinking and guide students to be more expert-like (Weiman (2008). Thus, flipped classroom with inquiry learning has the scope to bring this effectiveness to teaching science.

Although flipped classroom is a new approach to teaching, many studies suggest that flipped classroom shows success at all levels including college-level student achievement. Bishop and Verleger (2013) suggests that flipped classroom represents a unique combination of active, inquiry-based learning with direct delivery incorporating an e-learning component to enhance teaching and learning. Comparison of flipped and traditional face-to-face courses in various science and social disciplines have shown improvement in achievement for students in the flipped classroom. Research indicate that this is due to flipped classroom facilitating more time for active and efficient interaction with materials and instructors (Peterson, 2016). Flipped classroom is one of the approaches that can utilize technology to help make use of the classroom time efficiently and engage students actively in the learning process.

2.0 THE FLIPPED CLASSROOM

Flipped classroom emerged as a concept in teaching high school chemistry by supplementing video recorded lectures for learning materials, aiming free up the in-class time for working on content and more meaningful learning (Graziano, 2016; Raths, 2014). The practice of using these videos broadened to give rise to the concept of flipped classroom (Raths, 2014). Put it simply, flipping in teaching refers to when the order of delivery is flipped'. The instructional materials such as audios, videos and readings are delivered prior to the lesson through the use of technology where students have opportunities to review and access the materials individually at their own pace and several times if needed. According to Staker and Horn (2012), the flipped classroom model basically comprises of two steps. That is (a) students should have access to materials provided online or through a digital learning device before class time and be knowledgeable about them and (b) free up more in-class time for more strategic use such direct communication with instructor, collaboration with peers and provision of individualized attention. Thus, the flipped classroom represents an expansion of the curriculum, rather than simple re-arrangement of activities.

The term flipped classroom is interchangeably used with flipped learning by many. However, as stated by Flipped Learning Network (2014), experienced Flipped Educators and leaders, distinguish these two terms stating that flipped classroom can, but does not necessary lead to flipped learning. Flipped learning is more advanced than flipped classroom which require teachers to incorporate four pillars of flipped learning; flexible environment, learning culture, intentional content and professional educator (Flipped Learning Network, 2014). Flipped learning is defined as:

> "*a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter*" (Flipped Learning Network, 2014, p. 1).

Flipped learning is a step forward from flipped classroom where teachers or instructors will be able to take the flipped classroom and recover the in-class time for conducting activities such project-based

learning, inquiry, mastery-learning and others to get students more involved in the learning process. Thus, transforming the classroom learning from a teacher-centered approach to a student-centered approach, maximizing face-to-face time for more productive learning which has been limited due to time constraints (Sams, 2019). Even though there is variability among experts on the flipped classroom approach, for the purpose of this paper overall features of flipped classroom combined with flipped learning are going to be considered together. This pedagogical approach is a major step forward in the teaching and learning of science creating a better understanding of science concepts.

Both flipped classroom and flipped learning serves to maximize the use of face-to-face class time rather than the videos or online materials. The primary focus is on active learning and spending more in-class or face-to-face time in supporting students in deeper learning process to get students engaged in the learning process rather than content delivery (Peterson, 2016; Alebrahim, 2016; Sharma, Lau, Doherty, & Harbutt, 2015). Since instructional content is allowed outside the class, instructors can maximize in-class time for catering individual needs and difficulties of students, dedicate class time for more active learning and engaging students through the processes of inquiry where students can apply the knowledge and get hands-on experiences (DeLozier & Rhodes, 2017). Flipping does not change the face-to-face contact time compared to traditional teaching (Overmyer, 2014). Direct instruction in the flipped classroom is moved to individual space by using technology where students will be able to view, pause and rewind them at their own pace in order to make sense of the instruction delivered.

3.0 FLIPPED CLASSROOM IN SCIENCE TEACHING

Science is an academic discipline that involves learning of science concepts and processes (Almario, 2015). Science opens students minds to think, reason and make meaning from essential experiences (Van Tassell, 2001). Research in teaching of science suggests that traditional methods of teaching still remains to be the most prevalent forms of teaching. However, these approaches have been highly inadequate in delivering effective and meaningful learning to elevate educational outcomes. As a result, science educators and researchers are looking for innovative ways to improve, modify and replace the traditional methods which can cater for the varying needs of the students (Almario, 2015). Flipping the classroom, accompanied with student-centered strategies such as inquiry learning and digital technologies can greatly support the teaching and learning of science for the current needs as young generation are familiar and comfortable with the use of technology as part of their everyday life (Wan, 2014).

Flipped classroom can be advantageous in teaching science especially through the use of strategies such as inquiry learning which requires great engagement of students (Paristiowati, Fitriani, & Aldim, 2017; Love et al., 2015). By flipping, students can spend more in-class time for useful hands-on activities, experiments, clearing difficult concepts and more alike. This is an important part for conceptual understanding in science. Research suggests that people learn by creating their own understanding. Flipped classroom uses technological tools in presenting information, online interactive simulations which can be used to effectively relate scientific principles to real-life experiences in their own context (Weiman, 2008; Ng & Nguyen, 2006; Webb, 2005). As all these are important in the learning process, flipping can provide opportunities to maximize the time for more engaging science activities and improve the relationship between students and teachers.

In implementing flipped classroom, the pre-class activities on digital sources or online can used to provide lower-order direct instructions (Sarawagi 2013 cited in Graziano, 2016) where in-class interactions can be used to increase or maximize opportunity for higher-order thinking skills of the revised cognitive domain in Bloom's taxonomy such as applying, analyzing, evaluating, and creating. It has the scope to support and allow students to spend more time in accomplishing the tasks at higher cognitive level in the classroom. (Siegle 2014 cited in Graziano, 2016; Sams, 2019; Zainuddin & Halili, 2016).

As digital technology and internet plays a crucial role in flipped classroom, various methods can be employed in the delivery of science content. One of the prime tools used in providing content in the flipped classroom is the pre-class videos. Videos could be recorded by the teachers or lecturers themselves or a recording of the screencasts of the explanations or illustrations can be created on the screen such as derivations of formulas or illustrations. A variety of cost-free screencast software applications can be used to capture and record the computer screen output with accompanying audio narrations. These software include Jing, Cam studio, Camtasia, Community Clips and Show Me. Learning management systems such as Moodle or Edmodo can be used to upload these instructional videos where students get access to them and download to view outside the classroom. In addition to this, instructional videos that are freely

accessible on the internet from sources such as Khan Academy, YouTube, Teaching tube, Show Me and many alike could be used. By providing students with these resources, students get access to listen or view to the teaching in an informal setting easily during the out of class time (Wan, 2014).

By flipping classroom in this manner, direct instruction can be carried outside the class contact hours so that in-class time can be reserved for more interactive activities (Raths, 2014). In science lesson this class time can be free up for valuable interactive tasks to build on the learning carried out prior to the class. Activities such as experiments, demonstrations, practical laboratory work, hands-on activities or group-work strategies would provide students with opportunities to practice and master key science skills and processes (Constantinou, Tsivitanidou, & Rybska, 2018). Moreover, teachers and peers would get more time and opportunities to interact and provide necessary support to individual student's needs (Miller, 2014). Flipping the classroom is effective as students learn the science content in their own informal time and space. Furthermore, this provide opportunities for students to rethink and digest content at their own pace making it more plausible for the individual needs of students.

Almario (2015), points out that science learning is effective when students understand science concepts and processes from different viewpoints, argue and translate their representation of scientific knowledge in decision making. This requires students' engagement and direct contact with the teachers so that a variety of teaching strategies which complement with the specific needs of the students can be implemented. Flipped classroom can be made effective in science teaching as teachers can free up the bulk of class time to work more interactively with the set of students who need additional help as well as cater for those who are ready to be challenged at higher levels. Teachers will have the extra in-class time necessary to provide differentiated instruction to meet the diverse needs of the students. The flipped classroom provides with opportunities in terms of both time and freedom for students to think critically and work cooperatively and collaboratively through more hands-on science and project-based or problem-based learning. However, the best use of flipped classroom is possible only when all students have access to technology and the internet at home or by least accessibility to internet out of the class time (Miller, 2014).

4.0 INQUIRY LEARNING IN FLIPPED SCIENCE CLASSROOM

The flipped classroom typically focuses on the use of in-class time for activities other than delivery of lectures or direct instruction. This implies student-centered approaches can be used during the in-class time to engage students in various activities (Bishop & Verleger, 2013). Science being a practical subject, it is essential to provide students with opportunities to think, reason, make meaning from essential experiences which can be used to solve problems in everyday life and future (Martin, Sexton, Franklin, & Gerlovich, 2005). Inquiry learning is one of the strategies that can be employed in a science classroom to foster students' engagement in the science lessons and enhance a more productive in-class time for learning science (Love, Hodge, Corritore & Ernst, 2015).

Inquiry is a teaching strategy as well as a multifaceted activity that includes making observations; posing questions; analyzing books and different sources of information; plan investigations; evaluation what is already known in light of evidence; using equipment to collect, examine, and interpret facts and data; propose answers; give reasons; make predictions and communicate findings. These are essential science process skills necessary to learn and understand science (Irwanto & Rohaeti, 2018). The key features to learning stimulated by inquiry is student-centered, self-directed and active learning, making it possible for students to get engaged in serious investigation, develop research skills and become life-long learners (Amineh & Asl, 2015).

Some of the essential features of inquiry that may apply across all grade levels in teaching and learning science are:

- Learners are engaged by scientifically oriented questions.
- Learners give priority to evidence, which allows them to develop and evaluate explanations that address scientifically oriented questions.
- Learners formulate explanations from evidence to address scientifically oriented questions.
- Learners evaluate their explanations in light of alternative explanations, particularly those reflecting scientific understanding
- Learners communicate and justify their proposed explanations (National Research Council, 2000).

These essential features may vary depending on the level of inquiry structure that is built into the activity or the extent to which students initiate and design the investigations (NRC, 2000).

The theoretical support for flipped classroom and inquiry learning relates to the principles of constructivism as it emphasizes meaningful learning takes place when learners have an active role in interacting with the learning materials and get engaged in the learning process (Wan, 2014; Siahaan, Suryani, Kaniawati, Suhendi, & Samsudin, 2016). In the pre-class videos or materials of the flipped classroom, students are engaged actively in constructing understanding when contents are viewed at home to making sense of it. Moreover, learners need to discover, construct their own knowledge and understanding of the world, emphasizing reflection of students' own experiences, active thinking and social interaction rather than passively receiving information (Karaduman & Gültekin, 2007). The teaching methods based on constructivist learning theories helps to create autonomous, inquisitive thinkers who can question, investigate and reason. Consequently, students develop processes, skills and attitudes which is prominent in learning science through the focus on inquiry (Minner, Levy, & Century, 2010).

In inquiry learning, students use a variety of information sources and explore ideas to understand a topic in more depth. Inquiry processes help students develop thinking and learning skills such as creative thinking, critical thinking, self-regulated learning skills, metacognitive ability and communication skills. Student also get opportunity to experience with science, creates awareness of how science operates and develops positive attitudes towards science which is important for decision making in everyday activities. Furthermore, inquiry is also related to problem-and project-based learning, in which learners adopt an inquiry mindset in developing and completing projects with a relatively open-ended set of answers (Chu, Notari, Reynolds & Tavares, 2017). This approach is beneficial in learning science as it is more dynamic and requires active involvement of students in constructing their own learning and make learning an active, ongoing process (Caspari, Kuhlthau, & Maniotes, 2007).

Research on inquiry learning indicates that it has the potential to increase student engagement, motivate students and create interest in science. Inquiry as an approach to teaching and learning of science has been a strongly supported for many years as it can help students to acquire science concepts, skills and abilities to understand scientific inquiry and encourages active engagement of students (Constantinou et al., 2018). Inquiry approach in teaching and learning is crucial for today's fast changing world because information is readily available. Through the use of flipped classroom accessibility of basic and more direct information required in conducting inquiry learning in classroom can be made viable to students.

5.0 IMPLEMENTING INQUIRY LEARNING USING FLIPPED CLASSROOM

When implementing inquiry learning in classroom, it is important to develop the ability to understand and engage student in inquiry activities, which requires direct experience and continued practice with the processes of inquiry. Teachers' assistance is important to engage students in the inquiry process rather than letting students do free for all exploration (NRC, 2000). Designing flipped classrooms with inquiry model would help students to get involved in the inquiry process through a sequence of experiences designed to challenge students' current conceptions and provide time and opportunities for learning to occur.

One of the components of flipped classroom is the pre-class content. The pre-class content that is required to carry out inquiry in the classroom can be provided through online platforms or digital resources. These may include information regarding the objectives for the sessions and key fundamental concepts that students are required to understand in preparation for the class activities (Sivarajah, Curci, Johnson, Lam, Lee & Richardson, 2019). Prior to conducting flipped classroom, it is important to teach students how to use the pre-class audio/video or online resources and make students acquainted with how to use the instructional materials presented to them (Sams, 2019). The in-class activities can be focused to conduct inquiry at different levels, depending on the suitability of the students. These activities can incorporate and reinforce the information from the pre-class resources and get students engaged and apply the concepts of the inquiry learning taking caution to avoid re-teaching the content that was already provided in pre-class. Moreover, the in-class inquiry can be emphasized on promoting higher-order thinking skills and applications of the pre-class materials (Sivarajah et al., 2019). Flipping classroom would provide ample opportunities for the teachers to get students actively engaged in the inquiry learning process during the class time and provide guided assistance needed for the students. In addition, students can work on problems or assignments, advancing concepts, engaging in instructor-guided problem

solving, collaborative learning, group projects, presentations, experiments and others alike where learning becomes learner centered.

In using inquiry flipped classroom allows teachers and instructors to save time where various types of materials can be shared at the same time with a large number of students using technology. Moreover, technological tools can be used to direct students to view learning materials instantly and view them over and over again for better understanding and comprehension during and outside the classroom. Flipped classroom gives an added advantage to use inquiry in learning science as teaching is not confined to physical classroom, white board or text book. The in-class time in the flipping classroom, can be freed to give opportunities for students to learn and practice skills of science and also higher order thinking skills such as critical thinking and creativity which are becoming indispensable in today's technologically challenging society (Moore, 2005). Efficient use of the class time would help for deeper understanding of science concepts and fluency in skills. Moreover, flipping can be beneficial for student to control time, place, path and pace to receive instruction at their convenience improving learner retention (Camiling, 2017).

Research based on flipped classroom is in its early days and practices and its impact is very limited (Wan, 2014). A study conducted by Paristiowati, Fitriani and Aldim (2017), on flipped classroom with inquiry shows that students are more actively engaged in the lessons by flipping compared to guided inquiry. This is because students already have gained some basic knowledge and understanding of the concepts and facts before learning in the classroom through the pre-class videos or other materials that have been available online or in digital form. Moreover, it is teachers are able to provide more assistance and feedback to students on their performance which lead to optimal learning time. Student feedback suggests they become more focused and confident as well as they are able to manage the time outside the class and reduce the pressure in the class. Thus, flipped classroom with inquiry has positive effects on the student learning and motivation.

Even though flipped classroom with inquiry learning is a recent innovation, blending these two strategies in teaching science disciplines have shown to be effective both at lower and higher education setting. Additionally, combination of flipped classroom with inquiry learning is feasible and have shown the potential to use internal and external online tools and platforms (Raouna & Lee, 2018). Moreover, Love et al. (2015), elaborates on this stating that flipped classroom with inquiry enhances better retention of content knowledge as students are actively applying the material leading to application of concepts at higher levels, problem solving, creative thinking and collaboration.

6.0 INTERGRATING TECHNOLOGY TO INQUIRY FLIPPED CLASSROOM

Technology enhanced learning has becomes very crucial in the present society. Inquiry learning in flipped classroom provide students with opportunities to maximize the use of technological and online resources that are available which can help to support a 21st century learning environment by blending physical classroom environment with digital arrangements. Many technological tools are available to be used to support flipped classroom with inquiry learning such as search engines (Google), presentation tools (PowerPoint) and devices (flip cameras), mobile devices (mobile phones, mini computers, tablets), online tools (Google Docs, editable website), online platforms (Moodle, Edmodo) and large online information sources. These tools provide students with opportunities to have access to resources, investigate problems further, record evidence, present, share and discuss science ideas, providing the potential to promote collaborative learning (Williams, Nguyen, & Mangan, 2017).

Providing access to a range of information technology resources, students will be able recognize the value of using technologies to undertake scientific investigations which will prepare students for their future workplace. They will have opportunity to analyse and evaluate information, make judgment in selecting best tools which enable them to achieve their goals related to the different aspects of learning. Moreover, students develop practicality in effective decision making and ownership of their learning which are important for 21st century learning. By integrating technology, students become more independent and resourceful, at the same time learning becomes more enjoyable yet challenging (Williams et al., 2017). Furthermore, use of collaborative online tools (Google Docs), enhance students' ability to share and edit information during the inquiry learning activity, making it very interesting and supportive for learning inside and outside the classroom. Hence with vast technological resources available, incorporation of flipped classroom to inquiry learning opts to expand learning environment where students can be encouraged to become innovative and support their learning.

7.0 CONCLUSION

Although research on flipped classroom combined with inquiry learning is quite limited, both flipped classroom and inquiry learning on its own has shown positive impact on learning different science disciplines. Blending of two together would bring an enhanced efficiency to learning in the 21st century by incorporating technology. These two strategies together would make science learning a more dynamic process in which students actively participate in learning and come to gain a deeper understanding of the phenomenon around themselves. They can take ownership of their learning and maximize the outside and in-class efficiency, at their convenience. Flipped classroom further expands the time and resources that are available for the students during the class time for inquiry activities in the presence of teacher as a facilitator. Additionally, using a variety of digital and online resources will open minds of students and create a learning environment that is more socially acceptable and challenging to the students, while preparing them for the 21st century workforce.

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035 : 'Blended Learning' as an Effective Teaching and Learning Strategy in the Classroom

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ABSTRACT

There are so many ways in teaching and learning in our education system. The teachers in schools are slowly changing the traditional method to modern teaching such as incorporating the elements of ICT in the subjects. This is an innovative way where the students are being exposed to the outside world through the eye of technology. However, the implementation of these methods are not as easy as it seems if there are not enough support from the schools or administrative. There are so many types of blended learning strategies and the teachers can choose different types of models which are suitable for the classroom. There are so many advantages blended learning and it can help the teachers and the students in so many ways. Nevertheless, there are some disadvantages in these methods where it can hinder the effectiveness of the implementation in the classroom.

Keywords: Blended learning, ICT, benefits, collaborative teachings, online learning

1.0 INTRODUCTION

Effective teaching and learning methods plays a crucial role where it can enhance or can hamper a student's ability to achieve the goals of the learning outcome. Over the years, there are many teaching methods that are being implemented and changes that have taken place to suit the needs of the current generation. The changes that have taken place are evolving and changing based on observation and research to cater for the current generation. Apart from that, the teachers are constantly being expected to differentiate their instructional practices in order to achieve the student's needs. Traditional methods are being used by the teachers over many years. There are a few disadvantages in traditional teaching such as students are spoon fed and they are not being independent. Besides that, the teachers are not able to pay attention to classes with bigger numbers. As a result, there are students who are unable to focus will be left behind. In addition to that, the teaching can also create more passive learning where there is no initiative among students to do things on their own. So in order for us to make the students to be active in learning, we should make sure that they are constantly involved in the classroom and gain more experience. Constructivism Theory which was proposed by Papert in 1980 states that different experiences from different individuals can form a learning process and also explains how people can gain knowledge and learn from it. When the students try to learn on their own, it will also make them try to understand views from different perspectives and this can be a guidance from them to learn many things.

A fact that we can all agree is that, this current generation have grown up with the development of technology and gadgets that are a part of their daily life. These technologies and gadgets have also crept into the education system and have changed the structure of the teaching and learning process. To keep up with the current trend and to ensure that the best is given into the teaching and learning process, here is when blended learning comes into the picture.

2.0 DEFINITION

2.1 Blended Learning

Blended learning is defined as "any formal education program in which a student learns at least a part through online learning, with some element of student control over time, place, path, and/or pace" (Horn & Staker, 2014, p.34). According to previous researches, there were few challenges when implementation of blended teaching took place. The challenges are student's readiness (Wright, 2010; Bolstad & Lin, 2009; O'Dwyer *et al.,* 2007), teacher's commitment and also support from the schools. This method is actually being practised by the schools since a few years ago but it has become a necessary now as technology is becoming crucial in the life of learners. Usage of technology in the 21st century is an

essential element as it exposes the students to wider knowledge. The method involves the combination of online learning content with traditional method with the help of the teacher where it gives the students more opportunities in learning and exploring more in their classroom (Faizal & Bryant, 2019). Another way to define blended learning is using the technology to achieve the requirement of the students and the instructions can be changed accordingly (Flores, 2018). There are many types of blended learning programs and the one and only objective of any these programme is achieve the learning needs of all the students (Horn, 2014). Additionally, blended learning is the combination of direct or indirect instruction, personalised learning based on a computer and also integration between different types of teaching.

2.2 Information and Communication Technology (ICT)

ICT is a very powerful tool that can be used in the education system in order to improve the quality of our education system. ICT includes the computer, internet and electronic devices which are being used in our education field nowadays (Fu, 2013). The rise in the usage in ICT have reduced the usage of printed materials and we can actually conserve the environment. It's not necessary for us to print the study materials and give to the students. According to Catro Sanchez and Aleman (2011), the latest research shows that the integration of ICT in the education system have changed the learning environment to a learner centred instead of the teacher centred. This makes the students to be more independent and more exposed to the outside world. They tend to seek solution on their own when they are slapped with real problems. This can actually help them to face the difficult scenarios later in their life. Instead of the teacher finding a solution for them, the students are able to find their own solutions. Besides that, there are few benefits of using ICT in the education system (Fu, 2013) such as producing a creative learning environment, promoting collaborative learning in a distance-learning environment, providing more opportunities to develop critical (higher-order) thinking skills, supports student-centred and self-directed learning and it can also improve the teaching and learning qualities. There are various types of learning inquiries available online which can help the students who prefers different techniques of learning. This can help students with different abilities to learn at their own pace. For example, reading materials can be obtained from the beginner to the advanced level and this can help the students to master each level. It's not necessary for them to wait for the teachers to explain to them all the content of the subject. Moreover, McMahon (2009) added that there were significant correlation in between studying with ICT and the development and application of critical thinking skills. When the students are getting exposed to the usage of ICT in the school, it can actually make them to do higher critical thinking skills.

3.0 REQUIREMENT FOR BLENDED LEARNING

Any teaching method which is being implemented in schools must have enough resources so that the objectives of the programme can be achieved. Same goes to blended learning as there are few important requirements before this method can be put into practised in schools which are:

a) Teachers with scientific knowledge: The should have a good observation skill, problem solving skills and also be able to solve any failures with positive attitude while working on any innovative concept. This attitude will be observed by the students and they will be inspired by the teacher's positive attitude. The teacher must be a good example and also a role model for the students to follow.

b) Teachers who are ready to accept any positive change: The teacher should be flexible and be more open minded to accept any positive changes and not to stick to their own method. This is to upgrade themselves with new and innovative ideas. When the teacher is more open minded, this can help them to learn many new things.

c) Enough resources: Complete facilities are very important in blended learning methods as the method is heavily depended on technology such as internet facility. For example, the school computer laboratories should be well-equipped with sufficient number of computers to make sure all the students are able to access the internet. If there are lack of resources, this can cause a disruption to the students for achieving the learning objectives.

d) Good trained teachers: Teachers are the part of this blended learning and their role is as a facilitator to guide the students whenever they are needed. So in order to be a good facilitator, the teachers should be well trained with the concept of blended learning and also must be very skilful in practising both traditional and handling technology inside the classroom. They should have adequate knowledge about the websites, blogs, YouTube facility and other types of educational sites for educational purposes. Basically the teachers should know in and out of the current technology so that they can be a good facilitator to the students.

e) Students have a good access to internet at their personal computers: The school should make sure that all the computers are fully supported with the basic hardware support to make sure that learning online and offline at their residence are available. Moreover, the school should gain good investments from the government so that they can improve their facilities inside the school.

f) Flexibility in the system- The flexibility in the system is very important such as flexible time table, and flexible examinations in implementing this blending system.

g) Support from the parents: This method also requires full support from the parents and they should be aware of the benefits of the implementation of these methods in schools. They should be open-minded and allow the changes from traditional teaching method to this method. The parents must also make sure that students are following the correct guidelines in order to do their assignment to avoid students from any deviating from the subject.

h) Formative assessment: Summative assessment is not supported in blended learning but formative assessment is vital in this method. Different types of formative assessment can be conducted simultaneously while this method is being conducted in the classroom. So the teacher must be ready with all the elements needed to be used before coming up with teaching method inside the classroom. The students' performance can be evaluated through the formative assessment as the assessment only involves certain topics. This is the ongoing assessment where the teacher can keep on track of the students' performance.

4.0 TYPES OF BLENDED LEARNING

There are four different models that are involved in blended learning methods and they are Rotation model, Flex model, Self-blended model and Enriched Virtual model (Horn, 2014). Rotation model involves a subject or an activity where the students have to rotate the learning models at a fixed time with the help of the teacher in one of the allotted time. In the rotation, there should be a time where the students need to spend time on the online activity. Then, they should have the collaboration session with peers and also discussion with their teachers. This shows that the blended learning is being implemented in this method.

a) There are four different types of teaching methods which comes under rotation model and there are station rotation, lab rotation, flipped classroom and individual rotation (Horn & Staker, 2012).

   i) Station rotation: This model involves the rotation of a student on a fixed schedule or at the teacher's discretion. There must be at least one station for online learning and other stations are for the teacher's discussion which carries traditional teaching and another station should be activities among the students. Time will be allotted for each station and students will get involved in that particular time for that particular activity (Horn & Staker, 2012).

   ii) Lab rotation: Lab rotation is students have to rotate on a fixed schedule or at teacher's discretion in different locations. Among the locations, at least one of it should be a learning lab for online learning while outside the classroom is for other learning modalities. It is slightly different from station rotation model as this model involves rotation outside the classroom also and it is not staying inside the same classroom like station rotation model (Horn & Staker, 2012).

iii) Flipped classroom: This method involves the learning of the content of the subjects in the school and then the students can complete the classwork given at home by using online learning. Homework usually will be given online and students have to finish work given in certain period of time. Then after that, traditional method will be carried out in school to discuss about their homework (Horn & Staker, 2012).

iv) Individual rotation: This model allows students to spend specific fixed schedule where at least one of which is online learning. They have to spend some time on certain station but not necessary in all the stations. As long the students do online learning and offline learning within a given course or subject, then it fulfils the criteria of this model.

b) Flex model (Horn & Staker, 2012) This model is suitable for large number of students. In this model, teachers are more like facilitators where their help is needed sometimes only. The teachers sometimes have more support and it depends on the discussion. Other activities include small group instruction, group projects, and individual tutoring.

c) Self-blended model (Horn & Staker, 2012): This model involves taking any courses entirely online and online teacher is there to guide the student. Sometimes the courses can be taken by the students in the school but the coaching will be online where they can study from home.

d) Enriched Virtual model (Horn & Staker, 2012): It's a model where students have their time to learn face to face with the teachers and also learning online. It depends on the course chosen by them. It differs from the Self-Blend model because it is a whole-school experience, not a course-by-course model.

5.0 ADVANTAGES

People must not stick to one particular idea as it changes over time and become absolute. As of now, blended learning has stormed into student's life and seen as an integral part of education that must co-exist with the teaching and learning process. There are a few elements under blended learning method which benefits the students and also teachers in various ways (Lalima & Dangwal, 2017). The elements are:

a) Face to face teaching: This method provides lot of interaction time between teacher and the students and this can help to develop the student's personality, behaviour and also the value system. The students and teachers are able to get immediate response that can help the teaching and learning process effectively.

b) Student interaction with course content: Students are able to get the course contents directly by printing the course materials and they will get the exposure about the contents before starting the lesson. It means student can do their own research about the content of the subject before coming to class. This will help them to have a deeper understanding about the content of the subject. Besides that, students also can visit e-books where it can provide new and updated perspectives of the content.

c) Peer group social interaction: Students are able to socially interact with their friends through group discussion. This happens formally and informally in the schools. Formal interaction happens when the student interacts during the class discussion and informal social interaction happens when students interact during outdoor activities in schools.

d) Group interaction and exchange of ideas: Besides social interaction, this method also enables the students to exchange their ideas and perspective while having discussion. During discussion, some weaker students will also feel confident to share their ideas. This happens when the discussion is being carried in a smaller group because the weaker students won't hesitate to express their ideas. This can develop their communicative skills effectively.

e) Accessing e-library: Students have limitation to access resources in the school library but not digital library. When there is a limitation in reaching resources, this can also limit the students from

learning. This is a blessing if the students can access digital library as they can access different books related to their topics and on diversified areas.

f) Virtual classroom: This method provides opportunities for the students to gain knowledge worldwide and they are not depending only on the teachers for any information or knowledge. Through this method also students who are not able to attend school regularly can gain benefits as they are not solely dependent on notes that teacher is giving in the classroom. Students can also exchange ideas or get advices from other expertise on related subjects from other countries.

g) Online assessment: Assessments help the students to evaluate their learning immediately and it can also motivate them to do better in certain key areas. They are able to identify their weakness and can find ways on how to improve their mistakes. This can be applicable if it is done after every subtopic so that the students can prepare better before the teacher begins with the next topic.

h) e-coaching: Not all students are able to grasp what is being taught in the classroom. So personal coaching is needed to help these kind of students. They have to be guided step by step by someone who is an expert in the respective areas. This can be done by getting some personal guidance via video conferencing in cyber space.

i) Educational blogs: Students are usually loaded with homework in schools and in traditional classroom students get less chance to express their creativity as the time is very limited for class work, assignments and teacher have to finish the syllabus before the examination. So by providing some educational blogs we can make the students express their creativity and they can get feedback from peers and the teachers too. There is not enough time to discuss social related problems, so educational blogs can also be used as a platform to discuss those problems.

j) Webinars: This enables the students to participate in seminars through different softwares such as Skype, Google talk and present their papers. Then they can participate in the discussions through video conferencing. This can cause the students to get the exposure in the global level and they are more exposed to the outside world.

k) Accessing expert lectures in YouTube: This method provides the students to gain the knowledge from different perspectives of the experts. Students can experience different ways of teaching from other teachers and they can understand better about the content of the subjects.

l) Online learning through videos and audios- Different students have different ways of grasping the ideas of the subject. Some students can understand well if they are being thought by using videos or animations. So this method can also help the students to do better in their subjects. By this, students can get different concepts of learning for different types of subjects or topics.

m) Virtual laboratories: Virtual laboratories provide students with all the equipment and tools needed to conduct certain experiments using computers. This is useful when the students need to conduct the experiment but it's not safe for them to handle the experiments and besides that, they can learn the skills that are needed to conduct any laboratory experiment.

6.0 DISADVANTAGES

There are many ideas and new research that will come into the picture from time to time regarding the successes of these ideas. There will be many changes that will need to be amended along the process to ensure proper strategies are used as there may be some disadvantages in all matter. There are some disadvantages of this blended learning and for examples:

a) Elevated noise level in station rotation model: This can happen especially when students move from station to station. Since it involves active movement of the students so the teacher must always control the noise level of the class.

b) Time: This is especially in the lab rotation and station rotation model because sometimes more time will be needed in certain station. So it may cause some delay for the group to finish in that particular session. As a result, it may affect the rotation of other groups. So the teacher may carry forward the discussion to the next class and it may affect the achievement of the learning objectives of that class.

c) Distractions: Since the method involves technology usage, it may cause distraction among the students. So if the teacher is not monitoring the student's progress, it can cause the students to loss track in completing their task. So it's very important for the teacher to control the flow of the class. If the students are not following the lesson, then it can affect the achievement of the learning outcome.

7.0 CONCLUSION

The integration between ICT and innovation in teaching and learning strategies brings more benefits to the student and also the teacher. Students are more engaged in the activities conducted in the classroom. The students are not only sitting in the classroom and listening to teacher's lecture all the time but there will be some active involvement among the students. When the students are getting involved, then the learning process will be faster and more effective. It also allows students to be more creative and they can use the creativity in any problem solving questions. It's not necessary the teacher to be there all the time to guide them, and some students tend to come with a good solution when they face any problem. So it helps them to be independent in finding solutions. Moreover, it's also allowing flexibility in grouping and instructional practices for the teacher where the weaker ones have more opportunity to clear their doubts when they are being divided into smaller groups. This is easier compared to traditional teaching where the teacher has to focus on the bigger group of students. It's easier for the teacher to focus on the weaker ones. The students who are weak will feel more comfortable in clearing their doubts when they are in a smaller group compare to bigger ones. So the teacher can give spend some extra time for the students who need extra help.

As a conclusion, blended learning method is very beneficial to be implemented especially in the 21st learning century as it involves more usage of technology. Even though it's becoming a trend in most of the schools, but some rural areas are still using traditional method completely and the students are not getting exposed to the usage of technology. Government should pay more attention on schools which are located in rural area and more financial and moral support should be given for the students and also the teachers.

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043 : A Systematic Review: Inquiry-based Learning-Teachers' Outlook

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ABSTRACT

Inquiry based learning (IBL) is one of the important pillars in our curriculum also described as strong student-centred teaching model. Teachers play an important role in establishing IBL in their lesson to facilitate students throughout their learning process using various inquiry skills and materials. Meantime teachers build their own beliefs towards IBL while facing various challenges in the classroom and fail to accomplish the objective of IBL. The systematic literature review is aimed to identify teachers' beliefs in terms education, the self, and the context in implementing IBL and the challenges faced by the teachers. Steered by the PRISMA Statement, a rigorous systematic review from Scopus, ERIC and SAGE databases, 9 substantial empirical studies found. The findings show that teachers are the main issue in the implementation of IBL and 5 elements were identified which causes the drawback of IBL among teachers.

Keywords:
Inquiry Based Learning, Teachers' Belief in IBL, Challenges in IBL

1.0 INTRODUCTION

Inquiry based learning (IBL) is a well-known theory for teaching and learning. It is commonly known for students centered approach whereby teacher guides to student-driven learning. It is an authentic learning experiences applicable for a wide range of disciplines providing a strong and empowering foundation for the 4C component in 21-st century skills. According to Dewey (1933), inquiry provides opportunities for professional and personal growth; political empowerment; improved teacher attitudes toward students, teaching ability, and research; and greater satisfaction with teaching (Cochran Smith & Lytle, 1993; Feldman, Rearick, & Weiss, 2001; Gore & Zeichner, 1991; Henson, 2001; Price, 2001). Even so, IBL is still being challenged when it comes to implementation and has been vaguely practiced by the teachers in classroom. (Lotter, Rushton, & Singer, 2013; Lotter, Yow, & Peters, 2014; Voet & De Wever, 2016).

Use or lack thereof of IBL by teachers are generally attributed to the belief or assumptions held by them over the benefit to be gained as they are not familiar with the core principle of inquiry and IBL. It is not just due to the knowledge they acquired implicates their actions in classroom but further enhanced by the belief or implicit assumptions towards their students, classroom and the subject that is being taught and the this is further enhanced (Kagan ,1992). Binns and Popp (2013) affirmed that the implementation of IB pedagogy depends on teachers' belief, values and perceptions on knowledge and the way it is acquired. This in return renders IBL pitfall across the subject area. Behaviour is the consequence of beliefs about the task given, the individual itself and the social setting where the task is carried out. A study on nature and structure of beliefs which consists of (1) the object (education), (2) self, and (3) context (class) was suggested by Op 't Eynde, De Corte, and Verschaffel (2002).

1.1 Research Objective and Purpose

The purpose of this study is therefore to review several previous studies on teachers' belief and challenges in implementing IBL in classroom and the causes of the drawbacks.

1.2 Research Question

The research question, therefore, is 1) To what extent teachers' beliefs about education, the self, and the context influence their adoption of IBL? 2) What are the teacher's beliefs or constraints in implementing IBL in classroom?

2.0 METHODOLOGY

During the selection process of the review article, a few criteria such as PRISMA statement and the quality assessment criteria Mc Dermott model (2014) were used to narrow down the scope of review.

2.1 PRISMA statement

The PRISMA Statement allows for rigorous search of terms related to inquiry-based learning and teachers' belief in IBL through identification, screening, eligibility and included.

2.1.1 Identification

The search process uses the Scopus, Sage and Eric databases at the identification stage through identification. There were three key words used: inquiry-based learning, beliefs in IBL, the challenges of IBL and teacher perception in IBL. It also creates inclusive and exclusive criteria for obtaining the data that really fulfils the objectives of the study. The criteria used are inclusive and exclusive:

i) Use of the symbol "+, -, AND, OR
ii) Limit the search year, searches are only based from 2014 to 2019
iii) only article journals with empirical data are selected
iv) Use articles references to track other appropriate articles.

2.1.2 Screening

About 8523 articles related to IBL were found in the first results. The articles of this study are then filtered based on:

i) Priority in IBL education article.
ii) The article described the implementation of IBL about teachers' belief and challenges.

2.1.3 Eligibility and Included

Eligible data collection uses a variety of sources of data. Thus, article from newspapers, theses, lecture papers, seminars and technical reports was obtained. But using systematic review, only qualitative research articles are included and analysed. The total item obtained from the PRISMA protocol is approximately 138. The process of selecting the study using the PRISMA statement shown in Figure 1.

Figure 1 Data Collection using PRISMA Statement

2.2 Mc Dermott

However, the process of selecting this article does not stop here but continues with the second filtering process using the Mc Dermott et al. (2004). Using the Mc Dermott model, the research article obtained from the PRISMA protocol is filter again. The researcher adapted this model to see the quality of the selected articles based on the study's 6 quality assessment criteria. The current criteria for quality assessment are outlined in Table 1.

Table 1 Quality Assessment of Articles

No	Element	Descriptions
1	Goals and objectives	Does the article clearly state the goals and objective?
2	Study context	Does the article explain clearly how the study involved planning, implementation and development was conducted?
3	Sample	Does the article provide a sufficient sample of research?
4	Methodology	Does the article provide a research methodology description that includes frameworks for the study, data collection, and data analysis?
5	Data	Is support such as schedule, interview / focus and feedback from observations included? Is the information being clearly translated and analyzed?
6	The results of the study are validated	Does the researcher verify the study's analysis by means of expert review, feedback or other mechanisms?

Articles that exceed the evaluation quality are also graded. Each article is graded whether A, B, C, or D. Grading articles are made as follows:

Table 2 Grading Criteria

Grading of the article	Description
A	The six criteria were qualified
B	Approximately five designated criteria qualified
C	Four criteria qualified
D	Qualified with just three criteria

3.0 RESULTS

At the beginning of the search a total of 1016 articles gathered. After going through PRIMA Statement, 981 unduplicated articles met basic inclusion criteria (IBL). We then excluded 834 articles due to the type of documents which was irrelevant (systematic review articles, review articles, meta-analyses articles, meta synthesis article, book series, book, chapter in book, conference proceeding, Non-English). Of the remaining 147 articles, we excluded another 138 because no intervention on IBL and teachers' challenges was highlighted. After the research article's filtering process is based on the criteria set out, only 9 articles are obtained that meet the study's goals and systematically reviewed. Then each selected article will be theme-based coding (example B1, B2, B3…) to represent the elements of teachers' beliefs and challenges

Table 2 Summary of Include Empirical Article

Researcher	Year	Participant	Journal Title/ Quartile	Quality Assessment Grade	Types of school	Type of research	Elements of Teachers' Belief and Challenges					FINDINGS
							B1	B2	B3	B4	B5	Teachers facing;
Robyn M. Gillies & Kim Nichols	2014	6 teachers	Journal of Science Education	A	Primary School		/	/	/	/		- lack of "tools" to teach inquiry science - lack of skills in extending students' discussions and questions as they attempt to engage in scientific thinking and reasoning - the constraints imposed by the demands of the curriculum and the assessment requirements.
Ramnarain U.D.	2014	263 teachers, 10 teachers interview	Journal of Teaching and Teacher Education	A	Township, urban, suburban and rural school	Mixed method	/	/	/			- large classes, low availability of resources, lack of support and training in IBL, comprehensive changes in curriculum without recognizing the current reality of the school
Peters-Burton,Sydney A. Merz, Erin M. Ramirez, Maryam Saroughi	2015	19 teachers	Journal of Science Teacher Education	A	High school suburban	Mixed method		/	/	/	/	- required to follow standardized testing requirements, the lack of resources, difficulties of tapping into students' prior knowledge, motivating students, and scaffolding the lesson so that all students can feel involved, prefer longer class period
Daniel K. Capps, Jonathan T. Shemwell & Ashley M. Young	2016	21 teachers	International Journal of Science Education	A	Elementary, Middle, High schools	Case study			/			- had vague knowledge of inquiry
Mensure Alkis Kucukaydin, Safak Ulucinar Sagi	2016	4 teachers 71 students	International Electronic Journal of Elementary Education	A	Primary school	Case study	/	/	/	/		-physical conditions (class size and lack of laboratory) as factors affecting their classroom teaching - did not have the skills scientific inquiry - unable to evaluate students based on inquiry-based approach and difficulties preparing lesson plans.

Researcher	Year	Participant	Journal Title/ Quartile	Quality Assessment Grade	Types of school	Type of research	Elements of Teachers' Belief and Challenges					FINDINGS
							B1	B2	B3	B4	B5	Teachers facing;
Voet M., De Wever B.	2016	22 teachers	Teaching and Teacher Education Journal	A	Secondary school	Case study		/	/		/	-time factor, unable to cover the content, trouble organizing IBL activities, lack pedagogical knowledge, difficult to find good information source, classroom infrastructure
Lindsey Nenadal, Rashmita S. Mistry	2018	3 teachers	Early Childhood Research Journal	A	Elementary school	Case study		/	/		/	-addressing uncomfortable feelings, being unable to cover all of the content, and attending to logistical challenges, such as resources and time.
Umesh Ramnarain & Manzini Hlatswayo	2018	10 teachers	South African Journal of Education	A	Rural	Mixed Method		/	/		/	-availability of laboratory facilities, teaching materials, time to complete the curriculum, and large classes,
Lisa H. Bennett, Steven Z. Athanases & Juliet Michelsen Wahleithner	2019	80 pre-service teachers 32 in-service teachers	Action in Teacher Education	A	Secondary school	Case study			/		/	-time constraints, challenges in developing knowledge of teaching through inquiry and metacognitive knowledge of inquiry

3.1 Element

There are five key elements related to IBL considering the findings. The elements are curriculum, materials and resources, teachers, evaluation and time are divided based on the constitutive dimensions of teachers' beliefs system. The detailed description is described showed as below.

Table 4 Elements and Frameworks of Beliefs related to IBL

Coding	Elements	Framework of Beliefs Related To IBL
B1	**Curriculum**	*Context*
B2	**Materials and Resources**	*Context*
B3	**Teachers**	
	i) Teacher knowledge	*Education*
	ii) Teacher understanding	*Education*
	iii)Teacher self-efficacy	*Self*
	iv)Teacher pedagogy	*Education*
B4	**Evaluation**	*Context*
B5	**Time**	*Context*

4.0 DISCUSSION

The findings show that all the 9 articles highlight the key elements of IBL which is teacher referring to teacher understanding, teacher knowledge, teacher self-efficacy and teacher pedagogy, 8(80%) articles reporting on materials and resources, 6(60%) reports have been analysed for time, 4(40%) reporting evaluation while curriculum 3(30%) is the least reported element in the articles. Based on the results of the analysis, there are eight element which are also considered as the issue raised based on the teachers' belief in IBL implementation in classroom. Four beliefs are placed on teacher elements, namely knowledge of teachers, understanding of teachers, self-efficacy, pedagogy. More details will be available for each finding.

4.1 Curriculum

Robyn M. Gillies & Kim Nichols, Ramnarain U.D. and Mensure Alkis Kucukaydin, Safak Ulucinar Sagi cited that one of the obstacles to implement IBL would be the curriculum. This barrier grows when the curriculum changes. This is because the main guide for teachers is the link between curriculum and teaching. The constraints imposed by the demands of one's curriculum affects the teacher's belief in implementing and integrating IBL. One example faced by the teacher is how to integrate PBL approach between content of the curriculum (Robyn M. Gillies & Kim Nichols, 2014). (Ramnarain U.D, 2014) comprehensive changes in curriculum without recognizing the current reality of the school such as number of students in class, facilities and other resources distract the teachers' well enhanced teaching strategy and beliefs eventually. Furthermore, any curriculum changes do not only affect the teacher's teaching, but also the student's achievement.

4.2 Materials and Resources

Materials and resources are other issues that arise (Robyn M. Gillies & Kim Nichols (2014) , Ramnarain U.D. (2014), Erin E. Peters-Burton,Sydney A. Merz, Erin M. Ramirez, Maryam Saroughi (2015), Mensure Alkis Kucukaydin, Safak Ulucinar Sagi(2016), Voet M., De Wever B.(2016), Lindsey Nenadal, Rashmita S. Mistry(2018) Umesh Ramnarain & Manzini Hlatswayo(2018). As we know, IBL often requires numerous materials, resources, and training for teachers. Lack of teaching tools, big class size, lack of laboratory and classroom infrastructure makes teachers feel untrustworthy and unwilling to apply IBL for full lesson. Lack of resources and materials as well as inadequate teacher development training and support will affect teachers' belief entirely.

4.3 Teacher (understanding, knowledge, self-efficacy and pedagogy)

In adopting IBL lessons, all the articles have identified the teacher issue since teachers are the drivers and facilitators of IBL in classroom. Difficulties of tapping into students' prior knowledge, motivating students, scaffolding the lesson and preparing teachers lesson involves teachers' knowledge, understanding and pedagogy. These links to low self-efficacy. Inadequate skills in extending students' discussions and questions as they attempt to engage in thinking and reasoning causes inability to construct student's knowledge and this causes extension of time and delay in covering the content as per scheduled in yearly lesson plan.

4.4 Assessment

Assessment is another issue the researcher reported. Formative assessment practices is needed as a guideline for their student to conduct an evaluation (Gresnigt et al., 2014; Margot & Kettler, 2019; Shernoff et al., 2017). Stringent assessment requirements and standardized testing requirements restricts the practice of IBL and evaluate students. Standardized testing usually make teachers to teach more to exam oriented manner and not based on students' need, interest and abilities (Armstrong 2006), which can disengage learners. Mensure Alkis Kucukaydin, Safak Ulucinar Sagi (2016) reports without a proper guideline for evaluation in IBL, teachers are unable to evaluate students based on inquiry-based approach.

4.5 Time

Empirical study shows that there is a lack of time to plan a lesson, to teach and to cover the content (Erin E. Peters-Burton,Sydney A. Merz, Erin M. Ramirez, Maryam Saroughi (2015), Voet M., De Wever B.(2016), Lindsey Nenadal, Rashmita S. Mistry(2018), Umesh Ramnarain & Manzini Hlatswayo(2018) and Lisa H. Bennett, Steven Z. Athanases & Juliet Michelsen Wahleithner (2019)) The current curricular, shorter class period, insufficient time for teacher preparation and professional learning community abstains teachers from conducting an effective approach of IBL.

5.0 CONCLUSION

The review shows that teacher is the key element for the issues in adoption and implementation of IBL. This result is closely related to teachers' belief in practice. Even though in the beginning, the reviews showed teachers having enough beliefs in inquiry model, developed conceptual framework and having the interest and capacity in using the inquiry with their students, insufficient teaching aid and support and confidence throughout the teacher preparation can be the major cause in the disruption of the implementation of IBL even in the situation where it is found to be necessary. However, the gaps between various teaching and learning models and the expectations set by the educational system about the students need have to be thoroughly re-examined for better formulation of learning models. Furthermore, for a better future studies, researches should carry out studies on finding solution methods to overcome the constraints and explore the best practice of IBL to encourage teachers to uplift their beliefs towards IBL. In addition, the researchers should find or carry out studies which clearly define the role of the triangulated relationship between developing learners' knowledge, the learning model and teachers' role in class according to subject domain as the teachers' guidance to generate more positive beliefs in implementing IBL in classroom that will contribute to learners' engagement in lesson and confidence.

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056 : Pandangan Guru Terhadap Pedagogi Responsif Budaya (CRP): Ulasan Sistematik

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ABSTRAK

Pedagogi Responsif Budaya ('Culturally Responsive Pedogogy') merupakan salah satu pedagogi pilihan guru di negara Amerika Syarikat yang mempunyai masyarakat dengan pelbagai budaya. Pedagogi ini sesuai juga digunakan di Malaysia kerana masyarakat Malaysia terdiri daripada pelbagai budaya. Ulasan sistematik tentang pandangan guru terhadap Pedagogi Responsif Budaya membincangkan tentang kelebihan menggunakan pedagagi serta strategi-strategi yang boleh digunakan bagi mengaplikasikan pedagogi tersebut. Ulasan sistematik ini dijalankan berdasarkan pendekatan PRISMA. Enjin carian 'Google Scholar' dan 'Scopus' digunakan dalam ulasan sistematik ini. Melalui hasil ulasan 7 jurnal dapat dikenal pasti beberapa kelebihan dan strategik yang berkesan dalam amalan Pedagogi Responsif Budaya. Pedagogi Responsif Budaya yang aktif dapat dihasilkan oleh para guru dengan mengambil kira pengetahuan sedia ada setiap pelajar dan kepelbagaian budaya dalam kelas.

Kata kunci: Pandangan guru, strategi Pedagogi Responsif Budaya

1.0 PENGENALAN

Malaysia terkenal dengan masyarakat pelbagai kaum. Kepelbagaian budaya, kepercayaan dan tradisi membezakan setiap bangsa di Malaysia. Kita dapat membezakan budaya masyarakat Malaysia dari segi makanan, pakaian, permainan, perayaan, adat resam dan sebagainya. Menurut Jamaluddin (2011), Malaysia ialah sebuah negara dengan masyarakat yang berbilang kaum, agama, dan adat resam. Pelaksanaan sistem pendidikan yang dijalankan di Malaysia perlu mengikut keperluan dan kesesuaian masyarakat majmuk. Masyarakat majmuk sentiasa menjadi rujukan pemerintah dalam proses merangka dasar baru di negara supaya setiap masyarakat dapat merasai kebaikan daripada dasar tersebut.

Walaupun masyarakat pelbagai kaum membesar dengan budaya masing-masing tetapi setiap masyarakat menikmati kesamaratan dari segi pendidikan di Malaysia. Robiah Sidin (1994), menyatakan bahawa keseimbangan sosio-ekonomi di antara kaum dapat dihasilkan melalui pendidikan. Keseimbangan sosio ekonomi dapat dilihat dari segi peluang pekerjaan, pendapatan dan pegangan ekuiti.

Pelbagai perubahan dalam dasar pendidikan telah di bawah sebelum kemerdekaan, selepas kemerdekaan dan sehingga kini mengikut peredaran zaman. Guru merupakan teras kepada pelaksanaan proses pendidikan. Sepanjang pelaksanaan tugas dan tanggungjawab sebagai pendidik guru memainkan peranan yang penting (Abu Bakar Nordin dan Ikhsan Othman, 2008). Antara peranan yang dimainkan oleh seorang guru sebagai pendidik ialah sebagai *role model*; pembentuk akhlak yang mulia; pakar dalam pengetahuan serta mahir dalam beberapa kemahiran.

Setiap guru perlu meningkatkan diri kepada tahap guru berkualiti. Antara sifat seorang guru yang berkualiti ialah berprofesional, bijak dan pandai dalam semua urusan perguruan, mengenali teori dan amalan, mengetahui pengajaran dan pemudahcaraan yang berkesan, sentiasa sedar akan perkembangan dan perubahan pada pendidikan, sedia untuk mengikut arus perubahan dalam pendidikan dan patuh kepada tatasusila profesion perguruan (Abu Bakar Nordin dan Ikhsan Othman, 2008). Menurut mereka, proses pendidikan berkualiti ialah proses pengajaran dan pemudahcaraan yang berkesan. Para pelajar dapat mengikuti dan menghayati pengajaran melalui proses ini. Oleh itu, setiap guru perlu mahir dalam memilih pedagogi yang bersesuaian dengan anak murid.

Pedagogi Responsif Budaya ('*Culturally Responsive Pedogogy*') merupakan salah satu pedagogi pilihan guru di negara Amerika Syarikat yang mempunyai masyarakat dengan pelbagai budaya. Kepelbagaian budaya dalam kalangan pelajar di sekolah mendorong kepada amalan pedagogi ini di Malaysia. Oleh itu, guru-guru di Malaysia juga perlu meningkatkan pengetahuan dan kemahiran tentang pedagogi ini agar dapat meningkatkan keberkesanan pengajaran dan pembelajaran di dalam bilik darjah.

2.0 METODOLOGI

Bahagian ini akan membincangkan tentang tatacara untuk mendapatkan artikel tentang pandangan guru terhadap Pedagogi Responsif Budaya. Pengkaji menggunakan pendekatan PRISMA. Kaedah ini merangkumi sumber (Scopus dan Web of Science) yang digunakan untuk menjalankan kajian sistematik, kelayakan dan kriteria pengecualian, langkah-langkah bagi proses ulasan iaitu [mengenalpasti (*identification*), menapis (*screening*), kelayakan (*eligibility*)] serta mengumpul dan menganalisis data.

2.1 Prisma

Kajian sistematik ini dijalankan berdasarkan pendekatan PRISMA iaitu dikenali sebagai '*Preferred Reporting Items for Systematic reviews and Meta-Analyses*'. Pendekatan PRISMA dalam menjalankan kajian sistematik memberikan tiga kelebihan kepada kajian iaitu; 1) menentukan soalan penyelidikan yang jelas, 2) mengenal pasti kriteria pemilihan dan pengecualian dan 3) meneliti pangkalan data sastera saintifik yang besar menggunakan kata kunci (Sierra-Correa & Kintz, 2015). Pendekatan dengan berasaskan PRISMA membenarkan carian yang terurus berkaitan dengan kata kunci berkenaan pandangan atau persepsi guru terhadap strategi dan kelebihan penggunaan Pedagogi Responsif Budaya dalam bilik darjah.

2.2 Sumber

Pada masa kini enjin carian meringankan kerja-kerja para penyelidik untuk mencari artikel-artikel dari seluruh dunia. Dalam kajian ini enjin carian '*Google Scholar'* dan '*Scopus*' digunakan untuk mencari artikel-artikel yang bersesuaian dengan kajian ini. Jadual 1 menunjukkan kata kunci yang digunakan untuk membuat pencarian artikel dalam kedua-dua enjin carian.

Sebanyak 24 artikel daripada enjin carian '*Scopus*' dan 8 artikel daripada enjin carian '*Google Scholar'* diperoleh berdasarkan kata kunci yang digunakan. Hanya 7 jurnal yang dikenal pasti untuk menjalankan kajian sistematik ini. Artikel yang dipilih adalah daripada tahun terbitan antara 2010 hingga 2019. Selain itu, hanya artikel analisis kualitatif yang membincangkan strategi dan kelebihan Pedagogi Responsif Budaya menjadi pilihan pengkaji.

Jadual 1 Kata Kunci mengikut Enjin Carian

Jenis enjin carian	Kata kunci	Bilangan artikel
Scopus	TITLE-ABS-KEY (teachers AND view AND culturally AND responsive AND pedagogy) AND (LIMIT-TO (DOCTYPE, "AR"))	24
Google Scholar	allintitle:("culturally responsive pedagogy") (teachers perceptions OR teacher)	8

2.3 Kriteria Pemilihan dan Pengecualian

Beberapa kriteria pemilihan dan pengecualian ditentukan lebih awal. Kriteria pertama dan paling utama ialah hanya artikel yang berfokuskan kepada pandangan guru terhadap pelaksanaan Pedagogi Responsif Budaya yang dipilih. Kedua, sumber literatur yang dipilih adalah dari kalangan jurnal artikel kualitatif. Sumber seperti buku, tajuk dalam buku, dan kertas prosiding dikecualikan. Kriteria ketiga dalam pemilihan artikel jurnal ialah hanya artikel jurnal dalam Bahasa Inggeris dipilih. Jurnal yang diterbitkan di antara tahun 2010 hingga 2019 merupakan kriteria keempat dalam pemilihan artikel jurnal.

2.4 Proses Ulasan Sistematik

Kajian sistematik ini melibatkan 4 langkah dalam proses ulasan sistematik. Iaitu pengenalpastian (*identification*), pemeriksaan (*screening*), kriteria kelayakan (*eligibility*) dan penyertaan (*included*). Pada peringkat pertama, pengkaji mengenalpasti kata kunci bagi mencari artikel. Dengan menggunakan enjin carian '*Google Scholar* (8)' dan '*Scopus* (24)' sejumpah 32 artikel diperoleh. Daripada 32 artikel 3 artikel yang tidak berkenaan disingkirkan. Selepas mengikuti langkah kedua, iaitu pemeriksaan (screening) sebanyak 15 artikel telah disingkirkan daripada senarai. 13 artikel dikeluarkan atas sebab metodologi kajian yang bukan analisis kualitatif dan 2 lagi artikel adalah daripada tahun terbitan sebelum tahun 2000. Pada langkah ketiga mengikut kriteria kelayakan (eligibility), pengkaji mula membuat bacaan penuh terhadap 14 artikel dan 7 artikel terpaksa dikecualikan kerana tidak membincangkan tentang strategi

dalam Pedagogi Responsif Budaya. Pada peringkat terakhir hanya 7 artikel sahaja yang disertakan (*included*) untuk menjalankan kajian sistematik. Proses Kajian sistematik ini berdasarkan 4 langkah ditunjukkan pada Rajah 1.

2.5 Proses Analisis Data

Selepas mengikuti proses pemilihan artikel hanya 7 artikel yang dapat dipilih daripada 32 artikel. Semasa bacaan penuh pengkaji mengenalpasti pandangan guru terhadap kelebihan dan strategi yang diamalkan dalam pelaksanaan Pedagogi Responsif Budaya. Analisis kualitatif secara sistematik berdasarkan analisis kandungan dilakukan untuk mengetahui kelebihan dan strategi dalam amalan Pedagogi Responsif Budaya.

3.0 DAPATAN KAJIAN

Melalui hasil ulasan 7 jurnal dapat dikenal pasti beberapa strategi dan kelebihan yang berkesan dalam amalan Pedagogi Responsif Budaya. Artikel-artikel yang dipilih ini dari pelbagai negara yang mengamalkan Pedagogi Responsif Budaya. Sejumlah 3 artikel daripada USA (Amy J. Samuels (2018), Michele Ebersole et al. (2016), Sunni Ali et al.(2013)), 2 daripada New Zealand (Elizabeth Reinsfield, (2019), Elizabeth Melchior, (2011)), dan masing-masing 1 artikel daripada negara South Africa (Barber M. Mafuwane et al.,2015) dan Turkey (Kasim Karatas et al. , 2015). Temu bual merupakan instrumen penting bagi mendapatkan data daripada guru untuk mengetahui strategi yang digunakan dalam amalan Pedagogi Responsif Budaya. Artikel-artikel ini diterbitkan diantara tahun 2011 hingga 2019.

3.1 Amalan Pedagogi Responsif Budaya

Negara-negara membangun terdiri daripada masyarakat pelbagai bangsa. Masyarakat daripada pelbagai negara berhijrah ke negara-negara lain untuk mencari peluang pekerjaan. Ini menyebabkan keadaan sedemikian. Menurut Reinsfield (2019), New Zealand merupakan negara dengan pelbagai bangsa. Kepelbagaian masyarakat daripada etnik yang berbeza memerlukan sekolah dan guru menjadi responsive terhadap budaya bagi mengiktirafkan kepentingan dan keadaan pelajar. Pedagogi Responsif Budaya merupakan satu cara yang diamalkan oleh guru bagi mewujudkan hubungan yang berkesan antara guru dan pelajar.

Samuels (2018) telah menerokai manfaat dan halangan menerusi Pedagogi Responsif Budaya. Pendekatan dan alat pedogogi ini memupuk kelas yang saksama dan inklusif. Pengajaran Pedagogi Responsif Budaya tidak boleh dilihat sebagai satu unit pengajian yang berasingan atau satu pengajaran tersendiri, melainkan pendekatan dan sikap yang dipupuk dalam pengajaran ini adalah secara keseluruhan.

Menurut Ebersole, Kanahele-Mossman dan Kawakami (2016), pelajar membawa satu set nilai, kepercayaan serta pengetahuan mereka dari rumah dan jiran yang kemudian berlaku satu pertembungan dengan budaya di sekolah apabila berjumpa dengan masyarakat pelbagai dominan dari segi sosial, ekonomi, politik dan budaya.

Pendidikan merupakan satu proses sosio budaya. Amalan sosial dan budaya seseorang individu telah berkembang dan adalah penting untuk pembangunan individu. Persekitaran sekolah adalah meluas dan menjadi kaya dengan pengalaman budaya pelajar. Menurut Karatas (2015), pelajar belajar dengan motivasi yang lebih tinggi apabila program pendidikan mengekspot budaya, kehidupan dan pandangan mereka.

Rajah 1 Carta alir ulasan sistematik (adaptasi daripada Moher et al., 2009)

Menurut Mafuwane & Mahlangu (2015), pelaksanaan Pedagogi Responsif Budaya memberikan pengiktirafan terhadap latar belakang pelajar dan turut memberikan perhatian terhadap kebolehan pembelajaran pelajar. Pedagogi Responsif Budaya didapati dapat meningkatkan hubungan pelajar dengan sekolah jika dibandingkan dengan pembelajaran tradisional (Ali, 2013). Pedogogi ini berfungsi sebagai model dekonstruksi kerana pendidikan dapat dinilai, pencapaian identiti dikembangkan dan arahan yang diberikan menjadi lebih berkesan.

Cabaran utama para guru pada masa kini ialah menjaga keperluan dan kepentingan pelajar dari pelbagai latar belakang budaya, etnik, dan pendidikan di dalam sesebuah kelas yang sama. Pedagogi Responsif Budaya membantu guru-guru mengenali dan memahami perbezaan tersebut dan menguruskan kelas secara berkesan bagi membantu pencapaian pelajar (Melchior, 2011).

Jadual 2 Maklumat Artikel

Bil	Tajuk Jurnal	Penulis	Tahun	Negara
1	A future-focused conception of the New Zealand curriculum: culturally responsive approaches to technology education	Elizabeth Reinsfield	2019	New Zealand
2	Exploring Culturally Responsive Pedagogy: Teachers' Perspectives on Fostering Equitable and Inclusive Classrooms	Amy J. Samuels	2018	USA
3	Culturally Responsive Teaching: Examining Teachers' Understandings and Perspectives	Michele Ebersole, Huihui Kanahele-Mossman, Alice Kawakami	2016	USA
4	Teaching Practices Responsive to Cross-Border Education of Learners From Culturally Diverse Settings: A South African Perspective	Barber M. Mafuwane and Vimbi P. Mahlangu	2015	South Africa
5	Teachers' Perceptions on Culturally Responsiveness in Education	Kasim Karatas, Behcet Oral	2015	Turkey
6	Merging and Creating Culturally Relevant Pedagogy in Public Schools	Sunni Ali and Ryan Murphy	2013	USA
7	Culturally responsive dance pedagogy in the primary classroom	Elizabeth Melchior	2011	New Zealand

3.2 Strategi-strategi dalam Pedagogi Responsif Budaya

Pelbagai strategik digunakan oleh guru dalam Pedagogi Responsif Budaya. Reinsfield (2019) mengenalpasti beberapa strategi yang berfokuskan kepada kurikulum masa depan. Penggunaan teknologi digital dalam pengajaran, pengalaman dunia sebenar, serta aktiviti yang melibatkan kolaborasi bersama guru dengan pelajar. Pelajar-pelajar yang pelbagai etnik dan bangsa berpeluang untuk berinteraksi semasa pembelajaran dijalankan dan pelajar-pelajar juga dapat mempelajari bahasa rasmi. Penemuan kajian Reinsfield (2019) ini mencadangkan bahawa pendekatan berfokus masa depan boleh menjadi inklusif bagi Pedagogi Responsif Budaya, secara peribadi bermakna.

Menurut Samuels (2018), terdapat pelbagai strategi dalam melaksanakan Pedagogi Responsif Budaya. Pertama pelajar perlu diberi peluang untuk bersuara di dalam bilik darjah. Selain itu, guru perlu memastikan semua murid mengambil bahagian dalam perbincangan. Antara aktiviti yang dibincangkan ialah, bertanya soalan terbuka, ceramah akauntabiliti, perbualan yang berkesan, *fishbowl, talking chips*, dan *'turn and talk'*. Guru juga perlu memastikan penglibatan murid adalah aktif dalam pembelajaran. Guru juga perlu sentiasa menggalakkan perbualan yang sopan di kalangan murid. Perancangan pengajaran dan pembelajaran oleh guru juga tidak harus menumpu pada sesebuah etnik.

Pelan pengajaran lazim termasuk aktiviti yang memberi tumpuan terutamanya kepada pembelajaran tentang kumpulan etnik yang berbeza dan aktiviti ini sering bergantung kepada sumber yang sedia ada. Contohnya, penggunaan dan pendedahan kepada cerita yang melambangkan budaya dan tradisional latar belakang etnik yang berbeza (Ebersole, Kanahele-Mossman dan Kawakami, 2016). Selain itu, projek penyelidikan kebudayaan, menyanyikan lagu-lagu dari budaya dari negara yang berbeza juga aktiviti yang dilakukan oleh guru di dalam bilik darjah. Di samping itu, guru perlu berfokus dan mengenali setiap budaya pelajar yang berbeza agar dapat menyediakan rancangan pelajaran yang berasaskan responsif budaya.

Antara strategi-strategi yang dicadangkan oleh Mafuwane dan Mahlangu (2015), dalam pelaksanaan Pedagogi Responsif Budaya ialah; (1) Guru harus mengasimilasikan kandungan seperti fakta, bahan dan ilustrasi dari pelbagai budaya dan etnik semasa menunjukkan konsep penting dalam pengajaran. (2) Guru tidak harus berat sebelah terhadap pelajar yang berbeza dari segi budaya dan sebagainya semasa proses pembinaan pengetahuan. (3) Guru juga harus menyediakan pelajaran dan aktiviti yang akan membantu pelajar untuk memupuk sikap positif terhadap kumpulan pelajar yang berbeza dari segi etnik dan budaya agar dapat mengurangkan kewujudan prasangka di sekolah. (4) Strategi dan gaya pembelajaran yang digunakan oleh guru harus menggunakan pedogogi ekuiti untuk meningkatkan pencapaian akademik pelajar dari latar belakang yang berbeza budaya dan etnik. (5)

Budaya sekolah dan struktur sosial yang berkuasa di sesebuah sekolah perlu berlaku dengan adil terhadap pelajar dari pelbagai latar belakang budaya.

Guru memainkan peranan yang penting sepanjang proses pendidikan. Rasa kepentingan yang ditunjukkan oleh guru dalam proses pembelajaran akan meningkatkan interaksi di antara pelajar dan membawa kejayaan kepada pelajar (Karatas, 2015). Guru perlu peka dengan nilai budaya pelajar dan berpengetahuan dalam cara penyampaian ilmu kepada pelajar. Guru juga perlu memberikan aktiviti berasaskan koperatif dalam kalangan pelajar, serta mewujudkan suasana bilik darjah yang menggalakkan pelajar dengan pelbagai budaya dan etnik.

Menurut Ali (2013), pelajar perlu diberikan peluang untuk membuat keputusan sendiri terhadap apa yang ingin dipelajari. Ini akan meningkatkan semangat pelajar yang tidak ingin ke sekolah agar pergi ke sekolah. Melchior (2011), telah merujuk pandangan Māori dalam menerangkan Pedagogi Responsif Budaya melalui lima konsep iaitu; (1)*whanaungatanga* iaitu membina hubungan positif; (2) *rangatiriatanga* berkenaan dengan keberkesanan guru; (3) *manaakitanga* tentang penerokaan terhadap etika penyayang; (4) *kotahitanga* iaitu etika perikatan; (5) *pumanauratanga* tentang kepentingan sekolah, pendidikan moral di dalam kelas dan sikap guru dalam mewujudkan persekitaran pembelajaran budaya inklusif.

4.0 PERBINCANGAN

Pencapaian pelajar merupakan sasaran utama guru-guru dalam sesebuah sesi pengajaran dan pemudahcaraan. Guru yang mengajar sesebuah kelas yang terdiri daripada pelbagai bangsa dan etnik sesuai menggunakan amalan Pedagogi Responsif Budaya.

4.1 Kelebihan amalan Pedagogi Responsif Budaya

Reinsfield (2019) dalam kajiannya mendapati pendekatan ini membolehkan pelajar-pelajar menjadi kreatif, diberikan pendedahan kepada masalah dunia sebenar, meningkatkan kolaborasi antara guru dan murid, dan meningkatkan hubungan antara guru dan murid. Samuels (2018), mendapati Pedagogi Responsif Budaya meningkatkan hubungan antara sesama pelajar dan hubungan antara guru dengan pelajar serta meningkatkan nilai harga diri dalam kalangan pelajar dan menghasilkan rasa keyakinan dan selamat di dalam bilik darjah. Didapati jambatan yang dapat menghubungkan pelajar, guru, sekolah, dan komuniti dapat dibina hasil daripada Pedagogi Responsif Budaya. Selain itu, penglibatan pelajar turut dapat dipertingkatkan. Penglibatan tersebut mengakibatkan peningkatan pembelajaran dan pencapaian pelajar. Amalan Pedagogi Responsif Budaya turut membangunkan dan meningkatkan kesedaran dan kepekaan kepada dunia sekeliling.

Pedagogi Responsif Budaya bukan sahaja meningkatkan perkembangan pelajar, malahan guru juga diambil kira sebagai pelajar kerana mereka dapat belajar dari pelajar mereka, menjadi lebih berpengetahuan tentang populasi yang mereka layani, dan dapat mengembangkan pemahaman yang lebih luas dalam pelbagai konteks seperti sosial, politik, dan ekonomi (Samuels, 2018). Ebersole, Kanahele-Mossman dan Kawakami (2016), pula menyatakan melalui amalan Pedagogi Responsif Budaya para pelajar dapat mempelajari untuk melihat benda dari pelbagai perspektif dan menghargai masyarakat dengan pelbagai budaya.

Antara kelebihan Pedagogi Responsif Budaya yang dikenal pasti oleh Mafuwane & Mahlangu (2015), ialah; (1) Pedagogi Responsif Budaya membantu membina perhubungan yang bermakna di antara rumah dan pengalaman sekolah. (2) Strategi pengajaran dipelbagaikan berdasarkan gaya pembelajaran pelajar yang berbeza. (3) Pelajar berpeluang untuk mengenali budaya sendiri serta warisan budaya orang lain. (4) Maklumat, sumber dan bahan dari pelbagai budaya dapat diajar secara rutin dalam semua subjek.

Karatas (2015), menyatakan kualiti pendidikan dapat ditingkatkan melalui amalan Pedagogi Responsif Budaya. Motivasi sekolah juga didapati meningkat kerana amalan Pedagogi Responsif Budaya mempertimbangkan kesediaan pelajar untuk belajar. Didapati kesedaran terhadap kewarganegaraan menjadi lebih kuat kerana wujudnya rasa hormat terhadap budaya dan nilai-nilai bangsa yang berbeza dalam amalan Pedagogi Responsif Budaya.

Selain itu, Melchior (2011) mendapati pedagogi ini membantu guru untuk mengenalpasti kegemaran dan kekuatan individu setiap pelajar. Maklumat ini akan membantu guru merancang perancangan pengajaran yang dapat meningkatkan pencapaian pelajar. Pelajar merasa lebih yakin, kreatif, rasa selamat dan selesa dalam suasana pembelajaran CRP, dan dapat bekerja secara kumpulan di antara pelajar yang pelbagai budaya dan etnik.

5.0 LIMITASI DAN CADANGAN KAJIAN AKAN DATANG

Pedagogi Responsif Budaya ini sesuai juga digunakan di Malaysia sebuah negara di rantau Asia yang terkenal dengan kepelbagaian budaya, bahasa dan agama. Pengintegrasian elemen pendidikan yang berasaskan kepelbagaian budaya merupakan satu cara yang baik untuk mendidik generasi muda untuk memahami, menghargai dan menghormati budaya dan kepercayaan yang diamalkan oleh kaum atau bangsa lain. Pendekatan Pedagogi Responsif Budaya dapat membantu memupuk perpaduan dalam kalangan pelajar. Pedagogi ini akan memberikan pelajar kefahaman tentang budaya bangsa lain, mewujudkan sikap toleransi dan meningkatkan kefahaman serta kesedaran mereka terhadap budaya dan nilai sesebuah kaum.

Antara isu-isu yang dibincangkan dalam pendidikan budaya pelbagai ialah isu perbezaan jantina dalam pendidikan, pendidikan dwi-bahasa dan pendidikan khas. Kurangnya kajian-kajian terhadap pembelajaran bahasa kedua dengan Pedagogi Responsif Budaya. Bahasa Melayu merupakan bahasa kedua bagi masyarakat Malaysia berbangsa lain kecuali bangsa Melayu. Guru-guru yang mengajar Bahasa Melayu sebagai bahasa kedua kepada anak didik perlu mempunyai pengetahuan dan kesedaran terhadap kepelbagaian budaya. Dengan ini guru dapat mengamalkan Pedagogi Responsif Budaya untuk meningkatkan pencapaian murid dalam mempelajari Bahasa Melayu.

6.0 RUMUSAN

Kesimpulannya, Pedagogi Responsif Budaya sesuai diamalkan di Malaysia yang terdiri daripada murid yang pelbagai bangsa dalam satu bilik darjah. Setiap guru perlu sedar dan menguruskan pengajaran dan pembelajaran bagi menghadapi murid daripada pelbagai latar belakang sosiobudaya. Perpaduan masyarakat pelbagai bangsa, budaya, agama dan bahasa dapat ditingkatkan melalui amalan pedagogi ini. Pedagogi ini juga dapat meningkatkan peluang pembelajaran murid apabila guru memahami perbezaan murid berdasarkan latar belakang dan bangsa yang mempunyai cara belajar yang berbeza. Amalan Pedogogi Responsif Budaya ini juga dapat menjadikan pembelajaran lebih berkesan dan bermakna. Pedagogi ini harus diamalkan dalam kurikulum di Malaysia kerana melalui Pedogogi Responsif Budaya, warisan budaya pelbagai bangsa yang banyak mempengaruhi sikap dan pendekatan pembelajaran murid dihargai dan dipertahankan.

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ABSTRAK

Pendidikan memainkan peranan penting dalam mengintegrasikan perpaduan serta pembangunan negara. Dalam konteks ini, ilmu dan pengetahuan mengenai Pedagogi Responsif Budaya (Culturally Responsive Pedagogy) sangat penting dan setiap guru harus mempunyai pengetahuan yang luas demi mencurahkan ilmu tersebut kepada anak didik. Hasil ulasan 10 artikel dapat dirumuskan bahawa terdapat tiga tema utama tentang Pedagogi Responsif Budaya yang dibincangkan dalam iaitu kelebihan Pedagogi Responsif Budaya (7 artikel), strategi Pedagogi Responsif Budaya (5 artikel), serta cabaran dalam pelaksanaan Pedagogi Responsif Budaya (8 artikel). Terdapat banyak kelebihan dalam pelaksanaan Pedagogi Responsif Budaya di bilik darjah. Guru-guru mengaplikasikan pelbagai strategi semasa pengajaran dan pemudahcaraan (PdPc) Pedagogi Responsif Budaya. Malahan terdapat pelbagai cabaran dalam melaksanakan Pedagogi Responsif Budaya sepenuhnya.

Kata Kunci: Pedagogi Responsif Budaya,Culturally Responsive Pedagogy, Culturally Responsive Education, Culturally Responsive Teaching

1.0 PENGENALAN

Pendidikan pelbagai budaya merupakan salah satu isu penting secara global. Dalam perubahan persekitaran pendidikan, guru menghadapi cabaran yang besar dalam membentuk seorang murid yang berdaya saing di peringkat globalisasi. Hal yang penting dalam pembangunan negara Malaysia ialah menggalak dan mengekalkan intergrasi antara kaum dan etnik. Pendidikan memainkan peranan penting dalam mengintegrasikan perpaduan serta pembangunan negara. Demi mengekalkan perpaduan serta kestabilan dalam kalangan rakyat Malaysia, kefahaman tentang budaya setiap kaum amat penting (Rashid et al., 2014).

Setiap guru perlu mempunyai pendedahan, ilmu, pengetahuan serta latihan yang secukupnya untuk menganalisis isu yang berkaitan etnik, budaya dan amalan setiap etnik.Guru perlu mengambil kira setiap murid tidak tertinggal dalam mengetahui tentang kepelbagaian aspek murid. Hal yang demikian, ilmu Pedagogi Responsif Budaya sangat penting. Menurut pengkaji Gay (2018), pedagogi responsif budaya merupakan satu pendekatan dalam pengajaran yang menumpukan ciri-ciri pengetahuan,budaya, pengalaman, gaya persembahan dan rujukan yang berbeza-beza mengikut perbezaan etnik murid yang menjadi saluran untuk mendidik mereka dengan lebih berkesan. Setiap guru harus mempunyai pengetahuan yang luas demi mencurahkan ilmu tersebut kepada anak didik di samping menjalankan pengajaran dan pemudahcaraan (PdPc) dengan lancar.

2.0 METODOLOGI

Bahagian ini akan membincangkan tentang cara mendapatkan artikel tentang Pedagogi Responsif Budaya. Pengkaji menggunakan kaedah yang dipanggil PRISMA. Kaedah ini merangkumi sumber (Scopus, Web Of Science, Sage, Emerald, Taylor&Francis dan Google Scholar) digunakan untuk menjalankan kajian sistematik, kelayakan dan kriteria pengecualian, langkah-langkah bagi proses ulasan [mengenalpasti(*identification*), menapis (*screening*), kelayakan(*eligibility*)] serta mengumpul dan menganalisis data.

2.1 Prisma

Tinjauan ini menggunakan PRISMA yang dikenali sebagai "Preferred Reporting Items for Sytematic reviews and Meta-Analyses". Susulan kepada keperluan untuk meningkatkan lagi kualiti ulasan sistematik dalam banyak bidang, pada tahun 1996, satu kumpulan antarabangsa telah menerbitkan kenyataan "Quality of Reporting of Meta-Analyses (QUORUM)", iaitu satu set panduan yang menyediakan standard dalam melaporkan analisis meta cubaan rawak dikawal (Moher et al., 2009). Panduan tersebut baru-baru ini telah disemak dengan menyertakan standard tambahan bagi ulasan sistematik dan juga analisis meta dan telah dinamakan PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). Kenyataan PRISMA yang telah dikemaskini iniadalah berdasarkan kepada kelebihan konsep dan praktikal yang telah dibuat dalam sains ulasan sistematik. PRISMA juga telah menerima definisi yang digunakan oleh kolaborasi Cochrane. Menurut Sierra-Correa et al.,(2015), PRISMA memberikan tiga kelebihan kepada kajian ini 1) menentukan soalan penyelidikan yang jelas, 2) mengenal pasti kriteria pemilihan dan pengecualian dan 3) meneliti pangkalan data sastera saintifik yang besar menggunakan kata kunci. Kenyataan PRISMA membenarkan carian yang terurus berkaitan dengan kata kunci pedagogi responsif budaya, culturally responsive pedagogy, culturally responsive education, culturally responsive teaching.

2.2 Sumber

Terdapat pelbagai jenis enjin carian yang boleh digunakan untuk mencari jurnal-jurnal bagi kajian ulasan sistematik. Pengkaji telah menggunakan dua jenis enjin carian iaitu Scopus dan Web Of Science. Sebanyak 30 jurnal telah diperoleh berdasarkan topik kajian yang telah digunakan semasa carian. Daripada 30 jurnal tersebut, sebanyak 10 jurnal telah ditapis berdasarkan kata kunci pedagogi responsif budaya, culturally responsive pedagogy, culturally responsive education, culturally responsive teaching. Jurnal-jurnal telah ditapis bermula dari tahun 2001 hingga Februari 2019.

2.3 Kriteria Pemilihan dan Pengecualian

Beberapa kriteria kelayakan telah diambil kira untuk memilih jurnal-jurnal yang hendak dimasukkan dalam ulasan sistematik ini. Kriteria yang diperlukan, pertama, kajian harus dijalankan dengan menggunakan Pedagogi Responsif Budaya, Kedua, jurnal-jurnal dari seluruh dunia telah digunakan untuk kajian ini. Kriteria-kriteria memilih telah dibincangkan di bawah:

- Akses terbuka
- Diterbitkan dari tahun 2001 hingga Feburuari 2019
- Faktor utama iaitu Pedagogi Responsif Budaya diambil kira

2.4 Proses ' Ulasan Sistematik'

Ulasan sistematik ialah ulasan soalan yang dibina dengan jelas yang menggunakan kaedah sistematik dan eksplisit dalam mengenalpasti, memilih dan mengkritik kajian yang relevan dan juga untuk mengumpul dan menganalisa data daripada kajian yang terkandung dalam ulasan tersebut (Moher et al., 2009). Kaedah stastistik perlu atau tidak perlu digunakan untuk menganalisa dan merumuskan keputusan kajian yang dimasukkan (Higgins et al., 2011).Terdapat empat peringkat dalam proses 'ulasan sistematik' ini. Peringkat pertama ialah mengenal pasti kata kunci yang akan digunakan semasa proses mencari artikel. Berdasarkan pada kajian dahulu dan kamus, kata kunci yang berkaitan dengan Pedagogi Responsif Budaya telah digunakan. Pada peringkat ini, selepas pemeriksaan yang teliti, daripada 30 artikel 2 artikel yang dimuat turun telah dikeluarkan. Peringkat kedua adalah pemeriksaan. Pada peringkat ini, daripada 28 artikel yang layak untuk disemak, sejumlah 5 artikel dikeluarkan. Langkah ketiga adalah kelayakan, di mana artikel-artikel penuh telah diakses. Selepas pembacaan yang teliti, sejumlah 13 artikel dikecualikan kerana kajian tersebut tidak membincangkan tentang Pedagogi Responsif Budaya. Pada peringkat akhir kajian ini dijalankan dengan menggunakan 10 artikel untuk analisis kualitatif (lihat Rajah 1). Rajah PRISMA diinspirasikan oleh kajian Shaffril et al., (2018).

2.5 Proses Analisis Data

10 artikel yang dipilih telah dinilai dan dianalisis. Data tersebut diekstrak dengan membaca bahagian abstrak dahulu dan seterusnya membaca artikel penuh untuk mengetahui tentang Pedagogi Responsif Budaya yang dibincangkan. Analisis kualitatif dilakukan dengan menggunakan analisis kandungan untuk mengetahui tentang Pedagogi Responsif Budaya.

Rajah 1 Carta alir ulasan sistematik (adaptasi daripada Moher et al., 2009)

3.0 DAPATAN DAN PERBINCANGA KAJIAN

Hasil ulasan 10 artikel dapat dirumuskan bahawa terdapat tiga tema utama tentang Pedagogi Responsif Budaya yang dibincangkan iaitu kelebihan Pedagogi Responsif Budaya (7 artikel), strategi Pedagogi Responsif Budaya (5 artikel), serta cabaran dalam pelaksanaan Pedagogi Responsif Budaya (8 artikel). Jadual 2 menunjukkan analisis tentang tiga tema tersebut dalam setiap artikel yang dipilih.

Sejumlah 7 artikel daripada Amerika membincangkan tentang Pedagogi Responsif Budaya iaitu Samuels, A. J. 2018; Ebersole et al.,2016; Phuntsog, N. 2001; Barnes et al., 2019; Bonner et al.,2017; Misco, T. 2018; Mette et al., 2016, dan dua artikel pula daripada Turkey iaitu Kotluk et al., 2019; Karatas et al., 2015)serta satu artikel daripada Kanada iaitu Blanchet-Cohen et al., 2013.

Selain itu, 3 artikel yang dipilih menggunakan reka bentuk kajian kuantitatif dan 4 lagi artikel menggunakan 'Mix Method' (kualitatif + kuantitatif). Manakala 3 artikel yang dipilih meggunakan reka bentuk kualitatif. Artikel-artikel yang dipilih ini diterbitkan diantara tahun 2001 hingga Februari 2019.

3.1 Pedagogi Responsif Budaya

Pedagogi Responsif Budaya telah dirumuskan dalam tiga tema utama iaitu kelebihan,strategi serta cabaran dalam pelaksanaannya. Rumusan dapatan kajian adalah seperti dalam jadual berikut.

Jadual 1 Analisa Dapatan Artikel

Bil.	Penulis	Tahun	N	Tema yang dibincangkan		
				Kelebihan	Cabaran pelaksananan	Strategi
1.	Kotluk et al.	2019	1302	/	/	
2.	Samuels, A. J.	2018	200	/	/	/
3.	Karatas et al.	2015	25	/	/	
4.	Ebersole et al.	2016	18			/
5.	Phuntsog ,N.	2001	33	/	/	/
6.	Barnes et al.	2019	7			/
7.	Bonner et al.	2017	430	/	/	/
8.	Misco,T.	2018	33	/	/	
9.	Mette et al.	2016	120	/	/	
10.	Blanchet-Cohen et al.	2013	17		/	

3.1.1 Kelebihan Pedagogi Responsif Budaya

Semua artikel yang dipilih membincangkan tentang kelebihan Pedagogi Responsif Budaya. Menurut Samuels, A. J. (2018) dalam kajian beliau, guru-guru menyatakan bahawa ada banyak kelebihan dalam Pedagogi Responsif Budaya. Murid-murid dapat pencapaian yang baik serta minat belajar dalam kelas meningkat apabila budaya masing-masing dititikberatkan dalam PdPc. Dalam kajiannya, beliau turut menyatakan bahawa guru-guru menyatakan suasana bilik darjah serta PdPc akan lebih meriah dan menarik apabila Pedagogi Responsif Budaya diselitkan.

Selain itu, menurut Karatas et al.(2015), Pedagogi Responsif Budaya mempunyai banyak kelebihan. Dimana nilai budaya akan meningkat.Selain itu, motivasi murid, pemikiran kognitif serta minat murid terhadap PdPc turut bertambah. Pedagogi Responsif Budaya memberi sumbangan dalam perpaduan serta toleransi dalam kalangan masyarakat Turkey. Guru-guru menyatakan bahawa Pedagogi Responsif Budaya penting untuk membentuk perpaduan dalam kalangan masyarakat United States yang terdiri daripada pelbagai kaum,agama,etnik dan budaya. Pedagogi Responsif Budaya turut penting untuk menguasai Bahasa Inggeris di United States. Murid-murid dapat merasai pelbagai budaya di dunia ini melalui Pedagogi Responsif Budaya di bilik darjah (Phuntsog, 2001).

Berdasarkan kajian Bonner et al. (2017), guru-guru di Southern California berfikiran positif terhadap Pedagogi Responsif Budaya. Motivasi murid-murid akan tinggi apabila guru-guru menyelitkan unsur Pedagogi Responsif Budaya dalam bilik darjah. Guru-guru berpendapat bahawa murid-murid menghormati antara satu sama lain dengan mengamalkan Pedagogi Responsif Budaya.

3.1.2 Strategi Pedagogi Responsif Budaya

Menurut Samuels (2018) dalam kajian beliau, strategi pengajaran yang digunakan dalam Pedagogi Responsif Budaya harus bersesuaian. Contohnya, penggunaan bahan bantu mengajar, buku yang berkaitan serta kepelbagaian aktiviti yang menarik. Guru-guru harus mengamalkan pelbagai strategi pengajaran dalam bilik darjah. Umpamanya, soalan terbuka (open-ended questions), perbincangan akauntabiliti (accountable talk), perbincangan dengan contoh model (modeling effective conversations),fishbowl dan talking chips.

Guru-guru mendapati menggunakan 'Culturally Responsive Teaching Plan' sebagai salah satu strategi pengajaran. Ada guru yang menyampaikan cerita melambangkan budaya agar murid-murid dapat memahami sesuatu budaya dengan lebih mudah dan berkesan. Dalam kajian beliau juga, guru-guru di Amerika membuat projek untuk mengkaji dan mengetahui sesuatu budaya dengan lebih terperinci (Ebersole et al., 2016). Dalam kajian Barnes et al. (2019), beliau mengumpul maklumat terhadap guru tentang pandangan mereka menggunakan strategi RULER dalam Pedagogi Responsif Budaya di United States, Amerika. Berdasarkan kajian Bonner et al.(2017), guru-guru mengaplikasikan unsur Pedagogi Responsif Budaya melalui bahasa, sastera, budaya serta sejarah kehidupan.

3.1.3 Cabaran Pelaksanaan Pedagogi Responsif Budaya

Dalam kajian Kotluk et al., (2019),Guru-guru yang mengajar subjek Mathematik dan Bahasa Luar Negara lebih sedar tentang Pedagogi Responsif Budaya. Guru yang kurang pengalaman mengajar menghadapi cabaran dalam mengimplikasikan Pedagogi Responsif Budaya semasa PdPc. Faktor masalah politik dalaman yang berlaku dalam negara Turkey turut mempengaruhi Pedagogi Responsif Budaya.Guru – guru berpendapat bahawa mereka tidak dapat menyampaikan unsur Pedagogi Responsif Budaya dalam PdPc disebabkan oleh kurangnya ilmu tentang budaya, etnik kaum lain.

Berdasarkan hasil Samuels (2018) dalam kajian beliau, ilmu dan pengetahuan guru yang kurang terhadap sesuatu budaya yang berlainan turut menganggu pelaksanaan Pedagogi Responsif Budaya dalam bilik darjah. Hal ini, boleh mengwujudkan sensitivity dalam kalangan murid yang berlainan bangsa, agama dan budaya. Dari segi cabaran guru dalam pelaksanaan Pedagogi Responsif Budaya dalam bilk darjah, pengkaji mendapati bahawa tiada kurikulum yang terancang untuk guru-guru menjadi rujukan semasa mengajar Pedagogi Responsif Budaya. Tambahan pula, guru-guru mendapati bahawa murid-murid dari budaya yang berlainan tidak perlu bimbang kerana mereka berbeza. Setiap insan berbeza dari segi ciptaan manusia. Itu ialah semula jadi. Oleh itu, guru-guru harus sedar tentang hal ini (Karatas et al.,2015).

Dalam kajian Phuntsog (2001), guru-guru mengalami pelbagai cabaran dalam pekasanaan Pedagogi Responsif Budaya. Antaranya, kurang pendedahan terhadap Pedagogi Responsif Budaya. Selain itu, pengajaran Pedagogi Responsif Budaya boleh melahirkan isu sensiviti dalam kalangan murid *Black* di United States,Amerika. Menurut Misco,T. (2018), kurikulum untuk Pedagogi Responsif Budaya harus diubahsuai dengan teratur. Hal ini memudahkan guru-guru menjalankan PdPc dengan terbaik. Ramai guru menghadapi masalah kekangan masa untuk membuat perancangan PdPc untuk Pedagogi Responsif Budaya. Berdasarkan kajian Mette et al., (2016), latihan untuk mempelbagaikan aktiviti Pedagogi Responsif Budaya perlu diberi agar guru-guru dapat input yang secukupnya. Guru-guru menghadapi cabaran dalam mendapat sokongan yang penuh untuk menjalankan Pedagogi Responsif Budaya dalam bilik darjah. Di samping itu, kurang pengalaman tentang pelbagai budaya, perubahan dalam politik, sumber pengajaran yang kurang menjadi penghalang kepada kejayaan Pedagogi Responsif Budaya (Blanchet-Cohen et al.,2013).

4.0 LIMITASI DAN CADANGAN KAJIAN

Pedagogi Responsif Budaya memberi kesan yang baik terhadap murid. Banyak kajian tentang Pedagogi Responsif Budaya telah dijalankan. Namun begitu, ada limitasi dalam kajian yang telah dijalankan dan pengkaji mengutarakan beberapa cadangan untuk kajian selanjutnya. Antara 10 artikel yang diulas, 8 artikel membincang limitasi dalam kajian dan cadangan untuk kajian lanjutan. Didapati bahawa hanya 4 artikel daripada 10 artikel menggunakan reka bentuk mix method dalam kajian mereka. Hal ini merupakan salah satu limitasi dalam kajian. Di mana pengkaji mencadangkan reka bentuk mix method perlu digunakan semasa membuat kajian untuk mengumpul data. Dengan ini, hasil dapatan kajian lebih sahih dan tiada bias. Di samping itu, Patton(1990) berpendapat bahawa temu bual perlu dijalankan untuk mengumpul data yang tepat dan sahih.

Tambahan pula,cabaran dalam pelaksanaan Pedagogi Responsif Budaya perlu diatasi dengan langkah – langkah yang drastik. Menurut Nihat Kotluk et al.(2018), beberapa langkah mengatasi cabaran dalam pelaksanaaan Pedagogi Responsif Budaya telah dibincangkan. Menurut pengkaji Karatas et al.,(2018), kurikulum Pedagogi Responsif Budaya perlu dirancang dengan teliti, latihan mengajar Pedagogi Responsif Budaya untuk guru-guru harus ditingkatkan di Turkey. Latihan perkhidmatan guru tentang Pedagogi Responsif Budaya perlu dijalankan dengan lebih serius agar guru-guru dapat faham konsep Pedagogi Responsif Budaya dengan lebih teliti.

5.0 KESIMPULAN

Kesimpulannya, ulasan sistematik ini tentang Pedagogi Responsif Budaya telah dirumuskan dalam tiga tema utama iaitu kelebihan, strategi serta cabaran dalam pelaksanaannya. Melalui ulasan sistematik ini, dapat dirumuskan bahawa terdapat banyak kelebihan dalam pelaksanaan Pedagogi Responsif Budaya di bilik darjah. Pencapaian akademik, pemikiran kognitif serta minat murid meningkat apabila budaya masing-masing diselitkan semasa guru mengajar di bilik darjah. Selain itu, pedagogi ini turut menjadi salah satu pemangkin dalam memupuk perpaduan dalam kalangan murid yang terdiri daripada pelbagai bangsa, agama dan budaya mereka. Penggunaan bahan sokongan yang relevan dapat menjayakan objektif pengajaran pedagogi ini. Oleh yang demikian, guru-guru mengaplikasikan pelbagai strategi semasa PdPc Pedagogi Responsif Budaya. Malahan terdapat pelbagai cabaran dalam melaksanakan Pedagogi Responsif Budaya sepenuhnya. Pengkaji mendapati bahawa tiada kurikulum yang terancang untuk Pedagogi Responsif Budaya yang boleh menjadi panduan guru. Di samping itu, hasil kajian mendapati bahawa guru kurang berpengalaman tentang pelbagai budaya. Sumber pengajaran yang terhad serta kurangnya latihan perkhidmatan untuk mempelbagaikan aktiviti pedagogi ini menjadi cabaran pendidik. Ulasan sistematik ini mencadangkan beberapa kajian yang boleh dilanjutkan oleh pengkaji yang lain. Cabaran dalam Pedagogi Responsif Budaya serta langkah-langkah menghadapi cabaran tersebut dicadangkan untuk kajian selanjutnya.

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059 : The Impact of Text Messaging and Modern Technological Applications on Linguistic Proficiency

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ABSTRACT

This study intends to illustrate the effect of text messaging and modern technological applications on the linguistic proficiency of individuals. It focused on introducing clear examples of the mistakes made by individuals while writing text messages. Here, some studies encouraged the use of text messages as it has many positive effects and other studies ensured that text messages have many negative effects. The study results indicated that using and understanding the shortened forms of SMS language has unique meanings depending on the group that it belongs to as it indicates the belonging of persons to a certain group and avoids the strangers. Therefore, SMS language is thought to be the "secret code of youth". There is a fact that abbreviations are used because of space restrictions and young adults try to use them.

Keywords: text messaging, applications, language, youth

1.0 INTRODUCTION

Actually, text messages are considered to be a popular form of communication. Due to fast writing, individuals may make serious mistakes. For example, one can type " c u" instead of " see you". Text messages language may affect the grammar and structure used by students. For example, some teachers of native English speakers may observe that their students may omit the –s in verbs with third-person pronouns. This may be traced back to the tendency of students to omit it in their typing of text messaging. A lot of technological innovations have emerged, the aim of which is to make the learner the center of the educational process, and focus on learning strategies, to deliver information to the learner with the least time, effort and greatest benefit. It is asserted that in the light of the technological revolution and the development it has brought, developing and industrialized countries are spending billions on technology in the world. Therefore, communication technology contributes to the improvement of communication skills, the exchange of experiences and the possibility of publishing e-business and the exchange of files between learners. Such techniques include wired and wireless communication.

In fact, there are negative effects of short messages broadcast by satellite channels on classical language, and the words and phrases used in the messages reflect the low language of the youth. The short messages pose a serious threat to the language. Educators felt that the vernacular dialects do not match the standard classical expression of the components of the soul and heart signs. Also, the use of colloquial dialects is evidence of widespread illiteracy in the world.

2.0 LITERATURE REVIEW

It is indicated that the messages are incomprehensible because of the different dialects and the lack of understanding of their synonyms. A study aimed at investigating the influence of SMS that can be seen in language has shown that the latter negatively affects people's linguistic abilities to understand words. Thus, the study revealed that those who exaggerate at SMS text messages sending were less understanding and accepting of other new words. On the other hand, others were accepting more the same words while reading depending on the traditional printed media including magazines, newspapers, and books. In the study, inquiries were made to ask college students about the habits of reading they practice while messaging and then it showed many words that included genuine and fake words (Graham, Jacqueline B, 2013).

There was an assumption that sending text messages encouraged people to have unrestricted language, but it turned out to be a myth. People who sent text messages rejected more words rather than admit they were already possible.

Traditional print media reading enables people to have diversity in using terms that didn't exist in ordinary conversations that are used within young people and text messaging generation. Through reading, there is flexibility in the use of language and acceptance of new words. Reading helps readers to form interpretable words as it develops their skills. This study, this was surprising since many various unusual spelling words are found for instance, "LOL" in messaging, but for text senders, it is the frequency of the use of words is what makes them acceptable (Wood, C., et al., 2011).

Some might see SMS as a modern dialect of English, which is a strong dialect if not entirely derived from English. This generality arises from the reality that indicates that a limited number of languages can be supported by using mobile phones at the early stages of their distribution and concept.

Language packs and Symbian are two mobile operating systems that allow a product localization using these interfaces. Is it also available used by users worldwide? Also, it is noted that the producers of mobile phones provide support for the "local language of the country" through which phones will be distributed.

However, many influences add restrictions to SMS scripts and non-English language use. This stimulates using English of these languages, particularly those that use the following non-Latin Latin characters (ie not using the Latin alphabets) for example, when using Greek or Cyrillic, there is a limitation of the lengths of messages. On the contrary, it is noted that the de-stripping of English from English after its use and integration into non-English language contexts (Tayebinika & Putehb, 2012).

As such, in addition to the taken procedures to reduce the restrictions of time, cost and space in language messaging. Once again, constraints on the different aspects of the nature of languages around the world in addition to the SMS language(s) style.

The essential aim of creating and using language SMS hoped to deliver an understandable using of messages as in a little way. There are two reasons for that: first was the telecommunications organizations limit the SMS characters number, as well as user fees for sent SMS. Seeking to keep costs low, users should be brief when they communicate with the message they desire. Second, typing on the keyboard is faster than a phone and thus capitalization is faster. Therefore, grammar, capitalization and punctuation are ignored in a great way. Unlimited text options can be assessed from many countries by many people, but this differs from one person to another and from one country to another. Because screens remain small, there is a use of brief SMS language in a great deal.

Observations and illustrations concerning the stylistic and the linguistic SMS language characteristics were introduced by many researchers. However they are not at all tiring, part of these characteristics include the Configuration use (acronyms and acronyms); Cuts, default, and omission of parts of speech; Pragmatism and the explanations of vague abbreviations; Interactive icons; Illustrations and logograms (abbreviation rebus); Semi-linguistic and positive features; Capitalization; Emotional symbols; Differences in spelling; and Punctuation (Titanj & Patience, 2017).

2.1 SMS Positive Effects:

Impact literacy and verbal language use:

Dr. Ninag Kemp of the Tasmania University states that, the development of "textese" is naturally associated with a great understanding of phonetics and grammar.

Through numerous scientific researches, David Crystal has opposed the sayings that mention that SMS has a determinable effect on using the language. In his book "Texting: Gr8 Db8", the results were written briefly. He argues in his book that:

- As opposed to what is believed, words aren't shortened in common text messages.
- For a long time, the acronym has been used, so it hasn't been seen as a new action in SMS language.
- The acronym has been used for a long time and therefore is not a new phenomenon found only in the language of SMS. Moreover, the words "sonar" and "laser" are abbreviations to long words in the dictionary.
- SMS language is used by both adults and children; therefore, errors in written work shouldn't be connected only to the SMS language.
- In exams and written work, the use of shortened forms is not widespread.
- Using SMS doesn't mean having a low education.

It is also noted that SMS using not at all lead to the bad spelling of words because text messages can improve the literacy of its user's. Other people feel that SMS language claims that harm English proficiency are exaggerated. A study by Freudenberg that has been made on the typed work of many students revealed that the SMS language's actual amount that implemented, wasn't so effective. SMS language aspects including the use of symbols aren't seen in students' work. Errors can't be attributed to SMS usage, but these errors have existed before SMS appearance (Everett, 2016).

SMS language is viewed as it has little effect on grammar. Supporters of that opinion find that SMS is an additional language. It can't be argued that SMS language affects student's grammar since learning a new language has no effect on the proficiency of students.

Through appropriate education, students should have the ability to make a distinction between short texts, slang, and effectively use them in a proper way.

2.2 Negative Effects of SMS:

Impact on the use of language the linguistic communication

However many studies enhance SMS language use, the common perception which maintains that texting destroys the development of linguistic in the part of young students, Welsh journalist and television reporter John Humphries disapproved of the opinion that maintains that SMS language destroys our language. Ambiguity may be a problem that arises from using SMS language, explaining many examples for instance, "laughing out loud", which can be interpreted to mean "laughing out loud", "lots of love" and "old lady" within the context that is used in. Mysterious phrases and words usually exist in languages. In English, for example, the word "duck" different meanings depending on the context it exists in.

SMS language has been used in a great way affecting the rich heritage and language proficiency. Those who oppose SMS language find that it deteriorates the English language aspects that have developed within history. Furthermore, similar words in SMS language can be mistaken by young students and this includes spelling mistakes (Titanji & Patience, 2017).

2.2.1 Laziness versus efficiency

Humphreys describes feelings and texts as lazy behaviors and "irritating" and assumes that the "dirty" habits that happened through using Testis will lead to increased student ignorance of pronunciation and correct roles.

2.2.2 Schoolwork, exams and assignments use

Using SMS language in schools has its negative effects. Some media reports are introduced about children who use SMS language for school articles. Therefore, the New Zealand Qualifications Authority (NQA) disapproved of reports of the press that allowed using text shortened forms in the exam answers. "There was no change in the guidelines and there was no specific language policy," a spokesman said.

3.0 METHODOLOGY

This study depends on the questionnaire as an effective tool for gathering information. A questionnaire was conducted online and sent by email. The questionnaire includes questions about age and gender. Participants were asked about the effects of text messaging on language, grammar, standard language, and spelling. The number of participants was 100. All the participants were native speakers of English. Half of the males and the other half were males. About 75% of participants age those whose ages range between 15- 26 years old. Also, 65% of the participants reported that they are students. The participants were assured that the information that they report will not be used for any harm (Plester & Wood, 2009).

4.0 RESULTS

The results indicated that about 70 % of participants report that they use abbreviations, clippings, and shorten forms in their text messages and ordinary writings. Also, about 60% of participants express that they did not use to use abbreviation, clippings, and shorten forms in their writings before using text messages. About 57 % of participants agree that text messages affect their academic writing. 66% of participants report that they use ungrammatical structures in text messages. 60% report that their grammar in academic writing is affected by the use of text messages. 40 % of participants report that their use of standard language is affected by the use of text messages. 74% of participants expressed that they sometimes write wrong spellings of words because they are influenced by text message language. 55%

of participants report that they think those text messages have created linguistic subcultures (Kemp, N. & Bushnell, C., 2011).

Many people use text messages around the world today. This study is conducted to find out the differences between the language of the text messages of old people and youth. The results reveal that youth use abbreviations and improper grammar in their text messages. However, old people often do not use abbreviations; even most of them do not know these abbreviations. Old people tend to use standard language in the text messages. Moreover, many youths use shorter text messages than old people.

Furthermore, the study finds differences between youth and old people in the use of the four types of illocutionary acts. The study finds out the use of the four illocutionary acts varies according to age. Youth tend to use the assertive illocutionary act while adults tend to use the expressive illocutionary act.

5.0 DISCUSSION

Text messages users transfer the forms they use in text messaging into their academic writing. This should not be viewed as a ruining of language because text message language does really add variety to language. It renews the language which preserves the language from dying. In addition, the majority of participant's reports that they use sometimes use ungrammatical structures in their academic writings. They traced this back to the effect of text message language on their writing. This indicates that text message users sometimes mix the language they use in the text message with academic writings. In addition, only 40% of participants express that text messages affect their standard language. This indicates that text message language does not hinder people from using standard language. Moreover, the majority of participants report that they use spelling mistakes in their writing because of their use of text messages. This indicates that text message users get accustomed to the spellings that they use in text messages. Thus, they use it in academic writing.

Also, SMS language is not accepted as a traditional and consistent model, either in slang or ordinary language. As a result, prominent lexical efforts and publications (such as dictionaries) that specifically address the language of SMS have not yet emerged. There was a suggestion by some experts indicates that the use of "non-programming" for slang text messages has made SMS as a part of the "normal language" of students. Many informal trials have been made to document using SMS messages. For example, Customers are provided in Vodacom with a dictionary for the SMS language as a complementary part when purchasing a mobile phone. Lists of acronyms are provided at the Vodacom website.

To provide online dictionaries of SMS, additional efforts have been made. Lists of the alphabetical words are provided with their actual meanings, there may be some translation to SMS texts on some websites, but these translations may not be accepted.

In recent years, ads are increasingly affected by the language of SMS. Longer messages at the ads leave fewer feelings. Thus, the most attractive and cost-saving SMS space is used in a great way. SMS language has a noticed impact as it makes the advertising experience can't be forgotten (Ling, R., & Baron, N. S., 2007).

Companies that focus on the adolescent market tend to use the language of SMS in ads to attract the target audience's attention. As adolescents prefer using SMS, they link the ads to using SMS. Once again, Unilever's ad with respect to the new deodorants set with respect to young girls who use phrases such as "OMG! Moments." The head of the team that made the ad said that they wanted to meet the discourse and the youth culture through expressing it properly.

Various companies including McDonald's aimed at following the market of teenagers using the shortened forms of SMS language in the company's commercials. In Korea, McDonald's has a video online for ads "Ready?" (Van Dijk et al., 2016).

6.0 CONCLUSION

The aim of this study is to investigate the text messages effect on language, grammar, standard language, and spelling. the questionnaire is used as an effective tool in collecting data. The researcher conducted a questionnaire on 50 participants and the study findings show that text message impacts language, grammar, standard language, and spelling. The majority of participants report that their academic writing is affected by their use of text messages. In conclusion, linguistic subculture has been created by using technology.

Abbreviations and acronyms evoke a group identity sense to make users aware of the language of their group when using SMS language. Using and understanding the shortened forms of SMS language has a

unique meaning depending on the group that it belongs to as it indicates the belonging of persons to a certain group and avoids the strangers. Therefore, SMS language is thought to be the "secret code of youth". There is a fact that abbreviations are used because of space restrictions and young adults try to use them.

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061 : E-Learning Adoption in the Classroom: Implementation Strategy, Effectiveness and Challenges

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ABSTRACT

Towards the development of 21st century teaching and learning, exist variation of teaching methods adapted in the classroom instruction. All these are to ensure learners' interest and participation in the teaching and learning keeps on going interactively. Electronic teaching is one of the popular methods that have been carried out by teachers, known as e-learning. This paper discusses the provision of new experience in the process of teaching and learning to both teachers and students. The focus on the implementation strategies of e-learning, its effectiveness for students, and limitation encountered in its implementation are highlighted too.

Keywords: e-learning, adoption, effectiveness, challenges

1.0 INTRODUCTION

Use Nowadays, traditional classroom learning is less preferred by the students due to its nature of being boring and old-fashioned. With the rise of technology and gadgets, electronic devices have become a part of students' daily life. In accordance to 21st Century Learning, it is important for students to succeed or master the skills in 21st century life which include skills in content knowledge, learning and innovation, information and technology literacy, life and career. Electronic learning, commonly known as e-Learning refers to learning facilitated and supported through the use of Information and Communications Technology (Jenkins and Hanson, 2003). According to Hussin and Salleh (2008), e-Learning is not new in Malaysia but the intensity of its usage is not very remarkable. Henceforth, in this paper we will discuss on three main aspects which are the implementation strategy, effectiveness and challenges of e-Learning.

As stated by Ma (2008), e-Learning is an ideal learning environment using modern means of information technology, through the effective integration of information technology and the curriculum to achieve a new learning style which can fully reflect the main role of the students to thoroughly reform the traditional teaching structure and the essence of education, to train large numbers of high quality personnel (as cited in Tarus and Gechoya, 2015). Once again, we would like to highlight that the term e-Learning that will be used constantly in this paper denotes to learning facilitated and supported through the use of Information and Communications Technology (Jenkins and Hanson, 2003).

The design process of implementing e-Learning in classrooms plays a major role to ensure efficacy of the method. One of the design processes that was highlighted by Hussin and Mohd Salleh (2015) is the importance of retraining among educators. In order to keep up with the rapid changes of technology, it is important for teachers to continuously undergo training with the purpose of to adhere with recent development in teaching and learning alongside with current technologies. For a start, to support the basic teaching of lessons in class, teachers could use Microsoft OneNote, One Drive, Office Mix and PowerPoint to design lesson plans and self-directed contents. The use of self-directed content

with the Office Mix is quite easy. For example, an ordinary PowerPoint presentation can be enhanced with voice over or video of the teacher speaking to help demonstrate or explain formulae and concepts (Paik Khin, 2015).

The practice of e-Learning in classroom had resulted to improving collaborative skills, interactive skills, and students' autonomy. According to Ng'ambi (2013), by adapting e-Learning, teachers can produce notes with students' participation, the use of tablet enabled the exploitation of distributed intelligence in the class to co-create a teaching resource. Besides that, it also promotes knowledge-sharing activity, in which, students became teachers of each other and the teacher learned from what the students knew. This practice also encourage students' autonomy to make learning more meaningful in accordance to Anderson (2004) where he proposes that individuals could interact with a wider range of net-based synchronous and asynchronous activities not limited to video, audio, computer conferencing, chats or virtual world. He adds that these net-based activities provide rich environments for acquisition and this is in contrast to prescriptive learning, where what learners should know is predetermined (Williams, Karousou & Mackness, 2011).

However, despite having positive feedbacks in practising e-Learning in classroom, there are a few factors that hinder the adoption of e-Learning. Lack of resources and appropriate infrastructures has contributed to the limitation of practicing e-Learning in the schools' classroom. According to Naidu (2003), the fundamental obstacle to the growth of e-Learning is lack of access to the necessary technology infrastructure, for without it there can be no e-Learning (as cited in in Tarus and Gechoya, 2015). Apart from that, teachers also play a pivotal role in making e-Learning in classroom happen. Unfortunately, according to Hussin and Mohd Salleh (2015), teachers do not know how to use technology appropriately and effectively in education.

2.0 IMPLEMENTATION STRATEGY AND EFFECTIVENESS OF E-LEARNING

The most common way to measure the effectiveness of e-Learning is through qualitative pre and post-testing. According to the study made by Noesgaard and Orngreen (2015), the effectiveness of e-Learning was correlated with the implementation strategy that was applied by teachers in the classroom. In their study, the effectiveness was defined by 'learning outcome' of each lesson. Therefore, this qualitative study was formulated by interpreting learning outcomes of the lessons. In short, the implementation strategies of e-Learning make differences to the effectiveness of e-Learning in the classrooms which is reflected by the learning outcomes of the lesson.

To identify the limitations that are faced by teachers in the implementation of e-Learning, Ekberg and Gao (2018) did a qualitative method research followed by semi-structured interviews for the teachers. The reason why they chose this method was to gain holistic perspective of the teachers' personal experience, which gave the research a more detailed depiction of what the challenges faced in using ICT and electronic devices in the classroom. On the other hand, semi-structured interviews give the chance to change the order in which the questions are asked, depending on the flow of the conversation, as well as asking additional questions if necessary (Grgurovic, 2013). Besides, the questions used in the interviews conducted in this research were open-ended questions. Open-ended questions give the respondents freedom to formulate their answers, and supplementary questions can be asked if further description of the question is needed (Means, 2013).

According to the study done by Noesgaard and Ørngreen (2015), the qualitative analysis of the teachers' interactions with e-Learning shows three prevailing implementation strategies that the teachers use in the classroom.

a) Adapting e-Learning as a whole by integrating technology into the prepared curricula throughout the lesson.
b) Blended e-Learning: combines e-Learning with traditional classroom methods.
c) Flipped classroom: using e-Learning as a preparation for the lessons and it is done outside of the classroom, meanwhile lessons are done using traditional classroom methods.

The study above shows 49 out of 61 respondents agree that e-Learning has a significant and positive effect to the teaching and learning activity. However, based on the qualitative approach of data collecting, the study also generally agrees that effectiveness varies according to individual differences (Karaaslan, 2013).

It is not surprising that the experience of teachers in terms of previous relevant work experience and online experiences, affects the effectiveness of e-Learning. experience may either increase or decrease effectiveness. According to the study, if the teachers have wide experience in the use of technology, e-Learning integration in the classroom will have higher effectiveness to the students. Similarly, teachers need to have higher knowledge in technology to be able to approach students who have high competency in using technology, otherwise the students would be unimpressed and uninterested for future lessons. This underlines the importance of having wide experience in using technology as it affects the effectiveness of e-Learning in the classroom.

Motivation to learn and engage with the e-Learning solution is key to effectiveness. According to Brown (2005), results suggest the importance of motivation to learn and workload in determining aggregate time spent in e-Learning courses. Both students and teachers need to have high interest and motivation to be able to make e-Learning effective in the classroom. Motivation is also driven by communication as social interaction with instructors and collaborative interaction with peer students are important in enhancing learning and active participation in online discussion. Therefore, motivation in implementing e-Learning also gives an impact to the effectiveness of e-Learning in the classroom.

3.0 CHALLENGES OF E-LEARNING

Most of the teachers who are actively implementing e-Learning in their classroom activities have faced some sorts of challenges either before, during or after the lessons. They are:

3.1 Time Constraints

According to Ekberg and Gao (2018), three respondents indicated that the time was their biggest challenge, and, in particular, it was the time it takes to find digital resources. On top of the lesson plan, teachers also require more time to study and master the ICT tools before they are able to integrate it in the classroom. This gives more burden to the teachers in constructing a lesson beforehand (Serdyukov, 2017). Besides, some instructions need to be given to the students in using the ICT tools. (Eady, 2013). This situation will prolong the instruction period therefore causing less time for teachers to focus on the content of the lessons. Moreover, in this particular study, one respondent also pointed out that there was no extra time to find digital resources because teachers already have a lot of administrative work they have to do.

3.2 Access to Technology Resources

Ekberg and Gao (2018) stated that all respondents were provided with a computer from their schools. However, three of them also indicated that they did not have much more resources apart from that. For instance, a respondent stated that she only had access to the traditional word processing programs like Microsoft Word and Microsoft PowerPoint. Some softwares need to be bought by the teachers themselves and it could cost quite a lot. Another respondent commented that they need to learn to use digital resources like Photoshop themselves in order to carry out e-Learning. If the teacher has high technology competency, it probably will not cause much problems. However, some teachers opt to attend courses and seminars to learn using a software like Photoshop from experts which cause a lot of money. Moreover, the abundance of technology resources is not enough. The school need to introduce the resources to the teacher and students, in order to make sure that they will make full use of the resources (Helleve and Ingrid, 2017)

3.3 Support From Schools' Administration

School administration plays a role in the implementation of e-Learning in the classroom (Altusinik, 2012). From the study by Ekberg and Gao (2018), two respondents felt that the school leadership did not have a plan to make an investment in ICT in classroom teaching. For example, the respondents mentioned that the complaints about using ICT in classrooms have been made to the administration so many times. However, school administration never made a step to solve the issue. Some teachers see that the support from school is very essential to the e-Learning implementation, therefore they choose to work at schools that invest a lot in ICT.

3.4 Problem-Solving Strategies

In order to ensure the effectiveness of e-Learning activities in the classrooms, teachers need to consider a few strategies before implementing e-Learning in a lesson. Ergo, De Vries (2013) has outlined four

important elements of an e-Learning strategy which consist of technology, content, administration and support, and communication.

3.5 Technology

According to De Vries (2013), there are two types of technologies used for delivering learning content in a classroom. Those two technologies are synchronous technology and acsynchronous technology. Synchronous technology is a type of technology where the teacher are able to involve in a real-time interaction with the students. Some of the examples of synchronous technology are Webcasts, Webinars and any broadcasts with involve real-time chatting platforms. On the other hand, asynchronous technology is a type of technology that helps facilitate students' learning experience outside of the classrooms and without the presence of the teacher. For instance, a synchronous technology is used in learning and knowledge portals such as Edmodo, Moodle and Google Classrooms. As mentioned by Al-Shboul (2013), to ensure the effectiveness of an e-Learning approach, teachers need to be aware of these technologies so they are able to plan and construct lessons that are suitable for the students' learning needs. Teachers can also vary the types of technology used in the classrooms which can help evoke the students' curiosity and interest to the lessons.

3.6 Content

Prior to any lessons, it is important for the teachers to plan the content or the body knowledge that they want to focus on throughout the classroom sessions. In order to do lesson planning, teachers need to decide about the form and content of their instructions, such as how much presenting, questioning and questions to do, how much material to cover in the allocated time, and how in-depth to make their instruction (Borich, 2007). Therefore, in adapting e-Learning in the classroom, teachers need to consider if it is appropriate and necessary to the content of the lessons learned by the students. For instance, if the lesson is focusing on a writing task, it might be inappropriate for teachers to conduct Kahoot activity in the classroom. Moreover, it should be kept in mind that e-Learning should be a tool that enhances learning experience, not disrupting it.

3.7 Administration and Support

It is undeniable that e-Learning requires a lot of support from all sides that are involved such as school administration, parents and respective teachers. On-going technology support is a necessary requirement at a school that are actively using e-Learning in their lessons. Technology equipment, tools, resources, internet, and the technology infrastructure will have to be maintained and replaced as new technology becomes available. This requires money, expertise, and time (De Vries, 2013). Moreover, according to Kidd (2012), school administrations need to establish a technology budget, which can support and maintain a district-wide e-Learning initiative. Not only that, technology support staff will need to be employed to maintain technology equipment and support teachers with various technology issues. In short, to ensure the effectiveness of e-Learning, there is a lot to be invested therefore everyone needs to come together to make sure that the students could enjoy the benefits of e-Learning.

3.8 Communication

After teachers have outlined the implementation strategies of e-Learning, it is important for them to communicate the strategies to the students. One of the factors that need to be considered in communicating e-Learning strategies to the students is change management (De Vries, 2013). Some students might be reluctant in using e-Learning or they are not interested in using technology for learning purposes. This way, teachers might need to introduce e-Learning step-by-step in order to ease up their burden in learning in the classroom. In the meantime, teacher's strategy needs to include a way for them to try e-Learning, at little or no risk to themselves and their learning outcomes. It needs to include some personal interaction to encourage and educate them about on how to adopt technology devices in the classroom. By doing so, students can understand and enjoy the benefits of e-Learning in a long run (Kok, 2013).

4.0 CONCLUSION

e-Learning provides both teachers and students with a new experience in the process of teaching and learning. According to Njenga and Fourie (2010), contrary to popular belief, e-Learning does not belittle the role of the teachers in the classroom but instead enhancing it. In fact, there is a call for more human interaction in teaching and learning that could probably be achieved through technology. Given its

effectiveness, it is recommended that the implementation of e-Learning as a part of curricula as well as enforcing blended learning and flipped classroom is continued to widen the spectrum in which knowledge can be possessed by both teachers and students. They need to realize the importance of the implementation of e-Learning in school for effective teaching and learning process. For instance, a feature of most e-Learning platforms is the online discussion forum. Students are encouraged to hold discussions on the forum not only to interact with each other but also to enable the course lecturer gauge their understanding of the course (Ikpe, 2011).

At the same time, teachers' experience in the use of technology is needed for active facilitation throughout the lesson. The absence of experience will eventually decline the teachers' motivation to even implement e-Learning in school, what is more to design a strategy for effective e-Learning use in the lesson. Njenga and Fourie (2010) mentioned that to counter this, the proponents should engage all stakeholders, while at the same time ensure that there is sufficient training, support and infrastructure, as well as proper compensation for lecturers. At the same time, e-Learning delivery can help social workers in the field increase their access to information, increase ease in updating content, personalize instruction, and ease distribution of educational information (Phelan, 2015).

According to Kong (2014), technology plays a crucial role in supporting schools on realizing the desirable learning goals, learning process and learning outcomes. Therefore, despite the time constraints stated in the discussion as mentioned by Ekberg and Gao (2018) where 'their biggest challenge, and, in particular, it was the time it takes to find digital resources'; the system needs to realize that the problem needs instant solution so that the future generation would not have to deal with the same matter in the future. Besides, King and Boyatt (2014) also mentioned that for e-Learning to be successfully implemented, the institution needed to recognise it as a priority and develop a supportive institutional culture that will expose students with a wide variety of knowledge from wide variety of resources. With that being said, the implementation of e-Learning does not only cater to the need of change in teaching and learning process but also to fit in students' interest in order to prolong their focus on the lesson.

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068 : The Impact of Differentiated Assessment on Teaching and Learning: Multi-Case Studies of PutraPacer Application in a Higher Education Institution

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ABSTRACT

Acknowledging the diversity of learners in the 21st century, differentiation need to be integrated in classroom instruction and assessment. There are researches on differentiated assessments that have been carried out in Malaysia. These researches featured strategies and the usage of different tools to carry out differentiation in teaching and learning. However, to date, there is no generic, systematic and dedicated tools available yet for teachers or lecturers to achieve and employ alternative assessment for differentiated classroom. Hence, PutraPacer is developed as a customizable intelligent web application for differentiated assessment. The purpose of this research is to explore the impact of PutraPacer as a differentiated assessment tool on teaching and learning in the higher education. This is a multi-case study which will be carried out on three experienced lectures from different streams, together with their respective students. The outcome of this research should be able to enrich the practice of differentiated assessment in the field of education and at the same time providing another alternative to assessing mixed-ability classroom with a more comprehensive and systematic tool.

Keywords: Differentiated Assessment, Authentic Assessment, Technology-enhanced Assessment

1.0 INTRODUCTION

Students in the 21st century classrooms are diverse in terms of "physical characteristics, personalities, backgrounds, cognitive abilities, experiences, learning preferences, and social development" (Gregory & Chapman, 2013, p.1). Differentiation is needed to be integrated into instruction and assessment so that teachers will be able to respond to the different needs of students proactively (Tomlinson & Moon, 2013). Differentiation in the classroom encourages students' maximum growth and individual success (Tomlinson & Allan, 2000). Moreover, differentiated assessment promotes divergence and creative thinking (Brown, Bull, & Pendlebury, 2005).

In one of the eleven shifts outlined in the Malaysian Education Blueprint 2013-2025, the Ministry of Education highlights student-centred and differentiated teaching in the primary and secondary schools' curricula. Further, to appreciate diversity and meet the different needs of students, the Ministry of Education also advocates the enabling of more personalised learning through the enhancement of student learning experience which is possible by leveraging technology-enabled models (Malaysian Education Blueprint for Higher Education, 2013). The abovementioned statements prove that the Ministry of Education acknowledge the need for the education system to assimilate differentiation in teaching and promote personalization in students learning.

Considering the changes in the curriculum for both primary and secondary schools in recent years, there are more prospects on doing differentiation through formative assessment. Previous researches on alternative and differentiated assessments in Malaysia provides an insight of some preferred strategies and that are currently being practiced. These strategies make use of different types of learning tools. Among them are the using of portfolios, concept maps, rubrics, oral communication, presentation and group work in teaching and learning.

However, to date, there is no generic, systematic and dedicated tools available yet for teachers or lecturers to achieve and employ alternative assessment for differentiated classroom. Hence, a customizable intelligent web application for differentiated assessment called PutraPacer was developed by researchers from a public university in Malaysia. PutraPacer allows instructors to employ differentiated assessment across courses or programs. It also provides opportunities for students to execute tasks or complete an assessment by choice based on their actual ability.

By providing analytics of teaching and learning, PutraPacer could support the realization of smart campus in the era of Industrial Technology 4.0. As a technology-enhanced assessment tool, PutraPacer

has somewhat adhere to one of the Education 2030 visions (Incheon Declaration, 2015) which advocates the intervention of a more robust and comprehensive assessment system to assess learning outcomes. PutraPacer could be a substantial assessment tool that can be further developed and applied in other level of education. Henceforth, providing more choices of alternative assessments to educators and learners alike.

The purpose of this research therefore is to explore the impact of PutraPacer as a differentiated assessment tool on teaching and learning in higher education. The research will be conducted to find out answers to the research questions that is "How does PutraPacer impact teaching and learning in higher education?" and "How can the application of PutraPacer promote differentiated learning and differentiated assessment to instructors and learners?"

2.0 METHODOLOGY

This research will employ qualitative approach with a multiple-case study design (Yin, 2009). This research will use purposeful sampling on three experienced lecturers, Lecture 1, Lecturer 2 and Lecturer 3 from different streams which is Science, Social Science and Applied Social Science, respectively. These lecturers together with their respective students will be recruited to participate in one of the classroom assessments which will employ PutraPacer. Data in the form of observation, interviews, documents and audio will be collected after the classroom assessment.

Lecturer 1, Lecturer 2 and Lecturer 3 will each be an individual case. Using the replication approach, each's case conclusions are then considered to be the information needing replication by other individual cases. Report will be written for each individual case and for the "whole" research which focuses on cross-case report.

Grounded theory will be applied as data analysis technique. Using the constant comparative method, data are compared during each stage of the analysis. Atlas.TI will be used to support the research during the data analysis process, in which texts are analysed and interpreted using coding.

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073 : The Status and Strategies of Game Teaching on Chinese Course in Primary Schools

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ABSTRACT

In the 21st century, driven by the in-depth development of new curriculum reform, educators have gradually applied various games into classroom teaching in primary schools. However, the application of game teaching faces multiple challenges in the Chinese classroom. This study concerns the issues of implementation of game teaching and explores different strategies to motivate students' participation. Based on the review of literature, the researcher propose suggestions to improve teachers' capacity of gamification teaching, and helps to build an engaging learning environment for primary students.

Keywords: Primary school, Game, Chinese teaching

1.0 INTRODUCTION

Driven by the development of new curriculum reform, the traditional method of teaching which is essentially based on knowledge inculcation has been unable to adapt to the current educational reform and development trend (Zhu, 2017). Especially for the primary school student who loves to play, to move, the teacher-centered class will merely increase the burden on students' Chinese learning and make the Chinese class dull and tasteless. Slowly as time goes by, students' interests in Chinese learning will gradually lose.

From the above discussion,it is clear that teachers who are guided under the educational concept of active participation, willingness to explore and diligence in doing things advocated by the new curriculum reform should base on elementary student's psychology and language learning characteristics and adopt game ways to enrich the classroom teaching activities. Only in this way, can the students master valuable Chinese knowledge through participating interesting games and activities, and also will they have a keen on exploring Chinese learning. In such a situation, the multimedia as the core of game teaching of teaching methods has drawn the attention of many teachers, experts and scholars. However, how to achieve a perfect integration of this new teaching instruction and teaching activities has made it be a difficult issue encountered in terms of game teaching in the subjects development.

To improve students' learning enthusiasm in the teaching process and eventually guide them to learn active participation, it is necessary to explore how to take advantage of game sensibility to cater for students' psychological characteristics. During the process, students can not only play games but also master the knowledge and skills they need to obtain , accordingly games and education could flow seamlessly into each other (Hong , 2007). Hence, under the requirements of education reform,that is to change the traditional learning way of students in the context of this, introducing game teaching into primary school classroom teaching has become a trend. In the teaching process, teachers should make students be real subjects of learning and fully mobilize the enthusiasm of participating into the learning activities.

Liu (2011) pointed out that the Chinese curriculum in primary school is a subject which is full of humanity and of living. The purpose of the Chinese course is to educate students to experience life, perceive emotions and get some emotional and cognitive sublimation and truth. Therefore, the study of Chinese course presents to be particularly significant, but many difficulties have been encountered during the processing of game teaching, which results in failure of teaching effectiveness on primary school

Chinese. As a result, we should attempt to discuss all kinds of ways and measures to promote the implementation of game teaching method in primary school Chinese teaching.

2.0 PREVIOUS STUDIES RELATED TO GAME TEACHING

2.1 Definitions Of Game and Game Teaching

The word "game" has been defined by many scholars and authorities. Spodek Bernard and Saracho Olivia ()demonstrated that: games are a different kind of play activities. They are highly structured and include specific rules to be followed. Similarly, Jill Hadfield defined games as "an activity with rules, a goal and an element of fun."Byrne gave the definition to games as a form of play governed by rules. They should be enjoyed and fun. They are not just a diversion, a break from routine activities, but a way of getting the learner to use the language in the course of game.

Gao (2007) argued that game teaching refers to that when teachers organize education and teaching activities, they combine subject characteristics, teaching content, students' learning conditions together and guide students to participate in classroom activities by game. In this process, students master valuable Chinese knowledge in the vibrant and colorful game activities. With the rapid development of information technology, education reform points out that information technology and subject teaching should integrate. Modern information technology should be used to assist in classroom teaching.

2.2 The Necessity Of Implementing Game Teaching

2.2.1 Demand for improving the effectiveness of the connection between kinder-garden and primary school

Based on the characteristics of children's physical and mental development, the game is the leading way of children's learning.(Dong,2015) There are differences and commonalities between kindergarten and primary education in China's basic education. For a long time, people pay more attention to the stage of kindergarten and primary school education but ignore its continuity, which leads to a poor connection between the young and the young.

According to the psychological research on the connection between kinder garden children and primary school children, "the main problem of the connection among them is the transition from games to learning (Liu, 1991) .In educational practice, as the result of long time separation between game and study, the sudden study way change from games in kindergarten to knowledge learning in primary school has become a concrete embodiment that teachers only focus on stages but ignore continuity.

According to the cohesion theory of kindergarten and primary school, "the change of teaching mode from kindergarten to primary school brings about the change of corresponding normative mode (Polus-Szeniawska ,1975).The practice mode based on games starts to change to the mode based on class and learning. Kindergarten is mainly regulated by routine requirements of daily life, action learning, unintentional attention, and image thinking, while primary school is mainly regulated by classes, symbol learning, intentional attention, and abstract thinking. The learning methods of the two are completely different, so the change of this teaching method, to a large extent, exceeds the change level of the behavior pattern of primary school students themselves. When it comes to primary school, this pattern of behavior does not match the norm, leading to maladjustment in the lower grades." (Wu, 1996). Effective game teaching can make elementary school students adapt to the learning tasks in primary school to some extent.

2.2.2 Game is an importance form and carrier of Chinese subject

Compared with the teaching of mathematics, physics, and chemistry, Chinese teaching has significant differences and its own characteristics. The Chinese curriculum standard for full-time compulsory education (2001) propose that the particularity of Chinese subjects different from other subjects is: the uncertainty of teaching content; encyclopedic content of teaching materials; subjectivity and re-creativity of text understanding.

The particularity of the Chinese subject determines that primary school Chinese teaching should let students experience and master the humanistic connotation of Chinese in Chinese practice. Teachers should respect students' unique experiences and let students learn from them. Game teaching attaches great importance to the experience process of teaching and emphasizes the combination of knowledge and game. Teachers should give full play to the creativity and other advantages of pupils, instead of the

one-sided pursuit of knowledge teaching like traditional teaching. Game teaching has enriched the practice of Chinese classroom teaching.

In China, there are many theoretical pieces of research and practical applications of game teaching in early childhood education, but primary school education does not allow students to learn knowledge through games as kindergarten does. Compared with kindergartens, primary schools have strict discipline requirements and more teaching content. Therefore, compared with the early childhood stage, the application proportion of game teaching in primary school is not high. Reviewing most teachers' cognition of game teaching, they believe that game teaching is simply a tool to enliven the classroom atmosphere and arouse students' interest in learning by interspersing games in a particular teaching link (Zhang ,2018) . The real value and effectiveness of game teaching have not been correctly recognized. Although the practice and discussion of game teaching have existed since ancient times, its theoretical research is mature in modern times. More and more education experts and front-line teachers begin to realize the advantages of game-based teaching. They try to evaluate the effectiveness of game teaching in by finding out effective methods and strategies for game teaching. In this way, we can deepen the theory and practice of game teaching in elementary school.

Xu(2017) argues that primary school's Chinese teaching goal is not only to let students remember idioms and Chinese characters. The most important thing is to stimulate students' interest in Chinese courses and cultivate their own culture. After the reform of basic education, the "humanity" of Chinese subjects has become more and more prominent. However, the teaching mode of many primary school teachers is still in the traditional education model. Instead of cultivating students' emotions and improving their overall quality, they focus on making students memorize and use a large number of words mechanically.

Under this traditional teaching mode, it is difficult for students to have an interest in learning Chinese courses. They are unable to experience the beautiful traditional Chinese culture from the edification, unable to establish an independent personality. The game teaching method can integrate the interest, situation, and participation of the game into Chinese classroom teaching. This teaching method enables students to learn and master the basic knowledge of Chinese while playing games. Game teaching can well stimulate students' interest in learning Chinese so that they take the initiative to contact Chinese, to feel the charm and connotation of culture.

2.2.3 Gamification teaching is an essential object of primary school Chinese teaching

First of all , game teaching is conducive to the physical and mental health of primary school students. According to Zhou (2012), around 36 percent of the students have no feelings about the facilities and environment of the school. Students fear, distrust, and even hate their teachers. Students are suspicious of each other. Nowadays, primary school students are more and more lonely and fragile in their mind, and the incidence of mental illness is higher and higher. For children whose thinking ability and expression ability are not perfect, games are a leading way to realize expression.

Secondly, game teaching helps develop students' ability to express themselves and communicate. Game is a necessary form for children to realize their spiritual growth, and also a unique way for children to know the world. The use of games in education has a long history. In Chinese teaching, many teachers try to improve children's interest in learning through games. However, games are generally considered as a means of language teaching. The ontological value of games has not been recognized. Liu (1999) believes that games are the way of children's existence and an essential part of primary school students' life. Children know and experience the world through games, and interact and develop in games. For children, play is "a harmonious and unified experience of subject and object."

Thirdly, game teaching is conducive to the development of pupils' imagination and creativity (Vygotsky ,2004). As long as you observe your child's play, you will be genuinely amazed at their creativity. Liu(1999) put forward that "games are the source of creativity." Games encourage creative behaviour and divergent thought (Fuszard, 2001) and are excellent ice breakers. Games will often act as learning triggers inducing lively discussion on learning concepts among students following gameplay. They can create at anytime, anywhere. As long as you give your children a piece of space, they will give you a big surprise. Because children are often curious, focused, and relaxed, they are open, and a whole being. The stimulation of the outside is often the thread of their creation, weaving their experiences and desires into a whole new world.

3.0 THE STATUS OF GAME TEACHING IN CHINESE PRIMARY SCHOOL

3.1 Teachers' disapproval of game teaching

In the current Chinese teaching in primary schools, most teachers still hold the view that teaching is teaching. They reject game teaching, believing that it does not conform to the standardization of classroom teaching. They think that game teaching will make students only focus on the game; it is difficult to grasp the knowledge of Chinese better. The situation that students cannot focus on game classroom will not only seriously affect the quality of classroom teaching, but also cause a more significant impact on students' Chinese scores. Teachers explain too much by themselves in class and advocate rote learning, which results in students' thinking ability lack of training. Only a few teachers think that game teaching can stimulate students' interest in Chinese learning, thus promoting the improvement of their Chinese proficiency and improving the quality of teaching.

3.2 The unitary method of game teaching

In primary school Chinese class, when the teacher is carrying on the game teaching, they usually have only a few types of games. The teacher did not integrate the core ideas of the game with the teaching content and objectives, which will lead to the low quality of game teaching and seriously affect the students' Chinese learning. Based on Zhu (2013)point out :The frequency of teachers' use of the game teaching method is shallow.Only35% of teachers approve of gamification and choose to use gamification in Chinese teaching, while 65% of teachers are relatively passive and not highly motivated Game teaching methods are usually used during recess or to liven up the classroom atmosphere. However, it does not give full play to the advantages of game teaching, which leads to the low quality of Chinese teaching and students' inability to learn Chinese knowledge better.

3.3 Deficiency in teacher's game teaching skills

Since teachers have not received training on game teaching mode, they do not know how to integrate games into teaching in current teaching. In many cases, teachers are improvising in class, so the quality of game teaching is not high. Due to the students' influence on the class order when playing games, so it is difficult for students to concentrate on Chinese learning. Students' lousy performance has a high impact on the guarantee of classroom quality and the improvement of students' Chinese proficiency. (Wang,2016)When conducting game teaching, teachers rely entirely on textbooks, and their ability to develop games independently is limited.

3.4 Defects existing in the current evaluation system

First of all, the current teaching evaluation mainly takes the score as the evaluation standard of teachers' teaching level and students' learning effect. It is difficult for teachers' innovative teaching achievements to be fully affirmed and developed in practice. There are two main reasons for this result: first, the content of evaluation is single, emphasizing the finalization evaluation while making light of the formative evaluation. The evaluation mainly focuses on evaluating students' ability with "achievements." With the development of society, educational goals are gradually changing. In addition to knowledge and skills, process and methods, emotional attitude, and values have also become our curriculum goals. Therefore, the evaluation method of putting scores first does not match the current teaching objectives. Secondly, the evaluation system of game teaching is not perfect. Any teaching method should have an appropriate evaluation method to evaluate effectiveness. It is because of the lack of evaluation standards that teachers are afraid to try.

4.0 COPING STRATEGIES

4.1 Correctly Understand Game Teaching And Its Functions

At present, the direct obstacle to the use of games in primary school Chinese teaching in practice is the lack of adequate teacher resources. But the deep reason is the insufficient understanding of game teaching. The precious traditional educational thought of "teaching through lively activities" has not received enough attention in the background of "exam-oriented education". There is no sufficient support from educational administration for teachers to apply the idea of game teaching. There is no systematic research on game teaching theory and specific operation training. As a result, most of the front-line teachers have some deviation in the concept of game teaching. It is these deviations and misunderstandings that affect

the implementation and development of game teaching. Therefore, it is very necessary to have a correct understanding of game teaching and its functions. Game teaching is not only the embodiment of the traditional educational thought of "teaching through lively activities", but also contains rich modern educational concepts and plays an outstanding role in education.

Game teaching is beneficial to students' physical and mental health (Chandran &Prakrithi&Kishor,2018). Game is a form of thinking, essentially assimilation over adaptation. Games can help children successfully achieve the assimilation of knowledge. Game is the main way for primary school students to experience the world, which can cultivate their ability to express themselves and communicate. Games provide the right atmosphere for children to develop their imagination and creativity. Specifically, primary school Chinese teachers should change their teaching concept and get out of the misunderstanding of game teaching. Teachers should jump out of the fixed concept of "teaching is teaching" and deeply understand the experience the world, which can cultivate their ability to express themselves and communicate.

Games provide the right atmosphere for children to develop their imagination and creativity. Specifically, primary school Chinese teachers should change their teaching concept and get out of the misunderstanding of game teaching. Teachers should jump out of the fixed concept of "teaching is teaching" and deeply understand the educational role of games.

Firstly, teachers are required to link game teaching with student development. In this way, the purpose of Chinese teaching is not only for students to master knowledge but also for the comprehensive development of students' thinking, personality, and psychology. Secondly, in addition to teaching by the book, teachers should also take the initiative to learn a variety of teaching strategies and understand the relationship between different teaching methods. Teachers should be able to use them flexibly according to the different needs of textbooks and students. Thirdly, schools should encourage teachers to innovate in teaching methods to ensure the vitality of teaching. Fourthly, the school can organize meetings to discuss, invite experts into the campus, to the school exchange, and other ways to let teachers broaden their horizons. In this way, the school enables teachers to be willing to try and use different teaching methods in their classes to improve the efficiency of Chinese classroom teaching.

4.2 Improve Teachers' Capacity Of Gamification Teaching

At present, primary school Chinese teachers' ability to implement game teaching is generally insufficient. This is why the game teaching of primary school Chinese is difficult to effectively use in practice. Therefore, primary school Chinese teachers should not only strengthen independent learning, but also actively participate in the training of teaching skills organized by relevant departments. Teachers should pay attention to the accumulation of teaching experience in practical activities, communicate and share with each other, gradually improve the implementation of primary school Chinese game teaching ability.

At the same time, education departments should actively carry out relevant training aimed at improving the game teaching of primary school Chinese teachers, so that primary school Chinese teachers can form a comprehensive and systematic understanding of game teaching. Schools can also set up a primary school Chinese game group. In this group, teachers can explore the primary school Chinese game teaching new methods. Schools can also regularly organize the study of front-line teachers' research results to promote mutual learning among teachers. The above training and research should also focus on the main problems encountered in practice, such as "how to integrate games into teaching", "how to choose games suitable for game teaching", "how to develop games suitable for game teaching" and "how to give students effective guidance in game teaching process".

4.3 Strengthen The Policy Guidance Of The Game Teaching Method

At present, the lack of measures to encourage game teaching has become an important factor restricting the game teaching in the application of practice in primary school Chinese teaching. Therefore, during the practice, the implementation of game teaching method of primary school Chinese must rely on the policy guidance of educational administrative departments.

First of all, educational administrative departments should update their educational concepts and attach importance to game-based teaching. Educational administrative departments should also establish a scientific evaluation system around game teaching. The new evaluation system should embody the function of "development" for students emphasized by the new curriculum reform.

To be specific, it is necessary to give full play to the teaching function of students' evaluation of teachers. Black and Wiliam (1998) argue that: In the teaching process, teachers should not only pay

attention to the summative evaluation but also pay attention to the formative evaluation to give full play to the teaching vitality of teachers. The content of teacher evaluation should be diversified, no longer focusing on "test scores," but should pay attention to the comprehensive development of students' language knowledge, language skills, learning strategies, cultural awareness, and emotional attitudes.

Second, educational institutions should encourage the practice of training primary school Chinese teachers to improve their game teaching and provide support in terms of human resources and funds.

Finally, education authorities should encourage Chinese teachers to use game teaching methods in their teaching practice and commend those who have made outstanding achievements through this way to promote the primary school Chinese game teaching method in practice.

4.4 Improve Pupils' Play Ability

Primary school students have high enthusiasm for games, which can easily lead the class to be out-of-control and influence the effect of game teaching. Therefore, it is much more significant for the teacher to cultivate the elementary student's game habit. The game habit requires students to listen quietly to the game rules from the teacher telling before the game start : during the process of game, each student should make better self-control and actively finish his own task so that everyone can participate and behave well in order. After the game, students can follow the teacher's guidance to enter the next level of knowledge learning. However, considering the psychological development characteristics of primary school students, it is quite difficult to truly achieve such game habit. Therefore, teachers are required to indoctrinate students in practice and continuously set game rules.

Cooperative education theory advocates cooperation between teachers and students in the process of education. Teachers should attach importance to cultivating students' learning interest and learning ability and also respect students' personality development. Liu(2011) believes this is the only way for students to grow up. Many game teaching methods require students to complete under cooperative inquiry. Therefore, teachers should make students be aware of the importance of cooperative inquiry learning and become a friendly partnership, to realize complementary advantages.

Cooperative inquiry learning can help students improve their learning ability with the wisdom of the class. (Smith,2000).At the same time, the interaction between teachers and students and students with students helps stimulate students' inspiration and enhance their flexibility of thinking. Besides, teachers should also adopt more group cooperation in the teaching process. In Chinese teaching, teachers should pay attention to the function of group cooperation to train students' cooperative ability. Through the training of learning methods to cooperate with the effective implementation of game teaching.

4.5 Organic Combination With Other Teaching Methods

Gamification teaching is one of the teaching methods in the Chinese curriculum, but it is not suitable for all the teaching contents. Therefore, schools should not only encourage teachers to use game teaching but also organically combine game teaching with other teaching methods according to the needs of teaching contents, to jointly serve Chinese teaching.

Secondly, the traditional way of testing teaching validity through examinations is unscientific and unitary, schools should take in game teaching to the school evaluation system.(Faridi, 2014). For example, considering the game factors in the homework form, reward, evaluation and other circles, such as "recitation king", "literacy king", "story king", etc., selecting the "class king" and then enter the "school king" with taking the class as a unit. In addition, it can also be assessed in the form of game breakouts which can be used instead of scoring.

Taking the game evaluation of Hunan affiliated school of Jiaxing normal university as an example, students can get a checkpoint every time they complete a small task. If they reach the required number of checkpoints, they will be rewarded for success. Students' score of crossing is also taken as the index of final comprehensive evaluation. The specific rules are different in different grades and subjects, but the idea of game evaluation is mutual. This way of evaluation relieves the pressure of knowledge testing and also increases the testing enthusiasm of students.

5.0 CONCLUSION

The aim of this paper was to explain the importance of game teaching ,the status of game teaching in primary school on Chinese course, and the strategies to cope with the issues related to game teaching. Game instruction have proven useful in increasing engagement during in-class lectures between students and teacher (Taylor& Parsons,2011).

From the perspective of school administrators: The school administrators shall made feasible regulations to ensure the active development of game teaching in primary school Chinese teaching. To ensure the effectiveness of game teaching, the administrator should carry out primary school Chinese game teaching evaluation activities. They should also equip teachers with teaching tools and hardware according to their teaching needs.

From the perspective of the designers: The designer should design the teaching materials which strengthen the openness of teaching materials and enrich the content of teaching reference books. Primary school Chinese teaching material content is relatively rich currently, but in order to better implement game teaching, textbook writers should further strengthen the openness of textbooks and enrich the content of teaching reference books.

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STREAM 2 – EDUCATIONAL ADMINISTRATION

044 : Pendidikan Keusahawanan dan Nilai-Nilai Keagamaan dalam Kalangan Usahawan Bimbingan Program *2Years Exit Programme* yang Berjaya di Negeri Sembilan

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ABSTRAK

Pembasmian kemiskinan telah lama dibahaskan diperingkat global dan lokal. Kini, dengan Matlamat Pembangunan Mampan 2030, pembasmian kemiskinan melalui pendidikan inklusif dan peluang pembelajaran sepanjang hayat, antaranya menggariskan pendidikan keusahawanan menjadi salah satu usaha ke arah pembangunan mampan. Melalui proses pengalaman yang dilalui sebagai usahawan, pelbagai nilai-nilai hidup telah menjadi prinsip pegangan dan amalan. Sehubungan itu, penting untuk memahami nilai-nilai keagamaan yang memacu kejayaan usahawan. Bagi sebuah negara yang berbilang kaum, Malaysia mempunyai kepelbagaian agama dan budaya. Oleh itu, kajian ini bertujuan untuk mengetahui nilai-nilai keagamaan usahawan bimbingan di Malaysia sehingga berjaya mencapai pemerkasaan. Peserta yang dipilih secara Persampelan Bertujuan ini merupakan bekas peserta Program 2Years Exit Programme (2YEP) yang telah disenaraipendek oleh Jabatan Kebajikan Masyarakat Malaysia untuk kajian ini. Mereka menjalankan pelbagai jenis perniagaan kecil dan sederhana seperti Jenis perniagaan yang dijalankan adalah dari kategori runcit, kedai makan dan kedai jahitan, penjaja menjual ayam gunting dan pengeluar produk minyak wangi jenama sendiri. Peserta kajian merupakan peserta-peserta yang berjaya dengan cemerlang dari projek rintis Program 2YEP 2014. Kajian ini dijalankan menggunakan kaedah Kajian Kes Kualitatif dan melibatkan seramai lima orang peserta kajian iaitu usahawan-usahawan bimbingan Program 2Years Exit Programme (2YEP) yang berjaya di Negeri Sembilan. Melalui kaedah temu bual mendalam, pemerhatian tidak turut serta dan analisis dokumen, terdapat tiga tema yang ditemui iaitu Meletakkan matlamat berniaga kerana mencari keredaan Allah; Melaksanakan hak ke atas masyarakat; dan Keyakinan kepada kuasa Tuhan dalam menjalankan perniagaan. Hasil kajian ini boleh dijadikan asas cadangan kepada agensi yang mempunyai program usahawan bimbingan melalui wadah pembangunan komuniti untuk memantapkan nilai-nilai keagamaan usahawan bimbingan masing-masing. Oleh kerana peserta kajian ini terdiri daripada usahawan bimbingan beragama Islam, pengkaji mencadangkan agar kajian masa hadapan mengkaji nilai-nilai keagamaan usahawan bimbingan bukan beragama Islam yang telah berjaya dalam perniagaan masing-masing. Pengkaji juga berpendapat bahawa, oleh kerana kesemua peserta kajian ini terdiri daripada kaum Melayu, dengan ini penemuan kajian mungkin menjurus kepada nilai keagamaan. Ini juga menjadi limitasi kajian ini iaitu dengan hanya merujuk kepada ruang lingkup usahawan Melayu Muslim.

Kata Kunci: Pembangunan Komuniti, Teori Fungsian Nilai, Pendidikan Keusahawanan, Nilai-Nilai Keagamaan, Program *2Years Exit Programme*

1.0 PENGENALAN

Pembasmian kemiskinan telah lama dibahaskan diperingkat global dan lokal. Kini, dengan Matlamat Pembangunan Mampan 2030, pembasmian kemiskinan melalui pendidikan inklusif dan peluang pembelajaran sepanjang hayat, antaranya menggariskan pendidikan kemahiran keusahawanan menjadi salah satu usaha ke arah pembangunan mampan (United Nations Educational Scientific and Cultural Organization, 2014). Pembangunan Komuniti melalui pendidikan keusahawanan merupakan salah satu usaha yang terangkum di bawah agenda pembangunan mampan. Di Malaysia, usaha pembasmian kemiskinan ini telah lama dijalankan seperti Dasar Ekonomi Baharu, dan masih diterapkan dalam pelbagai dasar pembangunan negara antaranya seperti Rancangan Malaysia Kesebelas (2016-2020),

Pelan Pembangunan Pendidikan Malaysia (Pengajian Tınggi) (2015-2025) Membudayakan Pembelajaran Sepanjang Hayat; Dasar Keusahawanan Nasional 2030 dan yang terkini Wawasan Kemakmuran Bersama 2030.

Pembangunan komuniti bermula apabila berlaku penyertaan komuniti dalam sesuatu program untuk membina keupayaan berdikari atau pemerkasaan (Jennings, 2017). Salah satu program komuniti ialah program pendidikan keusahawanan yang dijalankan untuk membangunkan keupayaan individu. Program *2Years Exit Programme* (2YEP) dijalankan oleh Jabatan Kebajikan Masyarakat Malaysia (JKMM) untuk memperkasa penerima bantuan kebajikan yang produktif supaya berdikari, keluar dari kemiskinan, serta menjana sumber pendapatan yang stabil dan berterusan (Jabatan Kebajikan Masyarakat, 2019). Program ini dijalankan dengan pemberian bantuan geran kewangan secara *"one-off"* sebanyak RM2700 dan perlu menjalani program latihan pembangunan kemahiran keusahawanan selama 2 tahun.

Pelaksanaan Program 2YEP telah dilaksanakan secara rintis di Negeri Sembilan mulai Oktober 2014 dan di negeri Perlis mulai Januari 2015. Noraida, Salamatussaadah, Wan Zabariah, Haniza, & Mohamad Kamil (2018) melaporkan hasil Kajian Penilaian Outcome Program bagi tahun 2016-2018 bahawa secara keseluruhannya, Program 2YEP Fasa 1 (2016-2018) telah berjaya menjimatkan perbelanjaan kerajaan sebanyak RM1.9juta setahun dengan seramai 575 orang ditamatkan bantuan. Sehingga kini, program 2YEP diteruskan dan diperluaskan di seluruh negara dengan peningkatan pencapaian iaitu 674 orang peserta berjaya ditamatkan bantuan (Khairul Amri, 2019). Program 2YEP melalui modul pembelajaran non-formal selama 2 tahun seperti kursus-kursus pendek keusahawanan, motivasi, program pembangunan minda, dan pengurusan perniagaan dengan pemantauan berkala oleh pegawai JKM merupakan peluang untuk pembangunan keupayaan usahawan. Sekaligus memperkasa kefungsian hidup penerima bantuan kebajikan ke arah berdikari dan tidak bergantung dengan bantuan kewangan JKM untuk sara hidup (Bahagian Kebajikan Produktif, 2016)

1.1 Kepentingan Nilai-nilai Keagamaan dalam Pendidikan Keusahawanan

Pendıdıkan keusahawanan menurut Johannisson (1991) melibatkan lima tahap kandungan pengetahuan Taksonomi Kompetensi iaitu *"know-why"*(sikap, nilai, motivasi); *"know-how"* (kemampuan); *"know-who"*(kemahiran sosial jangka pendek dan jangka panjang); *"know-when"* (naluri); dan *"know-what"* (pengetahuan). Kebanyakan literatur membincangkan pendidikan keusahawanan ini dalam konteks pelajar di sekolah dan universiti (Bouchard, 2007). Namun begitu, di luar silibus dan buku teks, terdapat sesuatu yang lebih penting untuk dipelajari, iaitu pengetahuan mengenai nilai dan budaya yang membentuk persekitaran keusahawanan. Pendidikan keusahawanan mungkin secara luas dapat dikaitkan dengan budaya dan/ atau pemikiran; membangunkan tingkah laku keusahawanan; dan kepelbagaian situasi, seperti penciptaan firma baru, usaha mencari korporat atau pemerolehan perniagaan sedia ada (Fayolle & Klandt, 2006). Namun begitu, peserta program pembangunan keusahawanan turut melalui proses pendidikan keusahawanan, menjadi usahawan bimbingan dalam program-program seperti Program 2YEP. Menurut Timmons, (1975), usahawan bimbingan ialah individu yang belajar membangunkan kemahiran yang diperlukan untuk memulakan projek keusahawanan melalui program pendidikan keusahawanan. Seterusnya bimbingan akan dihentikan apabila usahawan telah mencapai tahap kemahiran yang diperlukan.

Nilai-nilai yang dipegang manusia mempunyai dua fungsi utama iaitu untuk membimbing tindakan dan menjadi penentu sikap (Rokeach, 1973; Schwartz, 1992) dan ekspresi keperluan kognitif (Inglehart, 1977; Maslow, 1954). Teori Nilai Asas Manusia oleh Schwartz (1992) menggariskan sebelas kriteria nilai berasaskan motivasi yang ada pada manusia, iaitu Berdikari, Rangsangan, Hedonisme, Pencapaian, Kuasa, Keselamatan, Pematuhan, Tradisi (termasuk agama), Kerohanian, Kebaikan dan Universalisme. Namun begitu, dalam Teori Nilai Asas Manusia ini terdapat dua nilai yang hampir sama dan berkait rapat, iaitu nilai keagamaan dan kerohanian. Secara ringkasnya, kerohanian adalah motif yang mewakili kualiti asas dan memandu arah tingkahlaku manusia; dan keagamaan adalah satu sentimen kepercayaan, amalan, hubungan atau pengalaman nurani yang menjadi tradisi dalam sesuatu sistem (Piedmont & Wilkins, 2013).

Selain itu, teori yang berasaskan keperluan atau fungsi nilai iaitu Teori Fungsian Nilai turut menyenaraikan nilai keagamaan selaku salah satu nilai yang diperlukan untuk bertahan dalam hidup (Gouveia, Milfont, & Guerra, 2014). Dalam kajian usahawan muslim di Malaysia, nilai keberkatan dalam menjalankan perniagaan dan keimanan, merupakan antara nilai-nilai keagamaan usahawan muslim yang berfungsi melahirkan sikap positif dan kejayaan (Mohd. Zain, 2015). Terdapat pelbagai kajian terkini berkaitan nilai dan tingkah laku yang merujuk Teori Fungsian Nilai (Marques, Silva, & Taveira, 2018;

Trilaksono, Purusottama, Misbach, & Prasetya, 2019). Namun begitu tidak banyak kajian yang meneroka Teori Fungsian Nilai dengan memfokus fungsi nilai keagamaan dalam kalangan usahawan bimbingan. Teori Fungsian Nilai membahagikan fungsi nilai kepada dua, iaitu panduan tindakan; dan ekspresi keperluan kognitif. Kerangka Dimensi Fungsi Nilai dipetakan berdasarkan Kerangka Tiga-Dua, iaitu Panduan Tindakan berdasarkan tiga matlamat yang luas (matlamat peribadi, utama atau sosial) dan dua Ekspresi Keperluan Kognitif (keperluan *survival* atau keperluan yang semakin meningkat). Perkaitan antara matlamat dan keperluan menghasilkan enam subfungsi spesifik atau nilai asas iaitu, nilai keseronokan; nilai suprapersonal; nilai interaktif; nilai promosi; nilai kewujudan; dan nilai normatif.

		Nilai sebagai panduan tindakan (lingkaran matlamat)		
		Matlamat peribadi (individu dengan sendirinya)	Matlamat utama (tujuan umum kehidupan)	Matlamat sosial (individu dalam komuniti)
Nilai sebagai keperluan ekspresi kognitif (tahap keperluan)	Keperluan yang semakin berkembang (hidup yang terjamin)	**Nilai-nilai Keseronokan** Emosi *(emotion)* Keseronokan *(pleasure)* Seksualiti *(sexuality)*	**Nilai-nilai Suprapersonal** Kecantikan *(beauty)* Pengetahuan *(knowledge)* Kematangan *(maturity)*	**Nilai-nilai Interaktif** Affektiviti *(affectivity)* Keahlian *(belonging)* Sokongan *(support)*
	Keperluan *survivor* (hidup dalam ancaman tekanan)	**Nilai Promosi** Kuasa *(Power)* Martabat *(Prestige)* Kejayaan *(Success)*	**Nilai Kewujudan** Kesihatan *(Health)* Kestabilan *(Stability)* Hidup *(Survival)*	**Nilai Normatif** Ketaatan *(Obedience)* **Keagamaan** ***(Religiosity)*** Tradisi *(Tradition)*

Rajah 1 Kerangka Teori Fungsian Nilai
(Adaptasi daripada Gouveia et al., 2014)

Secara ringkasnya, terdapat pelbagai kajian telah dijalankan mengenai nilai-nilai pegangan usahawan berjaya, sama ada di luar negara mahupun dalam negara. Antara dapatan kajian mendapati nilai keagamaan memainkan peranan penting dalam kejayaan usahawan kajian (Mohd Zain et al., 2017; Abereijo & Afolabi, 2017). Pengetahuan mengenai set nilai ini penting untuk diterapkan dalam konsep pendidikan keusahawanan. Namun begitu, kajian mengenai nilai keagamaan dalam yang dipegang oleh usahawan bimbingan kebajikan terutamanya dari Program 2YEP JKM masih belum dijalankan. Oleh yang demikian, kajian ini dijalankan untuk meneroka nilai-nilai keagamaan usahawan bimbingan Program 2YEP.

1.2 Persoalan Kajian

Kajian ini bertujuan untuk menjawab persoalan apakah nilai-nilai keagamaan usahawan bimbingan Program 2YEP yang berjaya dalam perniagaan?

2.0 METODOLOGI KAJIAN

Pendekatan kajian kes kualitatif digunakan untuk menerangkan nilai-nilai keagamaan usahawan bimbingan Program 2YEP yang berjaya. Seramai lima orang usahawan bimbingan daripada Program 2YEP di bawah bimbingan Jabatan Kebajikan Malaysia (JKM) telah dipilih. Mereka terdiri daripada bekas penerima bantuan kebajikan bulanan iaitu ibu tunggal, OKU dan keluarga miskin. Berikut merupakan kriteria peserta kajian yang ditetapkan, iaitu 1) bekas peserta Program 2YEP yang tinggal di Negeri Sembilan; 2) telah menjalankan perniagaan melebihi lima tahun; 3) berjaya meningkatkan hasil pendapatan melebihi Pendapatan Garis Kemiskinan dan 4) sukarela menamatkan bantuan kebajikan

bulanan JKM dan 5) diiktiraf JKM sebagai peserta yang berjaya. Pengumpulan data kajian ini telah dijalankan dari bulan Mac hingga Oktober 2019. Bagi memantapkan dapatan kajian, pengumpulan data dijalankan secara triangulasi iaitu temu bual semi berstruktur; pemerhatian tidak turut serta; dan analisis dokumen. Analisis data telah dijalankan secara analisa kandungan melalui transkripsi temu bual, catatan nota lapangan daripada apa yang pengkaji lihat, bau, rasa dan dengar semasa usahawan sedang bekerja; serta penelitian dokumen-dokumen peserta kajian seperti buku lejar perniagaan, laporan pemantauan pegawai JKM, maklumat di media massa dan sosial mengenai peserta kajian. Dengan berpandukan persoalan kajian, proses memilih, memfokus, meringkaskan dan menarik data dari dalam korpus penuh nota lapangan, transkrip, dokumen dan foto telah dijalankan pengkaji secara *constant comparative method,* sehingga data menjadi tepu (Miles, Huberman, & Saldana, 2014). Pengkaji telah menggunakan kaedah pengekodan warna dan perisian MicrosoftWords untuk menjana kod, ketegori dan tema kajian. Selain itu, untuk kebolehsahan kajian, data dari transkripsi temu bual; pemerhatian; dan dapatan dari interpretasi pengkaji dirujuk kepada peserta kajian untuk tujuan semakan, kawalan dan pengesahan (Creswell, 2008). Kajian ini bertujuan untuk menjawab persoalan mengenai nilai-nilai keagamaan usahawan bimbingan yang berjaya. Oleh itu, jawapan kepada persoalan kajian ini relevan untuk diterangkan oleh teori dan aplikasi daripada Teori Fungsian Nilai oleh Gouveia et al., (2014) dan Taksonomi Kompetensi Usahawan oleh Johannisson (1991). Sehubungan itu, permasalahan kajian ini sesuai dikaji secara pendekatan kualitatif.

3.0 DAPATAN KAJIAN DAN PERBINCANGAN

3.1 Profil Peserta Kajian

Seramai lima orang peserta kajian telah dipilih, iaitu tiga (3) orang perempuan dan dua (2) orang lelaki. Mereka terdiri daripada pelbagai peringkat umur iaitu daripada usia 34 tahun hingga 48 tahun. Kesemua peserta kajian menjalankan perniagaan kecil dan sederhana di Negeri Sembilan. Jenis perniagaan yang dijalankan adalah dari kategori runcit (2 orang), kedai makan dan kedai jahitan, penjaja menjual ayam gunting dan pengeluar produk minyak wangi jenama sendiri. Seramai tiga orang peserta berasal dari Negeri Sembilan manakala dua (2) orang lagi berasal dari negeri Perak dan Kedah, tetapi telah menetap lebih dari dua puluh tahun di Negeri Sembilan. Peserta kajian terdiri daripada pelbagai latarbelakang iaitu tiga (3) orang Orang Kelainan Upaya (OKU) bekas penerima bantuan kebajikan bulanan Elaun Pekerja Cacat, seorang (1) ibu tunggal bekas penerima Bantuan Kanak-Kanak dan seorang (1) orang bekas penerima Bantuan Kanak-Kanak kategori orang miskin. Kesemua peserta kajian mempunyai pengalaman menjadi usahawan tidak kurang daripada lima tahun dan menerima bantuan kebajikan bulanan tidak kurang 10 tahun. Peserta kajian didapati telah berjaya meningkatkan pendapatan kasar daripada di bawah Pendapatan Garis Kemiskinan (RM930) kepada sekitar RM4,000 hingga RM30,000 sebulan. Latarbelakang pencapaian peserta juga didapati cemerlang, iaitu kesemua mereka diiktiraf berjaya oleh JKM, kerap dijemput menjadi penceramah oleh pelbagai institusi untuk berkongsi pengalaman sebagai usahawan bimbingan yang berjaya keluar dari kemiskinan. Terdapat seorang peserta kajian yang dipilih menjadi Peserta Program 2YEP terbaik keseluruhan peringkat JKM Negeri Sembilan bagi tahun 2017 dan 2019 kerana mengekalkan pendapatan melebihi RM10,000 setiap bulan dan banyak menyumbang secara melibatkan diri secara aktif dalam aktiviti-aktiviti Jabatan Kebajikan Masyarakat.

3.2 Nilai Keagamaan Usahawan Bimbingan yang Berjaya

Berdasarkan pengumpulan data dan analisis tema, terdapat tiga tema utama ditemui. Tema yang muncul berasal dari proses pengekodan data mendapati usahawan bimbingan 2YEP yang berjaya berpegang kuat kepada nilai-nilai keagamaan, iaitu 1) Meletakkan matlamat berniaga kerana mencari keredaan Allah, 2) Melaksanakan hak ke atas masyarakat dan 3) Keyakinan kepada kuasa Tuhan dalam tindakan perniagaan. Setiap tema ini diterangkan butiran dan peranan nilai-nilai keagamaan daripada kategori, koding dan beberapa naratif daripada perspektif peserta kajian.

Jadual 1 Tema Hasil Dapatan Kajian

Tema	Kategori	Koding	Naratif
Meletakkan matlamat berniaga	Matlamat	Niat ikhlas berniaga kerana Allah	*Kalau lauk jualan tak habis pun akak tak kisah, tak de rasa macam rugi. Akak fikir ni ibadah akak. Akak buat hari ni sebab Allah pilih akak untuk masak. (Nor)*

kerana mencari keredaan Allah	Ibadah	Utamakan solat	*Masa berniaga, masuk waktu solat, saya tutup meja dengan kain, saya tinggalkan je. Lari pergi surau yang terdekat. Tawakal.(Zam)*
Melaksanakan hak ke atas masyarakat	Bersedekah	Tidak tamak	*Ayah saya ajar, lima sen tu lah sedekah, bukan seperti peniaga bukan Islam, lima sen tulah untung. (Amal)*
	Fardhu Ain	Membayar zakat/ cukai perniagaan	*Fikir logik akal pun, lagi banyak kita bagi zakat, macamana nak mendatangkan rezeki? Tak logik akal kan? Kejar akhirat, dunia ni Allah akan susun. (Zam)*
Keyakinan kepada kuasa Tuhan	Tauhid	Percaya kepada kuasa Tuhan	*Saya buka minda saya, saya kata saya boleh buat dan kalau saya tak boleh buat, satu je, sebab Tuhan tak izinkan saya. Tapi kalau kita percayakan apa kita buat, apa kita usaha, Tuhan takkan sia-siakan. (Diana)*
		Kebergantungan dengan Tuhan	*Diaorang tak nak serahkan bantuan JKM. Masih nak bergantung. Sebenarnya diaorang silap, kalau diaorang serahkan kerana Allah taala, diaorang akan dapat lebih lagi rezeki. (Aisyah)*

3.3 Perbincangan

Dalam konteks pendidikan keusahawanan, selain daripada pengetahuan teknikal dan sosial yang diperlukan dalam keusahawanan, menurut Johannisson (1991), pengetahuan yang asas iaitu *"know-why"*(sikap, nilai, motivasi) penting untuk didalami, dibincangkan dan tidak dipinggirkan. Ini kerana usahawan perlu terlebih dahulu "tahu-mengapa" mereka menceburi keusahawanan, set nilai yang mereka perlu ada dan sikap yang betul sebagai usahawan. Pendidikan keusahawanan dipandu oleh nilai-nilai keagamaan tertentu merupakan antara elemen utama yang diperlukan untuk kemampanan kejayaan usahawan. Banyak kajian lampau mengaitkan ciri-ciri individu seorang usahawan berjaya dengan nilai-nilai pegangan (Caggiano, Calderon, & Brito, 2016; Halis, Ozsabuncuoglu, & Ozsagir, 2007; Kirkley, 2016). Kerangka Dimensi dalam Teori Fungsian Nilai menerangkan salah satu nilai di dalam keperluan Nilai Normatif adalah nilai keagamaan. Dalam keadaan keperluan survival, keagamaan memainkan peranan utama memberi daya ketahanan apabila berdepan masalah kehidupan. Manakala apabila nilai menjadi panduan tindakan, keagamaan menjadi matlamat sosial dalam memenuhi tuntutan tujuan hidup bermasyarakat. Kajian oleh Piedmont & Wilkins (2013) mengenai kerohanian dan keagamaan menimbulkan kemungkinan bahawa keagamaan dan kerohanian boleh dijadikan sebagai kuasa asas mempengaruhi pertumbuhan peribadi dan kesejahteraan sejagat.

Teori Nilai Asas Manusia oleh Schwartz (1992, 2012) menjadikan keagamaan salah satu nilai tradisi selain daripada kepercayaan, norma tingkah laku, dan adat resam sesuatu komuniti. Menurut Schwartz, persetujuan dan pematuhan cara tingkahlaku sesuatu tradisi akan menjamin kelangsungan hidup dan menjadi simbol perpaduan yang diterima komuniti tersebut. Kesan daripada amalan nilai tradisi atau keagamaan ini akan membentuk nilai menghormati tradisi, rendah hati, taat, menerima keadaan dalam kehidupan dan bersederhana dalam diri seseorang. Ini selari dengan Teori Fungsian Nilai oleh Gouveia et al. (2003) dalam Marques, Silva, & Taveira, (2018), bahawa nilai keagamaan memainkan peranan penting membimbing dan memberi panduan dalam pekerjaan dan kehidupan.

Dapatan kajian ini sedikit sebanyak menunjukkan persamaan dengan kajian Mohd Zain et al. (2017) di Kelantan secara kuantitatif mengenai Keusahawanan Islam; dan juga kajian oleh Gursoy, Altinay, & Kenebayeva (2017) mengenai hubungan agama dengan tingkah laku usahawan di negara Turki. Bagi usahawan muslim, nilai-nilai dalam pengurusan perniagaan Islam perlu diterapkan dan dimanfaatkan bagi menambahbaik pengurusan perniagaan berlandaskan syariat Islam (Ab. Aziz & Ahmad Bashir, 2008). Selain itu, kajian oleh Abereijo & Afolabi (2017) terhadap usahawan beragama

Kristian Pentecostal di Nigeria juga mendapati kejayaan usahawan dipengaruhi oleh nilai-nilai agama Kristian Pentecostal dalam menghasilkan corak pemikiran dan nilai-nilai keusahawanan. Oleh yang demikian, pengaruh keagamaan dalam pendidikan keusahawanan seharusnya diteroka dengan lebih meluas.

4.0 KESIMPULAN

Matlamat pendidikan keusahawanan seharusnya bersifat holistik dengan berpandukan nilai-nilai keagamaan untuk meningkatkan keberkesanan pendidikan. Ini kerana nilai keagamaan memberi manfaat kepada etika keperibadian usahawan dengan membina daya tahan kendiri dan kemampanan dalam perniagaan. Nilai keagamaan mempengaruhi cara kerja usahawan. Oleh itu, hasil daripada kajian ini boleh dijadikan asas cadangan kepada agensi-agensi yang menjalankan program usahawan bimbingan dalam meningkatkan nilai-nilai keagamaan usahawan bimbingan masing-masing ke arah mencapai pemerkasaan. Oleh itu, dalam usaha membangunkan komuniti melalui pendidikan keusahawanan, kajian ini mencadangkan supaya bahan pengajaran pendidikan keusahawanan dapat ditambahbaik dengan menggabungkan konsep kepercayaan dan keagamaan sosio-budaya tempatan untuk menghasilkan penciptaan nilai dan etika perniagaan yang lebih bermakna dan mendalam, selain mencipta keuntungan material dan fizikal semata. İni kerana pengaruh agama dalam kehidupan dan sosio-budaya sesuatu masyarakat amat besar. Usahawan bimbingan yang selama ini bergantung dengan bantuan kerajaan juga dapat memahami maksud kebergantungan yang sebenar hanyalah kebergantungan kepada Tuhan.

Oleh kerana peserta kajian ini terdiri daripada usahawan bimbingan beragama Islam, pengkaji mencadangkan agar kajian masa hadapan mengkaji nilai-nilai keagamaan usahawan bimbingan bukan beragama Islam yang telah berjaya dalam perniagaan masing-masing. Pengkaji juga berpendapat bahawa, oleh kerana kesemua peserta kajian ini terdiri daripada kaum Melayu, dengan ini penemuan kajian mungkin menjurus kepada nilai keagamaan. Ini juga menjadi limitasi kajian ini iaitu dengan hanya merujuk kepada ruang lingkup usahawan Melayu Muslim.

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055 : Kajian Persepsi Pelajar Terhadap Tahap Profesionalisme Guru Pendidikan Islam Sekolah Menengah Kebangsaan (SMK) di Malaysia.

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ABSTRAK

Kajian ini bertujuan untuk mengenal pasti penilaian pelajar terhadap profesionalisme guru Pendidikan Islam sekolah menengah di Malaysia. Tumpuan kajian adalah untuk melihat tahap profesionalisme guru pendidikan Islam daripada aspek (i) sifat keperibadian guru, (ii) pengajaran dan pembelajaran guru, (iii) keagamaan dan keilmuan guru, (iv) motivasi guru dan (v) sifat kepimpinan guru. Kajian ini berbentuk kajian tinjauan yang melibatkan 1533 orang dalam kalangan pelajar sekolah menengah di Malaysia. Sebanyak 23 buah sekolah menengah di seluruh Malaysia telah dipilih secara rawak dalam kajian ini dan melibatkan empat zon iaitu zon Utara, zon Selatan, zon Timur dan zon Barat. Instrumen kajian dibina sendiri oleh penyelidik untuk menilai lima aspek utama domain profesionalisme guru. Kebolehpercayaan instrumen ini adalah tinggi kerana telah diuji melalui kajian rintis terhadap 80 orang responden dan beberapa kali melalui proses pemurnian. Data dianalisis menggunakan SPSS versi 20 (Statistical Package for Social Science) dan dilaporkan dalam bentuk statistik deskriptif berbentuk kekerapan, peratusan dan min sahaja. Hasil utama kajian ini mendapati bahawa tahap profesionalisme guru Pendidikan Islam sekolah menengah di Malaysia adalah pada tahap yang tinggi berdasarkan penilaian pelajar. Min bagi setiap konstruk yang diperoleh adalah (i) sifat keperibadian guru 4.11 (tinggi), (ii) pengajaran dan pembelajaran guru 3.96 (tinggi), (iii) keagamaan dan keilmuan guru 4.29 (sangat tinggi), (iv) motivasi guru 4.22 (sangat tinggi) dan (v) sifat kepimpinan guru 4.24 (sangat tinggi). Skor yang tinggi bagi kelima-lima aspek profesionalisme menggambarkan personaliti guru-guru Pendidikan Islam sekolah menengah di Malaysia sangat mantap dan dipandang tinggi oleh pelajar. Beberapa aspek tertentu yang diteliti masih perlu diberi perhatian dan boleh ditingkatkan.

Kata Kunci: Profesionalisme Guru Pendidikan Islam Sekolah Menengah Kebangsaan (SMK) di Malaysia.

1.0 PENDAHULUAN

Guru adalah unsur penting dalam dunia pendidikan hari ini dan mempunyai pengaruh yang besar terhadap keberkesanan sesuatu pendidikan. Keperibadian dan amalan pengajaran guru mempunyai pengaruh yang besar kepada minda dan jiwa murid. Pada usia muda ini mereka akan melihat dan mengikuti segala tingkah laku, pergerakan dan perkataan guru.

Guru yang tidak mempunyai sifat taqwa tidak akan dapat menunjukkan atau memberikan contoh yang baik. Kementerian Pendidikan Malaysia mengharapkan guru Pendidikan Islam bersedia melaksanakan proses pengajaran dan pembelajaran berasaskan kurikulum baru yang telah disemak. Justeru, aspek pendekatan dan stail pengajaran guru Pendidikan Islam juga perlu disesuaikan dengan perkembangan semasa dan terkini. Dalam konteks Pendidikan Islam di Malaysia, mengikut Adnan (2002), langkah ini bertujuan untuk memastikan beberapa ciri kurikulum Pendidikan Islam yang dinyatakan dapat diselaraskan serta dikemaskini.

2.0 LATAR BELAKANG KAJIAN

Menurut Kamarul Azmi dan Ab. Halim (2007), peranan guru khususnya Guru Pendidikan Islam (GPI) ialah menerapkan nilai murni kepada murid. Penerapan nilai ini dapat dilakukan secara formal di dalam bilik darjah dan secara tidak formal semasa menjalankan aktiviti ko-kurikulum dan aktiviti di luar bilik darjah. Penerapan ini boleh dilakukan secara dirancang atau secara bersahaja. Pemupukan nilai dapat dilakukan dengan spontan apabila timbul suasana yang memungkinkan akhlak murid dapat diperbaiki atau dicontohi. Untuk itu, guru perlu menjadi contoh akhlak yang mulia terlebih dahulu kepada para muridnya agar ianya dapat diikuti dengan baik. Segala sifat akhlak yang terkeji yang ternampak oleh guru tentang akhlak muridnya perlu ditegur dengan secara berhikmah dan dalam masa yang sama guru menunjukkan akhlak yang sebenar yang dikehendaki oleh syariat.

Sifat penyayang dapat menjadikan seseorang guru itu lebih bertimbang rasa, memahami murid-murid dan memberi harapan baru kepada murid-murid untuk berjaya. Sifat penyayang amat besar pengaruhnya dalam dunia pendidikan dan dunia hubungan manusia terutama antara pemimpin dengan

golongan yang dipimpinnya. Sifat ini dapat membentuk keperibadian seseorang guru agar lebih bertimbang rasa, dihormati dan disayangi murid-muridnya. Sifat penyayang juga mendorong guru agar sentiasa mengambil berat dan bersedia untuk membantu murid-murid yang menghadapi masalah (Abdul Rahim 2007).

Guru yang memiliki ciri-ciri personaliti yang baik dan memiliki kompetensi yang diperlukan akan membuat perbezaan dalam proses mengajar kepada para murid. Menurut Abdullah Mohd Noor (2007), guru yang tidak memiliki kualiti personaliti yang baik akan mempengaruhi kualiti pengajaran di bilik darjah. Menurut Zhang (2006), sifat personaliti yang dimiliki guru sangat mempengaruhi gaya mengajar g
uru dan kualiti muridnya. Pernyataan ini diperkukuhkan lagi oleh Isaacson dan Milholland (2007) bahawa dari hasil penyelidikan di Michigan, Amerika Syarikat menunjukkan bahawa guru yang memiliki personaliti yang sihat akan menghasilkan murid-murid yang lebih berkualiti.

Abdullah Mohd Noor (2007) menyenaraikan personaliti guru yang diminati oleh murid iaitu memiliki semangat yang tinggi, bertanggungjawab ke atas murid serta memiliki sifat humor dan adil. Coffman (1954) pula melaporkan bahawa guru yang efektif dalam pengajaran dan pembelajaran ialah guru yang memiliki empati, mampu mengorganisasi, mempunyai keterampilan dalam berbicara dan kreatif ketika mengajar.

Peranan guru dalam memotivasikan murid supaya meningkatkan penghayatan akhlak juga adalah penting. Guru-guru seharusnya menggunakan teknik pengajaran yang menggabungkan kesemua domain keperibadian, amalan agama dan amalan sosial supaya murid dapat meningkatkan penghayatan akhlak diri mereka dan seterusnya dapat mempraktikkan ketika mereka bertugas sebagai pekerja di pelbagai agensi kelak. Di samping itu juga, guru-guru seharusnya lebih prihatin terhadap permasalahan murid semasa mereka sedang mengikuti aktiviti-aktiviti di sekolah. Guru Pendidikan Islam harus lebih peka dan menjadi model terbaik terhadap murid dari segi penghayatan akhlak untuk dicontohi (Sarimah Mokhtar et al. 2011).

Namun begitu, pola-pola penampilan akhlak murid-murid Islam masa kini kian luntur (Zaharah Hussin 2005). Penampilan akhlak luaran (penampilan luaran) murid kini sebenarnya semakin parah (Ab. Halim & Khadijah 2003; Hurd 1994; Ismail Zain 2005; Metropolitan Life 1991, 1992). Seringkali akhbar-akhbar memaparkan berita-berita mengenai keruntuhan akhlak murid sekolah, antaranya terlibat dengan gangsterisme; pergaduhan melibatkan alatan tajam; pengambilan dadah dan pil ekstasi; ketagihan alkohol; dan pergaulan bebas di luar batasan (Hurd 1994; Metropolitan Life 1991, 1992) sehingga kepada kes-kes murid yang terlibat dengan pembunuhan di negara ini. Malah sekarang ini pun salah laku dan juga tindakan ganas yang dilakukan oleh para murid masih lagi berleluasa (Ismail Zarin 2005).

Sesuai dengan persepsi dalam petikan di atas, kajian-kajian terkini oleh Ab. Halim Tamuri et al. (2004), Ahmad Mohd Salleh (1997), Airi Abu Bakar (2003), Kementerian Pelajaran Malaysia (2001), Masribanun Duki (2004), Mohd Najib Naimuddin (2003) dan Zaharah Aiyub (2005) telah mendedahkan ketidakupayaan sesetengah guru Pendidikan Islam dalam membentuk diri mereka selaku pembimbing dan role model kepada para murid. Implikasi daripada kajian-kajian tersebut menunjukkan guru Pendidikan Islam perlu menghayati peranan mereka yang sebenar sewaktu mendidik murid supaya para murid mereka menjadi generasi yang berakhlak mulia. Apatah lagi, guru mempunyai pengaruh yang sangat besar dalam pembentukan diri murid (Ab. Halim et al. 2004; Ab. Halim & Khadijah 2003; Abdul Raof 1985; Rosnani Hashim 1996; Saedah Siraj 2001; Tajul Arifin & Nor Aini Dan 1992; Zawawi Ahmad 1984).

Sebenarnya, masyarakat kita sekarang ini terus menaruh harapan yang tinggi kepada para guru yang mendidik anak-anak mereka di sekolah. Ini bermakna peranan guru sememangnya amat besar dan begitu kritikal dalam merealisasikan Pendidikan Islam kerana di atas bahu mereka lah terletak kejayaan dan kegagalan pelaksanaan Falsafah Pendidikan Kebangsaan (Wan Mohd Zahid 2003). Dalam soal ini, Abdul Raof (1993) menegaskan bahawa:

> Pengaruh guru terhadap murid-muridnya sama juga dengan pengaruh ibu bapa terhadap anak-anak mereka. Dengan adanya guru yang ikhlas di sekolah akan dapat memperbaiki alam pembelajaran murid-murid. Bahkan gurulah yang mewariskan para nabi dalam membentuk dan mengembangkan ilmu pengetahuan kepada murid-muridnya.

Guru diakui mempunyai pengaruh yang amat besar terutamanya ke atas murid-murid (Wan Mohd Zahid 2003). Kajian Zaharah Hussin (2005) menunjukkan penampilan guru adalah penting dalam membentuk akhlak murid. berikut adalah sebahagian daripada pandangan murid terhadap guru-guru

mereka: 1) Guru hendaklah memiliki sahsiah diri yang sempurna; 2) Guru tidak patut menampakkan walaupun satu keaiban yang ketara; 3) Guru hendaklah menjadi contoh terbaik terhadap murid; 4) Dari sudut aspek sahsiah, murid menjadikan guru agama di sekolah sebagai contoh idola (*role model*) mereka. Begitu juga dengan pendapat Muhammad Uthman el-Muhammady (1991) dlm Ahmad Mohd Salleh (1997) menyatakan, guru adalah agen pendidikan yang berkesan. Menurutnya lagi, Walau sebaik mana pun sesuatu sistem pendidikan itu, jika guru yang mengajar bukannya guru yang berkesan bermakna apa yang disampaikan atau diajar tidak akan difahami oleh murid serta tidak mencapai matlamat pengajaran. Oleh itu, guru khususnya guru Pendidikan Islam perlu mengukuhkan lagi peranan mereka dalam merealisasikan hasrat Falsafah Pendidikan Guru.

Berdasarkan penjelasan di atas, dapat disimpulkan bahawa tidak semua orang mampu untuk menjadi guru yang baik serta mampu meningkatkan kualiti pengajaran murid di dalam bilik darjah. Oleh itu, diperlukan guru yang memiliki kualiti personaliti dan sahsiah yang tinggi yang dapat menjadikannya guru cemerlang dan menjadi teladan kepada para muridnya. Syarat menjadi guru haruslah sihat dari pelbagai aspek seperti jasmani dan rohani serta personaliti. Ini kerana ianya akan menunjukkan bahawa tugas guru adalah tugas yang berat sama ada dari zahir mahupun batin (Yamin 2007).

3.0 PERMASALAHAN KAJIAN

Bagi mengenal pasti domain-domain profesionalisme Guru Pendidikan Islam (GPI), satu kajian telah dijalankan oleh Syed Najmuddin et al. (2009) berkaitan persepsi murid terhadap tahap profesionalisme Guru Pendidikan Islam MRSM. Dapatan kajian tersebut mendapati secara keseluruhan, peribadi guru Pendidikan Islam pada pandangan murid MRSM berada pada tahap yang tinggi iaitu aspek imej dan integriti (4.3068), interaksi dengan murid (4.2537), kepimpinan keagamaan (4.0775) serta pengajaran dan pembelajaran (4.0573). Ini bermakna aspek imej dan integriti mendapat penilaian tertinggi oleh murid dan aspek pengajaran dan pembelajaran mendapat penilaian yang paling rendah di antara domain. Imej dan integriti guru Pendidikan Islam yang tinggi mungkin disebabkan oleh perlaksanaan kod dan etika guru MARA yang dikuatkuasakan dengan tegas oleh pihak pengurusan MARA.

Begitu juga dapatan kajian yang dijalankan oleh Ab. Halim et al. (2012) untuk melihat pandangan murid-murid terhadap guru Pendidikan Islam mereka. Hasil kajian mendapati murid-murid mempunyai perspektif yang sangat positif terhadap GPI mereka. GPI dilihat sebagai contoh terbaik atau role model yang membentuk insan yang berakhlak dan bertakwa oleh mereka. Secara keseluruhan hasil kajian tersebut mendapati, amalan nilai profesionalisme GPI pada pandangan murid adalah pada tahap tinggi di mana setiap aspek domain yang dinilai mempunyai purata min melebihi 4.00 iaitu domain diri (4.20), domain profesion (4.31), domain sosial (4.23) dan domain agama (4.34). Namun yang demikian, pemilihan domain agama merupakan domain yang mendapat nilai tertinggi dalam penilaian murid yang membuktikan bahawa murid amat menghormati Guru Pendidikan Islam sebagai contoh teladan sebagai ikutan dalam aspek keagamaan.

Dalam kajian ini, pengkaji ingin meninjau beberapa aspek domain yang mendominasi ciri-ciri guru yang disukai dalam menjadikan guru Pendidikan Islam ini sebagai role model atau mempengaruhi para murid dalam penghayatan dan amalan keagamaan mereka. Ini kerana, aspek yang menjadi teras ciri guru yang cemerlang ialah penguasaan ilmu pendidikan Islam dan pengkaedahan P&P. Namun kedua-dua aspek ini menurut kajian masih belum dikuasai oleh sebahagian guru Pendidikan Islam. Sebagai contoh kajian BPI (1993) mendapati bahawa masih terdapat dalam kalangan guru Pendidikan Islam di Sekolah Menengah yang belum begitu mahir menguasai ilmu yang berkaitan dengan kurikulum mereka sehingga mereka masih memerlukan bantuan terutamanya dalam bidang Qiraat dan Tarannum. Begitu juga kajian yang yang dilakukan oleh MPI (1995) yang menunjukkan bahawa ilmu asas dalam tajwid al-Quran masih belum dikuasai guru Pendidikan Islam.

Begitu juga hasil kajian Syed Najmuddin et al. (2009) mendapati, aspek pengajaran dan pembelajaran guru Pendidikan Islam mendapat penilaian yang paling rendah berbanding aspek-aspek lain. Secara terperinci kajian tersebut mendapati perkara-perkara penting dalam aspek pengajaran dan pembelajaran seperti aspek mampu menghiburkan murid (humor) (3.9585), memberi perhatian kepada murid lemah (3.9179), kurang menggunakan pendekatan berpusatkan murid (3.8289), kurang menggunakan kepelbagaian kaedah mengajar (3.8417) dan kurang menggunakan sumber rujukan dalam P&P (3.2176). Ini bermaksud bahawa ada guru Pendidikan Islam yang masih belum berjaya untuk menarik minat dan meningkatkan motivasi murid untuk belajar subjek Pendidikan Islam. Dari sudut interaksi dengan murid, dapatan menunjukkan bahawa guru Pendidikan Islam kurang gemar bersosial dengan murid (3.7606), kurang pandai menarik perhatian murid (3.9575) serta kurang pandai mengambil

hati (3.9318) dan perkara ini disokong oleh pandangan murid terhadap guru Pendidikan Islam bahawa guru Pendidikan Islam agak kurang berhati-hati dalam menggunakan perkataan (4.1929).

Kajian yang dihasilkan memperlihatkan tentang kualiti guru Pendidikan Islam berada di tahap yang kurang memuaskan berbanding dengan tuntutan agama Islam itu sendiri. Kualiti yang kurang memuaskan ini berkait rapat dengan kelemahan penguasaan ilmu, pengkaedahan P&P, personaliti dan persekitaran guru (BPI 1993; BPI 1994; Jabatan Pendidikan Islam dan Moral (JAPIM) & Universiti Putra Malaysia (UPM) 1994; Maktab Perguruan Islam (MPI) 1995; Abdullah Ishak 1995; Ab. Halim Tamuri 2000; Hatifah Yusoff 2000; Shahril @ Charil Marzuki 2002; Khadijah Abdul Razak & Zaib Ngah 2002; Kamarulzaman Abdul Ghani et al. 2003;; Hasbulah Abdul Rahman & Yusni Abd Rahman 2003; Mohd Jasmy Abd. Rahman & Muhammad Yusro Borhan Nordin 2003; Rosmaria Mohd Sahat 2003; Yahya Abdullah 2003; Ab. Halim Tamuri et al. 2004, Ibrahim Ahmad Bajunid 2007). Hal ini amat bertentangan dengan kehendak ajaran Islam yang mahukan guru Pendidikan Islam menjadi contoh ikutan kepada rakan guru dan para murid mereka.

4.0 MATLAMAT KAJIAN

1. Mengenal pasti persepsi murid terhadap domain-domain profesionalisme Guru Pendidikan Islam sekolah menengah kebangsaan di Malaysia.

5.0 PERSOALAN KAJIAN

1. Apakah persepsi murid terhadap domain-domain profesionalisme Guru Pendidikan Islam Sekolah Menengah Kebangsaan di Malaysia?

6.0 KEPENTINGAN KAJIAN

Kajian mengenai persepsi murid terhadap Profesionalisme Guru Pendidikan Islam ini dijalankan adalah untuk mendapatkan maklumat lengkap mengenai domain-domain yang manakah yang mendominasi menurut persepsi murid sekolah menengah di Malaysia. Kepentingan kajian ini berkait rapat dengan profesionalisme guru Malaysia khususnya guru pendidikan Islam dan sedikit sebanyak menyumbangkan hasil kajian kepada badan-badan berkenaan.

Murid-murid yang mengamalkan segala ilmu yang dipelajari melalui subjek Pendidikan Islam di sekolah semestinya menjadikan guru Pendidikan Islam itu sendiri sebagai *role model* dalam penghayatan dan pengamalan keagamaan mereka. Namun begitu terdapat juga lompang yang mengakibatkan sebahagian daripada murid-murid yang tidak menjadikan guru Pendidikan Islam itu sendiri sebagai *uswatun hasanah* dalam amalan kehidupan seharian. Ini kerana, subjek Pendidikan Islam itu sendiri menekankan kepada penghayatan ilmu dalam kehidupan seharian kepada para murid dan dalam masa yang sama ianya memerlukan guru itu juga mengamalkan ilmu yang diajar sama ada ajaran akidah, ibadah atau akhlak. Oleh itu, ukuran kejayaan guru adalah tertakluk kepada sejauh mana P&P diamalkan murid juga diamalkan oleh guru itu sendiri.

Selain itu, guru Pendidikan Islam tidak dinafikan mempunyai kepakaran dalam menjalankan P&P di sekolah. Namun ianya mempunyai pendekatan yang berbeza dalam menyampaikan ilmu mengikut pengalaman dan pengamalan guru itu sendiri. Ini perlu dilihat sejauh manakah aspek domain ini diamalkan, diperhatikan oleh murid-murid itu sendiri agar ianya dapat digarap, dianalisis seterusnya disintesiskan untuk menghasilkan satu panduan yang khusus yang boleh dijadikan rujukan kepada semua warga Pendidik khususnya Guru Pendidikan Islam di Malaysia. Domain-domain profesionalisme guru Pendidikan Islam yang dinilai oleh para murid perlu juga diberikan perhatian serius oleh pihak berkenaan agar diperbaiki agar dapat melahirkan guru Pendidikan Islam yang berkualiti dalam semua aspek domain selaras dengan Standard Guru Malaysia (SGM), Kementerian Pelajaran Malaysia.

Dapatan kajian ini juga diharapkan dapat memberikan gambaran yang lebih jelas terhadap aspek-aspek domain profesionalisme guru Pendidikan Islam yang lebih mendominasi menurut perspektif murid. Ini adalah penting kerana ianya akan memberikan input kepada para penggubal dasar latihan kurikulum khasnya untuk menghasilkan guru pelatih Pendidikan Islam yang berkualiti dari pelbagai aspek di mana-mana institusi berkaitan selaras dengan model-model teori yang diketengahkan. Ianya selaras dengan kehendak Falsafah Pendidikan Kebangsaan (FPK) yang ingin menghasilkan setiap murid yang berakhlak mulia. Oleh itu, kemenjadian dan keberhasilan tingkah laku dan akhlak murid itu sendiri sedikit sebanyak

ianya banyak dipengaruhi oleh guru itu sendiri khususnya guru Pendidikan Islam yang sinonim dengan ketinggian martabat keilmuan dan amalan keagamaannya.

7.0 METODOLOGI KAJIAN

7.1 Reka Bentuk Kajian

Kajian ini menggunakan kajian kuantitatif. Pengumpulan data kuantitatif adalah dengan menggunakan kaedah soal selidik murid. Kajian ini di jalankan di beberapa buah sekolah menengah kebangsaan di seluruh Malaysia mengikut zon yang telah ditetapkan. Antara zon yang terlibat ialah Zon Utara (Kedah), Zon Selatan (Johor), Zon Timur (Terengganu) dan Zon Tengah (Selangor). Sekolah-sekolah yang terlibat juga terletak di lokasi bandar dan juga luar bandar.

Dari segi persampelan, populasi dan sampel yang digunakan dalam kajian ini telah dibataskan kepada murid tingkatan empat yang mengikuti mata pelajaran Pendidikan Islam Kurikulum Bersepadu Sekolah Menengah (KBSM) di sekolah-sekolah menengah kebangsaan yang terlibat. Pemilihan murid tingkatan empat dibuat berdasarkan tahap kematangan murid untuk memberi respon tentang konstruk-konstruk utama yang digunakan dalam kajian ini.

Kajian ini bersifat kuantitatif yang akan menggunakan kaedah tinjauan *(Survey)* sebagai metodologi kajian. Soal selidik akan bertindak sebagai instrumen utama bagi kerja-kerja pemerolehan data melalui sampel yang dipilih secara rawak bagi mewakili populasi. Reka bentuk ini adalah bertujuan untuk memperolehi maklumat umum melalui kutipan yang menyeluruh dari suatu populasi. Mohd Majid (2004) berpendapat, kaedah soal selidik ini berfungsi sebagai alat pengukur yang digunakan dalam penyelidikan pendidikan bagi mendapatkan maklumat-maklumat berkenaan fakta-fakta, kepercayaan, perasaan dan sebagainya. Tujuannya adalah untuk mengumpul data mengenai pemboleh ubah-pemboleh ubah yang berkaitan dengan sesuatu fenomena tanpa menyoal mengapa pemboleh ubah-pemboleh ubah itu wujud. Instrumen ini berkesan dalam mengukur populasi yang besar dan sampel yang banyak.

7.2 Instrumen Kajian

Penggunaan kaedah tinjauan menggunakan soal selidik sebagai instrumen utama pengumpulan data, melalui sampel yang telah dipilih untuk mewakili populasi iaitu dapatan analisis data akan digeneralisasi (Borg & Gall, 1983). Kaedah tinjauan bermatlamat untuk mengumpul data mengenai pemboleh ubah-pemboleh ubah yang berkaitan dengan sesuatu fenomena tanpa menyoal mengapa pemboleh ubah tersebut wujud. Pembinaan instrumen kajian ini menggunakan kaedah soal selidik dengan mengadaptasi instrumen yang merujuk kepada soal selidik Azhar (2006), Kamarul Azmi (2010), dan Mardzelah (2012). Kaedah analisis data kajian ini menggunakan analisis deskriptif

7.3 Populasi dan Persampelan

Populasi kajian ini adalah terdiri daripada murid-murid tingkatan empat yang mengikuti pengajaran dan pembelajaran Pendidikan Islam yang berjumlah 295886 orang di semua 1320 buah sekolah menengah kebangsaan di seluruh Malaysia (Kementerian Pelajaran Malaysia 2012). Pemilihan murid tingkatan empat untuk menyertai kajian ini dibuat kerana secara umumnya mereka telah melepasi tahap kematangan umur baligh (melebihi 15 tahun) yang ditentukan sebagai had umur bagi memikul tanggungjawab dalam Islam (Abdullah Nashih 1984).

Pemilihan sampel dibuat berasaskan kaedah persampelan rawak mudah dengan menggabungkan teknik persampelan rawak berstrata (*stratified random sampling*) (Wiersma 2000), dan pelbagai tahap (*multi -stage*) (Dencombe 2002). Pendekatan teknik gabungan ini digunakan bagi memastikan pelbagai tahap murid dan sekolah diwakili dari populasi sebenar penyelidikan ini. Strata yang dipilih dalam kajian ini adalah semua murid tingkatan empat aliran sains dan sastera sekolah menengah kebangsaan yang mengambil mata pelajaran Pendidikan Islam di sekolah tersebut berdasarkan dua kategori sekolah yang digunakan oleh Kementerian Pelajaran Malaysia bagi sekolah harian iaitu Bandar dan Luar Bandar (Kementerian Pelajaran Malaysia 2001). Unit-unit sampel pula akan dipilih secara rawak daripada kawasan-kawasan-kawasan sampel tersebut berdasarkan sistem zon, iaitu Zon Utara (Kedah), Zon Selatan (Johor), Zon Timur (Kelantan), dan Zon Tengah (Selangor) (Jabatan Pendidikan Islam dan Moral, KPM 2006). Bagaimanapun peratus responden yang dipilih tidak ditentukan melalui kaedah *proportionate allocation* disebabkan oleh jumlah populasi murid di seluruh sekolah menengah kebangsaan yang tidak seimbang.

Seramai 1533 orang responden murid tingkatan 4 yang mengambil mata pelajaran Pendidikan Islam akan dipilih untuk memberi respon terhadap soal selidik dalam kajian ini. Beberapa asas pertimbangan telah digunakan oleh pengkaji bagi menentukan saiz sampel dalam kajian ini. Sekaran (2003) berpendapat pemilihan sampel harus mampu mewakili dan mengeneralisasi keseluruhan populasi. Walau bagaimanapun dalam keadaan tertentu, jika sampel terlalu besar maka faktor kos perlu diberi perhatian. Borg dan Gall (1979) berpendapat, dalam kajian yang berbentuk tinjauan, sub kumpulan utama yang kecil harus mengandungi sekurang-kurangnya antara 20 dan 50 subjek tiap-tiap satu. Menurut Neuman (2003) pula, prinsip utama dalam menentukan saiz sampel adalah ketepatan. Menurut beliau, untuk penyelidikan yang terdiri daripada populasi yang kecil (di bawah 1000), saiz sampel adalah 30 peratus dari jumlah populasi. Bagi populasi yang jumlahnya 10 000, maka saiz sampel yang lebih kecil diperlukan iaitu 10 peratus daripada jumlah populasi manakala bagi penyelidikan yang bersaiz besar (populasi) iaitu melebihi 150 000, jumlah sampel yang diperlukan adalah kira-kira 1 peratus dari jumlah populasi keseluruhan. Menurut Neuman (2003) lagi, jumlah 1500 adalah sangat tepat bagi kajian-kajian bersaiz ini. Justeru, dalam kajian ini, pengkaji telah menentukan bilangan sampel sebagaimana yang telah dicadangkan oleh Neuman (2003) iaitu 1533 orang responden. Pemilihan jumlah sampel ini juga telah mengambil kira pandangan-pandangan yang telah dikemukakan oleh Krejcie dan Morgan (1970), Cochran's Formula (1977) dan Sekaran (2003) berkenaan bilangan dan formula pemilihan sampel serta mendapati jumlah sampel yang telah dipilih adalah yang terbesar.

8.0 DAPATAN KAJIAN

Kajian ini melibatkan seramai 1533 orang murid dari 23 buah sekolah menengah di seluruh Malaysia yang mewakili empat zon iaitu Zon Utara, Zon Selatan, Zon Timur dan Zon Barat. Perangkaan di Jadual 4.1 menunjukkan frekuensi dan peratus murid yang menjadi responden. Berdasarkan Jadual 4.1, bilangan responden yang mewakili Zon Utara ialah seramai 354 orang murid (23.1%), Zon Selatan 419 orang murid (27.3%), Zon Timur 411 orang murid (26.8%) dan Zon Barat 349 orang murid (22.8%).

Jadual 1 Profil Responden mengikut Zon

Zon	Frekuensi	Peratus
Utara	354	23.1
Selatan	419	27.3
Timur	411	26.8
Barat	349	22.8
Jumlah	**1533**	**100.0**

Bilangan responden kajian berdasarkan lokasi dan aliran pengajian pula seperti yang terdapat pada Jadual 1. Jadual menunjukkan seramai 881 orang murid (57.5%) adalah dari kawasan bandar, manakala 652 orang murid (42.5%) adalah dari kawasan luar bandar. Dari segi aliran pengajian yang diikuti pula, seramai 821 orang murid (53.6%) mengikuti aliran sains, manakala 712 orang murid (46.4%) ialah aliran sastera.

Jadual 2 Profil Responden mengikut Lokasi dan Aliran

Kategori		Frekuensi	Peratus (%)
Lokasi	Bandar	881	57.5
	Luar Bandar	652	42.5
Jumlah		**1533**	**100.0**
Aliran	Sains	821	53.6
	Sastera	712	46.4
Jumlah		**1533**	**100.0**

Jadual 2 menunjukkan profil responden berdasarkan jantina. Jadual menunjukkan seramai 636 orang (41.5%) ialah murid lelaki dan 897 orang (58.5%) ialah murid perempuan. Jadual ini menunjukkan bahawa murid perempuan lebih ramai terlibat dalam kajian ini berbanding murid lelaki.

Jadual 3 Profil Responden mengikut Jantina

Jantina	Frekuensi	Peratus (%)
Lelaki	636	41.5
Perempuan	897	58.5
Jumlah	**1533**	**100.0**

9.0 ANALISIS DAPATAN DESKRIPTIF

Dapatan kajian yang dibincangkan di sini ialah berkaitan dengan tahap profesionalisme Guru Pendidikan Islam Sekolah Menengah Kebangsaan di Malaysia yang merangkumi lima domain iaitu sifat keperibadian guru, pengajaran dan pembelajaran guru, keagamaan dan keilmuan guru, motivasi guru dan sifat kepimpinan guru. Tahap-tahap ini diukur berdasarkan pernyataan-pernyataan yang telah dikemukakan kepada responden semasa soal selidik dijalankan.

Terdapat lima tahap skor min yang telah ditetapkan bagi semua item yang dikaji berdasarkan interpretasi julat skor min iaitu 1.00 hingga 1.80 berada pada tahap sangat rendah, 1.81 hingga 2.60 berada pada tahap rendah, 2.61 hingga 3.40 berada pada tahap sederhana, 3.41 hingga 4.20 berada pada tahap tinggi dan 4.21 hingga 5.00 berada pada tahap sangat tinggi. Jadual 4.7 menunjukkan interpretasi kepada tahap skor min tersebut.

Jadual 4 Interpretasi Julat Skor Min

Julat	Tahap Skor Min
1.00 – 1.80	Sangat Rendah
1.81 – 2.60	Rendah
2.61 – 3.40	Sederhana
3.41 – 4.20	Tinggi
4.21 – 5.00	Sangat Tinggi

Sumber: Alias Baba (1997)

Persoalan Kajian 1

Apakah persepsi murid terhadap domain-domain profesionalisme Guru Pendidikan Islam Sekolah Menengah Kebangsaan di Malaysia?

Analisis terhadap kesemua domain-domain di dalam profesionalisme guru (rujuk Jadual 5 dan Rajah 1) mendapati domain keagamaan dan keilmuan guru menunjukkan purata min tertinggi (min = 4.29, sp = 0.45 , di ikuti oleh domain sifat kepimpinan guru (min = 4.24, sp = 0.49), domain motivasi guru (min = 4.22, sp = 0.51), domain sifat keperibadian guru (min = 4.11, sp = 0.44) dan domain pengajaran dan pembelajaran guru (min = 3.96, sp = 0.43). Secara keseluruhan nilai min berada di antara 3.96 hingga 4.29 yang berada pada interpretasi yang tinggi dan sangat tinggi. Manakala sisihan piawai pula berada diantara 0.43 dan 0.51 yang tidak terdapat perbezaan pendapat yang ketara dalam kalangan murid dalam kesemua domain yang diuji. Nilai sisihan piawai terendah dicatatkan dalam domain pengajaran dan pembelajaran guru.

Jadual 5 Skor Min dan Sisihan Piawai Persepsi Murid terhadap Domain-domain Profesionalisme Guru Pendidikan Islam Sekolah Menengah Kebangsaan di Malaysia

Domain	Min	Sisihan Piawai	Tahap
Sifat keperibadian guru	4.11	0.44	Tinggi
Pengajaran dan pembelajaran guru	3.96	0.43	Tinggi
Keagamaan keilmuan guru	4.29	0.45	Sangat Tinggi
Motivasi guru	4.22	0.51	Sangat Tinggi
Sifat kepimpinan guru	4.24	0.49	Sangat Tinggi

Rajah 1 Skor Min Domain-domain Profesionalisme Guru Pendidikan Islam Sekolah Menengah Kebangsaan di Malaysia

10.0 PERBINCANGAN

Pada keseluruhannya, semua responden memberikan maklum balas yang positif terhadap aspek yang dikaji. Berdasarkan kajian yang dijalankan, penyelidik mendapati kebanyakan responden memilih domain keagamaan dan keilmuan guru Pendidikan Islam itu masih berada pada tahap min yang tinggi iaitu 4.29 diikuti domain sifat kepimpinan guru, motivasi guru dan sifat keperibadian guru manakala pengajaran dan pembelajaran guru masih berada di tahap yang tidak memuaskan iaitu min 3.96. Dapatan kajian ini selari dengan kajian yang dijalankan oleh Syed Najmuddin et al. (2009) iaitu min 4.05 yang mengatakan tahap Pengajaran dan Pembelajaran guru Pendidikan Islam di MRSM masih di tahap yang rendah dan perlu diberikan perhatian demi memartabatkan Guru Pendidikan Islam itu sendiri.

Sebagai kesimpulan, secara keseluruhannya, persepsi pelajar terhadap guru Pendidikan Islam adalah pada tahap tinggi, namun begitu banyak perkara yang perlu diteliti dan diberi perhatian agar segala kelemahan yang dinilai oleh pelajar sekolah menengah Kebangsaan di Malaysia dapat dipertingkatkan demi martabat guru Pendidikan Islam

11.0 RUMUSAN, CADANGAN DAN PENUTUP

Pengkaji mencadangkan beberapa kajian susulan perlu diteruskan oleh pengkaji- pengkaji lain bagi mengembangkan lagi aspek yang dikaji.

1. Kajian yang dijalankan ini hanya berbentuk kajian tinjauan persepsi pelajar terhadap tahap profesionalisme guru-guru pendidikan Islam sahaja. Untuk mendapatkan lebih ketepatan dari segi dapatan, satu kajian berbentuk kajian pemerhatian (observation) perlu dilakukan terhadap guru di dalam kelas-kelas sebenar untuk melihat dapatan yang lebih jelas.
2. Kajian menyeluruh untuk melihat hubungan antara keberkesanan guru dengan akhlak pelajar dalam aspek kepimpinan, peribadi, motivasi atau tahap penguasaan ilmu dalam menyampaikan ilmu.
3. Mengkaji dan membina modul *team building* di kalangan guru Pendidikan Islam Sekolah Menengah Kebangsaan di Malaysia.
4. Kajian ini hanyalah kajian penerokaan terhadap aspek profesionalisme dalam kalangan guru Pendidikan Islam di Sekolah Menengah Kebangsaan di Malaysia.

5. Kajian menyeluruh terhadap minat bakal-bakal guru Pendidikan Islam terhadap profesion perguruan di Malaysia.

Kajian ini hanyalah daripada pihak pelajar yang membuat penilaian terhadap profesionalisme guru Pendidikan Islam di Sekolah Menengah Kebangsaan di Malaysia dan mereka bebas meletakkan *rating* tertentu berdasarkan persepsi mereka sendiri. Seharusnya kajian ini perlu dikaji melalui sokongan penilaian oleh guru sendiri untuk mendapatkan perbandingan dan perbezaan. Diharapkan dapatan kajian ini akan dapat memberi manfaat dan celik akal kepada pembaca untuk meneruskan kajian lanjutan demi meningkatkan profesionalisme guru pendidikan Islam.

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STREAM 3 – EDUCATIONAL TECHNOLOGY

009 : Corporate E-learning Does Not Exist in a Vacuum: The Role of Organizational Learning as a Mediator

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ABSTRACT

The literature shows that learning takes place everywhere including working organizations. This is because it is not enough to continue working using only the knowledge that was gained at the start of a career. In recent years, e-learning is progressively replacing traditional instructor-led training in many organizations. It is viewed as an ideal learning tool that gives their organizations an economic edge. Organizational learning played a key role in the success of e-learning implementation in companies. Although past research have studied the implementation and usage of corporate e-learning in different situations, the mediation role of organizational learning is yet to be investigated. The proposed research will extend the IS Success Model with the Dynamic Theory of Organizational Knowledge Creation to examine the mediation role of organizational learning between e-learning quality and e-learning usage. The expected results of this study will add to the growing body of IS literature and help companies to improve their e-learning implementations.

Keywords: Corporate e-learning, Organizational learning, IS Success Model, Dynamic Theory of Organizational Knowledge Creation

1.0 INTRODUCTION

The field of educational technology has been experiencing unprecedented changes in the digital revolution. One such area is e-learning which has been increasingly replacing traditional classrooms in educational institutions and corporate training. Unlike e-learning in educational institutions where learners' goals are to achieve personal intellectual growth, corporate e-learning involves complex relationship between the individual's and organization's learning goals.

E-learning has been a popular choice for corporate training since the early 2000's due to its two-fold benefits for employers and employees. For employers, e-learning is appealing because it is flexible, easily accessible, scalable, cost-effective and can be tailored to the corporation's needs (Chen, 2008). Whereas for employees, e-learning offers an engaging learning experience at their own pace of learning, style, and convenience (Lenoue, Hall, & Eighmy, 2011). Corporate e-learning usually packaged as a Learning Management System (LMS) and has continued to evolve and grow as new trends emerge in the e-learning landscape (Bezhovski & Poorani, 2016).

E-learning has inevitably made its way to the oil and gas industry. The oil and gas industry is costly, complicated and risky. It has been using many types of traditional training methods such as external courses and on-the-job-trainings to accomplish this. While these have been proven to be undoubtedly effective, the permeation of technology in every aspect of human life has caused a paradigm shift in the training process among employees in oil and gas industry (Mckevitt & Schlumberger, 2007). Therefore, it requires a workforce that is highly qualified and skilled to run it. The responsibility to train its workforce lies heavily on the industry itself because universities impart only the basic knowledge and skills. It is not enough to continue working using only the knowledge that was gained at the start of a career (Megginson & Whitaker, 2010).

For an industry that requires advanced technical and complex skills and knowledge as oil and gas, the quality of its e-learning is important to tangibly benefit its employees and the organization. Employees who receive the right training have a higher chance of increasing productivity, performing better and are more committed to their companies (Ellis & Kuznia, 2014). Therefore, oil and gas companies have invested millions of dollars into e-learning systems with the implied expectation that they

would reap the rewards (Isa & Hussain, 2001; Taylor & Paton, 2002; Petrofac, 2014; Data Bridge Market Research, 2019).

Studies using the Information System (IS) Success Model have been popular to show the link between e-learning quality and e-learning usage (Chen, 2010; Dalhan & Akkoyunlu, 2016; Yakubu & Dasuki, 2018). However, other studies, also using the IS Success Model, have contradicted results (Jafari & Batool , 2015; Aparicio, Bacao, & Oliveira, 2017; Cidral, Oliveira, Di Felice, & Aparicio, 2018). In particular, developing countries like Malaysia face a unique set of challenges regarding corporate e-learning usage compared to other advanced nations such as IS infrastructure and language barrier (Sahijwani, Sivalingam, & Roza, 2005; Bhuasiri, Xaymoungkhoun, Zo, Rho, & Ciganek, 2012). This suggests that other environmental factors influence e-learning usage in an organization.

Organizational learning has been identified as critical to the success of training and development in a company because these initiatives do not exist in a vacuum (Hassi & Storti, 2011). According to the Global Human Capital Trends report, companies view organizational learning as critical to sharpen their competitive edge (Deloitte Insights, 2019). Recent corporate e-learning studies are therefore highlighting organizational learning as an important factor (Chen, 2010; Montgomerie, Edwards, & Thorn, 2016; Yang, 2019).

Given the scarcity of literature that examines the relationship between e-learning quality, organizational learning, and e-learning usage, this study proposes an extended DeLone & McLean IS Success Model that includes organizational learning as a mediating variable between e-learning quality and usage.

To the best of our knowledge, this study will be the first to use the IS Success Model with organizational learning as a mediator between e-learning quality and usage in a Malaysian context. This study may help companies to increase the usage of e-learning and increase their return on investment.

2.0 LITERATURE REVIEW

2.1 E-learning Usage

System usage has been used as an IS success variable in a number of past studies and continues to be researched (Chen, 2010; Yakubu & Dasuki, 2018). In the IS Success Model, intention to use and use has been maintained as alternatives to each other (DeLone & McLean, 1992, 2003, 2004). However, use is a quantifiable behaviour that is judged as the variable nearer in meaning to the success of e-learning systems compared to intention to use (Wang & Liao, 2008). Therefore, this proposed study accepts use instead of intention to use as a measure of success for corporate e-leaning system.

2.2 Organizational Learning

Since e-learning takes place in an organizational context, there is no escape from the influence of the organization's learning culture over its employees. Organizational learning is a "composition of individual learning, development of culture, continuous improvement, innovation, and applying systems that learn" (Namada, 2018). Generally, Malaysian organizations view organizational learning as a constant process to gain knowledge and skills which encompasses the companies' training and development programs (Arshad, Ladd, & Mahmood, 2016). This is the same view taken in this proposed research. When the organization and the individual collaborate in training activities, it impacts the employees' motivation to participate in learning (Bryson, Crosby, & Stone, 2006). The organization's support and culture have been found to positively impact e-learners' satisfaction (Lee, Hsieh, & Ma, 2011; Ramayah, Ahmad, & Hong, 2012). This confirms the significant influence of organizational learning to encourage employees to use like e-learning.

Organizational learning dfferentiates a successful and competitive company and one that is not. Organizational learning has been found to mediate between training and performance and has been studied as a main-construct consisting of individual learning, group learning and organization learning (Aragón, Jiménez, & Valle, 2014). Individual learning refers to the process of individuals acquiring new knowledge, group learning involves individuals sharing knowledge among the group so all members have a joint understanding and organization learning happens when individuals and groups are entrenched into the systems, structures and procedures of the company (Bontis, 1999; Crossan, Lane, & White, 2002).

Technologies like e-learning can be used to increase the efficiency of the people and enhance the information flow within the organization, while organizational learning helps to transform that information into knowledge (Bhatt, 2001). Therefore the following hypotheses are proposed:

H1: *There is a significant relationship between organizational learning and e-learning usage.*
H2: *E-learning quality does contribute to e-learning usage with organizational learning as the mediator.*

2.3 Corporate e-Learning Quality

Many companies are in favor of using e-learning as they find it beneficial to employee commitment and motivation, convenient, easily accessible, easier for outsourcing and customization and cost-effective (Kimiloglu, Ozturan, & Kutlu, 2017). With the increasing demands in the industry and sophisticated advances of technology, e-learning providers are expected to provide high e-learning quality to its users. E-learning quality has been studied as a main-construct consisting of information quality, system quality and service quality (Osama, Abdullah, Ramayah, & Mutahar Ahmed, 2017; Aldholay, Isaac, Abdullah, & Ramayah, 2018). Information quality, system quality and service quality have been found to be very important indicators of quality for e-learning systems (Younis, Cater-steel, & Soar, 2016; Nikolić, et al., 2018;).

Information quality measures the users' perception of the information system output, system quality measures the users' perception of the characteristics of the information system and service quality measures the users' perception of the quality of IT support that they receive (DeLone & McLean, 2016).

Investments by companies in their employees' learning and development contribute to overall organizational learning (Sun & Jin, 2014). Therefore, organizations that are willing to invest in the quality of their e-learning systems are the ones that are committed to seeing their investments succeed and promote a culture of organizational learning. The influence of an organization's culture has been found to be crucial to e-learning success (Wiklund-Engblom, 2015; Chang, 2016). Therefore the following hypothesis is proposed:
H3: *There is a significant relationship between e-learning quality and organizational learning.*

2.4 Theoretical Framework

2.4.1 IS Success Model

Many models and theories have been proposed to explain user behavior with technology. Among them are the Technology Acceptance Model (TAM) (Davis, 1989) and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh, Morris, Davis, & Davis, 2003). However, none of them examine the relationship between e-learning quality and e-learning usage except the IS Success Model (DeLone & McLean, 1992, 2003, 2004). This model relates to the proposed research as it examines the relationship between information quality, system quality, service quality and usage.This model clarifies the human and technological aspects of information systems. This model has been validated by numerous studies (Bento, Costa, & Aparicio, 2017)and is, therefore employed as a foundation for this study.

The updated model has seven dimensions which are system quality, information quality, service quality, use, user satisfaction, individual impact, and organizational impact. System quality, information quality and service quality affect use, and user satisfaction which then impacts the net benefits of the individual and organization.

This study will only consider the link between system quality, information quality, service quality and use.

Figure 1 The DeLone and McLean's updated IS success model (2004)

2.4.2 The Dynamic Theory of Organizational Knowledge Creation

Organizational learning is a multidimensional area that involves the ontological levels and knowledge conversion (Nonaka, 1994), learning subprocesses (Crossan, Lane, & White, 2002) and the types of learning (March, 1991). The ontological levels of The Dynamic Theory of Organizational Knowledge Creation which are individual, group and organization have been validated by many studies and is a solid foundation for this study (Lloria & Moreno-Luzon, 2014). Very recently, this theory has been used in the corporate e-learning context in relation to e-learning usage (Yang, 2019). Therefore this study will also consider the individual, group and organization aspects of organizational learning that affects e-learning usage in the context of corporate e-learning.

Figure 2 Spiral of organizational knowledge creation (Nonaka, 1994, p.20)

2.5 Research Framework

This research will integrate the IS Success Model and the Dynamic Theory of Organizational Knowledge Creation to examine the relationship between e-learning quality, organizational learning, and e-learning usage.

Figure 3 Research Framework

3.0 METHODOLOGY

A comprehensive literature review was done and two main themes emerged: corporate e-learning and organizational learning. These two main themes then branched into a few sub-themes like the IS Success Model, e-learning in an organizational context and so on. By organizing the findings from past studies into these sub-themes, a gap in the literate showed that there has been no known study that explicitly examines the relationship of organizational learning to e-learning quality and usage.

4.0 CONCLUSION

The literature shows that the landscape of learning in organizations is changing with the widespread use of technology. Even in the oil and gas industry, technology has been touted as the future of learning (Vaidyula, Al-Khaledi, & Al-Otaibi, 2015). With companies investing millions into e-learning programs, it is imperative that they must not end up as white elephants. Past studies on e-learning have resulted in a mixed bag of results regarding the link between e-learning quality and usage. This has resulted in some researches recommending organizational learning as a variable that needs to be studied in the context of corporate e-learning. Therefore, this study proposes to extend the IS Success Model with organizational learning as the mediator between e-learning quality and usage. The expected results of this study will add to the growing body of IS literature and help companies to improve their e-learning implementations.

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010 : Kesahan Dan Kebolehpercayaan Instrumen Generasi Z Terhadap Revolusi Industri 4.0

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ABSTRAK

Kajian yang dijalankan ini bertujuan menilai kebolehpercayaan item dan konstruk instrumen kesediaan generasi z terhadap revolusi industri 4.0. Instrumen yang dibina mempunyai 2 konstruk bagi menguji responden dan soalan kajian iaitu (i)pengetahuan terhadap revolusi industri 4.0 dan (ii) persepsi terhadap revolusi industri 4.0. Instrumen ini mengandungi 21 item dan diedarkan kepada pelajar-pelajar kejuruteraan mekanikal UITM yang melibatkan seramai 45 responden kajian. Pendekatan kebolehpercayaan instrumen diukur menggunakan pendekatan nilai kebolehpercayaan Alpha Cronbach. Hasil dapatan kajian ini menunjukkan nilai pekali kebolehpercayan konstruk pengetahuan generasi z terhadap revolusi industri 4.0 ialah α= 0.801 di mana setiap item dalam konstruk pengetahuan memiliki nilai kebolehpercayaan yang baik dan diterima. Kebolehpercayaan konstruk persepsi generasi Z terhadap revolusi industri 4.0 terlihat positif dengan memiliki nilai pekali α=0.763 jadi setiap item konstruk sesuai untuk digunakan dalam kajian yang dijalankan. Justeru, tiada mana-mana item disingkirkan bagi setiap konstruk kerana tiada peningkatan pekali Alpha Cronbach berlaku lagi dan nilai pekali kebolehpercayaan instrumen kajian melebihi nilai 0.700 yang mana setiap item konstruk dianggap baik dan boleh diterima untuk mengukur pengetahuan dan persepsi generasi z terhadap revolusi industri 4.0.

Kata Kunci: Kesahan, Kebolehpercayaan, Instrumen, Revolusi Industri

015 : Penerimaan Pelajar Tingkatan 1 terhadap Penggunaan Aplikasi Web 2.0 untuk Pembelajaran

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ABSTRAK

Aplikasi Web 2.0 sudah lama wujud dalam dunia teknologi maklumat. Aplikasi ini terwujud apabila Internet digunakan bukan hanya dihadkan pencarian maklumat tetapi memberikan platform maya untuk berkomunikasi secara dua hala yang mudah, pantas dan berkesan. Semasa di dalam kelas, guru serta pelajar boleh menggunakan pelbagai jenis aplikasi Web 2.0. Kajian ini bertujuan adalah melihat kesan persekitaran pembelajaran pelajar Tingkatan 1 dalam menggunakan aplikasi Web 2.0 sebagai alat pengkongsian serta mencipta bahan semasa PdPc dijalankan. Sampel kajian ini adalah seramai 30 orang pelajar terdiri daripada kelas awal dan pertengahan. Kaedah kualitatif digunakan dalam kajian ini dengan kaedah temu bual responden secara bersemuka. Sesi temu bual ini merupakan berstruktur kerana sebelum sesi ini dilakukan, data dikumpulkan terlebih dahulu dan pengkaji akan menyediakan soalan berdasarkan persoalan kajian. Data dianalisa secara tematik. Hasil daripada analisis ini, pembangunan menggunakan aplikasi Web 2.0 memberikan kesan persekitaran yang lebih menyeronokkan. Sampel juga menyatakan perasaan untuk lebih belajar sesuatu subjek. Kajian ini juga membincangkan potensi menggunakan aplikasi Web 2.0 dalam proses belajar.

Kata Kunci: aplikasi Web 2.0, pembelajaran abad ke21

1.0 PENGENALAN

ICT atau pun Teknologi maklumat dan komunikasi pada hari ini sudah sinonim dengan urusan harian bagi masyarakat di sekelilingnya. Perkembangan ini juga memberi kesan yang luar biasa dalam aktiviti masyarakat. Kini ia secara menyeluruh dalam pelbagai aspek kehidupan seperti pentadbiran, kewangan mahupun hubungan sosial. Peningkatan ini juga turut memberi impak terhadap sistem pendidikan negara dalam kalangan masyarakat di Malaysia (Goh & Sandhu 2014). Bagi menjamin kualiti pendidikan terus meningkat, pelbagai inisiatif telah dilakukan supaya dapat menghasilkan senario, pengajaran dan pemudahcara (PdPc) yang lebih inovatif dan efektif yang seterusnya menzahirkan sekumpulan pelapis negara yang penuh dengan ilmu dan kemahirannya.

Pembelajaran dalam talian dalam pendidikan merupakan antara teknologi maklumat yang telah dilaksanakan oleh pihak kerajaan (KPM, 2012). Transformasi ini dapat dilihat bukan sekadar memberikan maklumat yang cepat serta mudah kepada pelajar tetapi juga membuka peluang untuk berkongsi ilmu hingga ke aras yang lebih menyeluruh secara global.

Perkataan yang sering diungkapkan dalam masyarakat kini bak 'Dunia tanpa Sempadan' atau lebih dikenali 'Segalanya di Hujung Jari' antara simbol yang sinonim dengan scenario perkembangan ICT. Perkembangan ini telah memberi kelainan persepsi masyarakat dunia tentang internet yang mana pelbagai fitur baru telah berkembang ibarat lahirnya aplikasi Web 2.0 yang begitu popular kegunaan di seluruh negara. Anderson et al., (2007) berpendapat bahawa Internet memberi pengaruh yang besar kepada dunia. Ini terzahirnya dengan cetusannya fenomena baru dalam alam maya melalui teknologi Web 2.0 dan laman perkongsian sosial seperti Facebook, Twitter dan Instagram serta perkongsian video melalui YouTube atau Vimeo.

Aplikasi Web 2.0 ini merupakan salah satu kemudahan dalam Internet iaitu membolehkan maklumat yang dicari tanpa memerlukan pengguna melayarinya secara sendirian (Johari Hassan & Raja Shahrina Raja Abdul Rashid, 2012). Ia juga dapat dilihat boleh mengubah dasar pendidikan abad ke-21 dengan memberikan persekitaran pengajaran dan pembelajaran yang dinamik. Selain kelebihan teknologi aplikasi Web 2.0 ialah kemampuannya untuk membentuk pendekatan belajar. Selain itu, kaedah untuk mengajar dan berinteraksi dengan pelajar sebagai pengajar (Steve Hergadon, 2009). Apabila kewujudannya

kolaborasi yang unik ini, maka dapat memberi persekitaran pembelajaran yang lebih menarik. (Churchill et al., 2009; Dagenais et al., 2008)

Web 2.0 merupakan salah satu inovasi dalam perisian serta aplikasi Internet dari web yang berbentuk pegun kepada web yang lebih dinamik serta fleksibel (Murugesan, 2007). Kandungan yang dipersembahkan lebih interaktif dan pelbagai. Selain itu, ia konsep komunikasi dua hala digunakan, bukan dengan cara komunikasi secara sehala dalam menyampaikan informasi semata-mata. Antara empat sifat aplikasi Web 2.0 ialah alat pengkongsiaan dan mencipta Nurul Syaida & Fariza, (2016). Melalui alat perkongsian dan penciptaan, ia membenarkan penggunanya untuk berkongsi atau mengubah bahan rujukan dan mengabungkan maklumat serta pengetahuan dengan yang lebih baik. Secara ringkasnya, dengan mengabungkan maklumat dan pengetahuan yang terhasil akan lebih berinovasi dan menarik.

Namun demikian, meskipun terbukti bahawa kewujudan pelbagai teknologi dapat membantu proses pembelajaran menjadi efektif, para pelajar dilihat tidak menunjukkan minat yang mendalam untuk mencuba penggunaan teknologi ini. Hal ini dapat dilihat daripada kajian Hussin, Radzi Manap, Amir, & Krish, (2012) yang menunjukkan penguasaan pelajar dalam kalangan pelajar masih pada tahap sederhana semasa penggunaan aplikasi ICT dalam pembelajaran mereka. Oleh itu, perubahan harus dilakukan daripada peringkat menengah dalam memperkenalkan kepada mereka kepada penggunaan alat perkongsiaan dan penciptaan melalui aplikasi Web 2.0

Penciptaan dan penerokaan ilmu dapat ditekankan dalam penggunaan terknologi dalam bidang pendidikan ini secara aktif menjadikan pelajar lebih berfikiran kreatif dan inovatif, (Utusan Malaysia 24 Julai 2002:12). Kemudahan platform dalam talian mampu menyediakan medium pengajaran dan pembelajaran yang lebih mudah dan menarik. Pelbagai teknologi berkaitan pendidikan berjaya dibangunkan dan boleh dimanfaatkan untuk tujuan P&P. Namun persoalannya. Apakah tahap dalam penggunaan teknologi aplikasi Web 2.0 dalam kalangan pelajar? Apakah penerimaan pelajar terhadap aplikasi Web 2.0 dalam pembelajaran? Dan apakah kengkangan semasa pembelajaran yang dihadapi oleh pelajar apabila menggunakan aplikasi Web 2.0?

Semua persoalan ini perlu perhatian yang sewajarnya agar teknologi yang diperkenalkan dalam P&P bukan sekadar bertindak sebagai penyeri tetapi sebaliknya benar-benar mampu dimanfaatkan secara optimum oleh pelajar. Oleh sebab itu, kajian ini bertujuan untuk mengenal pasti tahap membangunkan sesuatu bahan menggunakan kemahiran daripada alat aplikasi Web 2.0 dan melihat persepsi pelajar semasa pembelajaran apabila aplikasi web 2.0 diguna pakai dalam PdPc berlangsung.

1.1 Aplikasi Web 2.0

Aplikasi Web 2.0 antara program yang disimpan dalam server dan boleh di akses melalui antara muka Internet (Rouse, 2011). Web 2.0 ini merupakan aplikasi yang menggunakan teknologi browser bagi menggerakkan aplikasi. Selain itu, untuk mengakses jaringan komputer (Remick, 2011). Aplikasi ini dimulakan dengan Web 1.0. Web 1.0 dibangunkan untuk mengakses maklumat dan daya interaktif yang sedikit jika dibanding dengan Web 2.0. Ia hanya boleh dibaca sahaja kandungan yang terdapat dalam Web 1.0. Selain itu ciri lainnya adalah ciri Web 1.0 hanya boleh melayar dan membuat carian sahaja. Oleh itu Web 1.0 hanya sekadar untuk mencari atau menyemak imbas untuk mendapatkan maklumat tertentu.

Manakala teknologi Web 2.0 mula berkembang sekitar tahun 2004 rujuk (Chhaya Khanzode Raisoni & Sarode, 2016). Web 2.0 merupakan teknologi yang menggabungkan teknologi lain dalam membangunkan web. Web 2.0 merupakan peralihan trend dalam dunia World Wide Web dan teknologi yang direka bertujuan untuk meninggikan kreativiti, komunikasi serta pencarian maklumat melalui web. O'Reilly (2006, hal 3), menjelaskan bahawa :

> "Web 2.0 adalah revolusi perniagaan dalam industri komputer yang disebabkan oleh penggunaan internet sebagai landasan, dan merupakan percubaan untuk memahami pelbagai peraturan untuk mencapai kejayaan dalam platform tersebut ."

Manakala Bali (Telli Yamamoto & Karaman, 2011) pula menerangkan bahawa perbandingan antara Web 1.0 dan Web 2.0 adalah dalam bentuk interaktiviti yang lebih meluas misalnya dalam penggunaan blog dan laman sesawang di mana pengguna boleh berinteraksi dengan lebih mudah. Dalam hal ini, (O'Reilly, 2005) mendefinasikan Web 2.0 sebagai satu platform pembangunan web secara kolaboratif yang merujuk kepada perubahan yang drastik dalam cara memajukan perisian dan akhirnya

pengguna yang mencapai faedah dari web. Antara aplikasi lain dalam Web 2.0 adalah rangkaian sosial seperti blog, forum, podcast, serta Wikipedia.

Aplikasi yang berasaskan Web 2.0 seperti Facebook, Hi5, LinkedIn, MySpace, Nexopia, Twitter, dan YouTube dapat membolehkan pengguna untuk berkongsi idea, pendapat, minat dalam rangkaian individu mereka melalui internet dengan cara yang mudah. Antara ciri lain seperti percuma, terbuka dan berkolaboratif antara ciri teknologi Web 2.0 yang membolehkan pengguna mewujudkan banyak komuniti maya di mana sahaja secara percuma. Pendidikan pelbagai budaya adalah trend yang dimasukkan ke dalam kurikulum sekolah banyak (Ocak, 2006).

Sistem pendidikan Malaysia mula menggunakan aplikasi Web 2.0 apabila Pelan Pembangunan Pendidikan Malaysia 2013–2025 yang telah dilancarkan oleh Kementerian Pendidikan Malaysia. Pelan ini menghalakan kanak-kanak di Malaysia menguasai 6 elemen utama menjelang 2025 bagi memenuhi kehendak kemahiran abad ke-21. Ciri utama ialah (1) pengetahuan; (2) kemahiran berfikir; (3) kemahiran kepimpinan; (4) kefasihan dwi-bahasa; (5) etika dan kerohanian; dan (6) identiti nasional (Kementerian Pendidikan Malaysia, 2013). Kemahiran yang perlu ada dalam pembelajaran abad ke-21 merupakan kemahiran berfikir secara kritis dan kreatif, kemahiran komunikasi dan juga kolaborasi atau dikenali dengan P21 atau 'Partnership for 21st century skills'. Antara strategi lain dengan pembelajaran menggunakan inovasi ICT dapat merintis cara yang sedia ada. Dengan ini, aplikasi Web 2.0 memiliki kemampuan dan berpotensi dalam pendidikan di Malaysia. Banyak usaha yang diambil oleh pihak kementerian bagi memperkenalkan aplikasi Web 2.0 ini kepada pelajar, pendidik dan masyarakat.

2.0 KAJIAN LEPAS

Terdapat beberapa kajian lain dalam menggunakan aplikasi Web 2.0 dalam kalangan pelajar. Antara isu ini dengan pelajar turut mengambil perhatian. Carreno & Velez (2015) melaporkan bahawa terdapat hubungan antara jam yang digunakan oleh pelajar universiti dengan sikap, latihan, penggunaan, impak dan persepsi pelajar mereka dalam kesulitan apabila mengintegrasikan Web 2.0. Hasil kajiannya mendapati terdapat beberapa kesan dan penggunaan alat Web 2.0, yang mana perbezaan paling sedikit didapati adalah dalam beberapa faktor sikap, latihan, kesukaran, dan pengetahuan mengenai alat Web 2.0 dalam kalangan pelajar universiti tersebut.

Salleh et al. (2015) pula telah mengenal pasti persepsi pelajar mengenai aplikasi Web 2.0 digunakan semasa aktiviti pengajaran dan pemudahcara kelas untuk subjek rangkaian. Penemuan kajian ini mendedahkan bahawa kebanyakan pelajar menunjukkan tahap minat yang tinggi dengan belajar menggunakan blog semasa mengkaji subjek rangkaian. Oleh itu, kesediaan pensyarah dalam penyediaan bahan aktiviti pembelajaran perlu lebih kreatif dan menggabungkan semua perkakasan Web 2.0 dalam pengajaran dan pembelajaran kelas.

Selain itu, hasil dapatan dari Yuznaili et al (2017) adalah untuk melihat kesan penggunakan Web 2.0 dalam pembelajaran lisan untuk pelajar tingkatan 6 di salah satu sekolah daerah Saratok, Sarawak. Dapatan menunjukkan pelajar sangat berminat dengan penggunaan aplikasi Web 2.0 Goanimate apabila mereka berjaya meningkatkan hasil mereka tentang kata kerja dalam ujian pasca. Pelajar berpendapat bahawa aplikasi Goanimate membantu memberi pemahaman dan menjadi sumber rujukan selain guru dan rujukan lain untuk menyelesaikan masalah dalam memahami kata kerja.

Wan dan Norazah (2017) pula menyatakan dalam kajiannya ia telah membangun dan mengaplikasikan perisian aplikasi Web 2.0 dalam pengajaran sifir bagi subjek Matematik. Ini bagi membantu meningkatkan pendaraban asas mereka sehingga 9 x 9 dan mengetahui sejauh mana pelajar tahun 4 dari sekolah rendah di salah satu daerah di Sabah dapat mengekalkan minat dan kesenangan dalam matematik, terutamanya dalam mempelajari kemahiran jadual pendaraban. Hasil yang diperoleh dari pengaji ini adalah bukan sahaja pelajar ini bertambah baik, mereka juga meningkatkan minat dan keseronokan untuk mempelajari kemahiran sifir untuk topik seterusnya.

Kajian Virkus & Bamigbola, n.d. (2011) mendedahkan bahawa pengalaman pelajar (*Digital Library Learning)* DILL Web 2.0 bervariasi dan dapatan kajian ini menghasilkan empat kategori yang berbeza iaitu komunikasi, pendidikan, profesional dan pelbagai guna. Pelajar juga menyedari bahawa alat Web 2.0 boleh digunakan bukan sahaja sebagai alat komunikasi dan pendidikan, tetapi sebagai alat profesional dan alat pelbagai guna.

Disini dapat dilihat penggunaan aplikasi Web 2.0 dalam kehidupan terutamanya pelajar terdapat perubahan sikap dalam latihan apabila menggunakan aplikasi Web 2.0. Selain perubahan sikap, perubahan minat terhadap sesuatu dapat dilihat sesama pengajaran dan pembelajaran dilakukan. Apabila perubahan minat itu timbul, keseronokkan dan membantu pemahaman yang lebih mendalam bagi sesuatu

topik apabila aplikasi Web 2.0 digunakan. Oleh itu, seiring daripada dapatan kajian ini untuk melihat penerimaan pelajar dalam penggunaan aplikasi Web 2.0 dalam sesi pengajaran dan pemudahcara dijalankan.

3.0 METODOLOGI KAJIAN

Kajian menggunakan kaedah kualitatif bagi meneroka jawapan pelajar terhadap persekitaran mereka apabila menggunakan aplikasi Web 2.0 semasa proses pembelajaran di kelas. Kumar (2005) mendapati kajian menggunakan kaedah ini membantu pengkaji untuk memperoleh maklumat dengan lebih tepat dan secara menyeluruh terhadap sesuatu perkara yang tidak boleh diperolehi jika menggunakan kaedah yang melibatkan numerik. Hal ini kerana untuk melihat penerimaan pelajar dan kengkagan memerlukan pemerhatian dan penghuraian yang lebih mendalam adalah lebih sesuai diketahui dengan menggunakan kaedah kualitatif berbandaing kuantitatif.

Peserta kajian ini adalah pelajar tingkatan 1 daripada salah sebuah sekolah di Kuala Lumpur yang mempunyai aliran Asas Sains Komputer. Responden kajian terdiri daripada pelajar tingkatan 1, ini kerana pemilihan pelajar tingkatan 1 ini merupakan pelajar golongan ini adalah peringkat pertama bagi sesi sekolah menengah. Selain itu, golongan pelajar tingkatan 1 ini dipilih untuk memberi pendedahan pada peringkat awal dengan harapan mereka dapat menggunakan ilmu ini untuk peringkat yang lebih tinggi. Pelajar ini terdiri daripada 30 orang pelajar daripada dua jenis kelas yang berlainan iaitu kelas awal dan pertengahan. 30 orang pelajar ini terpilih kerana ia terdiri daripada golongan pelajar yang sederhana dan lemah dalam mata pelajaran. Oleh itu pelajar ini perlu diperkenalkan kepada aplikasi melalui alat pengajaran dan pembelajaran secara tersusun. Manakala instrumen yang digunakan dalam kajian ini terdiri daripada alat-alat Web 2.0 seperti Biteable, Google Classroom, Padlet.

Manakala data kajian dikumpul menggunakan penggunaan Google Classroom. Dimana pelajar akan menghantar bahan mereka disitu dan akan digabungkan semua dalam satu website yang direka khas bagi penggunaan aplikasi Web 2.0 ini.

Data akan dianalisa menggunakan analisa tematik, iaitu mencari tema yang koheran dan tersendiri. Antara soalan yang akan ditanya semasa temu bual adalah?

1. Apakah perasaan anda menggunakan alat aplikasi Web 2.0?
2. Apakah penerimaan pelajar tingkatan 1 terhadap aplikasi Web 2.0 dalam pembelajaran?
3. Apakah kengkangan terhadap aplikasi Web 2.0 semasa sesi pembelajaran yang dihadapi oleh pelajar tingkatan 1?

Sepanjang kajian ini dijalankan 2 kali sesi temubual akan dijalankan. Iaitu sebelum menggunakan aplikasi web 2.0 dan selepas menggunakan aplikasi Web 2.0. Setiap sesi temubual jangkaan masa yang diambil dalam masa sejam bagi mendapatkan data untuk beberapa orang pelajar.

Dalam kajian ini, pelajar akan diperkenalkan dengan pelbagai jenis aplikasi Web 2.0 dalam bentuk pembelajaran bagi topik HTML dalam subjek Asas Sains Komputer. Antara aplikasi Web 2.0 yang dipilih adalah Powtoon, Padlet, Google Classroom dan aplikasi lain. Pendekatan pengajaran dan pembelajaran menggunakan kaedah kelas berbalik dengan disokong penggunaan Google Classroom. Google Classroom membolehkan pelajar menyelidik bahan pembelajaran seperti video pendek, bahan power point sebelum memulakan kelas secara atas talian. Melalui aplikasi ini aktiviti kolaborasi pembelajaran turut disokong. Perbincangan secara talian dapat dilakukan antara guru dan pelajar dengan menggunakan Padlet.

Gambar 1 Pelajar memberi pendapat masing-masing menggunakan aplikasi Padlet di dalam kelas.

Projek mini pada subjek ini adalah mereka akan menggunakan alat-alat aplikasi Web 2.0 bagi memperkenalkan pembangunan laman web mereka. Durasi kajian ini mengambil masa selama 2 bulan yang melibatkan dua fasa iaitu pengenalan dan kegunaan alat-alat Web 2.0 semasa sesi pembelajaran. Fasa penggunaan pelajar mengambil masa sebulan untuk menggunakan alat-alat yang telah diperkenal oleh guru untuk menyelesaikan projek mini bagi tajuk HTML. Setelah mereka siap dalam membangunkan bahan menggunakan alat-alat Web 2.0 ini, mereka perlu membentangkan hasil mereka di dalam kelas.

Gambar 2 Hasil-hasil projek menggunakan aplikasi Web 2.0 akan digabungkan dan diletakan dalam satu website.

4.0 DAPATAN DAN PERBINCANGAN

Responden kajian ini adalah 30 orang pelajar. Bagi melihat pengalaman responden dalam menggunakan aplikasi Web 2.0 (Jadual 1). Daripada 30 pelajar ini, hanya 10 pelajar yang pernah menggunakan aplikasi Web 2.0 tetapi tidak tahu alat yang digunakan itu adalah aplikasi Web 2.0 manakala baki bilangan pelajar tidak pernah mendengar dan menggunakan aplikasi Web 2.0.

Jadual 1 Pengalaman Responden dengan Pembelajaran Online

Pengalaman aplikasi web 2.0	n	%
Dengan pengalaman	5	16.67
Tanpa pengalaman	25	83.33

Kajian ini untuk melihat bagaimana responden menggunakan aplikasi Web 2.0 dalam pembelajaran mereka. Melalui projek mini ini, mereka akan bergerak dalam kumpulan, dimana mereka perlu bekerjasama dalam menyelesaikan masalah untuk menyediakan bahan aplikasi Web 2.0.

Dapatan temu bual telah dianalisiskan berbantukan perisian Nvivo 8.0. Ini telah menemukan tiga dapatan utama iaitu (1) alat aplikasi Web 2.0 ini telah diterima baik dan menyokong pembelajaran abad ke 21; (2) pelajar didapati mempunyai kebolehan untuk menggunakan aplikasi Web 2.0 dan (3) penggunaan aplikasi Web 2.0 ini dalam aktiviti pengajaran dan pemudahcara seperti yang dinyatakan di dalam Jadual 2.

Jadual 2 Bilangan Responden Mengikut Tema

Responden Kajian	Tema 1: Alat Aplikasi Web 2.0 ini Diterima Baik dan Menyokong Pembelajaran Abad ke-21	Tema 2: Pelajar Didapati Mempunyai Kebolehan Menggunakan Aplikasi Web 2.0	Tema 3: Penggunaan Aplikasi Web 2.0 ini dalam Aktiviti Pengajaran dan Pemudahcara
Bilangan Pelajar yang Menjawab	10	8	12

Dapatan bagi melihat tahap penggunaan aplikasi Web 2.0 ini, (Murugesan, 2007) ada menyatakan bahawa alat daripada aplikasi Web 2.0 lebih murah, cepat dan menyenangkan semua pihak. Ini dapat dilihat apabila dalam kalangan 30 pelajar ini mereka mempunyai kebolehan untuk menggunakan aplikasi Web 2.0 setelah diperkenalkan kepada mereka. Maklum balas daripada mereka apabila menggunakan aplikasi ini setelah dipelajari mereka seperti penggunaan biteable mereka ingin atau akan menggunakan alat ini dalam membuat persembahan media pada masa yang diperlukan.

> *"Saya rasa boleh menggunakan aplikasi ini dengan baik. Mula-mula agak susah tetapi selepas guru memberi tunjuk ajar saya berjaya buat*". (Joel)

Ia juga dan menyenangkan para pelajar apabila menggunakan sesuatu aplikasi Web 2.0 setelah mengetahui cara dan bagaimana untuk menggunakan alat aplikasi web 2.0 itu.

> *"Saya boleh menggunakan aplikasi ini kerana ia senang digunakan hanya perlu sediakan bahan sahaja."* (Adib)

Bagi melihat penerimaan pelajar tingkatan 1 terhadap aplikasi Web 2.0 dalam pembelajaran, pelajar suka untuk menggunakan aplikasi Web 2.0 semasa proses pembelajaran. (Sawant, 2012) menyatakan aplikasi Web 2.0 antara terbaik yang boleh digunakan semasa proses pengajaran dan pemudahcara.

> *"Saya suka menggunakan aplikasi web 2.0 semasa belajar. Aplikasi ini memudahkan saya untuk menyelesaikan tugasan yang diberikan oleh guru."* (Wong)

Secara keseluruhannya maklum balas daripada responden sangat positif bagi semua tema yang telah dikenal pasti. Majoriti responden menerima baik penggunaan aplikasi Web 2.0 ini semasa proses pembelajaran. Pada masa yang sama terdapat beberapa cabaran yang dihadapi oleh pelajar dalam menyelesaikan projek mini.

4.1 Kekangan Kemudahan Internet

Antara cabaran yang dihadapi adalah ada diantara responden yang tidak mempunyai komputer di rumah untuk menggunakan aplikasi ini.

> *"Saya suka menggunakan aplikasi yang diperkenalkan oleh cikgu saya. Tetapi saya tiada komputer dirumah apabila guru mengarahkan kami untuk berbincang menggunakan Padlet"* (Adam)

> *"Ibu saya tidak membenarkan saya menggunakan hp, walaupun saya memberitahu tentang google classroom. Cikgu menggunakannya untuk menyiapkan tugasan"* (Kishen)

Walaupun ada diantara pelajar ini mempunyai kekangan mereka. Tetapi mereka berjaya melaksanakan tugasan yang diberikan. Dengan menyiapkan bahan mereka menggunakan makmal komputer di sekolah. (Sawant, 2012) juga ada menyatakan antara masalah yang bakal dihadapi kita menggunakan aplikasi Web 2.0 ini adalah kekurangan intrasturktur, kekurangan pembaikpulih bagi kemudahan yang digunakan seperti komputer atau isu keselamatan dalam jaringan Internet yang digunakan. Oleh itu, pengajar atau guru perlu peka dengan segala kemungkinan apabila memilih untuk menggunakan aplikasi Web 2.0 ini.

5.0 KESIMPULAN

Kajian ini adalah untuk memahami pengalaman pelajar dan melihat persekitaran pelajar semasa menggunakan aplikasi Web 2.0 ini semasa proses pembelajaran. Berdasarkan keputusan yang didapati, walaupun pada awalnya pelajar ini menghadapi cabaran dalam menyelesaikan proses ini, tetapi hasilnya dapat dilihat pelajar-pelajar ini daripada kelas hadapan atau pertengahan mereka ini berkebolehan untuk menghasilkan bahan yang menarik mengikut kreativiti sendiri. Dapatan juga menyerlahkan pelajar dan aplikasi ini dapat digabungkan dalam proses pembelajaran tidak kisah jenis pembelajaran tetapi ia menggunakan aplikasi Web 2.0 ini dengan jayanya. Pelajar ini juga dapat menggunakan masa yang

terluang bagi menyiapkan bahan aplikasi Web 2.0 ini. Antara hasil lain adalah seorang daripada responden ini telah berjaya menggunakan aplikasi Web 2.0 ini bagi membentangkan projek bagi subjek Sejarah dan mendapat maklum balas yang baik daripada guru sejarahnya selepas melihat hasil pembentangan dengan menggunakan aplikasi Biteable. Daripada hasil kajian ini mendapati aplikasi seperti Web 2.0 ini haruslah di perkenalkan daripada peringkat awal, ini kerana mereka boleh mengadaptasikan proses ini untuk perkara yang mendatang seperti membentangkan projek semasa alam pekerjaan atau semasa di kolej atau universiti.

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031 : Kanak-Kanak dan Teknologi Mudah Alih: Penggunaan Teknologi Mudah Alih dalam Pendidikan Awal Kanak-Kanak

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ABSTRAK

Children are a part of society that does not miss the use of modern technology. The use of mobile technology is also familiar to every segment of society. The purpose of this systematic literature review is to study the factors and effects of the use of mobile technology in early childhood education. Several articles from 2015 to 2019 have been identified through searches in the SCOPUS database which is a major source of reference for authors. Authors use keywords such as "early years", "learning", "mobile device" and "tablets' to identify relevant articles. After considering the inclusion and exclusion criteria, 12 relevant journals were found. The results of previous studies have revealed that there are several factors and effects of using mobile technology in early childhood education. These findings indicate positive factors for children through the use of this mobile technology. Implications for parents to ensure the use of this mobile technology so that it does not have an adverse effect on their children.

Kanak-kanak merupakan sebahagian daripada golongan masyarakat yang tidak terlepas dalam penggunan teknologi moden pada masa kini. Penggunaan teknologi mudah alih juga tidak asing lagi bagi setiap lapisan masyarakat. Tujuan kajian literatur secara sistematik ini dijalankan bertujuan untuk mengkaji faktor dan kesan penggunaan teknologi mudah alih terhadap pendidikan awal kanak-kanak. Beberapa artikel bermula tahun 2015 hingga 2019 telah dikenalpasti melalui carian di pengkalan data SCOPUS yang merupakan sumber rujukan utama bagi penulis. Penulis menggunakan kata kunci seperti "early years", "learning", "mobile device" dan "tablets' bagi mengenalpasti artikel yang berkaitan. Setelah mempertimbangkan kriteria kemasukan dan pengecualian, terdapat 12 jurnal yang relevan telah ditemui. Hasil analisis kajian-kajian yang lepas mendapati bahawa terdapat beberapa faktor dan kesan penggunaan teknologi mudah alih terhadap pendidikan awal kanak-kanak. Penemuan ini menunjukkan faktor yang positif terhadap kanak-kanak melalui penggunaan teknologi mudah alih ini. Implikasi terhadap ibu bapa untuk memastikan penggunaan teknologi mudah alih ini agar ianya tidak mendatangkan kesan yang buru kepada ana-anak mereka.

KATA KUNCI: *Early years, learning, mobile device, tablets*

1.0 PENGENALAN

Di era teknologi baru ini, kanak-kanak lebih terdedah kepada teknologi walaupun pada usia kanak-kanak dengan telefon pintar, tablet dan iPads. Teknologi mudah alih kini merupakan salah satu keperluan yang penting dalam kehidupan manusia. Majoriti masyarakat menggunakan kemudahan teknologi mudah alih seperti gajet, tablet, *iPads* sebagai alat untuk berkomunikasi, pembelajaran serta medium untuk mencari sesuatu maklumat selari dengan tujuan teknologi dibangunkan. Pada masa kini terdapat banyak platform untuk kandungan media pendidikan berbanding sebelum ini. Dengan kanak-kanak menghabiskan banyak jam sehari dengan teknologi ini, terdapat kebimbangan tertentu yang dimiliki ibu bapa mengenai penggunaan teknologi untuk kanak-kanak. Teknologi hari ini secara progresif diiktiraf sebagai alat pembelajaran yang penting untuk membantu kanak-kanak dalam mengembangkan kemahiran kognitif, sosial dan pembelajaran mereka (Rabail & Fahim, 2015). Teknologi mudah alih kini merupakan salah satu keperluan yang penting dalam kehidupan manusia. Majoriti masyarakat menggunakan kemudahan teknologi mudah alih seperti gajet, tablet, *iPads* sebagai alat untuk berkomunikasi, pembelajaran serta medium untuk mencari sesuatu maklumat selari dengan tujuan teknologi dibangunkan. Hasil kemajuan teknologi bukan sekadar memberi manfaat dalam sektor industri malah turut membantu dalam bidang

pendidikan negara. Namun begitu, jika kemudahan teknologi ini disalahgunakan, boleh memberi kesan yang negatif ke atas individu atau pengguna.

Antara teknologi sentuh seperti iPads membolehkan anak-anak muda berinteraksi dengan dunia digital dari usia dini (Marsh et al., 2015, Merchant, 2015). Dari perspektif sosiokultural (Vygotsky, 1978), tablet boleh menghantar pengetahuan kepada kanak-kanak tentang dunia mereka melalui pelbagai pengalaman media interaktif, membantu mereka mempelajari menggunakan sistem makna (Kucirkova, Sheehy, & Messer, 2015; Marsh, 2016; Neumann, 2014).

Konsep teknologi mudah alih kini menjadi tema yang muncul dalam penyelidikan pendidikan, namun pemakaian aplikasi ini dan impak mereka terhadap pembelajaran awal kanak-kanak perlu diterokai sepenuhnya. Kanak-kanak yang menggunakan teknologi menunjukkan kemahiran bahasa, kecerdasan, pengetahuan struktur dan kemahiran menyelesaikan masalah yang lebih baik berbanding dengan kanak-kanak yang tidak menggunakan teknologi untuk pembelajaran mereka. Kini, ibu bapa hari ini melabur banyak dalam menyediakan anak-anak mereka dengan teknologi mudah alih di rumah untuk menyokong aktiviti pendidikan mereka (Rabail & Fahim, 2015).

Kanak-kanak hari ini lebih terdedah kepada teknologi maju walaupun pada peringkat awal. Pengalaman dengan teknologi terkini pasti dapat membuka jalan untuk peluang pembelajaran yang luar biasa. Sebaliknya tanpa unsur pendidikan, teknologi tidak dapat mencapai potensi penuh untuk menyokong pembelajaran dan perkembangan kanak-kanak. (Rabail & Fahim, 2015).

2.0 OBJEKTIF

Tujuan sistematik literatur ini dijalankan untuk menghurai persoalan dibawah:

2.1 Apakah faktor yang mempengaruhi teknologi mudah alih digunakan dalam pendidikan awal kanak-kanak?

2.2 Apakah kesan penggunaan teknologi mudah alih terhadap pendidikan awal kanak-kanak?

3.0 METODOLOGI

Kajian sistematik literatur telah dimulakan dengan menggunakan beberapa kata kunci melalui pangkalan data. Beberapa kata kunci digunakan untuk tujuan pencarian yang memfokuskan pada penggunaan teknologi mudah alih. Bermula dengan kata kunci seperti *early years*, *learning, mobile device*, dan *tablets*, penulis memilih 12 jurnal. Strategi carian khusus telah dirancang untuk mendapatkan literatur relevan untuk menangani objektif kajian ini. Merujuk kepada artikel kajian yang dijalankan oleh Neerushah Subramaniam, et. El (2017), dinyatakan bahawa hasil kajian lepas dimulakan dengan mencari kata kunci di laman pencarian jurnal yang sesuai berdasarkan tajuk yang difokuskan dan seterusnya melalui proses saringan untuk memilih jurnal yang sesuai untuk dijadikan bahan ulasan kajian lepas. Ia akan membantu pengkaji baharu mendapatkan ruang melaksanakan kajian baharu dalam perspektif yang berbeza. Selain itu, objektif artikel yang dipilih akan membantu pengkaji membuat rumusan dan kesimpulan baharu. Seterusnya, pengkaji dapat menjalankan kajian baharu melalui pemilihan artikel yang tertentu.

3.1 Strategi Pencarian Literatur

Kajian ini menggunakan pengkalan data SCOPUS database sebagai sumber utama untuk mendapatkan artikel jurnal. Pertama, pencarian bermula dengan menggunakan kata kunci iaitu *early years*, *learning, mobile device*, dan *tablets*. Di samping itu, terdapat beberapa kriteria pemilihan dan kriteria terkecuali dalam proses carian seperti yang ditunjukkan dalam Jadual 1. Kemudian, pencarian diteruskan dengan membuat saringan mengikut tahun iaitu tahun 2015 hingga 2019. Kemudian, disaring lagi dengan merujuk kepada kriteria pemilihan dan kriteria terkecuali dalam bidang seperti psikologi, sains sosial dan kemanusiaan. Pencarian dikecualikan daripada jurnal dalam bidang *Medicine, Biochemistry, Nursing, Agrocultural, Health Profession,* dan *Immunology*.

Jadual 1 Kriteria kemasukan dan pengecualian kajian sistematik.

Kriteria Pemilihan	Perkara	Literature Yang Dikenalpasti	Literatur Yang Tinggal
Kata kunci	*Early years*	653109	653109
Kata kunci kedua	*learning*	48926	48926
Kata kunci ketiga	*Mobile device, tablets*	630	630
Tahun	2015 – 2019	477	477
Kriteria Terkecuali	**Perkara**	**Literatur Yang Dikenalpasti**	**Literatur Yang Tinggal**
Perkara yang kecualikan	*Medicine* *Biochemistry* *Nursing* *Agrocultural,* *Health Profession* *Immunology*	109	12

Carian dengan menggunakan kata kunci menghasilkan bilangan jurnal tertinggi yang terdapat dalam pangkalan data. Kriteria pencarian kemudiannya disempitkan mengikut kriteria inklusi dan pengecualian. Carian itu berakhir selepas koleksi jurnal berada pada tahap yang memuaskan. Semua jurnal yang dikehendaki disimpan dalam format pdf dengan menggunakan Adobe Acrobat Document. Setiap jurnal dikaji, dikaji semula dan penemuannya disusun dalam Jadual II. Carta alir untuk semakan sistematik ini bermula dengan mencari kata kunci, diikuti dengan jenis artikel, jenis akses artikel, tahun penerbitan, tajuk dan penyaringan abstrak, bahasa dan penilaian teks penuh. Carta alir dalam Rajah 1 mewakili aliran yang lebih jelas bagi setiap carian yang boleh ditukar.

Dari pencarian menggunakan kata kunci "*early years*", 65 3109 jurnal telah disenaraikan dalam pangkalan data. Seterusnya penggunaa kata kunci "learning" (48926 jurnal) dan akhirnya sebanyak 630 jurnal disenaraikan selepas menggunakan kata kunci ketiga iaitu "mobile devive, tablet". Dengan memilih jurnal berdasarkan tahun 2015 hingga 2019 penerbitan, bilangan jurnal dikurangkan menjadi 477 jurnal. Pengecualian ini dilakukan selepas penilaian teks penuh jurnal. Akhirnya, hanya 12 jurnal tetap digunakan dalam kajian sistematik ini.

Rajah 1 Carta Aliran Pemeriksaan Sistematik

Jadual 2 Ringkasan Literatur Terpilih

Penulis	Tajuk	Sumber Jurnal	Abstrak
Chen W., Teo M.H., Nguyen D. (2019)	*Singapore Parents' Use of Digital Devices with Young Children: Motivations and Uses*	Asia-Pacific Education Researcher	Artikel ini bertujuan untuk menyumbang kepada kesusasteraan antarabangsa pembelajaran awal kanak-kanak dengan memberikan keterangan mengenai faktor-faktor yang mempengaruhi penggunaan alat-alat digital ibu bapa dengan anak-anak mereka dan kemungkinan kesan penggunaan tersebut terhadap perkembangan anak-anak.
Tena R.R., Gutiérrez M.P., Cejudo M.C.L. (2019)	*Technology use habits of children under six years of age at home*	Ensaio-Assessment and Public Policy in Education,	Kajian ini bertujuan untuk menunjukkan penggunaan teknologi yang mereka buat, ciri-ciri penggunaan ini, dan hubungan antara anak-anak dengan teknologi, dan juga untuk mengetahui sama ada terdapat peraturan untuk penggunaan ini dan siapa yang menetapkannya. Dapat disimpulkan bahawa kanak-kanak mula mengakses dan menggunakan ICT pada usia dua tahun.
Nikolopoulou K. (2019)	*Mobile technologies and early childhood education*	Communications in Computer and Information Science	Beberapa kajian telah dijalankan ke atas teknologi mudah alih dan pembelajaran mudah alih untuk pendidikan awal kanak-kanak, kajian mengenai kanak-kanak berusia berumur sehingga 6 tahun. Artikel ini mengenal pasti dan membentangkan isu asas mengenai teknologi mudah alih dan pendidikan awal kanak-kanak.
Jack C., Higgins S. (2019)	*Embedding educational technologies in early years education*	Research in Learning Technology	Kajian ini melihat pelbagai peranti yang digunakan dan bukannya menyiasat berapa kerap digunakan, mempertimbangkan bagaimana mereka menyokong amalan pedagogi. Teknologi pendidikan nampaknya semakin tertanam dalam pendidikan awal tahun. Secara keseluruhan, sikap terhadap teknologi pendidikan adalah positif.
Jack C., Higgins S. (2019)	*What is educational technology and how is it being used to support teaching and learning in the early years?*	International Journal of Early Years Education	Penemuan kajian menunjukkan bahawa teknologi dilihat lebih daripada komputer dan teknologi itu digunakan untuk menyokong pelbagai aktiviti selaras dengan keyakinan pedagogi para pengamal.
Laidlaw L., O'Mara J., Wong S.S.H.	*'This is your brain on devices': Media accounts of young*	Contemporary Issues in Early Childhood	Kajian ini menyentuh akaun media popular kanak-kanak dan teknologi digital selama lima tahun (2013-

(2019)	*children's use of digital technologies and implications for parents and teachers*		2018), khususnya mengenai kemunculan peranti mudah alih dan kesannya terhadap amalan literasi yang berubah-ubah oleh kanak-kanak.
Papadakis S., Kalogiannakis M., Zaranis N. (2018)	*The effectiveness of computer and tablet assisted intervention in early childhood students' understanding of numbers. An empirical study conducted in Greece*	Education and Information Technologies	Kajian ini bertujuan menilai kesan dua jenis teknologi digital (komputer dan tablet) dalam pemahaman murid-murid awal zaman kanak-kanak tentang nombor. Hasil kajian menunjukkan komputer dan terutamanya tablet, apabila digabungkan dengan penggunaan perisian yang sesuai dengan perkembangan ke dalam rutin harian kanak-kanak, dapat memberikan sumbangan besar kepada pemahaman murid-murid zaman kanak-kanak.
Oliemat E., Ihmeideh F., Alkhawaldeh M. (2018)	*The use of touch-screen tablets in early childhood: Children's knowledge, skills, and attitudes towards tablet technology*	Children and Youth Services Review	Tablet skrin sentuh digunakan untuk tujuan yang berbeza dengan 'bermain permainan' menjadi tujuan paling biasa, diikuti dengan menonton YouTube. Di samping itu, kanak-kanak didapati memperoleh kebanyakan kemahiran yang diperlukan untuk menggunakan tablet, tetapi masih tidak terkawal dalam beberapa kes. Kajian ini menyimpulkan dengan perbincangan mengenai apa yang ditemui bagi penemuan dasar dan amalan semasa.
Dashti F.A., Yateem A.K. (2018)	*Use of Mobile Devices: A Case Study with Children from Kuwait and the United States*	International Journal of Early Childhood	Penyelidikan ini memberikan perspektif kanak-kanak tentang peranti digital tetapi juga menarik perhatian kepada tanggungjawab ibu bapa dan pendidik untuk memantau penggunaan kanak-kanak dan mengajar kanak-kanak tentang keselamatan dalam penggunaan peranti-peranti ini.
Neumann M.M. (2018)	*Using tablets and apps to enhance emergent literacy skills in young children*	Early Childhood Research Quarterly	Penemuan menunjukkan bahawa tablet boleh menyokong positif nama surat dan pembelajaran yang baik dan aspek perkembangan penulisan yang muncul. Bagaimana guru dapat memanfaatkan alat-alat digital ini dalam bilik darjah awal untuk menyokong literasi yang semakin meningkat.
Neumann M.M., Merchant G., Burnett C. (2018)	*Young children and tablets: the views of parents and teachers*	Early Child Development and Care	Penemuan utama adalah bahawa ibu bapa dan guru mempunyai perspektif positif terhadap penggunaan tablet anak-anak dalam kalangan kanak-kanak menyatakan bahawa mereka tidak mahu anak-

			anak ditinggalkan dalam pembelajaran tentang teknologi baru dan menekankan mempunyai pendekatan 'seimbang' terhadap tablet.
Blackwell C.K., Lauricella A.R., Wartella E. (2016)	*The influence of TPACK contextual factors on early childhood educators' tablet computer use*	Computers and Education	Komputer tablet semakin menjadi biasa di bilik darjah di seluruh dunia. Lebih separuh daripada pendidik awal kanak-kanak di A.S. kini mempunyai akses kepada tablet, menjadikannya penting untuk memahami bagaimana mereka menggunakan peranti dan apa yang mempengaruhi penggunaan sedemikian. Keseluruhannya, kajian ini menekankan keperluan untuk guru prasekolah dan pendidik guru untuk memahami dan menangani faktor kontekstual kritikal penggunaan komputer tablet dalam pendidikan prasekolah.

4.0 PENEMUAN KAJIAN LITERATUR

Merujuk kepada Jadual II, maklumat yang disusun adalah mengenai ringkasan literatur menggunakan empat kategori iaitu penulis, tajuk, sumber jurnal, dan penemuan yang relevan. Penemuan ini memberi tumpuan kepada factor-faktor yang mempengaruhi penggunaan teknologi mudah alih dan kemungkinan terdapat kesan penggunaan tersebut terhadap perkembangan anak-anak.

Penyelidikan ini bertujuan untuk menyumbang kepada kesusasteraan antarabangsa pembelajaran awal kanak-kanak dengan memberikan keterangan mengenai faktor-faktor yang mempengaruhi penggunaan alat-alat digital ibu bapa dengan anak-anak mereka dan kemungkinan kesan penggunaan tersebut terhadap perkembangan anak-anak

Penyelidikan telah dijalankan mengenai penggunaan teknologi yang mudah alih, ciri-ciri penggunaan, hubungan antara anak-anak dengan teknologi, serta terdapat peraturan untuk penggunaan teknologi ini dan siapa yang menetapkannya. Dapat disimpulkan bahawa kanak-kanak mula mengakses dan menggunakan teknologi pada usia dua tahun.

Penyelidikan telah dijalankan ke atas teknologi mudah alih dan pembelajaran mudah alih untuk pendidikan awal kanak-kanak, kajian mengenai kanak-kanak berusia berumur sehingga 6 tahun. Artikel ini mengenal pasti dan membentangkan isu asas mengenai teknologi mudah alih dan pendidikan awal kanak-kanak.

Terdapat kesan penggunaan dua jenis teknologi digital (komputer dan tablet) dalam pemahaman murid-murid awal zaman kanak-kanak tentang nombor. Hasil kajian menunjukkan komputer dan terutamanya tablet, apabila digabungkan dengan penggunaan perisian yang sesuai dengan perkembangan rutin harian kanak-kanak, dapat memberikan sumbangan besar kepada pemahaman murid-murid zaman kanak-kanak.

Tablet skrin sentuh digunakan untuk tujuan yang berbeza dengan 'bermain permainan' menjadi tujuan paling biasa, diikuti dengan menonton YouTube. Di samping itu, kanak-kanak didapati memperoleh banyak kemahiran yang diperlukan untuk menggunakan tablet, tetapi masih tidak terkawal dalam beberapa perkara.

Penemuan utama adalah bahawa ibu bapa dan guru mempunyai perspektif positif terhadap penggunaan tablet anak-anak dalam kalangan kanak-kanak menyatakan bahawa mereka tidak mahu anak-anak ditinggalkan dalam pembelajaran tentang teknologi baru dan menekankan mempunyai pendekatan 'seimbang' terhadap tablet.

5.0 PERBINCANGAN

Berdasarkan persoalan-persoalan yang timbul, pengulas akan membincangkan dan menjawab persoalan yang timbul berdasarkan kajian-kajian lalu yang telah dijalankan.

5.1 Faktor yang mempengaruhi teknologi mudah alih digunakan dalam pendidikan awal kanak-kanak

Terdapat beberapa kajian telah dijalankan untuk mengenalpasti faktor penggunaan teknologi mudah alih terhadap pendidikan awal kanak-kanak. Antaranya ialah kajian Michael Cohen (2011), menyatakan bahawa kanak-kanak sekitar umur 2 tahun, menggunakan teknologi mudah alih untuk bermain dan belajar. Kajian yang dijalankan oleh Common Sense Media (2013), menyatakan bahawa kanak-kanak berusia kurang dari 2 tahun telah mula menggunakan peranti mudah alih.

Kajian yang sama juga menyatakan bahawa ibu bapa memberikan telefon bimbit atau tablet mereka kepada anak-anak kecil mereka untuk bermain permainan atau menggunakan aplikasi pendidikan bagi menggalakkan anak-anak belajar. Ibu bapa memberi peranti kepada anak-anak mereka untuk digunakan semasa ibu bapa menyelesaikan kerja atau menjalankan tugas, untuk memastikan anak-anak terkawal di tempat awam, atau semasa membiarkan anak tidur (Kabali et al 2015).

Prasekolah dan tadika juga telah mula menggunakan tablet di bilik darjah (An et al 2014, Pegrum et al 2013). Kanak-kanak kecil dapat menggunakan peranti mudah alih seperti tablet kerana peranti ini tidak memerlukan peralatan tambahan yang diperlukan dengan komputer (misalnya, papan kekunci dan tetikus). Banyak peranti mudah alih mempunyai kecenderungan dan fleksibiliti yang membolehkan kanak-kanak yang sangat kecil menggunakannya (Bayles dan Knoke-Staggs 2013). Menggunakan komputer atau komputer riba memerlukan tahap perkembangan fizikal dan motor tertentu kerana ianya memerlukan alat tambahan lain seperti papan kekunci atau tetikus. Tahap pembangunan kognitif tertentu juga perlu untuk memahami simbol pada papan kekunci. Peranti skrin sentuh mengalih keluar halangan ini dan dengan itu membolehkan kanak-kanak berumur 2 tahun dengan mudah dan produktif berinteraksi dengan peranti ini (Geist 2012).

5.2 Kesan penggunaan teknologi mudah alih terhadap pendidikan awal kanak-kanak

5.2.1 Kesan Terhadap Pembelajaran Kanak-kanak

Teknologi mudah alih merupakan satu keperluan dalam pembelajaran kanak-kanak yang memberi motivasi kepada mereka (Wenli Chen., Ming Hui Teo.,*et.al.*2019). Sekurang-kurangnya sembilan daripada 11 ibu bapa dengan tegas menyatakan pembelajaran sebagai salah satu keperluan yang mendasari penggunaan teknologi mudah alih. Sampel dalam kajian ini secara langsung menyatakan bahawa penggunaan teknologi ini dapat digunakan sebagai alat bantuan dalam pembelajaran.

5.2.2 Kesan Terhadap Pengurusan Tekanan

Ibu bapa yang terlibat dalam kajian lalu menyatakan teknologi mudah alih ini membantu dalam menghilangkan tekanan untuk diri sendiri dan untuk anak-anak mereka. Mereka dapat melepaskan ketegangan dari semasa ke semasa dengan menggunakan pelbagai aplikasi yang tersedia atau di muat turun ke dalam teknologi mudah alih yang digunakan.

5.2.3 Kesan Terhadap Ikatan Keluarga

Menariknya sesetengah ibu bapa menyatakan bahawa penggunaan teknologi mudah alih dapat memebri kesan yang baik terhadap keperluan untuk ikatan keluarga. Penggunaan teknologi mudah alih seperti iPads dan tablet dapat mengeratkan hubungan kekeluargaan. Mereka dapat meluangkan masa bersama dengan bermain bersama menerusi perisian yang bersesuaian. Terdapat aplikasi yang sesuai digunakan bersama keluarga seperti permainan dan menonton video bersama.

6.0 RUMUSAN

Revolusi teknologi mudah alih mempunyai pengaruh yang semakin meningkat pada kanak-kanak, corak komunikasi keluarga dan khususnya dalam pendidikan dan pembelajaran. Selain itu nilai pendidikan dianggap sebagai faktor terpenting dalam memilih aplikasi untuk kanak-kanak. Walaubagaimanapun, keselamatan kanak-kanak masih menjadi perhatian utama termasuk berbual dalam talian, kandungan yang tidak sesuai di internet dan juga media sosial yang mengandungi risiko membahayakan kanak-kanak. Oleh itu kawalan ibu bapa dianggap penting untuk penggunaan teknologi kanak-kanak. Ramai ibu bapa mengambil bahagian dengan anak-anak mereka semasa menggunakan aplikasi mudah alih dengan itu meningkatkan kualiti interaksi.

Walaupun teknologi mudah alih bermanfaat untuk mempunyai nilai pendidikan yang hebat untuk kanak-kanak dan boleh digunakan untuk meregangkan minda anak-anak muda dengan menyediakan pengalaman pembelajaran baru tetapi penggunaan teknologi yang berlebihan akan memberi kesan buruk terhadap kesihatan kanak-kanak dan kemahiran sosial dengan mengasingkan kanak-kanak dari hal-hal lain (contohnya aktiviti fizikal dan kehidupan sosial) di sekeliling mereka yang juga penting untuk perkembangan dan pertumbuhan mereka. Oleh itu untuk mengelakkan kesan negatif adalah berbaloi untuk menetapkan had masa yang sesuai untuk kegunaan teknologi.

7.0 IMPLIKASI TERHADAP PELBAGAI BUDAYA

Dalam bidang kaunseling, amalan multikulturalisme sangat penting bagi kaunselor. Seorang kaunselor bertemu dengan pelbagai orang dengan jantina, bangsa, etnik, kemampuan dan banyak lagi. Menurut Noria (2019), berdasarkan prinsip penghormatan tanpa syarat, seorang kaunselor mesti bersedia untuk menerima mana-mana klien sebagai orang yang unik tanpa membuat apa-apa penghakiman kepada mereka. Semua golongan perlu dilayan dan diterima sama rata termasuklah golongan kanak-kanak. Seorang kaunselor perlu memahami kumpulan minoriti ini supaya apabila mereka datang untuk sesi kaunseling, mereka boleh merasa seperti mereka diterima, merawat dengan adil, tidak diskriminasi dan membenarkan kaunselor mereka untuk menyatakan diri dengan bebas. Kajian ini boleh membantu seorang kaunselor kerjaya dalam memahami lebih baik tentang keperluan golongan kanak-kanak dan menyediakan mereka dengan pilihan yang lebih baik untuk berjaya dalam pendidikan. Apabila disebut tentang teknologi mudah alih perlu diberi kepada kanak-kanak, pasti terbit kesan negatif difikiran sesiapa sahaja termasuk ibu bapa. Hal ini mungkin menyekat perkembangan pendidikan mereka.Dengan keperluan dan cadangan yang dibincangkan, kaunselor boleh memberikan maklumat tentang keperluan teknologi mudah alih

8.0 CADANGAN PENAMBAHBAIKAN

Penggunaan teknologi mudah alih dalam era pemodenan teknologi ini sememangnya penting sejajar dengan kemajuan masa kini. Malahan dalam bidang pendidikan juga penggunaan teknologi ini sudah diterapkan supaya dapat mewujudkan suasana pembelajaran yang efektif dan mendidik pelajar untuk menjadi lebih kreatif dan inovatif. Walau bagaimanapun, penggunaan secara bebas tanpa kawalan ibu bapa boleh memberi impak yang negatif kepada perkembangan pelajar. Justeru, penggunaan teknologi mudah alih terutama kepada kanak-kanak dan pelajar perlu digunakan secara sistematik dan kawalan oleh orang dewasa selari dengan tujuan digunakan supaya dapat memberi kesan yang positif kepada perkembangan anak-anak. Tambahan lagi, kesan penggunaan gajet teknologi terhadap emosi pelajar masih kurang dijalankan di dalam dan luar negara. Sikap terhadap teknologi secara amnya positif dan ia digunakan walaupun kepercayaan para pengkaji mungkin lebih negatif. Oleh yang demikian, kajian mengenai perkara ini perlu dipertingkatkan agar dapat memberi impak yang positif kepada masyarakat terutama ibu bapa dan pengajar mengenai perkembangan emosi pelajar.

9.0 KESIMPULAN

Secara kesimpulan, rata-rata pelajar atau kanak-kanak menunjukkan sikap yang positif atau minat yang tinggi terhadap penggunaan gajet dalam kehidupan harian mereka disebabkan daya tarikan yang terdapat di dalam gajet seperti kemudahan pelbagai aplikasi, hiburan, permainan dan sebagainya. Pemerhatian ini disokong melalui kajian ini dan pengkaji-pengkaji lepas. Walau bagaimanapun, sebahagian pembentukan negatif sosio emosi terhadap kanak-kanak juga tidak dapat dinafikan sehingga boleh mendatangkan rasa ketagihan atau obses dalam diri mereka. Hal ini turut memberi kesan yang negatif kepada perkembangan sosial pelajar sekiranya tidak dikawal di peringkat awal usia kanak-kanak. Pihak penjaga kanak-kanak perlu memainkan peranan penting dalam menjaga dan memantau penggunaan gajet mereka supaya keobsesan atau pembentukan sosio emosi negatif mereka tidak sampai ke tahap yang kritikal. Justeru itu, dengan melimitasikan dan mengawal penggunaan gajet dan seterusnya diganti dengan mempelbagaikan aktiviti-aktiviti yang menggalakkan perkembangan motor kanak-kanak tanpa bergantung pada gajet dalam kebanyakan masa pada awal usia merupakan pilihan yang baik untuk pembentukan sosio emosi yang positif.

PERAKUAN

Penyelidikan, penerbitan atau pengarang gelaran ini tidak mempunyai konflik kepentingan yang berpotensi dan tidak menerima apa-apa sokongan kewangan.

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040 : YouTube: A Learning Tool in Education 4.0

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ABSTRACT

How can YouTube improve teaching and learning in Education 4.0? The using of YouTube videos in the classroom is not new, but are we using them in the right way? To answer these questions, a review of the research is done and discussed in this paper. Education 4.0 is a response to the Industrial Revolution 4.0 by applying the advancement of technology in the education system. The generation now born in the digital phenomenon and that the use of internet platforms is more relevant to them. The earlier research had shown confidently of using YouTube videos helps in improving students learning. Hence, this article will also discuss the implementation of YouTube videos in the classroom and the techniques of teaching with YouTube.

Keywords: Education 4.0, YouTube, Video, Teaching and Learning, Video and Learning

1.0 INTRODUCTION

When we talk about the current trends in education, we will think of Education 4.0. But do we understand what Education 4.0 is? How can we implement the innovation of teaching and learning in the classroom? The advancement of the technologies, the Industrial Revolution (IR) 4.0 fuzzes the line between physical, digital and biological worlds. While IR 4.0 is led by the arrival of artificial intelligence, robotics, the internet of things, autonomous vehicles, bio and nanotechnology, 3D printing. Materials science, quantum computing and energy storage. (Diwan, 2017) Education 4.0 is a response to IR 4.0 to make sure the current education system is aligning with the needs of IR 4.0 in term of human and technology. (Anealka, 2018)

Peter Fisk (2017) believes that it's more important for learners to know why they are learning certain knowledge. They should allow determining the knowledge or skills that they want to learn. Knowledge is everywhere, 21st-century learners can learn anytime and anywhere. Peers are very important in the learning process. They learn together and from each other. While the teachers play as facilitators in the classroom.

The use of the internet can be stated as an innovation in the education system. It can help to develop new learning and teaching experience which more relevant to the students. Education that uses the internet can be access everywhere. It consists of text, sound, picture, and video which will improve the relationship between teachers and students. YouTube is one of the online platforms that create a various educational-learning environment. (Vasilia, et al, 2015)

2.0 TRENDS IN EDUCATION 4.0

There are nine trends that stand up in Education 4.0. (Fisk, 2017) First, learning can take place anywhere and anytime. Students are given the chance to gain knowledge in different places and at different times. The sources of knowledge shouldn't only rely on books and libraries, eLearning tools are important for students to learn following at their own pace. The flipped classroom is implemented where interactive learning not only takes place in the classroom but also outside the classroom.

Second, learning will be more personalized. This means that the students will learn based on their capabilities and adaption. Students above average will be given more challenging tasks and questions when they reach a certain level. While students with difficulty in learning will be given more time to practice and exercise until they master the level. This will allow the teachers to understand the academic ability of the students and teach according.

Third, students are given the freedom to choose. Although the outline and syllabus of the curriculum are being set by the institution, the way leading to destiny can be different for each student. Similarly to personalized learning, students can decide the learning tools that they are necessary and

comfortable for them. Students will learn with different devices, different programs, and techniques according to their preferences. They can bring their devices to learn in the classroom.

Forth, students will be involved more in project-based learning and working. They will learn how to utilize their skills and knowledge in shorter terms in a variety of situations. They will apply the organizational, collaborative and time management skills in the projects which will help in their future academic careers.

Fifth, the advancement of technology provides more room for certain skills that require human knowledge and face to face interaction. The course will emphasize the experience in the field. Students are allowed to obtain real-world skills that are representative of their jobs. Hence, internships, mentoring projects, and collaboration projects are part of the curricula.

Sixth, the manual part of mathematics literacy will be irrelevant in the future. The process of statistical analysis will be replaced by computers to describe the data and predict future trends. Hence, future curricula will depend on the human interpretation of the data.

Seventh, the way of testing students will be change completely. Currently, students are being tested based on examination. Many argue that the exam is not sufficient to test the knowledge of the students. Students who sit for the exam are just written back the materials they memorized and forget the next day. Knowledge can be measured during the learning process. The application of the knowledge can be tested when the students are working on their projects in fields.

Eighth, students will be involved and participate in selecting their curricula. Students' opinions and ideas will be taking into consideration during the phase of curriculum design. The critical input from the students will help to keep the curriculum up-to-date, contemporary and useful in the real world.

Lastly, mentoring of teachers will become more significance compare to teaching in the classroom. Students will become more independent in their learning process. Unlike the traditional lecturing style in the classroom, teachers play a role as facilitators who will guide the students.

The nine trends discussed above have to switch the role of teachers and students in the classroom. It changed from teacher-centered learning to student-centered learning where the students are allowed to decide what they want to learn and how they learn. While the teacher is working as a facilitator who supports the learning of the students. The transformation of the teaching and learning process will help to develop 21st-century learners who able to compete in the technology world.

3.0 DEVELOPING 21ST CENTURY LEARNING CLASSROOM

21st-century learning refers to the ability of students to master the skill in problem-solving, critical thinking and digital literacy. With the 21st century learning, students should able to collaborate, communicate and demonstrate skills in their life. (Janelle, 2018) The teachers should ensure the students would able to face this ever-changing technology world. They should able to adapt to the current trend and technology. Technologies change every day, students and teachers should give the ability to accept anything and everything in real life.

The students in the 21st-century are living in a fast-paced digital world. The traditional classroom-based teaching method is no longer suitable for them. Researching, communicating and studying online via computers or smartphones are closer to them. People learned from social media such as Facebook, Instagram, blogging, and wikis. They are not intentionally designed for the learning process, but people are using them for communication, recreation, and education. (Liu, 2010) Technology should be an extraordinary tool to shape and enhance the learning environment. The educational systems must be outfitted with the ICT resources, and the curricula must be designed to promote a collaborative learner-centered environment to which students will relate and respond. (Boholano, 2017)

Education in 21st-century emphasis on internationalization and globalization. The new technology should help the students in developing knowledge, skills, and attitudes among students and teachers. (Abao, Dayagbil & Boholano, 2015) Students with 21st-century skills must be encouraged to come out with a new idea, evaluate, analysis and apply the knowledge in their academic experience. (McCoog, 2008) But technology does not automatically help in teaching and learning. The teacher should organize the experience and usage of technology for students to improve the teaching and learning process. (Abao, Dayagbil & Boholano, 2015)

Referring to the 12 Initiative among schools from the Education Minister Dr. Maszlee Malik, the use of smartphones will be manipulated for education. This means that the ministry realizes that the use of the smartphone will help in enhancing the students' performance as well. On 26 October 2018, the Deputy Education Minister had announced that e-textbook will be introduced in secondary schools

starting next year. The students will able to download the e-books on their devices or school devices. The contents will be in PDF format first and will become more interactive later on. (The Star Online, 2018) Based on the discussion above, it showed that technology must be used in the classroom to develop a 21st-century learner. The use of internet and smart devices can help in improving the teaching and learning of the students in the classroom. Knowledge is not only available in books or library, and they can be anywhere. With a smart device, knowledge is on our hand. We can simple access and search the information whenever we want.

4.0 BEHAVIOR OF INTERNET USER IN MALAYSIA

The new generation of the students is born in the technology and digital phenomenon. They enjoy challenges and high interactive classroom activity such as group discussions. There are no boundaries of learning as they can learn anywhere and anytime. All the learning materials are on their fingertips and they have unlimited access to new information. Therefore, the use of digital tools is preferred in the learning process. (Kozinsky, 2017)

According to the statistic from the Malaysian Communications and Multimedia Commission (2018), there are 87.4% of Malaysian are internet users. 93.1% of internet users use smartphones to go online. 85.5% of internet users relied on the internet to seek information and knowledge. People preferred to seek information from the internet is because of the interactive media presentation such as video, audio, and infographic. 77.6% of internet users spent their time in streaming online video and TV such as YouTube and Facebook.

Interestingly, the statistic showed that the most common content shared online was educational materials (71.3%). Internet users will share the content related to the workings of the world, instructions, how-tos, advice, experiences and so on. While 73.8% of internet users shared content online across their social media such as Facebook, Instagram, YouTube or Twitter. (MCMC, 2018)

The survey also found that nine of ten children aged 5 to 17 were using the internet. 91.8% of children access the internet by using smartphones. The common online activities for children are such as text communication, social networking, getting information and watching the video. Digital literacy has become a part of the development of children and the internet has strong influences on their lifestyle. (MCMC, 2018) Hence, it's significance for us to look into the implementation of digital media in the education system.

5.0 IMPLEMENTATION OF YOUTUBE IN CLASSROOM

Based on the statistic discussed above, it's no doubt that the internet had changed the way of people communication all around the world. Apart from communication and entertaining, the internet is increasingly being adopted by the teachers as a teaching tool in the classroom. While the use of videos has become one of the common practices in the process of teaching and learning. (Karagiannopoulou, Papadopoulos & Stefanos, 2017)

YouTube is an online social media that allows the user to create, upload, share and view the video. Users are allowed to search and view video content without logging in. Besides, users can upload an unlimited number of videos to their channels. YouTube is now the world's second-largest search engine and the second most visited site after Google. There are 1.9 billion users on YouTube and 400 hours of video content are uploaded to YouTube every minute. (Smith, 2019) YouTube has the largest collection of a wide range of users' generated content which many come with educational value. Considering the popularity and easy access to the platform, YouTube should become one of the important media for education. (Simon et al, 2010)

The research was done by Karagiannopoulou, Papadopoulos, and Stefanos (2017) found out that the use of video in education is very common nowadays. While students doing video analysis, additional activities can be used to develop students' critical thinking and encourage their active participation. The findings showed that YouTube can help students in receiving knowledge as they can watch them any time, any place. Students can replay the video many times when they do not understand the content. The study believed that YouTube should be widely used as a learning source by teachers and students.

Akram (2012) had conducted a study to understand the use of online social networks in medical education. A YouTube channel named Human Anatomy Education (HAE) was launched to support classroom teaching. The findings found that the significance of using YouTube in teaching and learning in the classroom. 92% of the students who used the HAE Channel agreed/strongly agreed that the channel helped in their learning. While 99% of the students agreed that the channel is good/excellent.

5.1 Using YouTube Video in Learning and Teaching

According to Berk (2009), there are 20 potential outcomes by implementing a YouTube video in the classroom. 1) Attract students' attention; 2) Focus students' concentration; 3) Generate interest in class; 4) Create a sense of anticipation; 5) Energize or relax students for learning activities; 6) Draw students' imagination; 7) Improve attitudes toward content and learning; 8) Build a connection with other students and instructors; 9) Increase memory of content, 10) Increase understanding; 11) Foster creativity; 12) Stimulate the flow of ideas; 13) Foster deeper learning; 14) Provide an opportunity for freedom of expression; 15) Serve as a vehicle for collaboration; 16) Inspire and motivate students; 17) Make learning fun; 18) Set an appropriate mood or tone; 19) Decrease anxiety and tension on scary topics; and 20) Create memorable visual images.

Our left and right hemispheres of the brain operate differently. They are related to two types of thinking which refer to verbal and nonverbal. (Gazzaniga, 1992) The left hemispheres work with verbal activities such as organized, planned, controlled and objective. It will help to process information such as mathematics, logic, and language. (Miller, 1997) While the right hemispheres of the brain in charge of nonverbal activities such as music, pictures, art, and color. This creative side is more subjective, emotional, empathetic and disorganized. (Jourdain, 1997) YouTube video encourages both left and right hemispheres with dialogues, rhythms, lyrics, melodies, sound effects, and visual images. (Berk, 2009)

In Gardner's multiple intelligences (Gardner, 2005; Berk, 2009), the core intelligence in students' brains can be grouped into three categories which included verbal (linguistic), visual (spatial) and musical (rhythmic). In verbal (linguistic), students learn by reading, writing, speaking and listening. The activities of visual (spatial) are drawing, imagining, painting and sculpting. While students learn with singing, composing, listening to music and performing in musical (rhythmic). Green & Tanner's research (2005) believed that various forms of online media would enhance multiple intelligences. The usage of purposeful media such as video-clips within the teaching and learning strategy can support students' intelligence and preferred learning style.

Jon Watkins and Michael Wilkins (2011) stated YouTube is a valuable tool to teach students multiple foreign languages. It can be happened inside and outside the classroom. YouTube is a suitable medium for teachers who promote learner-autonomy and student-centered learning. Students can view a YouTube video in their own time and evaluate the possible limitations of comprehension in their ways. There are millions of videos available on YouTube and students can browse without the assist of teachers. If students found a video that useful in their learning, they can explore all the similar videos freely.

5.2 Techniques for teaching with YouTube

Students nowadays love to watch the video very much. But how can we make the teaching with video effective and students can learn from it? Referring to Berk (2009), there are eight techniques and steps for using video in teaching. First, select particular clips that can represent your concept or principle. There is always a reason for you to choose certain video clips. The video selected must be aligned with the theory or concept that you would like your students to learn. They should able to connect the knowledge after watching the video.

Second, prepare specific guidelines for students. Students must be informed of the learning objectives of watching the video. Discussion questions can be passed to the students before the video start. Therefore the students know what they should focus on, what to see, hear and look for. The teacher should make it clear on what to learn. For example, the teacher can show a video on photosynthesis, the focus of the video can be the process and criteria to run photosynthesis.

Third, introduce the video briefly to reinforce the purpose. Before showing the video, the teacher can briefly describe the storyline of the video. The summary of the video can helps students have a big idea of the video content. This is good to strengthen the objective of playing the video. Students can understand the content deeply when they watching the video.

Forth, play the clip. Once the students understand the purpose of the video, the teacher can start playing the video. Some video is long in duration and student may start losing their patience. The teacher can go to a "commercial break". The teacher can play a short comedy or funny clips to grab back the attention of the students.

Fifth, stop the clip at any scene to emphasis a certain point. The teacher can stop the video at a specific timeline to highlight the main point of the video. This will helps in enhance students' memory

on the main point. For example, when the video showed the process of photosynthesis, the teacher can replay a certain part to make sure students able to understand the process.

Sixth, set a time for reflection on what was seen. After watching the video, students should able to share something with the class. Therefore discussion sessions can be done in the classroom. Students must apply the content to real-world applications. They should apply the knowledge received in their daily lifestyle.

Seventh, assign an active learning activity to interact on specific questions, issues or concepts in the video. Effective communication between teachers and students will strengthen students' learning. The large or small group activity can be down to encourage active learning. Few activities can be conducted by the teacher. For example, ask the students to react in open discussion, request students to write a short review of the video or small group discussion with specific questions.

Lastly, students can be assigned a discussion either in a small or big group. Different people learn differently. Students can share their opinion and ideas within the group. The teacher can provide specific criteria on the purpose and outcomes of the exercise and integrated the idea into an experience.

6.0 CONCLUSION

From the discussion above, it's obvious that the implementation of technology in the learning and teaching process can help in strengthening our education system. The use of YouTube videos in the classroom can grab students' attention and foster a deep understanding of the content. In line with Education 4.0, Malaysia needs to improve the education system to become competitive in the world. The 21st-century classroom is important to create a better learning environment for the students. Hence, the Ministry of Education Malaysia should provide adequate facilities for the schools.

Since students are moving toward technology teaching, teachers need to move forward by adopting a suitable teaching pedagogy that suitable to them. Training is needed for teachers to understand the latest technology and the best way to utilize those advance technology in their classrooms. The techniques discussed above can be a quick guide for teachers to understand the procedure of using a YouTube video in the classroom.

There are billions of video content available on YouTube, teachers must be very careful when selecting the video. Teachers should watch the video before the class to make sure the content is suitable for a group of students. Every video selected comes with a reason or purpose, the video content must be related to the curriculum and effective to strengthen students' understanding of the topic discussed.

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050 : Persepsi Sikap, Kemahiran, dan Kesediaan Bakal Guru Terhadap Teknologi Maklumat dan Komunikasi (ICT) dalam Pengajaran dan Pembelajaran Pendidikan Sains Pertanian

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ABSTRAK

Teknologi Maklumat dan Komunikasi (ICT) secara umumnya digunakan dalam pendidikan untuk menyokong amalan pedagogi tradisional yang sedia ada mahupun meningkatkan lebih banyak model pembelajaran yang berpusatkan konstruktivitis. Kajian ini bertujuan untuk meninjau tahap persepsi bakal guru dari aspek sikap, tahap kemahiran dan tahap kesediaan dalam subjek Pendidikan Sains Pertanian. Seramai 72 orang bakal guru Sains Pertanian daripada Fakulti Pengajian Pendidikan, Universiti Putra Malaysia terlibat di dalam kaji selidik ini. Kaedah soal selidik telah digunakan di dalam kajian ini. Perisian IBM SPSS Statistics digunakan untuk menganalisis data dan diterjemahkan dalam frekuensi, min, sisihan piawai dan peratusan serta Korelasi Pearson untuk mengkaji hubungan persepsi sikap bakap guru Sains Pertanian terhadap ICT dalam pembelajaran dan pengajaran pendidikan Sains Pertanian. Nilai Alpha Cronbach kajian rintis ialah 0.97. Hasil dapatan mendapati bahawa tahap kompetensi bakal guru Sains Pertanian terhadap penggunaan komputer dan ICT masih berada pada tahap sederhana (M=3.40). Cadangan untuk mengatasi permasalahan tersebut juga dikemukakan.

Kata Kunci: Persepsi, kesediaan, sikap, teknologi maklumat dan komunikasi, kemahiran, sains pertanian

1.0 PENGENALAN

Fenomena guru kurang cakna terhadap penggunaan ICT semasa sesi pengajaran dan pembelajaran agak membimbangkan dunia pendidikan negara. Hal ini telah membuka mata penyelidik untuk mengkaji isu ini dengan lebih spesifik. Selari dengan keperluan dan kehendak pelajar, beberapa kaedah pengajaran dapat dirangka dan diaplikasikan dengan menggunakan ICT. Hal ini akan menjadikan proses pembelajaran menjadi lebih menarik. Oleh yang demikian, pihak kerajaan telah mengambil inisiatif dengan menekankan penggunaan ICT sama ada di dalam pembelajaran dan pengajaran secara formal mahupun tidak (Fakharuddin et al., 2014).

Penubuhan projek Koridor Raya Multimedia atau lebih dikenali sebagai MSC merupakan salah satu usaha kerajaan dalam mengaplikasikan ICT sebagai alat pemudah cara di dalam pendidikan dan kemasyarakatan. Dengan penggunaan ICT yang lebih mesra pengguna menjadikan proses pengajaran dan pembelajaran sangat bermakna dan lebih sempurna (Din et al., 2010). Hal ini kerana, menurut beliau dengan menggunakan ICT bukan sahaja mampu menjimatkan masa pelajar malah membantu dan membentuk pembelajaran kendiri dalam diri pelajar.

Kerajaan memfokuskan untuk mentransformasikan Malaysia sebagai pusat kecemerlangan pendidikan (Center for Academic Excellence) di Asia Tenggara. Hal ini memerlukan pendidikan negara kita menambah baik kualiti pendidikan yang sedia ada setanding peringkat antarabangsa sekaligus memberi imej baru kepada negara. Industri pendidikan yang berubah secara dinamik dan holistik adalah perlu untuk membentuk pendidikan alaf 21 dari segi kuantiti, standard kecemerlangan dan kualiti yang diakui dunia (Esa & Padil, 2014).

1.1 Pernyataan masalah

Nadia (2015) berpendapat bahawa ICT menjadi lubuk utama para guru dalam membuat rujukan-rujukan tertentu. Menurut beliau lagi, guru yang menggunakan ICT sebagai rujukan mereka mampu meningkatkan motivasi mereka dalam menyampaikan ilmu. Oleh itu, pengkaji ingin melihat dengan lebih

mendalam persepsi sikap, kemahiran dan kesediaan guru mengaplikasi ICT di dalam proses pengajaran dan pembelajaran mereka.

Kyriakdou, Chrisostomou, dan Bank (2000) berpendapat bahawa guru yang mempunyai sikap postitif di dalam sesuatu perkara mampu menghasilkan keperibadian yang lebih cemerlang. Perkara ini disokong oleh kajian yang telah dilakukan oleh Khine (2001) dan Sang (2010) ke atas kumpulan guru pelatih yang menerapkan penggunaan ICT semasa sesi pengajaran dan pembelajaran. Kajian ini terbukti menunjukkan bahawa terdapat hubungan yang signifikan antara sikap guru terhadap penggunaan teknologi dan ICT. Tambahan pula, penyelidik berminat untuk mengetahui halangan yang ditempuhi oleh bakal guru Sains Pertanian di dalam melaksanakan pengajaran dan pembelajaran melalui penerapan ICT.

1.2 Objektif dan Persoalan Kajian

Objektif khusus kajian ini ialah:

i. mengenal pasti persepsi sikap bakal guru Sains Pertanian terhadap ICT dalam pengajaran dan pembelajaran Sains Pertanian.
ii. mengenal pasti persepsi tahap kemahiran bakal guru Sains Pertanian terhadap ICT dalam pengajaran dan pembelajaran Sains Pertanian.
iii. mengenal pasti persepsi tahap kesediaan bakal guru Sains Pertanian terhadap ICT dalam pengajaran dan pembelajaran Sains Pertanian.

2.0 PENDIDIKAN SAINS PERTANIAN DALAM ERA REVOLUSI INDUSTRI 4.0

Arnold Toynbee (1889-1975) telah memperkenalkan revolusi industri yang membawa kepada perkembangan dan perubahan sesebuah industri bagi memastikan industri berada di peringkat yang lebih maju. Revolusi industri juga merupakan satu intipati yang penting bagi memajukan sesebuah negara. Oleh kerana itu, industri telah mengalami perubahan bermula dengan Revolusi Industri 1.0 industri berasaskan wap) revolusi industri 2.0 (industri berasaskan elektrik), revolusi industri 3.0 (berasaskan ICT) dan dunia telah memasuki revolusi industri 4.0 (industri yang berasaskan pendigitalan automatik).Istilah industri 4.0 ini pertama kali dikenalkan pada tahun 2011 pada acara Hannover Fair di Jerman (Chung & Kim, 2016). Revolusi industri 4.0 adalah bercirikan gabungan biologi, teknologi digital dan siber fizikal yang melibatkan keupayaan mesin, manusia dan kaedah teknologi baharu.

Menurut Nigro (2016), kemajuan teknologi menyumbang kepada perubahan secara mendadak dalam sektor pekerjaan kerana teknologi yang muncul di dalam industri 4.0 mampu menggantikan tugasan tenaga kerja manusia. . Maka secara langsung penglibatan manusia di dalam sektor pekerjaan semakin mengecil (Irawanto, 2011; Zhou, Liu, & Zhou, 3 2015). Walau bagaimanapun, jika pekerjaan baru muncul kita masih memerlukan tahap kemahiran dan pengetahuan yang tinggi. Hal ini dapat dibuktikan melalui penyataan Rubaneswaran (2017) yang mengatakan bahawa revolusi industri 4.0 akan menyebabkan pengurangan buruh asing. Seterusnya Prof Dr Abdul Samad Ismail (2017) berkata, untuk menjadikan Malaysia sebagai peneraju era revolusi industri 4.0. Oleh itu, pengetahuan dan kemahiran tertentu amat diperlukan.

Menurut laporan akhbar berita harian bertarikh 31 Oktober 2019, Aminuddin Awang selaku Presiden Kesatuan Perkhidmatan Perguruan Kebangsaan (NUTP), menyatakan bahawa subjek Sains Pertanian perlu lebih menekankan medium pembelajaran yang berfokuskan pertanian moden dan menjadikan latihan amali sebagai penguasaan utama di dalam subjek ini.. Menurut beliau, bakal guru Sains Pertanian ini perlu didedahkan dan diberi penekanan yang selari dengan kemahiran yang dituntut pada zaman ini. NUTP yakin subjek itu relevan dan tidak menjadikan pelajar kita ketinggalan dalam Revolusi Perindustrian 4.0 dan teknologi kecerdasan buatan (AI).

Dengan revolusi industri 4.0 mampu mempengaruhi penciptaan inovasi-inovasi di dalam bidang pendidikan seterusnya membina model-model pembelajaran baru yang sesuai dengan Pendidikan 4.0 (D'Souza & Kamaruddin, 2016). Sebagai contoh, pendekatan pembelajaran berdasarkan projek yang sesuai dengan kurikulum sesuatu mata pelajaran (Baena, Guarin, Mora, Sauza, & Retat, 2017).

3.0 KOMPETENSI TEKNOLOGI MAKLUMAT DAN KOMUNIKASI (ICT)

Day (1989) berpendapat bahawa keupayaan seseorang dalam menterjemah dan mengaplikasikan kemahiran yang sedia ada adalah sebahagian daripada maksud kompetensi itu sendiri. Perkara ini disokong dengan kajian dari Boyatzis (1982) dan Quinn et al. (1996), mendapati kompetensi terbina daripada beberapa perkara seperti pemahaman, kemahiran, pengetahuan dan sikap yang realistik dalam melaksanakan sesuatu perkara.

ICT membawa maksud Teknologi Maklumat dan Komunikasi. Teknologi Maklumat dan Komunikasi boleh didefinisikan sebagai sebarang kaedah yang digunakan untuk memindah, menyebar dan memapar maklumat menggunakan perantaraan teknologi (Nafisoh,2015).

Kompetensi literasi dalam ICT adalah tonggak utama pengaplikasian ICT dalam informasi, pengetahuan, literasi komputer, kemahiran menganalisis data dengan moral yang bersesuaian (Shapiro & Hughes, 1996).Namun yang demikian, guru lebih senang dan selesa dengan kaedah konvesional berbanding menggunakan teknologi. Pendapat ini disokong oleh kajian Norliza et al.(2016) yang menyatakan bahawa di sekolah kebanyakan guru tidak menggunakan komputer mereka untuk tujuan pengajaran. Guru lebih selesa dengan kaedah tradisional dalam pengajaran dan pembelajaran.

Oleh yang demikian, Bahagian Pendidikan Guru di bawah Kementerian Pendidikan Malaysia telah mengambil inisiatif yang proaktif dengan membangunkan dan menetapkan standard guru sebagai rujukan kepada para pendidik, agensi mahupun institusi perguruan di Malaysia. Standard Guru Malaysia (SGM) telah menggariskan kompetensi profesional yang perlu dikuasai oleh guru (Bahagian Pendidikan Guru, 2009).

4.0 PERSEPSI SIKAP, KEMAHIRAN, DAN KESEDIAAN BAKAL GURU

Satu kajian kualitatif telah dijalankan oleh Bordbar (2010) ke atas 10 orang guru yang mempunyai pengalaman berbeza-beza di Tehran telah diwawancara berkenaan penggunaan ICT dan sikap mereka di dalam kelas. Melalui kajian ini didapati bahawa semua responden memiliki sikap yang positif terhadap penggunaan ICT dalam pendidikan. Kajian ini telah disokong oleh Alshumaineri (2008). Hasil kajian beliau ke atas 183 orang bahasa Inggeris di sekolah rendah di Riyadh Arab Saudi telah menunjukkan guru memiliki sikap yang sangat positif dalam menggunakan ICT sebagai medium pengajaran dan pembelajaran dalam kelas Bahasa Inggeris.

Kajian lain yang menyatakan bahawa sikap seseorang sangat mempengaruhi tahap kemahiran ICT mereka adalah melalui kajian Sharifah dan Kamarul (2011). Perkara ini disokong dengan kajian yang dilakukan oleh Kanaya, Light dan Culp (2015) iaitu pandangan guru terhadap keperluan teknologi dalam kurikulum merupakan faktor peramal dalam penggunaan komputer sebagai pemudah cara pengajaran. Kerangka konseptual di bawah menunjukkan hubungan antara komponen kompetensi dengan pengajaran bakal guru subjek Sains Pertanian. Komponen kompetensi terbahagi kepada tiga iaitu komponen kesediaan, komponen kemahiran, dan komponen sikap.

Rajah 1 Kerangka Konseptual Kajian

5.0 METODOLOGI KAJIAN

Populasi dan sampel

Pengkaji telah memilih populasi kajian ini adalah terdiri daripada bakal guru Universiti Putra Malaysia yang mengambil program Bacelor Pendidikan Sains Pertanian. Dalam kajian ini, pengkaji mengambil pelajar tahun dua dan pelajar tahun empat program BPSP sebagai sampel iaitu sebanyak 72 orang (52 orang perempuan dan 20 orang lelaki).

Reka bentuk kajian

Reka bentuk kaedah tinjauan menerusi penggunaan soal selidik digunakan dalam kajian ini. Menurut Mohd Najib (2003) kaedah tinjauan menerusi penggunaan soal selidik telah banyak digunakan kerana ia merupakan cara yang berkesan dan praktikal untuk mendapatkan maklumat. Soal selidik ini mengandungi item kajian penyelidik dan lazimnya item telah disusun secara rawak. Di samping itu, responden boleh menjawab soal selidik secara serta merta kerana kriteria kesahan dan kebolehpercayaannya adalah tinggi.

Instrumen kajian

Soal selidik telah diperoleh daripada kajian yang bertajuk "Keberkesanan Integrasi ICT Dalam Proses Pembelajaran Sejarah Tingkatan Empat" oleh pengkaji lepas iaitu Heu Siew Koon (2012). Pengkaji mengadaptasi soal selidik tersebut bersesuaian dengan perubahan teknologi masa kini. Soal selidik dalam kajian ini terdiri daripada tiga bahagian utama iaitu Bahagian A, B, dan C.

Bahagian A mengandungi maklumat responden yang terdiri daripada 6 item yang diukur. Item-item tersebut termasuklah jantina, tahun pengajian,kelulusan pelajaran, pengalaman mengikuti kursus komputer,pengalaman menggunakan komputer/komputer riba dan aliran yang diambil semasa berada di Tingkatan 4 dan 5. Manakala bahagian B mengandungi instrumen bagi mengetahui sikap peribadi responden terhadap subjek Sains Pertanian. Instrumen ini mengandungi sembilan item dan menggunakan skala Likert 5 mata iaitu 1=sangat tidak setuju, 2= tidak setuju, 3=kurang setuju, 4=setuju dan 5=sangat setuju. Tujuan pengkaji meletakkan skala neutral di dalam soal selidik adalah kerana pengkaji berpendapat bahawa terdapat segelintir responden yang mempunyai sebab tersendiri kenapa mereka lebih cenderung memilih nilai neutral. Terdapat 1 item yang negatif di dalam instrumen ini. Item tersebut adalah item 3. Seterusnya bahagian C pula mengandungi instrumen pengalaman dan kemahiran penggunaan aplikasi lain di dalam komputer. Soal selidik ini mempunyai 7 item dan skala Likert lima mata telah diguna pakai.

Penyelidik telah menyediakan satu borang kesahan soal selidik untuk menjalankan kajian rintis. Langkah ini adalah bertujuan untuk mendapatkan kesahan soal selidik yang bakal digunakan di dalam penyelidikan ini. Kesahan merujuk kepada mengukur apa yang diukur Noraini Idris (2010). Pengkaji telah menjalankan kajian rintis sebelum kajian sebenar berlangsung. Kajian ini dijalankan ke atas 39 orang responden jurusan pendidikan Sains Pertanian, Fakulti Pengajian Pendidikan, UPM Serdang.

6.0 HASIL DAPATAN KAJIAN

Seramai 72 orang responden telah memberi maklum balas terhadap soal selidik yang telah diedarkan. Sasaran kajian dalam pemilihan responden adalah seramai 30 orang minimum bagi setiap kumpulan kemasukan. Pemilihan responden kajian adalah berdasarkan bidang pengajian yang sedang diikuti. Jadual 1 memerihalkan jumlah responden berdasarkan jantina.

Jadual 1 Demografi kajian (n=72)

Jantina	Kekerapan	Peratus (%)
Perempuan	52	72.2
Lelaki	20	27.8

6.1 Analisis Sikap Bakal Guru Terhadap ICT dalam Pengajaran dan Pembelajaran Sains Pertanian

Jadual 2 Analisis Persepsi Sikap Bakal Guru terhadap ICT dalam Pengajaran dan Pembelajaran Sains Pertanian (n=72)

Bil	Item	Min (M)	Sisihan Piawai (SP)
1	Saya suka mata pelajaran Sains Pertanian	4.29	0.61
2	Sains Pertanian adalah mata pelajaran yang penting	4.67	0.53
3	Aktiviti berkaitan Sains Pertanian tidak menggembirakan saya	2.81	1.10
4	Saya berasa seronok semasa belajar mata pelajaran Sains Pertanian	4.33	0.63
5	Saya berasa amat sukar untuk mengingat fakta Sains Pertanian	3.07	1.05
6	Saya sukar memahami sesuatu topik dalam mata pelajaran Sains Pertanian	2.81	1.10
7	Saya dapat menguasai apa yang disampaikan oleh pensyarah dengan mudah	3.78	0.63
8	Mata pelajaran Sains Pertanian adalah membosankan	2.25	0.90
9	Mata pelajaran Sains Pertanian adalah menyeronokkan	4.33	0.63
	Jumlah Keseluruhan	**3.54**	**0.82**

Pada keseluruhan, keputusan soal selidik mengenai sikap bakal guru terhadap pembelajaran Sains Pertanian seperti yang ditunjukkan di dalam jadual 8 dan analisis dapatan adalah merujuk jadual 15. Dapatan tahap min bagi item sikap saya suka mata pelajaran Sains Pertanian adalah tinggi (M=4.29, SP=0.6) dan diikuti item kedua Sains Pertanian adalah mata pelajaran yang penting (M= 4.07, SP=0.53). Pencapaian tahap min responden bagi item aktiviti berkaitan Sains Pertanian tidak menggembirakan saya adalah tinggi iaitu (M=4.97, SP=0.18). Ini menunjukkan kesemua responden tidak bersetuju bahawa aktiviti yang berkaitan dengan Sains Pertanian tidak menggembirakan mereka. Berdasarkan kepada tahap min item saya berasa seronok semasa belajar mata pelajaran Sains Pertanian dan item mata pelajaran Sains Pertanian adalah menyeronokkan, dapatan tahap min juga adalah sama tinggi (M=4.33, SP=0.63) dan ini menunjukkan mereka memang berasa seronok semasa belajar mata pelajaran ini dan menganggap mata pelajaran Sains Pertanian memang menyeronokkan.

Item saya berasa sukar untuk mengingati fakta Sains Pertanian yang telah disampaikan oleh guru, dapatan tahap min adalah pada tahap sederhana (M=3.07, SP=1.05). Manakala item saya sukar untuk memahami sesuatu topik dalam mata pelajaran Sains Pertanian,dapatan tahap min responden juga sederhana (M=2.81, SP=1.10). Bagi item saya dapat menguasai apa yang disampaikan oleh pensyarah dengan mudah , dapatan tahap min responden adalah tinggi (M=3.78, SP=0.63). Keputusan ini menunjukkan bahawa terdapat beberapa topik di dalam mata pelajaran Sains Pertanian yang sukar difahami, namun dengan bantuan yang disampaikan oleh pensyarah, sesuatu topik itu dapat di kuasai dengan baik. Dapatan tahap min responden bagi item mata pelajaran Sains Pertanian adalah membosankan adalah rendah (M=2.25, SP=0.90). Keputusan ini menunjukkan bahawa kebanyakan responden sangat tidak setuju dengan item ini dan tidak menganggap mata pelajaran Sains Pertanian sebagai satu subjek yang membosankan.

Pada keseluruhannya, responden-responden dengan sebulat suara tidak bersetuju bahawa aktiviti berkaitan Sains Pertanian tidak menggembirakan mereka dengan dapatan tahap min yang tinggi iaitu 2.81 (SP=1.10). Sebaliknya hasil dapatan menunjukkan bahawa mereka berasa seronok semasa membuat aktiviti Sains Pertanian. Hal ini disebabkan oleh pensyarah mengajar dengan mengintegrasikan ICT yang dapat meningkatkan minat mereka. Daripada analisis,pencapaian tahap min tinggi yang sama oleh responden membuktikan bahawa mata pelajaran Sains Pertanian adalah menyeronokkan dan responden tidak merasa bosan semasa pengajaran dan pembelajaran mata pelajaran ini. Ini menunjukkan bahawa sikap memainkan peranan yang penting terhadap tahap kompetensi seseorang bakal guru.

6.2 Analisis Tahap Kemahiran Bakal Guru Terhadap ICT dalam Pengajaran dan Pembelajaran Sains Pertanian

Jadual 3 Analisis Persepsi tahap Kemahiran Bakal Guru terhadap ICT dalam Pengajaran dan Pembelajaran Sains Pertanian (n=72)

Bil	Item	Min (M)	Sisihan Piawai (SP)
1	Saya mempunyai kemahiran bagi mengajar subjek Sains Pertanian sekolah Menengah	3.88	0.71
2	Saya mempunyai kemahiran untuk memotivasikan murid supaya seronok belajar subjek Sains Pertanian	3.94	0.68
3	Saya mempunyai kemahiran mengajar subjek Sains Pertanian dengan menggunakan teknik mudah	3.89	0.64
4	Saya mempunyai kemahiran dalam mengaplikasikan strategi pembelajaran dalam bilik darjah	3.94	0.5
5	Saya mempunyai kemahiran dalam mengendalikan penggunaan bahan bantu mengajar bagi melancarkan pengajaran dan pembelajaran	4.00	0.65
6	Saya mempunyai kemahiran penggunaan komputer dalam proses pengajaran dan pembelajaran	4.13	0.58
7	Saya mahir menggunakan peralatan di bengkel jika mengajar amali subjek Sains Pertanian	3.78	0.74
8	Saya mahir membuat demonstrasi penggunaan alatan kepada pelajar di dalam bengkel jika perlu.	4.00	0.63
9	Saya sentiasa bersedia untuk berkongsi kemahiran dengan guru-guru lain tentang sukatan pelajaran subjek Sains Pertanian dalam KSSM	4.00	0.63
	Jumlah Keseluruhan	**3.94**	**0.48**

Berdasarkan jadual 3, item tahap kemahiran bakal guru UPM dalam mata pelajaran Sains Pertanian berada pada tahap yang tinggi di mana min purata adalah 3.94 dan sisihan piawai adalah 0.48. Skor min tertinggi adalah item saya mempunyai kemahiran penggunaan komputer dalam proses pengajaran dan pembelajaran (min = 4.13). Diikuti dengan saya mempunyai kemahiran dalam mengendalikan penggunaan bahan bantu mengajar bagi melancarkan pengajaran dan pembelajaran (min = 4.00). Manakala tiada item yang berada pada tahap yang sederhana dan tahap rendah dari item persoalan kedua ini. Kesimpulannya, tahap kemahiran bakal guru dalam proses pengajaran Sains Pertanian adalah tinggi.

6.3 Analisis Tahap Kesediaan Bakal Guru Terhadap ICT dalam Pengajaran dan Pembelajaran Sains Pertanian

Jadual 4 Analisis Persepsi tahap Kesediaan Bakal Guru terhadap ICT dalam Pengajaran dan Pembelajaran Sains Pertanian (n=72)

Bil	Item	Min (M)	Sisihan Piawai (SP)
1	Saya mempunyai pengetahuan bagi mengajar subjek Sains Pertanian sekolah menengah	3.97	0.63
2	Saya mempunyai pengetahuan dalam menyampaikan ilmu Sains Pertanian kepada murid sekolah menengah	3.93	0.59

Bil	Item	Min (M)	Sisihan Piawai (SP)
3	Saya mempunyai kefahaman yang jelas tentang setiap topik dan item dalam subjek Sains Pertanian	3.64	0.72
4	Saya mempunyai pengetahuan untuk memotivasikan murid untuk belajar subjek Sains Pertanian	3.97	0.67
5	Saya mempunyai pengetahuan untuk meningkatkan penguasaan murid dalam subjek Sains Pertanian	3.94	0.63
6	Saya mempunyai pengetahuan dalam menggunakan pelbagai kaedah pengajaran dan pembelajaran bagi menarik minat murid untuk belajar subjek Sains Pertanian	3.93	0.66
7	Saya sentiasa bersedia untuk berkongsi pengetahuan dengan guru-guru lain tentang sukatan pelajaran Sains Pertanian	4.00	0.58
8	Saya boleh memindahkan pengetahuan yang diperolehi oleh pelajar dalam situasi yang berkaitan.	4.06	0.58
9	Saya mempunyai pengetahuan untuk mengendalikan ujian penilaian murid	3.96	0.59
10	Saya boleh mengendalikan ujian-ujian mengikut band yang telah ditetapkan dalam KSSM Sains Pertanian	3.94	0.60
11	Saya perlu belajar untuk menambah pengetahuan tentang pelaksanaan KSSM terutama dalam subjek Sains Pertanian	4.25	0.67
	Jumlah Keseluruhan	**3.96**	**0.40**

Berdasarkan Jadual 4 min bagi aspek pengetahuan adalah berada di tahap yang tinggi iaitu 3.96 dan sisihan piawai ialah 0.40. Ini menunjukkan bahawa pengetahuan bakal guru untuk subjek RBT adalah tinggi kerana memperoleh skor min yang melebihi 3.661. Bagi item tahap pengetahuan bakal guru UPM dalam proses pengajaran subjek RBT ini didapati bahawa kesemua item berada di tahap yang tinggi, kecuali item B3 yang memperoleh min pada tahap yang sederhana iaitu 3.64. Item yang mencapai min sederhana tersebut ialah saya mempunyai kefahaman yang jelas tentang setiap topik dan item dalam subjek RBT. Item yang memperoleh min tertinggi ialah item B11, Saya perlu belajar untuk menambah pengetahuan tentang pelaksanaan KSSM terutama dalam subjek RBT iaitu sebanyak 4.25.

6.4 Analisis Perbezaan Sikap, Kemahiran, dan Kesediaan Bakal Guru Terhadap ICT dalam Pengajaran dan Pembelajaran Sains Pertanian Mengikut Jantina

Jadual 5 Ujian-t perbezaan sikap mengikut jantina (n=72)

t	df	Sig. *p*-value
-1.34	70	.184

Jadual 6 Ujian- t perbezaan kemahiran mengikut jantina (n=72)

t	df	Sig. p-value
-1.80	70	.858

Jadual 7 Ujian- t perbezaan kesediaan mengikut jantina (n=72)

t	df	Sig. p-value
-1.53	70	.593

Melalui ujian-t, dapatan kajian menunjukkan bahawa tidak terdapat perbezaan yang signifikan (p > .05) antara pelajar lelaki dengan perempuan dalam kesediaan dan kemahiran secara keseluruhan (Jadual 6,7 dan 8). Ia selari dengan hipotesis yang telah dibuat iaitu:

Ho1: Tidak terdapat perbezaan yang signifikan antara kompetensi guru dari aspek kesediaan,kemahiran dan sikap dengan jantina.

6.5 Analisis Hubungan antara Sikap, Kemahiran dan Kesediaan Bakal Guru Terhadap ICT dalam Pengajaran dan Pembelajaran Sains Pertanian

Jadual 5 Analisis Hubungan antara Sikap, Kemahiran, dan Kesediaan Bakal Guru terhadap ICT dalam Pengajaran dan Pembelajaran Sains Pertanian (n=72)

	Sikap		Kemahiran		Kesediaan
Sikap	-				
Kemahiran	r =0.557*	*p* =.000	-		
Kesediaan	r =0.692*	*p* =.000	r =0.408*	*p* =.000	-

Berdasarkan nilai p didapati tahap kemahiran (r=0.56,p<0.01), sikap (r=0.57,p<0.01) dan kesediaan (r=0.56,p<0.01mempunyai hubungan yang signifikan dengan terhadap ICT dalam pengajaran dan pembelajaran Sains Pertanian. Maka boleh disimpulkan bahawa terdapat hubungan yang positif (dengan nilai korelasi yang kuat) antara sikap, kemahiran dan kesediaan bakal guru terhadap ICT dalam pengajaran dan pembelajaran Sains Pertanian. Dapatan ini membuktikan bahawa ketiga-tiga persepsi sikap, kemahiran dan kesediaan memberi impak terhadap pengajaran Sains Pertanian melalui ICT.

7.0 RUMUSAN DAN PERBINCANGAN

Menerusi kajian didapati penggunaan ICT dalam proses pengajaran dan pembelajaran Sains Pertanian boleh memberi kesan yang positif untuk pembelajaran Sains Pertanian dengan mewujudkan suasana pembelajaran yang menyeronokkan. Seterusnya dengan persekitaran yang positif ini dapat meningkatkan minat pelajar terhadap mata pelajaran Sains Pertanian. Bakal guru sebagai perancang pengajaran berasaskan ICT bagi meningkatkan keupayaan dan minat pelajar terhadap mata pelajaran Sains Pertanian, manakala ICT adalah satu alat bantu untuk mempelbagaikan kaedah pengajaran dan pembelajaran Sains Pertanian yang lebih berkesan. Daripada analisis kajian, didapati semua keputusan telah memenuhi objektif kajian.

Persoalan kajian yang pertama sama ada terdapat hubungan yang signifikan antara sikap bakal guru dengan tahap kemahiran ICT mereka telah dijawab melalui dapatan ujian Korelasi Pearson. Dapatan ujian menunjukkan terdapat hubungan yang positif (dengan nilai korelasi yang kuat) antara tahap kemahiran dengan sikap bakal guru. Dapatan ini membuktikan bahawa sikap dapat meningkatkan tahap kompetensi ICT seseorang bakal guru. Hasil dapatan membolehkan penyelidik mengenal pasti kesan penggunaan ICT dalam proses pengajaran dan pembelajaran Sains Pertanian.

Dapatan analisis tahap kemahiran yang cukup dalam pengendalian ICT sewaktu proses pengajaran dan pembelajaran dilaksanakan oleh bakal guru. Dapatan menunjukkan tahap kemahiran bakal guru terhadap kompetensi ICT mereka adalah sederhana tinggi. Hal ini menunjukkan bukan semua responden mahir dalam pengendalian ICT semasa pembelajaran dan pengajaran. Bagi menjawab persoalan kajian yang ketiga iaitu penggunaan ICT memberi kesan terhadap pembelajaran atau tidak dengan mengukur tahap skor min dan sisihan piawai item. Dapatan kajian mendapati bahawa responden tidak bersetuju bahawa penggunaan ICT dalam pengajaran dan pembelajaran Sains Pertanian tidak meningkatkan serta tidak mengubah keputusan peperiksaan. Item saya lebih fokus semasa kelas Sains Pertanian yang diajar dengan menggunakan ICT adalah pada tahap yang tinggi dengan dapatan tahap min 4.08 dan sisihan piawai 0.59. Dapatan kajian menunjukkan bahawa responden menyokong bahawa penggunaan ICT (komputer) mampu memberi motivasi dan menimbulkan perasaan seronok semasa pembelajaran. Selain mempunyai pengetahuan yang luas dalam ICT, seseorang bakal guru juga perlu memiliki pelbagai kemahiran ICT yang dapat membantu mereka dalam melaksanakan tugas dan tanggungjawab mereka dengan lebih berkesan. Kajian yang dijalankan oleh Muriatun (2000) di beberapa sekolah menengah dalam daerah Segamat mendapati bahawa salah satu punca utama tahap penggunaan

komputer untuk tujuan pengurusan adalah rendah adalah disebabkan oleh masalah guru-guru kurang berkemahiran dalam ICT.

Oleh yang demikian, bakal guru perlu mempersiapkan diri mereka dengan kemahiran yang diperlukan dalam penggunaan ICT serta pemahaman yang jitu dalam melaksanakan nya di dalam kelas.

8.0 CADANGAN

Zaman kini adalah zaman yang berasaskan kemajuan teknologi, di mana sesiapa yang tidak dapat mengikuti kemajuan teknologi zaman moden ini adalah dianggap ketinggalan zaman. Begitu juga pendidikan, haruslah bergerak seiring dengan zaman yang serba canggih ini. Oleh yang demikian, pemimpin-pemimpin muda yang bakal menjadi guru di sekolah perlu melengkapkan diri mereka dengan ilmu-ilmu tambahan berkaitan dengan ICT. Hal ini kerana perubahan teknologi berdasarkan perubahan zaman.

Penyelidik akan datang boleh menambah baik kajian ini dengan memperluas populasi responden. Di dalam kajian ini, penyelidik mengehadkan kan populasi responden hanya bakal guru Sains Pertanian di Fakulti Pengajian Pendidikan,UPM sahaja. Penyelidik akan datang disyorkan untuk mengambil bidang perguruan lain yang ditawarkan di fakulti ini seperti bakal guru Sains Rumah Tangga, bakal guru TESL, bakal guru Pendidikan Jasmani dan bakal guru Bahasa Melayu. Di samping itu, penyelidik akan datang disyorkan untuk mencuba kaedah yang lain dalam membuat kajian ini seperti kaedah kualitatif. Menurut Denzin dan Lincoln (1994) penyelidikan kualitatif melibatkan kepelbagaian kaedah secara terfokus, termasuk penggunaan pendekatan naturalistik (semula jadi) untuk menyelidik sesuatu subjek. Dengan menggunakan kaedah ini, data yang diperoleh lebih tepat dan telus kerana penyelidik bersemuka terus dengan responden.

Pihak pengurusan Fakulti Pengajian Pendidikan perlu memperbanyakkan kursus komputer kepada bakal guru. Hal ini kerana sepanjang 4 tahun penyelidik di UPM, hanya 2 kelas sahaja yang menawarkan kursus pengkomputeran ini. Pada pandangan penyelidik, penambahan kelas berkaitan ICT ini wajar bagi menyediakan bakal guru yang lebih kompeten semasa mereka di sekolah kelak.

Di samping itu penggalakan menggunakan ICT oleh pihak pengurusan fakulti semasa di dalam kelas atau semasa pembentangan sangat disyorkan. Selain daripada mempertingkatkan lagi kemahiran ICT yang sedia ada, bakal guru juga boleh memperoleh kemahiran ICT yang baru dan saling menukar idea dengan rakan-rakan yang lain. Di samping itu, guru itu sendiri perlu cakna dalam perubahan ICT yang berlaku agar tidak dilabel ketinggalan zaman.

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065 : Prediction Model for Potential School Dropout Using Data Mining – A Proposed Flowchart

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ABSTRACT

In line with the first aspiration in Malaysia Education Blueprint, which is to give access to children for education to let the child realise their full potential, the ministry is focusing on tackling the issue of students drop out in primary and secondary schools. In particular, this study is focusing on building a prediction model to identify a potential school dropout using data mining approach. The pilot sample of this study is taken from a data source from primary and secondary schools located in one of the states. WEKA, an open-source tool for data mining is used to evaluate the attributes predicting potential school dropout. From the analysis, the outcome will be determined using the highest frequency from the classification techniques in the prediction model. The paper aims to present a methodology flow which will be used to identify the main factors of potential school dropouts from many attributes that will be tested using data mining techniques.

Keywords: School Dropout, Potential School Dropout Factors, Data Mining, Prediction Model, Decision Tree

1.0 INTRODUCTION

Malaysia is in dire need to transform the country's education system to catch up with the latest technologies as Malaysia is no longer in developing countries league but indeed a developed country (World Bank's Human Capital Index). To ensure Malaysia is at the right pace, the Ministry of Education has outlined 11 shifts in its Malaysian Education Blueprint.

All the 11 shifts were created to influence at least one of the five aspirations of the Malaysian education system which are access, quality, equity, unity, and efficiency. In accordance with the first aspiration in Malaysia system education, which is to give access to children for education in order to let the child realize their full potential. Thus, the ministry is focusing on tackling the issue of students drop out in primary and secondary schools. Together with the seventh shift in the blueprint which is to Leverage ICT to scale up quality learning across Malaysia technology is seen to be the solution to students dropout.

The Ministry of Education Malaysia used definitions and calculations of school dropouts by UNESCO Institute of Statistics. The definition rate of dropout by one year is determined as the number of students from one cohort enrolled in a given grade at a given school year who is no longer enrolled in the following school year (Patel, 2014). In 2017, the ministry conducted research on potential school dropouts, and the finding showed that there are 2% of primary school students and 4.3% high school students are at high risk as potential school dropouts (Mesyuarat Profesional KPM Bil.22/2017).

So many efforts had been made by the Ministry to tackle the dropout issue, such as providing fund for school programs, monitoring high-risk schools with the highest truancy rate among students and to form *Jawatankuasa Pengurusan Murid Cicir* in 2017. With the formation of the committee, a guideline to manage the potential school dropout had been published and were distributed to *Jabatan Pendidikan Negeri, Pejabat Pendidikan Daerah* and schools. The guideline explains the roles of each division at schools, district and states level in confronting the issue. It also discusses how to identify the potential school dropouts. Identifying potential school dropout is a very tedious work especially when the burden falls onto a counsellor, and it was done manually with report writing, interviewing, conducting a series of programs and analysing students data. The findings of the manual reporting are questionable as it has not been check or analyse with any tools that can verify the results. Furthermore, the size of students data is

too overwhelming for the education states department, district and let alone schools to handle it and analyse.

Figure 1 showed process of managing and identifying potential school dropout started with collecting information from the students' database manually. This process will consume a lot of time and energy as the data source and number of students are huge. State and district officers will have to analysing and monitoring the data and interventions program respectively. The process will be done using spreadsheet application such as Microsoft Excel in which the accuracy of the data and the result can be questionable. From the analysing process, it was unclear on the factors that can contribute to the potential school dropout. The list of factors will be diverse and unsure. This will impact the interventions programs that has been scheduled and it will likely be unsuitable to a specific groups of students.

Figure 1 Process of Managing and Identifying Potential School Dropout by States and District Level
Source: Ministry of Education, Malaysia

Meanwhile, schools will receive the potential school dropout name list and prepared series of intervention programs. The programs are general and does not targeting on specific group of students. There is no further research on the effectiveness of the intervention programs. The programs should have suited the specific groups of student according to the factors of school dropout that eventually contributed to being potential school dropout.

As a result, in this research, WEKA will be introduced as data mining tools in helping the ministry to analyse and to find factors of potential school dropouts. Data mining comprises of systematic analysis of large data sets (Sharma, Bhargava, & Mathuria, 2013). Educational Data Mining (EDM) has been emerged and widely known since 2009. EDM is known for the huge amount of data specifically in educational fields and it multi-hierarchy and non-independent type of data. Researchers are using EDM to better understand the students, educational approaches and educational institutes as the data is unique and often different from standard data mining method. Educational data mining methods have enable researchers to model a broader range of potentially relevant student attributes in real-time, including higher-level constructs than were previously possible (Baker & Yacef, 2009).

Figure 2 Process of Managing and Identifying Potential School Dropout by Schools Level
Source: Ministry of Education, Malaysia

In WEKA, there are many data mining techniques to be applied. Some of the techniques are classification, clustering, association rule etc. The techniques that will be used in building the prediction model to identify potential school dropout will be further explained in the Methodology section.

Figure 3 Educational Data Mining process
Adapted from (Romero & Ventura, 2007)

1.1 Problem Statements

Jawatankuasa Pengurusan Murid Cicir under Education Planning and Research Division (EPRD) conducted a research on potential and high-risk school dropout. It was found that the factors that lead students to be at potential high-risk school dropouts are students and family factors (Mesyuarat Profesional KPM Bil.22/2017). Students' factors are absentee from schools, unable to master the 3M which are reading, writing and calculating, failed half or all subjects, unmotivated to study, and repetitive discipline offenders. Meanwhile, family factors such as low family income, parents with low academic level and no participation of parents at schools were also contributed as factors of potential school dropouts. The research was only conducted using surveys and interviews and it was not tested with any model or algorithm to analyse the accuracy of the results in a different context.

As an example from current studies in the literature, Bayer et al. (2012) created a prediction model to detect students from Masaryk University, at an early stage of dropout from their studies. A new method needs to be explore so that it can extract reliable and comprehensive knowledge from the data with sufficiently high accuracy (Bayer, Bydzovská, Géryk, Obsivac, & Popelínský, 2012). In another study about machine learning approach to reducing student dropout rates, cost and time must be acquired to accommodate the data collection process (Mduma, Kalegele, & Machuve, n.d.). The goal of the study is to provide data-driven algorithm recommendations that can be used on the same topic for other researchers.

A substantial amount of literature focuses on predicting student performance, students enrolment, school dropout, etc. But there is no research focusing on building a prediction model on potential school dropout especially schools in Malaysia. Hence, a prediction model using a recent data mining algorithm is needed to identify the factors of potential school dropout. On a separate note, there was no other related research on potential students' school dropout conducted in Malaysia. As a result, this research was seen as significant and critical to help the ministry with the issue.

1.2 Research Questions

1. What are the main factors of potential school dropout in Malaysia?
2. What is the most accurate algorithm in the prediction model to identify school dropout?

2.0 METHODOLOGY

Design and development research methodology will be implemented in the research. The systematic study of design, development and evaluation process with the aim of establishing an empirical basis for the creation of the prediction model that will govern the development. Developmental research attempts to produce the models and principles that guide the design, development, and evaluation processes (Richey, Klein, & Nelson, 2004).

In this research, WEKA will be used as data mining tools to test the attributes to build a prediction model to identify the main factors of potential school dropouts. Among the classifications techniques that will be used in WEKA are decision tree classifiers, Bayesian classifiers, k-Nearest Neighbour classifiers and Rule Learners. For this research, decision tree classifiers will be use to determine the highest frequency of the factors that contributed to potential school drop-out.

Figure 3 is a methodology of data mining (Kohli & Birla, 2016) used for processing and analyzing data. The process will start at stating the problem statement and followed by collecting the data. In this research, the student data will be collected from a valid data source. Only data with attributes that will be tested in the analysis will be obtained. The data will undergo data pre-processing which includes processes for data selection, data cleaning and data transformation. Some fields in the data will be disregard in Data Pre-processing because of irrelevant or missing input. This process will determine that the data set is ready to be analyzed in the data mining tool. Data pre-processing includes data cleaning, normalization, transformation, feature extraction and selection, etc., and the product of data pre-processing is the final training set.

Figure 4 : Methodology of Data Mining (Kohli & Birla, 2016)

2.1 Decision Tress

According to Romero & Ventura (2007), EDM can be established into several categories to data mining task. In this research, the most suitable category to use is 'detecting atypical student behaviours' which have employed data mining techniques. This category can discover students with some type of problems or unusual behaviour such as: erroneous actions, low motivation, academic failure, dropping out, etc. Classification and clustering were mainly used in data mining techniques to reveal these type of students (Romero & Ventura, 2007).

Classification trees and regression trees are build using CART (Classification And Regression Trees) which were used to classify categorical response variables and to forecast continuous response variable, respectively (Kokol, 2012). Hence, decision tree technique will be used to identify the factors of potential school dropout and to build a prediction model based on the findings.

Decision trees have become one of the most effective and popular methods in machine learning since their introduction in the 1960s because of their usability and efficiency (Yan-yan & Ying, 2015). Decision trees classifiers will then generate the tree and its rules that will be used to formulate predictions (Breşfelean, 2007). Decision trees models are commonly used in data mining to examine the data and induce the tree and its rules that will be used to make predictions (Kokol, 2012).

2.2 Data and Attributes

In this research, student's data will be obtained from a valid data source. The students data is only from one state of Malaysia and 2016 data set will be used as a test data. There are 899 instances in the data set with selected attributes. In order to build the prediction model, a set of attributes in the data set will be tested in WEKA. The attributes of this research consists of the following :

i. Gender
ii. Ethnicity
iii. School Location
iv. Type of school attended
v. Per capital of parents monthly salary against number of children

It is expected from the prediction model, the exact contribution of these attributes to inform factors of students dropout for new cases could be made.

3.0 CONTRIBUTION TO EDUCATIONAL TECHNOLOGIES

The aim of this research is to build a precise prediction model with high accuracy to identify potential school dropout. Looking at the dropping rate of enrolment in public school, the prediction model is seen

to be very significant to help the ministry to curb the decreasing number of students enrolled in the education system.

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World Bank's Human Capital Index

069 : Game-based Learning as students' Learning Strategies in enhancing problem-solving skills

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ABSTRACT

In line with the components in the 4.0 Industrial Revolution Framework, the Ministry of Education introduced an action plan that is leveraging ICT for learning. With the use of ICT-based education technology, the Ministry strongly emphasises on producing highly thinking skilled students in problem-solving. Game-based learning has been recognized as a potential approach to elevate thinking skills in problem solving. This teaching method is notable to be best applied in student-centered learning environment. Several studies have been conducted in scrutinising the increase in problem-solving in game-based learning. However, there has been no study conducted that measure the level of problem-solving skills in game-based learning through different formal learning strategies. Therefore, this paper aims to discuss the studies on students' problem-solving skills in game-based learning through individual or collaborative learning strategies.

Keywords*: Game-based learning, game application, collaborative, problem solving*

1.0 INTRODUCTION

In 2020, with the evaluated populace of the world coming to 7.6 billion, the current improvement of the innovation anticipated 50 billion electronic gadgets associated with each other. It appears the number of gadgets communicating is surpassing the number of human creatures, with each human being approximately 6.58 electronic gadgets. This associated gadget creates information and information (BH Online, 2017). The emergence of new technology waves, known as The Fourth Industrial Revolution (Industry 4.0) and Digital economy, which led the government to continue to strive in the making of Digital Malaysia policies. This policy is designed to prepare the younger generation to meet the 21st-century requirements. Through this policy, the overall syllabus for each of the national schools and National Secondary School has changed (KPM, 2013).

If it is scrutinising that the PPPM consists of 3 waves, each wave has been stated on the use of ICT in driving teaching and learning. From here, we can deduce that KPM is very serious and cares about the skills of ICT use to obtain information about learning. KPM wants to ensure that the next generation can meet 21st-century features. Moreover, by the strong influence of ICT in education, instructional technology has been overshadowed on training ICT educators/teachers to transform the teaching and learning environment and using technology to develop students' digital citizenship skills as well as to promote creativity, problem solving, critical thinking and construct new skills and knowledge in real life situations with the support of technology and media (KPM, 2019).

1.1 Issues in Problem Solving Skills in Game-Based Learning

The combination of Internet technology and future oriented technology in the field of intelligent technology (machinery and products), has resulted in a new paradigm shift in industrial production known as the Industrial Revolution of 4.0 (Lasi, Fettke, Kemper, Feld, & Hoffmann, 2014). In line with this, the development of the Malaysian young generation is among the national goals in ensuring they are ready to face the 4.0 industrial Revolution. The need for new knowledge and skills is paramount which should be in line with dynamic technological development. The young generation is expected to have the problem solving skills, creative and able to respond to the uncertainties of the world system that are more open. Game applications are not a new thing in the world of education around the world. According to (Hwang,

Hung, & Chen, 2014), the reviewer suggested future study in collaborative problem solving towards Game based learning. Moreover, there has been no study that measures the level of problem-solving skills in game-based learning, whether through individual or collaborative learning. In connection, it is very important to make this game as a tool in game-based learning for new generations to build problem solving skills, either it is in an individual or collaborative approach.

2.0 LITERATURE REVIEW

In the present global economy, the success of a country is highly dependent on the knowledge, skills, and competency of the people in general and students in specifics. Problem solving and thinking high are also an important element in implementing 21st century learning. The teaching pattern in the school is mostly a teacher-centered, where the practice of training and memorising tips and formulas are emphasized in learning (Nooriza & Effandi, 2015). Student knowledge is limited where they will experience problems when involving non-routine questions that require students to think critically and creatively and have various methods in obtaining solutions. The teaching methods available in learning do not promote the enhancement of the skills of thinking and improves creative thinking skills Kow et al.(2015). Adding game elements as teaching support shows positive effects in arranging the appropriate cognitive processing, such as choosing relevant information, arranging and associate it with existing knowledge (Wouters & Van Oostendorp, 2013).

The 21st century learning challenge is to realize the learning that encourages high level thinking skills students. Such learning means that learners strive to intervene, analyses and manipulate information (Newmann, 1990). Students also need to be more skilled in adapting existing knowledge and using new information and manipulating the information to get relevant answers to new situations (Lewis & Smith, 1993). The high level of thinking skills is indispensable today to produce competitive learners. To meet these goals, the Government, through the Malaysian Education Development Plan 2013-2025 has focused on the use of ICT in learning to improve the high level of thinking skills and produce more students productive and comprehensive skills.

2.1 Game-Based Learning

Game-based learning has been recognized as a potential approach that gives understudies with intelligently and pleasant learning openings (Prensky, 2007). Several studies have further shown that game-based learning, as a student-centered learning tool, can better attract students than traditional teacher-centered learning (Schmal et al. 2008).

Moreover, properly integrating digital games into the instructional design (Ebner and Holzinger 2007) or integrating learning theories, strategies or tools into the development of educational computer games (Kiili, 2007; Sung and Hwang 2013) could promote students' learning performance. On the other hand, teachers have pointed out that planning or creating recreations seem further enhance students' information processing ability (Hayes 2008) and cultivate their problem-solving capability (Mayer, R.E. and Wittrock, 2006). (Robertson & Howells, 2008) indicated that engaging children in developing computer applications could promote their higher order thinking performance. Children could acquire permanently beneficial problem-solving skills through the learning process of developing computer applications. Such interpretations of the potential of game development conform to the notion of Mindtools indicated by Jonassen et al. (1998, p.1) that "technologies should not support learning by attempting to instruct the learners, but rather should be used as knowledge construction tools that students learn with, not from." Therefore, it is worth conducting learning activities with a game-based approach to engage them in elevating problem-solving skills.

One of the central challenges of joining game-based learning in formal learning settings is making a difference learner, and instructors make the associations between the information learned within the diversion and the information learned at school (Clark et al., 2011; Habgood & Ainsworth, 2011; Quintana et al., 2004; Van Eck, 2006). A conceivable guidelines approach to this challenge is supplementing recreations with outside frameworks that bolster the development of joins between diversion substance and disciplinary substance (Charsky & Ressler, 2011). Well-designed diversions lock in learners in bona fide and sanctioned problem-solving and in arranged meaning making (Barab et al., 2009). Hence, one of the most challenges of learning amusement plan is to profoundly coordinated or insert learning substance inside the diversion story and mechanics (Habgood & Ainsworth, Shaaron, 2011). In any case, profoundly coordination or implanting the learning substance inside the amusement,

whereas making openings for propelling and important learning, may too posture challenges in terms of learners' information development.

2.2 Collaborative Problem-solving skills

Collaborative problem solving involves two different constructs - collaboration and problem solving. The assumption is that collaboration for a group task is essential because some problem-solving tasks are too complex for an individual to work through alone or the solution will be improved from the joint capacities of a team Fiore et al.(2017). People vary in the information, expertise, and experiences that they can bring to bear to solve a particular problem jointly. More specifically, collaborative problem solving requires that people share their resources and their strategies to reach a common goal via some communication process. Whether in an individual or group task, the group can be either face-to-face or virtual. In both cases, some technology is often used to facilitate collaborative problem solving. Generally, collaborative problem solving has two main areas: the collaborative (e.g., communication or social aspects) and the knowledge or cognitive aspects (e.g., domain-specific problem-solving strategies). These two areas are often referred to as "teamwork" and "taskwork." The primary distinction between individual problem solving and collaborative problem solving is the social component in the context of a group task. This is composed of processes such as the need for communication, the exchange of ideas, and shared identification of the problem and its elements. collaborative problem solving that involves multiple people working interdependently towards a common goal (Fiore, 2008; Fiore et al., 2010; Graesser, Foltz et al., in press; Griffin, 2014).

3.0 CONCLUSION

In game-based learning, not only need to be seen in aspects of fun and motivational aspects. In education, it is hoped that it is seen as a need to study the level of problem-solving students through different learning strategies. The purpose of this study is to see how well learning strategies affect the level of problem login solving skill students in learning in the game. Previous research found that problem solving in collaborative had a positive impact on learning. Researcher are keen to study more about how far this collaborative strategy is used in gaming-based learning in order to enhance the level of students' problem solving. Future research should discuss more on the subject covered in this paper for better understanding.

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070 : Kesedaran '*Digital Citizenship*' dalam kalangan Pelajar Sekolah di Malaysia: Satu Tinjauan Awal

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ABSTRAK

Revolusi Industri 4.0 menjadi faktor transformasi yang amat besar dalam sistem pendidikan. Impak revolusi ini dilihat akan memberikan kesan secara langsung kepada perubahan sistem pendidikan di dunia secara umum dan di Malaysia secara khusus. Pendidikan 4.0 merupakan penghubung antara keperluan perubahan teknologi dalam Revolusi Industri 4.0 dengan manusia. Kertas ini akan membincangkan tinjauan awal tentang latar belakang konsep kewarganegaraan digital, trend, elemen penting dan keperluan kesedaran tentang konsep ini melalui rujukan kajian terdahulu. Kertas ini juga mencadangkan instrumen yang boleh digunakan untuk kajian-kajian akan datang.

Kata Kunci: Revolusi Industri 4.0, Pendidikan 4.0, Kewarganegaraan digital

1.0 PENGENALAN

Revolusi Industri 4.0 (IR 4.0) telah membuka ruang perubahan dan inovasi dalam sektor pendidikan. Konsep IR 4.0 yang melihat bagaimana kecerdasan buatan (AI) dan rangka fizikal digital menjadikan antara muka mesin dan manusia menjadi lebih meluas. Ini menyebabkan perubahan dalam sistem pendidikan yang dikenali dengan sebagai Pendidikan 4.0. Memandangkan dalam IR 4.0, robot pintar dan kepintaran buatan akan menggantikan manusia dalam bahagian-bahagian tertentu, maka sistem pendidikan juga perlu bergerak seiring untuk menyediakan pelajar yang mampu memanfaatkan maklumat dan memiliki kemahiran yang tidak dapat diganti dengan robot (Shahroom & Hussin, 2018).

Trend yang ketiga antara sembilan trend yang berkait dengan Pendidikan 4.0 ialah pelajar boleh memilih bagaimana mereka mahu belajar. Walaupun hasil pembelajaran dan kurikulum disediakan oleh institusi pendidikan, pelajar boleh memilih kaedah dan teknik serta peralatan yang sesuai dengan mereka. Pendekatan yang biasanya diambil oleh pendidik ke arah ini antaranya ialah penggunaan pendekatan *'blended learning', 'flipped classroom*' dan BYOD (*Bring Your Own Device*) (Fisk, 2017).

Memandangkan pelajar kini mempunyai kehendak yang berbeza-beza maka mengintegrasikan teknologi terkini ke dalam pengajaran dan pembelajaran mampu menjadikan sesi menjadi lebih interaktif dan menarik. Pembelajaran akan menjadi lebih efektif selari dengan kehendak pelajar dari Generasi Z (Aziz Hussin, 2018). Perubahan dalam sistem pendidikan membawa kepada penggunaan teknologi dalam pengajaran dan pembelajaran di mana pendekatan BYOD (Bring Your Own Device) diperkenalkan. Jesteru itu penggunaan peralatan digital terutamanya telefon pintar dan komputer peribadi akan menjadi kelaziman di sekolah. Isu penting dalam keterlibatan pelajar dengan gajet adalah tahap kefahaman dan pengetahuan mengenai 'digital citizenship' yang mana menjadi amat kritikal kerana ianya menjurus kepada timbulnya banyak masalah sosial yang lain. Selain dari isu kesihatan fizikal yang sering diperbincangkan, isu kesihatan mental yang berkait dengan isu pembulian siber juga menjadi faktor utama mengapa kesedaran 'digital citizenship' perlu diperkemaskan di kalangan pelajar sekolah.

Mengikut Laporan oleh UNICEF, (Third, Bellerose, Oliveira, Lala, & Theakstone, 2017), kanak-kanak melihat teknologi digital sebagai asas penting dalam perkembangan dan keupayaan mereka untuk menyumbang kepada masyarakat walaupun mereka datang dari kawasan yang capaian teknologi digitalnya agak terhad. Kanak-kanak juga percaya teknologi digital akan dapat menyokong mereka untuk bertindak dan bertanggungjawab untuk mendidik masyarakat mengenai celik digital. Namun begitu keupayaan mereka ini bergantung kepada kebolehan mereka menangani isu celik digital dan pengetahuan mereka mengenai '*digital citizenship'* (Third et al., 2017).

2.0 KESEDARAN '*DIGITAL CITIZENSHIP'*

Definisi '*digital citizenship*' boleh dinyatakan sebagai kualiti bagi tabiat, tindakan dan corak pengunaan teknologi digital yang memberikan kesan kepada ekologi kandungan dan komuniti digital. Contoh

tingkahlaku individu '*digital citizenship*' yang baik adalah berkomunikasi dengan hormat, menghormati privasi orang lain, menambahkan maklumat yang berguna dalam sesuatu perbincangan atau lama maklumat, melihat perkara dari perspektif yang lain, menyokong orang lain dan memberikan pendapat atau maklumbalas yang positif dan berguna malahan memberikan galakan dan dorongan yang baik (Heick, 2013).

Menurut (Ribble & Bailey, 2007) terdapat sembilan elemen penting dalam '*digital citizenship*' iaitu Akses Digital, Perdagangan Digital, Literasi Digital, Etika Digital, Undang-undang Dıgital, Hak dan Tanggungjawab Digital, Kesihatan dan Kesejahteraan Digital serta Keselamatan Digital. Elemen-elemen ini merupakan dimensi yang digunakan dalam beberapa pembinaan skala pengukuran '*Digital Citizenship*'. Antaranya adalah Digital Citizenship Scale (Isman & Gungoren, 2014) dan Pyschometric Properties of a Digital Citizenship Questionnaire (Nordin et al., 2016).

Daripada sembilan elemen ini, tiga elemen iaitu Etika Digital, Hak dan Tanggungjawab Digital dan Keselamatan Digital merupakan elemen yang paling kritikal dalam mendidik pembudayaan '*Digital Citizenship*' di kalangan pelajar. Elemen-elemen ini amat penting untuk diterapkan kepada pelajar-pelajar kerana ianya menjadi tunjang kepada sifat kemanusiaan dalam penggunaan teknologi. Di Malaysia, isu kesedaran mengenai '*digital citizenship*' masih berada dalam tahap asas (Zahri, Susanty, Mustaffa, & Approach, 2017). Terdapat kajian kes yang telah menemukan bahawa remaja Malaysia terdedah kepada penggunaan internet dari usia muda, namun begitu mereka ini masih perlu dipantau kerana tahap kesedaran terhadap ancaman siber agak rendah walaupun mereka mengetahui isu-isu yang berlaku dalam dunia siber secara amnya (Zahri, Susanty, Mustaffa, et al., 2017).

Terdapat kajian yang telah dijalankan bagi mengenal pasti tahap kesedaran '*digital citizenship*' di kalangan pelajar-pelajar di Malaysia. Penyediaan instrumen yang sesuai untuk menguji tahap kesedaran mengenai '*digital citizenship*' juga telah dijalankan. Namun begitu instrumen dalam kajian tersebut belum diguna pakai di Malaysia. Selain dari itu, kajian-kajian lain yang telah dijalankan ini, telah dijalankan secara berasingan, yang mana ianya tidak menguji semua elemen dalam keperluan kesedaran '*digital citizenship'*. Antara kajian yang telah dijalankan , (Al-zahrani, 2015),hanya menguji persepsi pengguna dan kadar keterlibatan pelajar di Arab Saudi,dan (Xu, Yang, Macleod, & Zhu, 2018) menguji tahap kompetensi medis sosial individu terhdap pelajar kolej di China. Kajian ini dibuat di negara luar dan ianya tidak di gabungjalinkan. Jesteru, perlu ada kajian yang dijalankan yang akan menggunakan intrumen yang telah sedia ada seperti kajian tahap kesedaran '*digital citizenship*' pelajar-pelajar di Malaysia (Zahri, Susanty, & Mustaffa, 2017) atau mengadaptasi kajian luar negara bagi tujuan kajian di Malaysia.

3.0 PERBINCANGAN

'Digital citizenship' adalah satu konsep yang baharu di Malaysia yang perlu diketengahkan terutamanya dalam kalangan pelajar sekolah. Ini bagi membolehkan generasi muda yang ada sekarang ini supaya dapat menjadi pengguna teknologi dengan lebih berhemah. Melalui kajian yang sistematik dan terperinci, matlamat menjadikan setiap warga Malaysia untuk menjadi lebih beretika dan memupuk nilai-nilai murni akan dapat dipercepatkan. Sepertimana keperluan dalam anjakan ketujuh dalam Pelan Pembangunan Pendidikan Malaysia, yang mengkehendaki pemanfaatan ICT dalam peningkatan kualiti pembelajaran, pengetahuan '*digital citizenship'* keperluan anjakan ketiga dalam pelan yang sama, yang hendak menghasilkan rakyat yang menghayati nilai, (Malaysia Education Blueprint, 2013) keterlibatan penggunaan teknologi digital perlu diambil kira. Tahap kesedaran terhadap '*digital citizenship'* dapat membantu anjakan ini supaya perubahan yang diharapkan dapat dicapai.

Hasil dari kajian seumpama ini juga diharapkan akan dapat membantu pihak pentadbir institusi pendidikan untuk mengenal pasti tahap kesedaran '*digital citizenship'* di kalangan pelajar malahan pelajar dan juga pentadbir institusi pendidikan dapat menyediakan perancangan yang sesuai bagi memastikan warga institusi pendidikan dapat menjadi pengguna teknologi yang digital yang berhemat dan mempunyai nilai murni yang tinggi. Malahan bagi pihak institusi pendidikan tersebut dapat mengenalpasti dan mengawal punca-punca berlakunya perlanggaran peraturan disiplin di kalangan pelajar. Kajian sebegini juga dapat membantu kementerian pendidikan membuat intervensi awal dalam beberapa situasi masalah disiplin yang akan berlaku,

Hal ini kerana penggunaan istrumen yang berbeza merujuk kepada elemen yang berbeza. Dengan itu tidak semua sembilan elemen dalam 'digital citizenship' dapat diuji ke atas pelajar-pelajar di Malaysia. Lebih banyak kajian perlu dijalankan sama ada dengan menggabungjalinkan kajian sedia ada ataupun menyediakan instrumen yang mengandungi semua elemen dalam *'digital citizenship'.*

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072 : Kerangka Kerja Bilik Darjah Pintar Berasaskan *Internet of Things* bagi Program Pendidikan Khas Integrasi (PPKI) di Sekolah Menengah

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ABSTRAK

Bilik darjah pintar berasaskan Internet of Things (IoT) merupakan sebuah tempat pengajaran dan pembelajaran yang disokong oleh penggunaan peranti yang menghubungkan penggunaan mesin kepada mesin dan juga manusia kepada mesin. Kerangka kerja bilik darjah pintar ini akan dibina dengan merujuk kerangka kerja kelas pintar dan sekolah pintar sedia ada bagi mengenalpasti keperluan peranti yang sesuai digunakan bagi bilik darjah Program Pendidikan Khas Integrasi (PPKI). Hasil dapatan kajian diperolehi daripada kaedah kualitatif secara temubual kepada guru-guru PPKI di sekolah menengah dan pakar bagi bidang PPKI serta pembangun peranti IoT. Disamping itu, kaedah pemerhatian di persekitaran bilik darjah juga turut dilakukan bagi mengumpul data yang diperlukan. Hal Ini berikutan masih terdapat pengurusan bilik darjah PPKI yang sedia ada kurang kondusif, kekurangan peralatan bahan bantu mengajar yang interaktif dan masalah pengurusan tingkah laku serta keselamatan kurang terkawal. Oleh itu, pembinaan kerangka kerja bilik darjah pintar ini dapat memartabatkan pendidikan Murid Berkeperluan Khas(MBK) kerana murid-murid ini sememangnya memerlukan peralatan yang sesuai bagi meningkatkan kefahaman dan menarik minat untuk belajar serta dapat mengurangkan bebanan dan tekanan guru di sekolah.

Kata Kunci: *Internet of Things*, *Smart classrroom* dan Pendidikan Khas

1.0 PENGENALAN

Malaysia kini berhadapan dengan saingan dengan negara maju dalam mengikuti arus Revolusi Industri 4.0 (IR 4.0). Menteri Pendidikan, Dr Maszlee Malik dipetik berkata, Kementerian Pendidikan menekankan pentingnya prinsip, etika dan sikap bertanggungjawab dalam memacu IR 4.0 dengan kemajuan inovasi digital dan penghasilan *Internet of Things* (IoT) dalam konteks pemberdayakan modal insan. Salah satu daripadanya ialah konsep pembestarian sekolah (Berita Harian, 3 September 2019). Menurut (Halili, 2019) pula, salah satu yang paling disokong dalam pengajaran dan pembelajaran 4.0 ialah kemajuan penggunaan teknologi 4.0 seperti Percetakan 3-D, realiti tambahan, realiti maya, pengkomputeran awan, hologram, biometrik, skrin LCD pelbagai sentuhan, IoT, kecerdasan buatan, data besar dan qr-code dan sebagainya

Internet of Things (IoT) mencipta kecerdikan, rangkaian yang boleh mengesan, mengawal dan memprogram dengan sendirinya. IoT membolehkan peranti atau peralatan komputer menggunakan teknologi yang ada padanya yang membenarkan mereka berkomunikasi secara langsung atau tidak langsung melalui internet. (Jim Chase, 2013). Bilik darjah pintar berasaskan IoT merupakan suatu tempat aktiviti pengajaran dan pembelajaran yang disokong dengan peranti teknologi dan komunikasi (ICT). Pengurusan bilik darjah ini akan melibatkan peranti-peranti yang saling berhubungan dan berinteraksi secara mesin kepada mesin atau manusia kepada mesin.

Kerangka kerja bilik darjah pintar berasaskan IoT ini dapat memudahkan pengurusan bilik darjah bagi Program Pendidikan Khas Integrasi (PPKI). Ini disebabkan, murid-murid di PPKI adalah terdiri daripada Murid Berkeperluan Khas (MBK). Pelbagai kemudahan infrastruktur diperlukan bagi memastikan keadaan murid ketika sesi pengajaran dan pembelajaran dapat dilaksanakan dengan baik dan selesa.

1.1 Latar Belakang Kajian

1.1.1 Program Pendidikan Khas Integrasi

Program Pendidikan Khas Integrasi (PPKI) ialah satu program pendidikan khas yang khusus untuk MBK yang belajar di dalam kelas pendidikan khas secara integrasi di sekolah kerajaan atau di sekolah bantuan kerajaan. Berdasarkan Peraturan-peraturan Pendidikan (Pendidikan Khas) 2013, Pendidikan Khas ertinya pendidikan bagi Murid Berkeperluan Pendidikan Khas di suatu sekolah melaksanakan Program Pendidikan khas atau di sekolah yang Khas Integrasi (PPKI) atau Program Pendidikan Inklusif (PPI) pada peringkat pendidikan prasekolah, pendidikan rendah, pendidikan menengah atau pendidikan lepas

menengah. Dalam sistem Pendidikan Khas di Malaysia, PPKI merupakan penyumbang utama enrolmen Murid Berkeperluan Khas (MBK) dan dilaksanakan di seluruh negara. Murid Berkeperluan Khas ertinya murid yang diperakukan oleh pengamal perubatan, ahli optik, ahli audiologi atau ahli psikologi mengikut mana-mana yang berkenaan, sama ada dalam perkhidmatan kerajaan atau tidak, sebagai murid yang mempunyai ketidakupayaan penglihatan, ketidakupayaan pendengaran, ketidakupayaan pertuturan, ketidakupayaan fizikal, masalah pembelajaran atau mana-mana kombinasi atau ketidakupayaan serta masalah yang telah dinyatakan di atas. (Bahagian Pendidikan Khas, 2015)

1.1.2 Pengurusan Bilik Darjah Pendidikan Khas

Menurut (Hanafi, 2013) secara amnya ukuran umum bagi ruang bilik darjah yang biasa terdapat di sekolah-sekolah ialah 72 meter persegi (9 m x 8 m), tetapi ada di antara bilik darjah di sekolah-sekolah sama ada di bandar mahupun luar bandar tidak mengikut ukuran yang tepat. Pengurusan bilik darjah merupakan tanggungjawab yang paling mencabar bagi seorang guru. Permasalahan pengurusan bilik darjah adalah subjektif dan berbeza bagi semua guru disebabkan faktor murid, demografi sekolah dan guru itu sendiri (Jamaludin, Yusoff, Nor, Izham, & Hamzah, 2018).

Walau bagaimanapun, aspek yang perlu diberi penekanan sewaktu pembukaan PPKI mestilah mempunyai keselamatan kelas, lokasi yang bersesuaian dan keluasan minumum bagi satu kelas PPKI yang dicadangkan adalah satu, satu perdua bay (1 ½ bay). Bagi memastikan faktor-faktor pemilihan ini dipatuhi, pihak JPN perlu menjalankan proses naik taraf atau pengubahsuaian bilik darjah sedia ada. Dicadangkan kelas Pendidikan Khas dibuka di lokasi yang strategik dan perlu berada di aras bawah bangunan sekolah serta mempunyai kemudahan mesra OKU. Ini bertujuan memudahkan pergerakan murid pendidikan khas (Bahagian Pendidikan Khas, 2015)

Sebelum memulakan sesi pengajaran dan pembelajaran, seorang guru perlu memastikan keadaan bilik darjah dalam keadaan yang kondusif kepada murid. Oleh itu, penyusunan perabot seperti meja, kerusi dan peralatan bahan bantu mengajar perlu diberi perhatian agar berada dalam keadaan yang baik. Ini kerana penyusunan yang teratur dapat memudahkan pergerakan murid di sekitar bilik darjah. Justeru itu dapat memudahkan mereka mengakses bahan-bahan pembelajaran.Pengurusan bilik darjah yang baik juga menyumbang kepada peningkatan pencapaian akademik murid. Seorang guru yang baik, haruslah menguasai kemahiran pengurusan bilik darjah (Jamaludin, 2018).

1.1.3 Pengurusan Tingkah Laku dan Keselamatan Murid

Pengurusan bilik darjah juga melibatkan kawalan murid ketika sesi pengajaran dan pembelajaran sedang dijalankan. Kawalan murid juga merupakan faktor bagi memastikan sesi pengajaran dan pembelajaran mencapai objektif pengajaran pada hari tersebut. Menurut (Noor Aini dan Norhafizah, 2015) guru pendidikan khas perlu memahami cara mengurus tingkah laku demi membentuk insan yang mampu berfikir pada aras tinggi, menyelesaikan masalah secara berdikari dan menghargai keunikan individu.

Hal ini disebabkan murid PPKI yang terdiri daripada pelbagai keperluan yang berbeza memerlukan kesabaran yang tinggi daripada seorang guru dalam mendisiplinkan murid. Menurut (Shulman, 1998) guru berperanan membantu mengubah tingkah laku negatif kepada tingkah laku positif dan merancang melaksana amalan pengajaran berkesan melalui amalan praktikal dan penggabungan ilmu pengetahuan.

Selain itu, seorang guru perlulah bersikap kreatif dan inovatif dalam memastikan sesi pengajaran dan pembelajaran yang dilaksanakan dapat menarik minat murid. Oleh itu, pelbagai penggunaan bahan bantu mengajar boleh digunakan bagi mengalih pandangan murid dan seterusnya memberi tumpuan ketika belajar. Walau bagaimanapun, menurut (Hanafi, 2013) kanak-kanak *slow learner* suka kepada ganjaran kerana menjadi satu motivasi yang boleh mengawal tindakan murid untuk berkelakuan lebih baik dan positif. Aktiviti peneguhan dengan memberi ganjaran ini merupakan satu pendekatan penghargaan yang baik dan dapat meningkatkan motivasi kepada murid.

1.1.4 Bilik Darjah Pintar Berasaskan *Internet of Things*

Bilik darjah pintar berasaskan *Internet of Things* merupakan konsep persekitaran peralatan pintar yang terdiri daripada peralatan pengajaran terkini atau peranti pintar. Peranti pintar ini terdiri daripada kamera, mikrofon, dan pelbagai sensor yang boleh digunakan untuk mengukur kepuasan murid dalam pembelajaran. Penggunaan IoT dalam bilik darjah dapat membantu meningkatkan pengajaran dan pembelajaran dengan lebih baik (Gul, 2017). Selain itu, pengurusan bilik darjah pintar ini dapat memberi pendekatan guru mengawal dan menguruskan bilik darjah dengan baik. Hal ini kerana, penggunaan

teknologi sememangnya banyak membantu dalam kehidupan manusia untuk bekerja lebih mudah dan cepat.

Berikut adalah cadangan penggunaan peralatan IoT bagi sesi pengajaran dan pembelajaran yang mana merupakan pendekatan inovasi dalam pendidikan dan pengurusan bilik darjah. Antaranya ialah papan interaktif, pencetak 3D, sensor untuk mengenal pasti suhu bilik, kamera dan video keselamatan, kad identiti murid, pengunci pintu tanpa wayar, ebook, dan sistem kehadiran murid (Gul, 2017). Hasil daripada tinjauan dibeberapa buah sekolah, penggunaan pencetak 3-D telah mula digunakan di sekolah-sekolah terpilih bagi matapelajaran reka bentuk dan teknologi. Namun begitu, terdapat juga sekolah yang menggunakan pencetak 3-D ini bagi matapelajaran pendidikan seni visual. Bukan itu sahaja, pencetak 3-D ini amat berguna bagi meningkatkan kemahiran kreatif dikalangan murid dan membuat inovasi bagi produk yang mereka hasilkan.

Selain itu, terdapat juga beberapa buah sekolah yang telah melaksanakan penggunaan sistem kehadiran murid ke sekolah menggunakan peranti pengimbas jari murid. Oleh itu, rekod kehadiran murid mudah direkodkan dan mengurangkan beban guru kelas. Bagi bilik darjah berasaskan IoT ini, sistem kehadiran pelajar menggunakan kad matrik bercirikan *radio frequency identification* (RFID) telah dilakukan kajian di Universiti Teknologi Malaysia yang mana data akan dibaca dan dihantar kepada server universiti untuk diproses dan mengesahkan pelajar tersebut berada di kelas dan masa yang betul (Chan, Othman, & Abdul Razak, 2017). Namun begitu, kajian ini diharapkan dapat dipertingkatkan lagi pembangunan reka bentuk secara menyeluruh bagi persediaan untuk melaksanakannya di setiap bilik darjah di universiti. Penggunaan kad matrik ini boleh dipraktikkan di sekolah bagi memudahkan pengurusan system kehadiran murid.

Sehubungan dengan itu, dengan adanya bilik darjah pintar ini, maka dapat mengatasi masalah yang dihadapi oleh guru semasa sesi pengajaran dan pembelajaran berlangsung. Guru juga lebih mudah untuk mengawal dan mengurus murid di dalam kelas dengan adanya bantuan teknologi yang disediakan. Menurut (Tasnim & Masud, 2016) sistem bilik darjah pintar yang menggunakan teknologi merupakan kunci penyelesaian bagi membantu guru meningkatkan minat murid dalam akademik. Bilik darjah pintar juga membantu guru dalam menyelesaikan masalah pembelajaran murid yang sukar menguasai pembelajaran konsep abstrak dengan menggunakan gambar 3D (tiga dimensi) dan pendekatan multimedia interaktif.

Walau bagaimanapun, bilik darjah pintar ini bergantung kepada kesesuaian keluasan bilik darjah bagi menampung keperluan teknologi yang hendak digunakan. Menurut (Bautista & Borges, 2013) terdapat tiga konsep bilik darjah pintar iaitu reka bentuk dan ruang yang ergonomik, integrasi cara penggunaan peralatan teknologi (ICT) dan metadologi inovatif pedagogi berdasarkan prinsip pengajaran seperti pembelajaran kolaboratif dan pembelajaran berasaskan projek. Selain itu, bilik darjah pintar ini juga bergantung kepada keselesaan dan keperluan pengguna dengan menggunakan pelbagai sumber, dan pengguna selamat menggunakan peralatan teknologi yang disediakan.

1.1.5 Pengajaran dan Pembelajaran Guru Menggunakan Peralatan Teknologi Maklumat dan Komunikasi (ICT)

Sebelum memulakan sesi pengajaran dan pembelajaran, guru PPKI perlu mengenal pasti tahap pencapaian murid melalui melaksanakan ujian pengesanan ke atas MBK yang baharu memasuki PPKI untuk mengenal pasti pencapaian murid. Seterusnya tahap menggunakan instrumen-instrumen yang sesuai dijadikan ujian pengesanan/diagnostik secara bertulis atau pemerhatian (Bahagian Pendidikan Khas, 2015). Hal ini bagi memudahkan murid diasingkan mengikut tahap agar sesi pengajaran dan pembelajaran lebih berfokus dan senang dirancang oleh guru. Penggunaan peralatan teknologi juga merupakan salah satu cara bagi guru menarik minat murid bagi sesi pembelajaran.

Namun begitu, guru perlu mahir dalam penggunaan peralatan yang disediakan dan mengenalpasti jenis yang sesuai digunakan. Menurut (Siti Badariah, 2015) hasil dapatan kajian tahap penggunaan peralatan ICT bagi guru-guru PPKI di sekolah rendah Pulau Pinang adalah pada tahap sederhana dan terdapat hubungan dengan bidang ikhtisas, kehadiran kursus, umur, sikap, tujuan dan kemahiran ICT. Oleh itu, progam meningkatkan tahap penggunaan ICT guru perlu diberi perhatian. Sejajar dengan pendidikan di negara kita yang menuju ke arah pelaksanaan Revolusi Perindusrian 4.0, pendidikan bagi PPKI perlu diberi perhatian agar sektor pendidikan ini selari dengan matlamat negara.

1.2 Pernyataan Masalah

Pendidikan di Malaysia kini lebih memberi tumpuan kepada menghadapi cabaran Revolusi Perindustrian 4.0. Pelbagai peranti teknologi malumat dan komunikasi (ICT) telah diperkenalkan seiring dengan matlamat menuju negara maju. Negara kita juga ke arah penggunaan perkhidmatan teknologi 5G yang memberikan kelajuan data lebih pantas. Justeru itu penggunaan Internet of Things (IoT) dapat diperluaskan di persekitaran sekolah setelah perkhidmatan 5G ini diperkenalkan di negara kita.

Walau bagaimanapun, dalam mengharungi arus kemajuan teknologi di sekolah aliran perdana, sekolah aliran pendidikan khas tidak seharusnya diketepikan. Pelaksanaan bilik darjah pintar berasaskan IoT ini lebih memberikan penekanan kepada bilik darjah Program Pendidikan Khas Integerasi (PPKI) kerana program ini mempunyai bilik darjah yang tersendiri. Hasil dapatan kajian (Hanafi, 2013) mendapati bahawa hampir keseluruhan guru-guru tidak berpuas hati terhadap infrastruktur bilik darjah pendidikan khas di sekolah masing-masing. Hal ini kerana, keluasan bilik darjah tidak bersesuaian, sempit dan tidak kondusif. Manakala dari segi bahan bantu mengajar pula tidak mencukupi terutama berbentuk bahan ICT terkini. Oleh itu, pelaksanaan IoT dalam pendidikan dapat meningkatkan kualiti proses pendidikan dengan lebih cepat kerana guru dapat melaksanakan tugas dengan lebih efisen (Abdel-Basset, Manogaran, Mohamed, & Rushdy, 2019).

Selain itu, infrastruktur multimedia juga memainkan peranan semasa proses pengajaran dan pembelajaran kerana murid pendidikan khas ini mempunyai minat yang sama seperti murid biasa di mana mereka mudah tertarik dengan bahan-bahan pembelajaran yang bersifat interaktif (Hanafi, 2013). Justeru itu, kerangka kerja bilik darjah pintar ini akan mengenal pasti perisian dan peranti yang sesuai bagi memastikan pengajaran dan pembelajaran yang menarik dapat dilaksanakan. (Hanafi, 2013) juga mengatakan bahawa murid-murid yang menggunakan perisian mesra pendidikan khas akan dapat meningkatkan kemahiran penggunaan komputer. Oleh itu, guru-guru PPKI perlu diberi peluang dan dilatih dengan penggunaan bahan pengajaran yang berteknologi.

Guru PPKI juga menghadapi masalah dalam mengawal tingkah laku murid semasa sesi pengajaran dan pengajaran dilaksanakan. Menurut (Noor Aini dan Norhafizah,2015) tingkah laku bermasalah boleh menyebabkan ketidakseimbangan antara emosi dan aktiviti kehidupan seharian murid serta memberi kesan yang negatif terhadap proses pengajaran dan pembelajaran. Oleh itu, peranti IoT yang mempunyai sensor dapat mengawal suhu bagi memastikan keadaan bilik darjah lebih selesa. Selain itu, pemasangan kamera litar bertutup dapat mengawal dan memantau disiplin murid.

2.0 METODOLOGI

Kajian ini akan menggunakan kaedah kualitatif secara temubual bersama responden yang terdiri daripada guru-guru PPKI sekolah menengah dan golongan pakar PPKI dan juga pihak yang mahir dalam bidang teknologi *Internet of Things.* Selain itu, kajian ini juga akan menggunakan kaedah pemerhatian di kawasan sekolah PPKI. Hasil daripada dapatan yang diperolehi akan dianalisis menggunakan program Atlas ti 8 bagi membantu pengkaji mengenalpasti peranti dan teknologi IoT yang sesuai digunakan bagi membina kerangka kerja bilik darjah pintar PPKI di Malaysia.

2.1 Objektif Kajian

1. Mengenalpasti tingkah laku murid yang menyebabkan keadaan sesi pengajaran dan pembelajaran sukar dikawal.
2. Mengenalpasti bahan bantu mengajar interaktif yang dapat menarik minat murid.
3. Mengenalpasti pengurusan bilik darjah yang membebankan tugas guru.

2.2 Persoalan Kajian

1. Bagaimanakah tindakan tingkah laku murid yang mengganggu sesi pengajaran dan pembelajaran?
2. Bagaimanakah cara mengetahui ciri-ciri bahan bantu mengajar interaktif yang sesuai?
3. Mengapakah pengurusan bilik darjah membebankan tugas guru?

2.3 Model/Kerangka Konsep

Kajian pembinaan kerangka kerja bilik darjah pintar berasaskan *Internet of Things* bagi Program Pendidikan Khas Integrasi (PPKI) di sekolah menengah ini akan merujuk kepada cadangan kerangka kerja sekolah pintar berasaskan IoT oleh (Abdel-Basset, 2019), model kerangka kerja bagi sistem bilik

darjah pintar oleh (Tasnim & Masud, 2016) dan disokong dengan model bagi pendidikan pintar menggunakan permainan oleh (Ajazmoharkan, Choudhury, Gupta, & Raj, 2017). Kesemua model dan kerangka kerja ini perlu merujuk kepada kesesuaian model integrasi teknologi bilik darjah pintar oleh (Huang, Su, & Pao, 2019) yang lebih menekanan kepada sebuah bilik darjah pintar yang direka dan dikonfigurasikan berdasarkan seni bina yang dicadangkan.

Merujuk kepada kerangka kerja (Abdel-Basset, 2019), pelbagai elemen sensor diberi penekanan, antaranya ialah penggunaan peranti sensor bagi mengesan bas yang melalui kawasan sekolah dan mengenalpasti murid didalamnya. Malahan terdapat juga sensor di kawasan tempat meletak kenderaan bagi memudahkan mengelpasti pengunjung yang datang. Selain itu, bagi mengawal tingkah laku murid penggunaan sensor dan kunci Wi-Fi telah dipasang di laluan pintu bilik darjah untuk memantau pergerakan murid keluar dan masuk. Hal ini dapat mengetahui kekerapan pergerakan murid yang yang sering keluar dan masuk ketika sesi pembelajaran dan pengajaran dilaksanakan. Di samping itu, kamera keselamatan turut dipasang bagi memantau keadaan murid di kawasan sekitar tersebut. Terdapat juga penyediaan sensor di bahagian bekas pembuangan sampah bagi memastikan keadaan bilik darjah sentiasa di dalam keadaan kondusif dan selesa. Sensor ini akan memaklumkan sekiranya sampah yang dibuang telah penuh dan dapat melatih murid bertanggungjawab agar kebersihan kelas diutamakan. Bukan itu sahaja, sensor yang dipasang juga berupaya mengesan penjagaan kesihatan murid dan mengukur aktiviti pemikiran otak murid.

Manakala cadangan kerangka kerja oleh (Abdel-Basset, 2019) bagi ciri-ciri bahan bantu mengajar interakif ialah penggunaan bilik darjah digital yang dilengkapi papan tulis dan paparan yang membantu guru. Murid juga menggunakan peranti seperti komputer riba, tablet dan telefon bimbit. Murid diberikan pendedahan kepada sesi pembelajaran dan pengajaran dengan penggunaan realiti maya dan realiti bertambah bagi menarik minat murid di dalam bilik darjah. Hasil kreativiti dan inovasi murid dalam sesi pembelajaran juga dapat dilihat menerusi penggunaan pencetak 3D yang disediakan. Pengujian tahap keupayaan murid juga dilaksanakan secara di atas talian bagi memudahkan capaian dibuat oleh guru dan ibu bapa.

Walau bagaimanapun, menurut (Abdel-Basset, 2019) keperluan peranti IoT dan pelaksanaan ini memerlukan liputan lengkap dengan Wi-Fi berprestasi tinggi bagi memastikan pemprosesan data dapat dilaksanakan dengan baik. Analisis bagi aplikasi rangkaian yang digunakan juga perlu untuk memantau peranti dan jenis rangkaian digunakan. Hal ini disebabkan penyimpanan fail dan program dilakukan menerusi penyimpanan biasa atau berasaskan awan.

Model kerangka kerja bagi sistem bilik darjah pintar oleh (Tasnim & Masud, 2016) pula mempunyai tiga komponen utama iaitu bilik darjah pintar yang dilengkapi dengan keperluan teknologi moden seperti komputer riba, telefon bimbit, televisyen berinteraktif, pengecaman wajah, video kamera resolusi tinggi dan lain-lain. Murid yang hadir perlu mempamerkan kad matrik dan pengecaman wajah akan dilakukan bagi merekod kehadiran murid. Data maklumat murid ini akan sentiasa berhubung dengan server dan pangkalan data bilik darjah pintar. Pangkalan data ini dapat menyimpan pelbagai jenis data sama ada bentuk imej, fail pdf, bunyi, video, 3D dan lain-lain. Kemudahan ini dapat membantu guru masuk ke bilik darjah tanpa membawa rekod kehadiran murid, pen papan putih dan nota pengajaran kerana guru hanya perlu mencari maklumat dengan menggunakan pangkalan data yang tersedia. Guru boleh mengajar tajuk yang dikehendaki menerusi paparan televisyen berinteraktif di dalam bilik darjah.

Komponen kedua menurut (Tasnim & Masud, 2016) ialah fakulti pintar yang bermaksud fakulti dengan kad pintar dan pengecaman wajah. Fakulti pintar membenarkan log masuk ke sesi masing-masing dan boleh melaksanakan tugas yang diperlukan seperti pengurusan kehadiran, nota, kuiz dan pelbagai aktiviti yang penting. Pihak fakulti boleh berinteraksi dengan murid untuk menerangkan topik, menyelesaikan masalah di dalam bilik darjah. Murid yang bertanyakan soalan juga akan dijawab melalui email. Komponen ketiga ialah murid pintar yang mana murid boleh memasuki bilik darjah dengan menggunakan kad pintar. Markah kehadiran murid akan dinilai dengan mempamerkan kad pintar ketika memasuki bilik darjah. Data murid pintar ini akan sentiasa berhubung dengan fakulti pintar bagi mengenalpasti masalah murid.

Selain itu, pengurusan sistem bilik darjah pintar ini dilengkapi dengan penyimpanan maklumat berpusat yang terdiri daripada keseluruhan bahan bantu mengajar berbentuk multimedia yang disimpan di dalam pangkalan data. Bahan bantu mengajar ini boleh dicapai menerusi laman portal di atas talian yang menggunakan beberapa perkhidmatan web yang selamat. Bahan bantu mengajar ini akan digunakan oleh guru mengikut gaya pengajaran berkumpulan yang tersendiri. Sekiranya murid mempunyai sebarang persoalan berkaitan matapelajaran boleh terus menghantarnya kepada guru dan soalan akan dijawab.

Selain itu, perkhidmatan mesej amaran juga disediakan bagi memudahkan penyampaian maklumat kepada ibu bapa sekiranya memerlukan tindakan segera menerusi sistem pesanan ringkas dan email.

Merujuk kepada kerangka kerja pendidikan pintar oleh (Ajazmoharkan, Choudhury, Gupta & Raj, 2017) melibatkan tiga komponen iaitu persekitaran pembelajaran pintar, pedagogi pintar dan pengajar pintar. Komponen pertama iaitu persekitaran pendidikan pintar ini tidak dilaksanakan seperti pembelajaran konvensional kerana pembelajaran tersebut boleh dilakukan di mana sahaja dan bila-bila masa. Pelbagai perkakasan dan perisian yang sesuai boleh digunakan bagi menarik minat murid untuk belajar. Penggunanan papan putih berinteraktif , tablet dan telefon bimbit serta penggunaan meja yang sesuai merupakan contoh jenis perkakasan. Manakala contoh komponen perisian meliputi peralatan dan sistem pembelajaran seperti penggunaan sumber di atas talian, mesej, rangkaian sosial, sumber blog, analisis dan alatan maya.

Manakala pedagogi pintar pula menekankan kaedah pengajaran konvensional tidak sesuai dipraktikkan pada masa kini. Hal ini kerana dengan penggabungan IoT dalam pendidikan memerlukan guru dan penyelidik bekerjasama dalam membangunkan pedagogi yang bersesuaian agar dapat membantu murid lebih memahami sesi pembelajaran dan pengajaran yang disampaikan oleh guru di dalam bilik darjah. Menerusi model pendidikan pintar dengan menggunakan permainan ia lebih kepada gabungan komponen IoT platform yang terdiri daripada persekitaran pembelajaran pintar, pedagogi pintar dan peranti pintar. Sebagai pengguna pintar, mereka perlu mengenalpasti peranti pintar yang sesuai digunakan bagi membolehkannya berinteraksi dengan sistem yang digunakan. Antara peranti pintar yang boleh digunakan ialah tablet, telefon bimbit, komputer, pen pintar dan lain-lain. Generasi pada hari ini lebih suka kepada teknik pembelajaran dan pengajaran yang lebih menarik, cepat dan mudah digunakan. Hal ini kerana murid pada masa kini cepat bosan dan suka menjadikan faktor persekitaran yang tidak selesa sebagai alasan untuk tidak mahu belajar. Guru perlu lebih kreatif bagi memastikan murid di dalam bilik darjah sentiasa bersemangat untuk belajar bagi mengatasi tahap kebosanan murid dengan melaksanakan teknik pengajaran yang sama pada setiap masa. Aktiviti permainan ini lebih menarik minat murid, namun kemahiran guru yang terhad juga merupakan kekangan dalam memastikan pelaksanaan pengajaran dapat dilaksanakan dengan baik.

Walaupun terdapat pelbagai kerangka kerja dan model bagi bilik darjah pintar, senibina pelaksanaan rangkaian yang menghubungkan setiap peranti perlu diberi keutamaan. Hal ini dapat dilihat menerusi kesesuaian model integrasi teknologi bilik darjah pintar oleh (Huang, Su & Pao, 2019). Model ini terdiri daripada empat lapisan integrasi teknologi iaitu lapisan pertama ialah lapisan integrasi peranti, kedua ialah lapisan operasi asas, ketiga pula lapisan operasi kombo dan yang terakhir lapisan aplikasi bilik darjah pintar. Pada lapisan pertama, Raspberry Pi digunakan untuk melaksanakan semua komunikasi peranti secara terus termasuk penerimaan data, menghantar arahan kawalan kepada peranti. Hal ini melibatkan skop dalam bilik darjah pintar yang digunakan. Selaın itu, prosedur komunikasi antara muka dan protokol, seperti TCP / UDP, Litar Antara-Bersepadu (I2C), Interface Perisian Serial (SPI), Input Output Tujuan Umum (GPIO), RS422 / 485/232, Modbus, Tenaga Rendah Bluetooth (BLE), RFID, dan ZigBee, harus dilaksanakan pada Raspberry Pi dalam lapisan ini. Semua bahasa pengaturacaraan yang disokong oleh Raspbian boleh digunakan untuk melaksanakan prosedur komunikasi.

Manakala bagi lapisan kedua pula lebih kepada mengenalpasti operasi asas dalam bilik darjah pintar. Semua operasi yang ditetapkan telah dilaksanakan sebagai panggilan perkhidmatan web dengan Python dan Flask pada Raspberry Pi. Menerusi lapisan ini, semua komunikasi antara peranti pada lapisan pertama tidak dapat dilihat oleh pengguna dan aplikasi. Hanya menghantar permintaan HTTP, pengguna dan aplikasi dapat melaksanakan operasi asas bagi bilik darjah pintar dalam lapisan ini. Seterusnya, lapisan ketiga ini merupakan gabungan operasi asas yang membentuk lapisan operasi kombo. Operasi yang melebihi daripada satu operasi perlu ditakrifkan dan dilaksanakan dalam lapisan ini. Oleh itu, pelayan web pusat dengan hubungan pangkalan data diperlukan. Mana-mana pelayan web, aplikasi web, dan teknologi pangkalan data boleh digunakan untuk membina lapisan ini. Namun begitu, asas operasi dalam lapisan kedua perlu didaftarkan dalam pangkalan data terlebih dahulu. Bagi lapisan yang terakhir pula, lapisan aplikasi bilik darjah pintar ini mengandungi logik atau cara untuk menentukan cara mengawal bilik darjah pintar. Bagi lapisan ini terdapat beberapa aplikasi seperti aplikasi arahan suara, aplikasi pengecaman wajah, aplikasi rekod kehadiran, aplikasi kawalan akses pintu bilik darjah dan lain-lain.

Justeru itu, model dan kerangka kerja ini dapat dijadikan panduan kepada kajian yang dijalankan bagi mengenalpasti kerangka kerja bilik darjah pintar PPKI yang bersesuaian. Hasil dapatan kajian

menerusi kaedah kualitatif ini amat diperlukan bagi mendapatkan maklumat yang dikehendaki untuk menjawab persoalan kajian.

3.0 KESIMPULAN

Peranti IoT berperanan untuk mengoptimumkan operasi, mengurangkan kos, merangsang produktiviti dan memperbaiki kehidupan. Peranti ini mempunyai sensor yang berkaitan dan akan berkomunikasi antara satu sama lain melalui telefon atau mana-mana rangkaian komunikasi (Internet). Terdapat perisian pintar yang akan menganalisis tingkah laku dan mengetahui kedudukan lokasi kita untuk memberikan data yang lebih tepat. Justeru itu, adalah wajar agensi kerajaan seperti MIMOS memainkan peranan untuk memperkembangkan teknologi ini. Oleh kerana MIMOS sudah sekian lama menjalankan penyelidikan dan pembangunan (R&D) dalam teknologi seperti pembuatan cip yang lebih kecil, teknologi sensor, perhubungan secara tanpa wayar, *Big Data*, teknologi pengetahuan, maka amat sesuai teknologi ini dimaklumkan kepada umum. MIMOS merupakan sebuah agensi di bawah Kementerian Sains, Teknologi dan Inovasi (MOSTI), maka adalah amat sesuai sekiranya MIMOS dapat menggabungkan kesemua usaha IoT ini secara bersepadu dan mengeluarkan beberapa produk atau aplikasi IoT di Malaysia (Najmah, 2014). Begitu juga dengan syarikat-syarikat pengeluar produk aplikasi IoT juga dapat menembusi pasaran dengan menghasilkan produk bilik darjah pintar yang diperlukan sesuai dengan keperluan dan kehendak di sekolah.

Oleh yang demikian, bilik darjah pintar yang berasaskan peralatan IoT amat diperlukan bagi Program Pendidikan Khas Integrasi kerana dapat membantu guru dalam mengawal tingkah laku murid ketika sesi pengajaran dan pembelajaran sedang dijalankan. Selain itu, pemasangan peralatan sensor IoT juga dapat membantu guru dalam mengawal keadaan kelas supaya lebih kondusif. Menurut (Hanafi, 2013) satu garis panduan infrastruktur perlu dilakukan agar semua bilik darjah pendidikan khas yang dibina mempunyai infrastruktur yang sesuai serta memenuhi keperluan pengajaran dan pembelajaran pendidikan khas. Namun begitu, pelaksanaan bilik darjah pintar ini perlu dimulakan secara berperingkat bagi membentuk bilik darjah rintis sebagai panduan kepada bilik darjah PPKI yang lain. Diharapkan pada masa akan datang, kerangka kerja bilik darjah pintar berasaskan IoT bagi PPKI dapat ditambah baik dan dilaksanakan dalam sistem pendidikan negara kita.

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STREAM 4 – GUIDANCE AND COUNSELING

019 : Impak Penyalahgunaan Dadah: Kajian Sistematik Literatur

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ABSTRAK

Kajian literatur ini dijalankan bertujuan untuk mengenalpasti pemasalahan yang diakibatkan oleh penyalahgunaan dadah tanpa yang meliputi pelbagai jenis. Mangsa kepada kesan-kesan negatif ini ialah seawal umur janin sehingga kepada warga emas. Golongan remaja khususnya menggunakan platform awal seperti merokok sebelum mula berjinak-jinak dengan ganja, syabu dan heroin. Bagi mereka, permulaan merokok tidak memberi kesan yang besar kepada masa hadapan tanpa menyedari yang ketagihan nikotin menjadi punca mereka tidak mampu meninggalkan rokok dan terus ingin mencuba perbuatan yang lebih ekstrem seperti menggunakan dadah sintetik. Mereka memilih menggunakan dadah-dadah sintetik ini kerana pengaruh rakan sebaya, tekanan hidup, bekerja sebagai pekerja khidmat seks dan menjadi mangsa pemerdagangan orang. Metodologi yang digunakan untuk kajian ini ialah menganalisa Model Prisma dengan melakukan saringan kata kunci, melalui tahun dan subjek bidang. Cabaran-cabaran yang dihadapi sepanjang kajian dilakukan ialah kurangnya jumlah jurnal kuantitatif yang diperlukan, dapat disediakan termasuk istilah-istilah perubatan serta hasil kajian mereka yang agak sukar untuk difahami. Walaupun begitu, usaha yang berterusan telah membuahkan hasil serta carian rekod melalui kaedah tinjauan sistematik ini telah berjaya dilakukan. Kesimpulannya, Impak Penyalahgunaan Dadah banyak memberi kesan negatif kepada masyarakat dan kajian ini boleh digunakan untuk membina modul sama ada untuk menjalankan program-program pemulihan ataupun kaunseling kelompok dengan menggunakan kefahaman multikultur agar aktiviti yang dijalankan adalah harmoni dan memenuhi kehendak kelompak ini.

This study is to identify the problems affected from the Impact Drug accorss different types. Victims of this situation as early as a fetus until an adult. Besides that, a teenager especially who is smoking starts addicted to nicotine and become an active smoker. They never imagine will involve with drugs through tobacco. Hence, they try an extreme activity likes to use a synthetic drug such as in pill form or powder type. Methodology used for this research is finding the records using a Prisma Model. The limitation of records is according to keyword, years and subjects area. During that activities, there was so hard to get a quantitative journals which correspond to the title and without any hesitations, that research is still done successfully. Therefore, this Impact Drug Abuse gave a lot of negatives impression than positive to the people. This research can use multiculture understanding to create modules and implement programmes or consultations for drug addicts in rehabilations sessions.

Kata Kunci: Impak, Penyalahgunaan Dadah

1.0 PENDAHULUAN

Perbezaan antara tinjauan sistematik dengan tinjauan literatur sukar untuk dibezakan kerana kedua-dua kajian tersebut bertujuan untuk meringkaskan sesuatu literatur atau penyelidikan bagi topik yang dipilih. Rajah 1 memberi penjelasan terperinci tentang perbezaan antara tinjauan sistematik dengan tinjauan literatur:

Menurut Kysh & Lynn (2013), Tinjauan Sistematik *(Systematic Review)* membawa maksud iktisar tahap tinggi penyelidikan yang memberi focus utama kepada mengenalpasti persoalan, pilihan-pilihan, mensintesis dan menilai semua bukti kualiti penyelidikan yang berkaitan dengan soalan. Manakala Tinjauan Literatur *(Literature Review)* pula membawa maksud pembuktian secara kualitatif terhadap topic yang menggunakan kaedah tidak rasmi atau method subjektif untuk mengumpul data.

Menurut Kamus Dewan Edisi Keempat (dalam Baharom, et. al., 2005), dadah ialah bahan yang digunakan untuk ubat-ubatan atau bahan (biasanya yang mengetagihkan) yang digunakan sebagai ubat tidur dan dapat menyebabkan khayal atau tidak sedarkan diri serta membahayakan diri. Secara umum,

dadah merupakan bahan kimia psikoaktif yang mempunyai kesan paling ketara ke atas sistem saraf pusat iaitu otak dan saraf tunjang, digunakan bukan untuk tujuan perubatan dan penggunaannya adalah dilarang, diperolehi secara haram, membawa kepada penggantungan fizikal dan psikologikal serta mendatangkan kesan buruk ke atas kesihatan diri dan fungsi sosial (Mohamed, 2006).

Walaupun dadah yang dikenali umum terdiri daripada heroin, morfin dan ganja, pada hakikatnya ia merangkumi juga semua bahan yang boleh memberi kesan seperti yang dinyatakan (Taib, 2005). Oleh itu, sesetengah ubat-ubatan jika tidak digunakan mengikut peraturan dan sukatan yang betul boleh memberi kesan negatif yang sama seperti dadah. Dadah mempunyai kesan paling ketara ke atas sistem saraf pusat individu, memberi kesan pada fizikal, emosi dan mental serta sosial.

1.0 OBJEKTIF

1.1 Apakah impak penyalahgunaan dadah kepada masyarakat dari seawal usia dalam kandungan ibu sehingga dewasa?

Ini merupakan soalan utama untuk mencari jawapan kepada kupasan isu daripada hasil kajian lepas bagi mengenalpasti impak penyalahgunaan dadah kepada masyarakat dari seawal usia dalam kandungan ibu sehingga dewasa yang berunsurkan kepelbagaian budaya

1.2 Apakah akibat penagihan dadah tegar terhadap kesihatan, ekonomi dan persekitaran?

Faktor utama persoalan adalah melihat hasil kajian lepas bagi mengenalpasti kesan penagih dadah tegar terhadap kesihatan, ekonomi dan persekitaran.

1.3 Apakah kesan penyalahgunaan dadah kepada tingkah laku individu tersebut?

Beberapa kesan telah dikenalpasti bagi penagih dadah kepada kelakuan individu tersebut.

2.0 METODOLOGI

Kajian ini telah dijalankan dengan hasil pencarian menggunakan istilah *Impact Drug Abuse.* Metodologi yang digunakan ialah Model PRISMA untuk proses pencarian maklumat-maklumat yang diperlukan menggunakan tajuk yang dipilih. PRISMA atau *Preffered Reporting Items for Systematic Reviews and Meta-Analyses* yang merupakan satu set item minimum yang berasaskan bukti bagi pelaporan dalam tinjauan sistematik dan meta-analisis. Tujuan penyataan PRISMA diguna pakai dalam kajian ini bagi membuat pelaporan sistematik terhadap jenis penyelidikan bagi kajian-kajian yang telah dirujuk (David Moher, Larissa Shamseer, Mike Clarke, Davina Ghersi, Alessandro Liberat, Mark Petticrew, Paul Shekelle, Lesley A Stewart and PRISMA-P Group, 2015).

3.0 STRATEGI PENCARIAN LITERATUR

Kajian ini telah menggunakan SCOPUS database sebagai sumber utama untuk mendapatkan artikel-artikel jurnal kajian. Merujuk kepada Neerushah Subarimaniam, Siti Aishah Hassan dan Noor Syamilah Zakaria (2017), strategi pencarian literatur pertama sekali adalah dengan menaip kata kunci iaitu bagi konteks kajian ini adalah ***Impact Drug Abuse*** telah digunakan untuk mengenalpasti artikel yang berkait. Setiap artikel yang mempunyai perkataan yang sama akan memberi tindak balas dan pelajar perlu bijak memilih jurnal yang bersesuaian.

Saringan seterusnya adalah dengan mengikut tahun bermula dari tahun 2015 sehingga tahun 2019 sahaja. Saringan ini memberi fokus kepada artikel-artikel yang diterbitkan pada tahun tersebut. Tujuan saringan ini dibuat supaya pelajar dapat menumpukan fokus kepada jurnal-jurnal terkini sahaja.

Kemudian, artikel disaring mengikut tajuk bidang subjek iaitu Psikologi, Sains Persekitaran dan Sains Sosial. Bahagian ini memberi fokus jurnal yang merangkumi bidang-bidang tersebut dan pelajar lebih mendalami isu-isu yang dibawa oleh tajuk.

Akhir sekali, pencarian dihadkan kepada jenis capaian secara terbuka. Hasil carian ini adalah jumlah jurnal yang perlu dibaca oleh pelajar dan dipilih mengikut kesesuaian tajuk. Pencarian dikecualikan daripada jurnal kualitatif, jurnal bahasa asing dan jurnal tidak boleh diakses.

Jadual 1 Kriteria Inklusif

Kriteria Dipilih	Penerangan	Literatur Diperoleh	Literatur Akhir
Mengikut istilah perkataan	*Impact Drug Abuse*	8738	8738
Tahun	2015 – 2019	2340	2340
Bidang Subjek	• Psikologi • Sains Persekitaran • Sains Sosial	585	60

Jadual 2 Kriteria Eksklusif

Kriteria Dikecualikan	Jumlah Literatur Dikecualikan
Jurnal Kualitatif	48
Jurnal Bahasa Asing	1
Jurnal tidak boleh diakses (berbayar)	1

Rajah 1 Model Prisma untuk Proses Carian Rekod

4.0 DAPATAN KAJIAN

Jadual 3 Dapatan Kajian

PENULIS	TAJUK ARTIKEL	TAHUN	TAJUK SUMBER	PENEMUAN
Lin C.-J., Chua S., Chung S.-Y., Hang C.-L., Tsai T.-H.	Diabetes mellitus: Faktor risiko bebas kematian di hospital pada pesakit dengan endokarditis infektif di era baru amalan klinikal	2019	Jurnal Antarabangsa Penyelidikan Alam Sekitar dan Kesihatan Awam	Kadar jumlah kematian di hospital bagi kedua-dua kumpulan adalah 20.2% dan lebih tinggi dalam kumpulan 1 daripada kumpulan 2 (41.7% vs 16.5%, p <0.01). Berbanding dengan pesakit tanpa DM, pesakit DM lebih tua dan dikaitkan dengan insiden penyakit kronik yang lebih tinggi, penyalahgunaan dadah yang kurang, tahap kreatinin yang lebih tinggi, dan peningkatan risiko jangkitan Staphylococcus aureus (semua p <0.05). Selain itu, mereka lebih cenderung mempunyai persembahan klinikal yang tidak normal dan dikaitkan dengan masa diagnosis IE yang lebih lama (semua p <0.05). Dalam analisis multivariable, DM adalah bebas diramalkan daripada kematian yang bebas dan signifikan. Prognosis pesakit IE dengan DM masih lemah. Pengenalan awal dan rawatan yang lebih agresif boleh dipertimbangkan dalam pesakit IE dengan DM.
Tanibuchi Y., Matsumoto T., Funada D., Shimane T.	Pengaruh peraturan ketat pada pesakit dengan gangguan berkaitan psikoaktif baru di Jepun	2018	Laporan Neuropsychopharmacology	Keputusan: Sebanyak 2262 orang telah terlibat, dan 399 telah menggunakan bahan psikoaktif baru. Daripada jumlah itu, 71 orang telah beralih ke dadah lain sebagai dadah utama, kebanyakannya ubat perangsang (35.2%), hipnotik dan anxiolytics (15.5%), dan ganja (14.1%) dan menggunakan ubat-ubatan ini dalam tempoh 12 bulan sebelumnya. Majoriti, 53.3%, telah beralih "kerana bahan psikoaktif baru sudah tiada." Secara keseluruhannya, 25 orang menggunakan bahan psikoaktif baru. Kumpulan yang telah menukar dadah mempunyai lebih banyak pengalaman menggunakan methamphetamine dan lebih cenderung untuk menyalahgunakan dadah lain sebelum menggunakan bahan psikoaktif baru. Mereka sering beralih ke dadah haram atau preskripsi selepas peraturan telah diperketatkan. Kesimpulan: Bilangan pesakit yang menyalahgunakan bahan psikoaktif baru menurun selepas peraturan-peraturan dadah diketatkan, tetapi masalah yang berkaitan dengan bahan psikoaktif baru masih wujud. Oleh itu, tidak cukup untuk mengetatkan peraturan. Rawatan pergantungan dadah dan sokongan pemulihan juga diperlukan.

PENULIS	TAJUK ARTIKEL	TAHUN	TAJUK SUMBER	PENEMUAN
Soe N.M.K., Bird Y., Schwandt M., Moraros J.	Kesalahan kesihatan Sti: Kajian sistematik dan meta-analisis keberkesanan campur tangan pencegahan dalam tetapan pendidikan	2018	Jurnal Antarabangsa Penyelidikan Alam Sekitar dan Kesihatan Awam	Hasilnya diklasifikasikan ke dalam kategori tingkah laku dan psikososial. Kategori tingkah laku termasuk pasangan seksual, aktiviti seksual, penggunaan kondom, ujian STI / HIV, dan penggunaan alkohol / ubat sebelum seks. Kategori psikososial terdiri daripada pengetahuan, faktor motivasi, dan kemahiran. Intervensi mempunyai kesan positif yang signifikan terhadap kedua-dua tingkah laku (OR, 1.28; 95% CI, 1.17-1.39) dan hasil psikososial (OR, 1.92; 95% CI, 1.36-2.72). Di antara hasil psikososial, intervensi adalah paling berkesan dalam mempromosikan pengetahuan (OR, 3.17; 95% CI, 2.13-4.72), diikuti dengan meningkatkan faktor motivasi (OR, 1.69; 95% CI, 1.04-2.75) dan peningkatan kemahiran tingkah laku (OR, 1.43; 95% CI, 1.13-1.81). Hasil tinjauan sistematik ini memberikan bukti empirikal untuk profesional kesihatan awam dan pembuat dasar mengenai perancangan, pelaksanaan, penilaian, dan pengubahsuaian program campur tangan pencegahan STI dalam pengaturan pendidikan.
Isnaini F., Nitibaskara T.B.R., Usman W.	Analisis spatial mengenai kesan kerentanan sosioekonomi terhadap penyebaran penyalahgunaan dadah di Indonesia 2015	2018	*IOP Conference Series: Earth and Environmental Science*	Hasilnya menunjukkan bahawa F-Test sig <0.05 bermakna bahawa faktor sosioekonomi secara serentak mempengaruhi kelaziman; Hasil Ujian t menunjukkan hanya tahap pendapatan mempunyai sig <0,05 dan terdapat 2 tahap indeks kerentanan sosioekonomi: tinggi (9 provinsi) dan moderat (25 provinsi), sedangkan tingkat risiko penyalahgunaan narkoba berada dalam 3 tahap: tinggi (5 wilayah), sederhana (9 wilayah), dan rendah (20 wilayah). Kesimpulannya ialah faktor sosioekonomi (pendidikan, pengangguran, pendapatan, nisbah jantina, kadar kemiskinan, dan akses kepada perkhidmatan kesihatan) mempengaruhi tahap penyebaran penyalahgunaan dadah di Indonesia, yang paling memberi pengaruh adalah tahap pendapatan.
Petry N.M., Alessi S.M., Rash C.J., Barry D., Carroll K.M.	Satu percubaan pengurusan kontigensi rawak yang menguatkuasakan kehadiran pada rawatan: Adakah	2018	Jurnal Perundingan dan Psikologi Klinikal	Keputusan: Pesakit yang rawak kepada CM pada kedua-dua titik masa menghadiri lebih banyak sesi dan mencapai lebih banyak pantang daripada yang tidak pernah rawak kepada CM. Relatif kepada UC, menerima CM kehadiran pada minggu 1-6 hanya tidak berkhasiat, tetapi mereka yang menerima CM kehadiran pada minggu 7-12 hanya membuktikan mendapat beberapa manfaat berbanding mereka yang tidak pernah menerima CM. Dua belas minggu kehadiran CM lebih berkhasiat daripada 6 minggu. Tiada

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	tempoh dan masa merupakan perkara utama			perbezaan antara kumpulan dalam penggunaan dadah yang diperhatikan pada susulan, tetapi hari menghadiri rawatan dan sampel negatif sampel semasa rawatan dikaitkan dengan pantang kokain jangka panjang. Kesimpulan: CM berasaskan kehadiran akan meningkatkan penyertaan rawatan dan mengurangkan penggunaan ubat, dengan kesan yang bermanfaat apabila CM disampaikan dalam tempoh yang lebih lama dan semasa fasa berikutnya penjagaan pesakit luar.
Barros F.C., Matijasevich A., Santos I.S., Horta B.L., da Silva B.G.C., Munhoz T.N., Fazel S., Stein A., Pearson R.M., Anselmi L., Rohde L.A.	Ketidaksamaan sosial dalam gangguan mental dan penyalahgunaan bahan pada orang muda: Kajian kohort di Brazil Selatan	2018	Psikiatri Sosial dan Epidemiologi Psikiatri	Keputusan: Walaupun wanita memperlihatkan kelainan mental yang lebih tinggi, penyalahgunaan bahan adalah lebih kerap di kalangan lelaki. Individu dalam kuintil pendapatan paling rendah semasa kelahiran menunjukkan 2-5 kali lebih banyak gangguan mental dan bahan penyalahgunaan berbanding dengan yang paling tinggi. Orang dewasa muda yang selalu miskin atau tidak miskin semasa kelahiran tetapi miskin pada usia 30 tahun mempunyai kelainan mental yang lebih tinggi daripada kumpulan lain. Kesimpulan: Kadar gangguan mental yang tinggi dan percubaan bunuh diri seumur hidup pada orang dewasa muda, terutamanya mereka yang selalu miskin atau menjadi miskin selepas zaman kanak-kanak, mencadangkan bahawa situasi tekanan sosial yang berkaitan dengan sosioekonomi, mungkin mempunyai kesan yang lebih tinggi terhadap kesihatan mental semasa berbanding dengan peristiwa awal kehidupannya. Walau bagaimanapun, kajian tidak dapat mengenal pasti apa perubahan usia sosioekonomi yang lebih penting.
McGovern R., Gilvarry E., Addison M., Alderson H., Geijer-Simpson E., Lingam R., Smart D., Kaner E.	Persatuan Antara Kesihatan Kanak-Kanak, Hasil Psikologi, Pendidikan dan Sosial, serta Ibu Bapa : Penilaian Bukti Cepat	2018	Trauma, Keganasan, dan Penyalahgunaan	Keputusan: Kami mengenal pasti 36 kertas (dari 33 kajian unik), yang kebanyakannya dinilai sebagai kualiti metodologi sederhana hingga tinggi (N = 28). Penyalahgunaan bahan tidak bersandar ibu bapa didapati berkaitan dengan kesulitan pada kanak-kanak, dengan bukti kuat persatuan dengan kesulitan luar negeri (N = 7 kertas, semua mencari persatuan) dan penggunaan bahan (N = 23 kertas, semua mencari persatuan) pada remaja dan beberapa bukti kesan buruk kesihatan pada awal kanak-kanak (N = 6/8 kertas mencari persatuan). Terdapat sedikit bukti mengenai perselisihan antara penyalahgunaan kandungan ibu bapa dan hasil pendidikan dan sosial yang buruk. Tubuh bukti adalah terbesar untuk penyalahgunaan alkohol orang tua,

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				dengan penyelidikan meneliti kesan penggunaan dadah haram orang tua yang terhad. Kesimpulan: Batasan metodologi mengehadkan keupayaan kami untuk membuat kesimpulan kausal. Walau bagaimanapun, kelaziman hasil yang buruk di kalangan kanak-kanak yang ibu bapanya adalah penyalah gunaan bahan tidak menentu menunjukkan keperluan bagi pengamal untuk campur tangan dengan penduduk ini sebelum ibu bapa telah mengembangkan kebergantungan bahan.
Aksenova-Sorokhtei J.N., Baranovskaya E.A., Kuzmina O.L., Makhanek A.B.	Topik untuk menentukan pemandu mabuk memandu kenderaan dalam siasatan kesalahan lalulintas jalan raya	2018	Kriminologi Jurnal Rusia	Penulis menyimpulkan bahawa prosedur pemeriksaan seseorang yang memandu kenderaan perlu diperbaiki. Kebanyakan masalah yang berkaitan dengannya adalah disebabkan oleh kekaburan undang-undang mengenai pilihan institusi perubatan yang perlu menjalankan analisis kimia dan toksikologi cecair badan. Selain itu, undang-undang tidak mempunyai apa-apa peruntukan untuk penyaringan dua bahan biologi untuk mengenal pasti narkotik dan bahan psikoaktif dalam kes-kes apabila keputusan pemeriksaan awal adalah negatif, kerana mereka sering tidak membezakan beberapa jenis narkotik, seperti rempah ratus. Untuk mengenal pasti keadaan mabuk, adalah perlu untuk pemeriksaan perubatan untuk mengikuti prosedur yang ditetapkan dalam undang-undang prosedur jenayah, yang sepatutnya termasuk mendapatkan sampel biologi untuk ujian dan kepakaran kimia dan toksikologi forensik selanjutnya.
Christopher P. Salas-Wright & Michael G. Vaughn	Erratum kepada: Kegunaan Marijuana di kalangan orang muda dalam era perubahan dasar: Apakah bukti terkini yang memberitahu kita?	2017	Jurnal Amerika mengenai Penyalahgunaan Alkohol dan Dadah	Khususnya, kita melihat bahawa, antara pengguna ganja semasa, kira-kira satu daripada empat remaja (26%) dan satu daripada lima orang dewasa muda (21-22%) memenuhi kriteria diagnostik untuk penyalahgunaan ganja.
Cohier C., Mégarbane B., Roussel O.	Ubat haram dalam cecair: Penilaian dua jenis alat	2017	Jurnal Analitikal Toxikologi	Kami menilai dua alat koleksi, Quantisal® dan Certus® collectors, kerana kesesuaian mereka untuk mengumpul sampel untuk membenarkan pengesahan makmal memandu selepas penggunaan dadah haram. Empat

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				parameter dipelajari termasuk (i) yang dikumpulkan daripada jumlah; (ii) kecekapan pemulihan menggunakan OFs yang berduri dengan opiates, cannabinoids, amfetamin, kokain dan metabolitnya; (iii) kestabilan dadah selepas penyimpanan selama 1, 7 dan 14 hari pada -20 ° C, + 4 ° C dan suhu bilik; dan (iv) kesan sel mulut yang terdapat di dalam kestabilan dadah. Kepekatan dadah diukur menggunakan gas dan spektrometri massa kromatografi cecair. Pengumpul Certus® membenarkan pengumpulan lebih besar (0.94 ± 0.18 mL berbanding 0.84 ± 0.06mL, P = 0.08) tetapi kurang boleh dihasilkan daripada jumlah (19 vs 6.7%) berbanding pengumpul Quantisal®. Pemulihan dadah jauh lebih baik dengan Quantisal® berbanding dengan pengumpul Certus®, terutamanya apabila digunakan untuk mengesan cannabinoids (0.94 vs. 0.54, P <0.001 untuk Δ9-tetrahydrocannabinol (THC)). Bagi kedua-dua pengumpul, penyimpanan pada 4 ° C adalah lebih baik kecuali untuk metadon, kestabilan yang diubah oleh kepatuhan kepada alat pengumpul. Di hadapan sel mulut dalam sampel, konsentrasi THC berkurangan pada Hari 7 berbanding Hari 1 dengan kedua-dua alat koleksi (P = 0.001 dengan pengumpul Quantisal® dan P = 0.01 dengan pengumpul Certus®). Kesimpulannya, pemungut Quantisal® lebih dipercayai daripada pemungut Certus® walaupun kebolehlaksanaan kedua-dua peranti masih akan ditentukan di tepi jalan.
Allen S.T., Ruiz M.S., Jones J.	Mengukur Ruang Operasi Program Pertukaran Syringe di Daerah Columbia	2016	AIDS dan Ciri-ciri Kelakuannya	Penemuan ini memperlihatkan sekatan yang signifikan terhadap jumlah ruang operasi SEP yang sah di Washington, DC, yang dikenakan oleh Peraturan Kaki 1000. Mengubah dasar ini boleh memberi impak yang besar kepada penyampaian perkhidmatan SEP di kalangan penyuntik.
Fort C., Curtis B., Nichols C., Niblo C.	Ketoksikan asetil fentanyl: Dua laporan kes	2016	Jurnal Analitikal Toxikologi	Dalam dua kes yang berasingan, asetil fentanyl didapati berada dalam kepekatan yang sama dengan yang dilaporkan sebelum ini dan diperintah sebagai punca kematian. Kepekatan asid fentanyl ditentukan dalam sampel darah, hati, otak, humor vitreous, dan air kencing. Individu 1 mempunyai kepekatan asid fentanyl sebagai berikut: darah jantung-285 ng / mL, darah femoral-192 ng / mL, hati-1,100 ng / g, otak-620 ng / g, dan air kencing-3,420 ng / mL. Individu 2 mempunyai kepekatan asid fentanyl seperti berikut: darah jantung-210 ng / mL, darah femoral-255 ng / mL, air kencing-2,720 ng / mL

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				dan humor vitreous-140 ng / mL. Keadaan eksperimental untuk pemeriksaan dan kuantiti disediakan, menggunakan kaedah immunoassay dan GC / MS. Disebabkan kemunculan acetyl fentanyl baru-baru ini, lebih banyak data perlu dijana untuk membezakan sepenuhnya kepekatan dan asid fetanyl rekreasi dan mati-matian untuk membantu ahli toksikologi dengan tepat memahami kesan fisiologinya.
Rosni Wazir,* Abur Hamdi Usman, Norsaleha Mohd Saleh, Suriani Sudi, Abdul Hadi Awang & Syamim Zakwan Rosman	Hadis Targhib Dan Tarhib Dalam Menangani Isu Penagihan Dadah	2019	Jurnal Hadis Vol. 9, No. 17, June 2019	Peningkatan jumlah penagih dadah pada masa kini sangat mengganggu walaupun terdapat pelbagai tindakan pencegahan dan pemulihan yang diambil untuk menyelesaikan masalah ini. Pendekatan agama dalam rawatan adalah salah satu alternatif yang sering dikaji. Ketidakseimbangan antara kemajuan negara dan pertumbuhan rohani telah menyebabkan orang ramai terlibat dalam ketagihan dadah. Dalam menangani isu penagihan dadah, peranan agama sangat penting terutamanya dalam penyembuhan sebelah rohani kumpulan ini. Setiap agama mempunyai terapi pemulihan dadah sendiri. Kaedah ini mengurangkan bilangan penagih dadah dalam masyarakat. Hadith sebagai rujukan kedua dalam Islam selepas Quran memainkan peranan penting dalam menyelesaikan masalah umat Islam. Oleh itu, berdasarkan kaedah kualitatif kesusasteraan, artikel ini mengkaji pendekatan pemulihan penyalahgunaan dadah mengikut hadith yang diriwayatkan berdasarkan konsep targhib dan tarhib. Konsep targhib dan tarhib dapat memberikan pandangan yang luas tentang masalah ketika Nabi (SAW) menerapkan pendekatan ini dan mencakup semua aspek khotbahnya. Penemuan menunjukkan bahawa sesetengah had targhib dan tarut sesuai sebagai pemulihan pemangkin bagi penagih dadah dan sebagai panduan untuk masyarakat. Oleh itu, untuk menyokong dan mendekati masyarakat penagih dadah berdasarkan bimbingan Rasulullah (SAW) adalah langkah bijak ke arah masyarakat ini.
Jacob Jones and K Nicole Jones	Commentary on Jones J, Jones KN and Peil J (2018) The impact of the	2019	Sage Vol 13: 1-4	Kami mengenal pasti beberapa trend termasuk, tetapi tidak terhad kepada, peningkatan kadar penggunaan ganja selepas decriminalization, tetapi bukan reaksi penjual dadah; pengesahan mariyuana rekreasi yang membawa kepada penurunan dalam hubungan antara penggunaan ganja dan alkohol; dan

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	legalization of recreational marijuana on college students. Addictive Behaviors 77: 255–259			mengenal pasti peminum minuman keras sebagai penduduk berisiko tinggi untuk penggunaan ganja selepas pengesahan rekreasi. Kami juga meneroka hubungan rumit antara penggunaan ganja dan prestasi akademik, dan menunjukkan kawasan di mana kajian masa depan diperlukan
Bereket Duko1, Yirdaw Melese2, Jemal Ebrahim1	Penentu merokok di kalangan remaja di Ethiopia: Kajian rentas keratan	2019	Tobacco Induced Diseases	Peluang pelajar merokok didapati 11% (95% CI: 8.5-13.9) di mana 9.4% adalah perokok semasa. Kadar rokok di kalangan lelaki dan wanita adalah 8.2% dan 2.8%. Seorang kanak-kanak yang mempunyai asap (AOR = 4.04, 95% CI: 2.04-7.45), khat mengunyah (AOR = 5.57, 95% CI: 2.44 -12.76), penggunaan alkohol (AOR = 4.14, 95% CI: 1.84-9.70) dan penggunaan dadah haram atau haram (AOR = 5.84, 95% CI: 1.96-17.36) didapati berkaitan dengan rokok.
Manoj Sharma & Ram Lakhan	Potensi Terapi Perilaku Emotive Rasional (REBT) bagi Pemuda dalam Pendidikan Alkohol dan Dadah	2019	Jurnal Pendidikan Alkohol & Dadah	Permohonan REBT boleh menjadi kaedah yang berkesan untuk mencegah dan membantu belia menahan diri dari minum dan tingkah laku penyalahgunaan kandungan. Walau bagaimanapun, lebih banyak kajian diperlukan untuk menilai kesan aplikasi REBT dalam mencegah pengambilan alkohol dan tindak balas penyalahgunaan dadah di kalangan belia. Lebih banyak campur tangan belia pendidikan berdasarkan REBT boleh membantu dalam mengubah pola pemikiran mereka, mengendalikan perasaan negatif, dan mengelakkan tindakan yang boleh membawa kepada tingkah laku tidak sihat dan ketagihan.
Vahid Yazdi-Feyzabadi1, Mohammad Hossein Mehrolhassani2, Farzaneh Zolala3, AliAkbar Haghdoost4	Penentu amalan seks berisiko, penyalahgunaan dadah dan penggunaan alkohol dalam remaja di Iran: semakan sastera yang sistematik	2019	Pubmed.gov	Dua belas kajian dikaji secara teliti. Penemuan ini diklasifikasikan kepada lima tema utama (termasuk individu, keluarga, rakan, sekolah, dan komuniti) dan 26 sub-tema. Tema dan subtema utama yang paling kerap adalah keluarga, usia lebih tinggi, jantina lelaki, kepercayaan agama yang lemah, harga diri yang rendah, tingkah laku anti sosial dalam keluarga, pekerjaan ibu, gaya keibubapaan, keintiman yang tidak baik ibu bapa, ketidakhadiran ibu bapa, tekanan rakan sebaya, dan Kekurangan rekreasi yang sesuai. Tiada kajian primer merujuk kepada faktor-faktor politik, ekonomi, atau polisi yang mempengaruhi kelakuan sedemikian.

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and Nadia Oroomiei5				

5.0 PERBINCANGAN

5.1 Kehilangan Modal Insan

Kaunselor perlu mendedahkan kepada para penagih dadah kesan ketagihan ini bukan sahaja merosakkan diri sendiri tetapi turut memberi kesan kepada masyarakat sekeliling kerana masyarakat yang akan dihasilkan pada masa hadapan adalah bermula dari masa kini. Ibu-ibu mengandung yang dijangkiti AIDS dan HIV akan melahirkan pewaris-pewaris yang cacat, terencat, atau berpenyakit yang sama di mana tiada ubat yang boleh menyembuhkan penyakit ini. Mereka akan dipinggirkan dan membesar di lorong-lorong terbiar kerana ketiadaan ibu bapa. Boleh jadi mereka ditinggalkan, orang tuanya ditahan di dalam penjara atau sudah meninggal dunia akibat penyakit ini. Generasi yang dilahirkan juga lemah dan antibodi mereka juga tidak mampu bertahan dengan penyakit ini. Nasib mereka turut berakhir seperti orang tua mereka. Negara kehilangan modal insan bagi meneruskan agenda-agenda negara untuk menuju sebagai negara maju.

5.2 Pembangunan Ekonomi Mundur

Selain itu, ekonomi di kawasan itu juga mundur kerana tidak boleh dijana lantaran masyarakatnya tidak mampu untuk hidup normal dan berdaya saing seperti masyarakat yang maju. Kecenderungan masyarakat untuk hidup secara tidak sihat ini melahirkan generasi yang tidak berwawasan, mundur, persekitaran yang berbahaya dan tidak terjamin keselamatannya kerana rakyatnya hidup dengan merompak atau mencuri bagi membeli bekalan dadah. Lebih parah, ada yang sanggup sehingga membunuh semata-mata untuk membeli najis dadah terbabit.

5.3 Tingkah laku

Bagi penagih itu sendiri, ada yang bertindak agresif dan ada yang bersifat pasif untuk mendapatkan bekalan dadah. Mereka tidak mampu untuk berfikir secara rasional setelah menggunakan dadah secara berlebihan di mana telah memberi kesan kepada kesihatan mereka. Kesan ini tidak mengira umur penagih sama ada muda atau tua sebaliknya bergantung kepada tempoh masa dan dos yang telah diambil oleh mereka. Kebanyakan mereka terlibat dengan dadah seawal usia dalam kandungan kerana ibu yang mengandungkan janin tersebut merupakan seorang penagih dan memberi kesan kepada janin tersebut. Natijahnya, generasi yang dilahirkan adalah pesakit-pesakit HIV yang tiada ubatnya dan menunggu saat untuk meninggal dunia. Negara telah kehilangan sumber tenaga muda akibat sikap tidak bertanggungjawab mereka ini.

6.0 RUMUSAN

Oleh itu, kaunselor sentiasa berhadapan dengan klien yang pelbagai dan unik. Dengan keunikkan tersebut, penerimaan tanpa syarat sangat penting kerana kepelbagaian kaum dan kelompok-kelompok yang ada (Noria Ab. Karim & Siti Aishah Hassan, 2019). kajian ini dapat dirumuskan bahawa kaunselor boleh menggunakan modul multikultur untuk sesi terapi para penagih kerana latar belakang yang dimiliki oleh mereka adalah berdasarkan cara ketagihan, jenis penggunaan dadah, sikap dan kesan pengambilan dadah membolehkan kaunselor merangka program yang bersesuaian untuk membantu mereka sembuh secara berperingkat-peringkat. Selain itu, kaunselor boleh memahami cara mereka berfikir dan cara penagih bertindak apabila tidak mendapat bekalan dadah yang berterusan dalam tempoh masa yang panjang agar modul yang dibina bersesuaian dengan keseragaman tingkahlaku yang dizahirkan oleh mereka.

Secara teorinya, modul yang dibina adalah untuk membentuk masyarakat yang harmoni dan hidup secara aman melalui proses pemulihan yang sistematik melalui persilangan budaya ini.

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026 : Gaya Keibubapaan ke atas Remaja yang Terlibat dengan Penyalahgunaan Bahan : Kajian Sistematik Literatur

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ABSTRAK

Gaya keibubapaan merupakan proses menjaga, pelihara, mengasuh dan mendidik anak-anak oleh ibu bapa. Proses ini dipengaruhi oleh input daripada ibu bapa dan akan mempengaruhi kesan yang bakal terjadi kepada anak-anak. Ramai penyelidik sebelum ini melakukan beberapa kajian mengenai faktor dan implikasi yang berlaku terhadap gaya asuhan ibu bapa. Penyalahgunaan bahan merujuk kepada apa jua jenis bahan yang bertentangan dengan jenis rawatan dan fungsinya. Contohnya seperti ubat, racun, dadah dan alkohol. Punca-punca penyalahgunaan bahan keatas anak-anak dapat dilihat dari gaya asuhan ibubapa sejak kecil. Oleh itu, kajian ini ingin mengkaji mengenai apakah gaya asuhan ibu bapa memberi impak kepada remaja. Bagaimana gaya asuhan mempengaruhi keterlibatan anak-anak dan sikap ibu bapa terhadap anak-anak yang terlibat dengan penagihan alkohol. Apakah hubung kait di antara sikap ibu bapa dan gaya keibubapaan terhadap kecenderungan remaja dengan ketagihan penyalahgunaan bahan Data kuantitatif telah digunakan untuk mendapatkan pandangan yang lebih baik mengenai gaya keibubapaan ibu bapa ke atas anak-anak yang terlibat dengan penyalahgunaan bahan. Faktor ini adalah daya tahan dan kepentingan keluarga dalam kehidupan individu. Hasil penyelidikan ini membuktikan terdapat hubungan antara gaya keibubapaan ke atas anak-anak yang terlibat dengan penyalahgunan bahan.

Kata Kunci: Gaya Asuhan, Ibu bapa, remaja, penyalahgunaan bahan.

1.0 PENGENALAN

Keibubapaan adalah satu proses berterusan di mana pelbagai cabaran dilalui dalam usaha mendidik anak-anak. Antara proses-proses yang dilibatkan dalam mendidik anak-anak ialah displin, penjagaan alternatif anak, keibubapaan bersama, seni keibubapaan dan lain-lain. Setiap ibu bapa harus memperkasakan diri dengan ilmu dan kemahiran bagi memastikan anak-anak tidak terlibat dengan masalah sosial. Sehubungan dengan itu, gaya keibubapaan yang sesuai harus dilaksanakan oleh setiap ibu bapa demi memastikan kehidupan lebih sempurna dan teratur. Ini kerana, remaja zaman sekarang tidak seperti remaja zaman dahulu. Ini kerana mereka terdedah dengan pelbagai kejutan budaya, teknologi dan persekitaran yang lebih mencabar di zaman globalisasi.

Menurut Rodowicz dan Kitto (1994, nilai yang ada pada seseorang itu akan mempengaruhi cara seseorang berfikir, sikap dan menilai sesuatu hal serta melakukan sesuatu dalam hidup mereka. Nilai yang terbentuk dari waktu kanak-kanak membesar tentunya akan terbawa-bawa sehingga kea lam dewasa malah dipraktikkan untuk seumur hidup. Oleh itu, peranan ibu bapa adalah amat penting untuk membentuk sahsiah anak-anak agar mereka menjadi insan yang berguna dan mengelakkan dari perkara-perkara yang terkutuk. Dari perspektif islam, ibu bapa diangkat statusnya sebagai nasab yang wujud diantara ibu bapa dengan anak yang mana merangkumi aspek menunaikan hak daripada ibu bapa kepada anak-anak.

Dalam aspek ini, penulis mengenalpasti tiga gaya keibubapaan yang ingin dikaji iaitu autoritatif, autoritarian dan permisif. Autoritatif merupakan gaya dimana ibu bapa membentuk peraturan keluarga dan membuat jangkaan yang jelas untuk difahami oleh anak-anak. Untuk mendidik ibu bapa menggunakan prinsip kuasa dan alasan dalam melaksankan tindakan atau hukuman. Namun begitu, ibu bapa masih menyediakan ruang perbincangan secara terbuka dengan anak-anak. Autoritarian pula dimana ibu bapa menzahirkan teknik keibubapaan dengan membentuk peraturan serta membuat jangkaan yang tegas untuk diikuti oleh anak-anak. Ibu bapa mengharapkan anak patuh dengan peraturan dalam keluarga.

Permisif pula merupakan gaya keibubapaan yang longgar dan membiarkan anak-anak membuat keputusan sendiri tanpa ada peraturan yang jelas dalam keluarga. Kebiasaannya, anak- anak yang terhasil daripada jenis keibubapaan ini cenderung untuk membuat masalah kerana peraturan yang longgar dan tidak tegas.

2.0 OBJEKTIF

Objektif kajian ini adalah untuk meneroka hubungan gaya keibubapaan dengan penglibatan anak-anak remaja yang terlibat dalam penyalahgunaan bahan. terhadap anak-anak yang terlibat dengan penyalahgunaan bahan. Daripada kajian yang telah dibuat sebelum ini banyak faktor yang menyumbang kepada gaya asuhan ibu bapa. Soalan yang akan disediakan akan memberi gambaran mengenai ulasan kajian tinjauan.

i. Apakah gaya asuhan yang terbaik yang memberi impak terhadap remaja?

   Soalan ini mengkaji apakah gaya asuhan yang terbaik yang boleh diaplikasikan oleh ibu bapa terhadap anak-anak yang seterusnya memberi impak kepada remaja.

ii. Bagaimana gaya asuhan ibu bapa dapat mempengaruhi tingkahlaku remaja yang terlibat dalam penyalahgunaan bahan

   Soalan ini meneroka tentang bagaimana gaya asuhan ibu bapa dapat mempengaruhi tingkahlaku remaja yang terlibat dalam penyalahgunaan bahan.

iii. Apakah hubung kait di antara sikap ibu bapa dan gaya asuhan terhadap kecenderungan remaja dengan ketagihan penyalahgunaan bahan.

   Soalan ini ingin mengkaji perkaitan di antara sikap ibu bapa dan gaya asuhan yang mendorong remaja terlibat dengan penyalahgunaan bahan.

3.0 METODOLOGI

Merujuk kepada artikel kajian oleh Neerushah Subarimaniam. Et. El (2017) menyatakan kajian lepas dimulakan dengan menggunakan beberapa kata kunci parenting style'. Kajian sistematik literatur djalankan melalui penggunaan beberapa kata nama seperti menggunakan pencarian melalui kata nama *'parenting style'*. Menurut LeBlanc (2010), kajian sistematik literatur adalah untuk mendapatkan ulasan penulis daripada bias melalui kritikal analisis dan sintesis. Ia akan membantu pengkaji baharu mendapatkan ruang melaksanakan kajian baharu dalam perspektif yang berbeza. Selain itu, objektif artikel yang dipilih akan membantu pengkaji membuat rumusan dan kesimpulan baharu dalam menjalankan kajian baharu melalui pemilihan artikel yang tertentu

3.1 Strategi Pencarian

Carian literatur telah dilakukan dalam pangkalan data SCOPUS. Pengulas menggunakan dua penunjuk utama iaitu *'parenting style'* untuk mendapatkan senarai lanjutan literatur. Di samping itu, terdapat beberapa kriteria kemasukan dan pengecualian yang dimasukkan dalam proses carian seperti yang ditunjukkan dalam Jadual 1 dan 2. Semua literatur yang diambil adalah dari tahun 2015 hingga 2019 sahaja. Walau bagaimanapun, keputusan sains komputer, perubatan, kejuruteraan, kejururawatan, matematik, perniagaan, pengurusan dan perakaunan dikecualikan dalam bidang subjek pangkalan data SCOPUS. Alasan utama untuk mengkaji semula gaya asuhan ibu bapa terhadap anak-anak yang terlibat dengan penyalahgunaan bahan.

Maklumat lanjut mengenai istilah carian dalam pangkalan data SCOPUS ditunjukkan dalam Jadual 1. Bilangan jurnal yang didapati menggunakan kata kunci carian adalah yang tertinggi. Walau bagaimanapun, bilangan itu menurun dalam setiap penapisan kriteria inklusi dan pengecualian. Carian itu berhenti apabila pengulas berpuas hati dengan pengumpulan jurnal dalam pangkalan data. Semua jurnal yang dikenal pasti disimpan dalam format Adobe pdf (Versi 3). Setiap jurnal dipelajari, dikaji,

dan maklumat dipindahkan ke dalam jadual seperti yang ditunjukkan dalam Jadual 3. Aliran peninjauan sistematik telah dimulakan dengan mencari kata kunci, diikuti oleh tahun penerbitan, kawasan subjek, jenis artikel, dan sumber jurnal seperti yang ditunjukkan dalam Rajah 1. Rajah 1 memberikan pemahaman yang lebih baik mengenai kajian semula itu, dan setiap pencarian adalah boleh direproduksi.

Terdapat 4641 jurnal relevan yang terdapat pada kata-kata utama parenting style dan hanya 556 jurnal dari kata substance abuse. Kemudian, pencarian telah dikecilkan dari tahun 2016 hingga 2020 yang pergi ke 222 artikel yang dijumpai. Kemudian, pencarian itu tidak mengecualikan sains komputer, perubatan, kejuruteraan, kejururawatan, matematik, perniagaan, pengurusan & keputusan perakaunan sebagai 24 artikel yang ditemui

Jadual 1. Kriteria Pemilihan

Inclusion Criteria Presented in Order	Particulars	Literatures Identified	Remaining Literature
Gaya Asuhan	4641	4641	
Substance Abuse	556	556	
Years	2019	52	222
	2018	48	
	2017	35	
	2016	42	
	2015	45	

Table 2 Kriteria Pengecualian

Exclusion Criteria Presented in Order	Particulars	Literatures Identified	Remaining Literature
Computer science, medicine, Engineering, Nursing, Mathematics,Business, Management & Accounting Decision	334	334	24

4.0 Penemuan Kajian Literatur

Ringkasan literatur ditunjukkan dalam Jadual 3. Literatur telah dikaji semula menggunakan lima kategori iaitu pengarang, tahun penerbitan, tajuk jurnal, sumber tajuk, dan penemuan.

5.0 PERBINCANGAN

Tinjauan ini membincangkan mengenai gaya asuhan yang terbaik yang memberi impak kepada remaja. Tidak dinafikan keluarga merupakan rujukan awal bagi seseorang remaja untuk mendapat pendedahan ilmu dan mempelajari tingkah laku, corak keibubapaan yang betul akan menjadikan uasaha mendidik dan mengasuh anak-anak menjadi lebih berkesan dan efektif. Segala peristiwa yang berlaku kepada remaja semenjak kecil merupakan sebahagian daripada proses sosialisasi (Mohd Taib Osman, 1995). Satu persoalan timbul bagi penulis: Adakah hubungan gaya keibubapaan (autoritarian, autoritatif dan permisif) dalam membesarkan anak-anak remaja dan penglibatan mereka dalam penyalahgunaan bahan. Teknik keibubapaan yang betul akan mendorong tingkahlaku positif anak-anak dalam kehidupan seharian, seterusnya menjadikan mereka remaja yang positif. Menurut Muniz-Rivaz M, Vera M, Povedano-Diaz A, dalam jurnal bertajuk *Parental Style, dating violence and gender* tahun 2019, gaya ibu bapa authoritarian memperoleh skor tertinggi dimana gaya ibu bapa yang memanjakan akan melindungi mereka daripada keganasan dalam hubungan remaja dan mereka juga menjelaskan risiko terhadap gaya keibubapaan tersebut sebagai model memlihara anak dan keluarga.

Selain itu, bagaimana gaya asuhan ibu bapa dapat mempengaruhi tingkahlaku remaja yang terlibat dalam penyalahgunaan bahan. Soalan ini ingin mengkaji perkaitan di antara sikap ibu bapa dan gaya asuhan yang mendorong remaja terlibat dengan penyalahgunaan bahan. Elemen mengawal dan memaksa merupakan strategi keibubapaan yang paling kerap digunakan oleh ibu bapa yang bersifat autoritarian. Menurut Baurind (1971), ibu bapa autoritarian cenderung bersifat menyekat dan menghukum anak mereka. Mereka mendesak anak-anak untuk mengikut semua arahan mereka untuk menghormati kerja dan usaha. (Santrock, 1998). Dalam konteks hubungan hubungan ibu bapa-remaja, kawalan yang ketat dikenakan dan kebebasan dalam bersuara juga terhad dan disekat. Menurut Longmore, Monica dan Giordano (2001), kawalan paksaan termasuk lah menampar, memekik dan membantah. Mereka mempercayai kawalan ini mempengaruhi tingkahlaku positif dikalangan remaja.

Seterusnya, mengkaji sikap ibu bapa dan juga gaya asuhan terhadap kecenderungan anak- anak terlibat dengan penyalahgunaan bahan melibatkan alkohol. Menurut Cablova L, Csmey L. Belacek J, Miovsky M dalam kajian yang bertajuk *Parenting styles and typology of drinking among children and adolescents* tahun 2019, menyatakan sikap dan tingkahlaku ibu bapa memberi kesan kepada remaja. Oleh itu, pencegahan utama perlu memberi tumpuan kepada remaja yang terlibat.

Dalam hal ini ibu bapa seharusnya tidak berputus asa dalam membentuk sahsiah dan jati diri anak-anak. Adalah penting bagi ibu bapa dalam meneruskan kesinambungan fitrah akhlak anak menekankan pendidikan agama sejak kecil lagi. Ini bagi menjamin akhlak anak-anak terjaga dan tidak terpengaruh dengan anasir luar apabila menempuh alam remaja. Walaupun terdapat kelemahan dalam ilmu keibubapaan, namun dengan adanya didikan agama yang kukuh, seseorang remaja itu mampu menepis segala anasir jahat yang cuba mempengaruhinya.

Jadual 3 Dapatan Kajian

PENULIS	TAJUK ARTIKEL	TAHUN	JURNAL	PENEMUAN
Pinquart M., Gerke D.-C.	Persatuan Gaya Keibubapaan dengan Kepuasan Diri dalam Kanak-kanak dan Remaja: Analisis Meta	2019	Jurnal Pengajian Anak dan Keluarga	Kesimpulan: Kami menyimpulkan bahawa korelasi antara gaya keibubapaan dan harga diri kanak-kanak tidak dapat ditafsirkan sebagai kesan murni gaya keibubapaan dan penyelidikan yang lebih panjang diperlukan untuk menguji potensi kesan dua hala.
Muñiz-Rivas M., Vera M., Povedano - Díaz A.	Gaya ibu bapa, keganasan dan jantina	2019	Jurnal Antarabangsa Penyelidikan Alam Sekitar dan Kesihatan Awam	Hubungan antara gaya keibubapaan dan keganasan remaja remaja telah menjadi topik penyelidikan yang relevan dalam beberapa tahun kebelakangan ini, terutamanya yang berkaitan dengan keganasan yang dikenakan dalam talian. Untuk memahami sepenuhnya hubungan ini, matlamat kajian ini adalah untuk mengkaji gaya keibubapaan (autoritarian, memanjakan, berwibawa, atau mengabaikan) yang terbaik untuk melindungi keganasan dating dalam hubungan remaja.

PENULIS	TAJUK ARTIKEL	TAHUN	JURNAL	PENEMUAN
				Oleh itu, remaja dengan ibu autoritarian memperoleh skor tertinggi mengenai keganasan dan kawalan yang dikenakan secara dalam talian, masing-masing, dan gadis remaja dengan bapa autoritarian memperoleh skor tertinggi dalam keganasan verbal-emosi. Penemuan ini menunjukkan bahawa gaya memanjakan adalah gaya keibubapaan yang melindungi daripada keganasan dalam hubungan dating remaja, dan mereka juga menyerlahkan risiko gaya otoriter sebagai model pemeliharaan anak keluarga.
Rudd J.E., Neuendorf K.A., Atkin D.J., Romano A., Gross C., Ray G.	Ibu bapa yang Ditahan: Meneliti Konflik Ibu-Anak di Margin melalui Lensa Bio-Ekologi	2019	Jurnal Komunikasi Keluarga	Kajian ini mengkaji konflik, gaya komunikasi orangtua, dan sikap mengenai hubungan ibu bapa dan kanak-kanak untuk penduduk istimewa yang terpinggir: ibu-ibu yang dipenjarakan dan anak-anak mereka. Perspektif bio-ekologi Bronfenbrenner berfungsi sebagai rangka kerja panduan, berdasarkan keupayaannya untuk mempertimbangkan interaksi keluarga di seluruh konteks ekologi, baik proksimal dan distal ke arah penetapan rumah anak yang sedang berkembang. Lima puluh ibu yang dipenjarakan di pusat A.S. menyediakan wawancara mendalam dan tinjauan diri sendiri laporan. Dapatan menunjukkan bahawa ibu-ibu yang dipenjarakan yang paling kerap menggunakan gaya komunikasi ibu bapa yang berwibawa dalam situasi konflik yang berakhir secara positif, dan gaya autoritarian dalam konflik yang berakhir dengan negatif. Keibubapaan berwibawa dikaitkandengan laporan ibu-ibu yang dipenjarakan yang berpuas hati dengan keibubapaan. Penemuan kajian menunjukkan bahawa gaya komunikasi orangtua dapat membantu menyokong usaha untuk mengurangkan keterukan semula. Mengaitkan penemuan-penemuan ini dalam model Bronfenbrenner, kajian ini menegaskan peranan proximal serta faktor-faktor distal yang mengawal komunikasi relasi antara ibu-ibu yang dipenjarakan dan anak-anak mereka
Valente J.Y., Cogo-Moreira H.,	Meramalkan kelas laten penggunaan dadah di kalangan	2019	Psikiatri Sosial dan Epidemiologi Psikiatri	Kajian ini mengkaji peranan penggunaan alkohol ibu bapa dan gaya ibu bapa sebagai peramal pola penggunaan ubat

PENULIS	TAJUK ARTIKEL	TAHUN	JURNAL	PENEMUAN
Sanchez Z.M.	remaja melalui penggunaan alkohol orang tua dan gaya ibu bapa: kajian membujur			remaja. Kaedah: 6391 pelajar dalam gred 7 dan 8 di 72 buah sekolah awam Brazil mengambil bahagian dalam percubaan terkawal rawak tiga gelombang untuk menilai program pencegahan dadah sekolah. Pola penggunaan dadah telah dikenalpasti melalui dua analisis laten kelas dengan menggunakan ukuran ubat-ubatan tahun lalu remaja yang diramalkan penggunaan dadah dalam gelombang 2 dan 3 kajian selepas mengawal kovariates sosiodemografi.
Shadur J.M., Hussong A.M.	Konsepsi dan Pengukuran Sosialisasi Emosi Ibu Bapa di kalangan Ibu-ibu dalam Rawatan Penyalahgunaan Substansi	2019	Jurnal Pengajian Anak dan Keluarga	Kajian semasa mengkaji tingkah laku sosialisasi emosi dalam sampel klinikal ibu yang bergantung kepada bahan. Wawancara dilakukan dengan N = 74 ibu dalam rawatan penyalahgunaan bahan (pesakit luar dan kediaman dengan atau tanpa ubat agonis opiat). Setiap ibu mempunyai anak biologi antara umur 3-8 tahun. Implikasi kerja ini menekankan pentingnya mengkaji konsistensi sebagai ciri sosialisasi emosi dalam haknya sendiri, terutamanya dalam keluarga yang terjejas oleh penggunaan dadah orang tua dan konteks berisiko tinggi.
Rahkar Farshi M., Valizadeh L., Zamanzadeh V., Rassouli	Kajian Kualitatif Pengalaman Orang Tua Iran Berinteraksi Dengan Kanak-kanak Remaja mereka	2019	*Journal of Transcultural Nursing*	Peralihan dari zaman kanak-kanak ke dewasa adalah tempoh yang penting dan mencabar untuk kedua-dua remaja dan ibu bapa mereka, terutamanya dalam masyarakat yang sedang menjalani perkembangan dan perubahan. Di Iran, perubahan budaya dan sosial sangat berkaitan dengan, dan memberi kesan yang kuat kepada, unit keluarga. Matlamat: Untuk meneroka pengalaman ibu bapa dan strategi yang mereka gunakan dalam berinteraksi dengan anak-anak remaja mereka.
M., Lees D., Lopez V., Cleary M.				Implikasinya untuk amalan transkultur: Memahami bagaimana pengalaman ibu bapa berinteraksi dengan remaja dalam konteks budaya Iran dan meningkatkan kemodenan akan membimbing jururawat untuk memupuk strategi keibubapaan yang berkesan untuk pembangunan remaja yang optimum.
Vale A., Pereira F., Gonçalves	Pencegahan siber dalam remaja dan gaya keibuan	2018	Kajian Kanak-kanak dan Belia	Pengganasan siber adalah bentuk baru keganasan interpersonal di kalangan remaja. Kajian ini mengkaji kelaziman pencerobohan

PENULIS	TAJUK ARTIKEL	TAHUN	JURNAL	PENEMUAN
M., Matos M.	internet: Kajian dengan mangsa, pelaku dan pelaku mangsa			siber dan pembezaannya dari segi sosio-emosi ciri-ciri dan amalan digital, serta gaya keibubapaan yang dialami oleh empat kumpulan: bukan kekerasan, mangsa, pelaku dan mangsa pelaku. Walau bagaimanapun, hubungan ini ditengah oleh kekerapan amalan / risiko siber remaja. Memanggil tanpa alasan, menghantar mesej berlebih-lebihan kasih sayang, menghantar mesej yang menghina dan menghantar imej atau mesej lucah adalah tingkah laku yang paling lazim di kalangan mangsa pelaku. Pencegahan-pencapaian meningkat apabila remaja menerbitkan maklumat peribadi, merujuk laman web erotik atau mengatur lawatan luar talian dengan seseorang yang mereka temui dalam talian sahaja. Implikasi teoritis dan praktikal dibincangkan.
Ryan S.M., Ollendick T.H.	Interaksi Antara Penghalang Tingkah Kanak-Kanak dan Kelakuan Orang Tua: Kesan-kesan ke arah Pengekalan dan Mengekalkan Syptomologi	2018	Kajian Psikologi Kanak-Kanak dan Keluarga Klinikal	Kedua-dua perangai kanak-kanak dan keibubapaan telah dikaji secara meluas sebagai pencetus hasil kanak-kanak. Walau bagaimanapun, model teori mencadangkan bahawa kombinasi khusus gaya perangai dan tingkah laku keibubapaan adalah peramal yang lebih baik dari hasil tertentu kanak-kanak seperti menginternalisasi dan melebihkan gejala daripada sama ada perangai atau pengasuhan sendiri. Akhir sekali, kebolehgunaan klinikal model konseptual keseluruhan ini, khususnya berkenaan dengan arah penyelidikan masa depan dan campur tangan klinikal yang berpotensi, dipertimbangkan.
Tedgård E., Råstam M., Wirtberg I.	Berjuang dengan keibubapaan sendiri selepas pendidikan dengan bahan menyalahgunakan ibu bapa	2018	Jurnal Antarabangsa Kajian Kualitatif mengenai Kesihatan dan Kesejahteraan	Matlamat: Untuk menambah pengetahuan kami mengenai unsur-unsur penting yang terlibat dalam pengalaman individu untuk membesar dengan menyalahgunakan ibu bapa dan cabaran-cabaran yang terhasil yang terlibat untuk ibu bapa mereka sendiri. Oleh itu, adalah penting untuk membangunkan instrumen yang boleh membantu mengenal pasti kanak-kanak yang dibesarkan dalam penyalahgunaan keluarga untuk mengakomodasi kesan transgenerasi membesar dengan bahan menyalahgunakan ibu bapa.
Felisberti F.M.	Kesan jangka panjang faktor keluarga	2018	Jurnal Suku Psikologi Eksperimen	Kajian ini menyiasat sama ada kemampuan orang dewasa untuk mengaitkan emosi kepada ekspresi wajah ringkas

PENULIS	TAJUK ARTIKEL	TAHUN	JURNAL	PENEMUAN
	berkaitan keupayaan orang dewasa untuk mengenali ekspresi wajah emosi yang ringkas			(microexpressions) dikaitkan dengan faktor persekitaran yang berkaitan dengan keluarga (FrFs) seperti bilangan adik beradik (Eksperimen 1), gaya lampiran (Eksperimen 2), atau pihak berkuasa ibu bapa gaya (Eksperimen 3). Ketepatan dan masa tindak balas (RT) peserta ke pengiktirafan kemarahan, penghinaan, jijik, ketakutan, kebahagiaan, dan kesedihan untuk tekanan mikro muka wajah (pendedahan). Penemuan menunjukkan bahawa FrFs awal mungkin masih terlibat dalam penyesuaian tindak balas terhadap tanda-tanda bahaya kontekstual apabila masa untuk pemprosesan kognitif ekspresi wajah sangat terhad.
Wise A.E., Delahanty D.L.	Faktor ibu bapa yang berkaitan dengan trauma tekanan kanak-kanak: Pertimbangan sasaran intervensi	2017	Sempadan dalam Psikologi	Gejala-gejala tekanan post-traumatic stress (PTSD) adalah agak biasa berikutan kecederaan traumatik pediatrik dan berkaitan dengan hasil kanak-kanak jangka panjang yang lemah. Walau bagaimanapun, disebabkan kebimbangan mengenai keberkesanan campur tangan pencegahan kanak-kanak awal dan kesukaran berinteraksi dengan kanak-kanak yang cedera dan berubat tidak lama selepas kejadian, tidak dapat menyediakan campur tangan psikologi awal kepada kanak-kanak yang terdedah kepada kecederaan traumatic. Kami selanjutnya mengkaji penyederhana hubungan ini (mis., Usia kanak-kanak dan jantina, jantina induk) dan menyimpulkan bahawa tidak mungkin satu-kesudahan - semua pendekatan untuk rawatan akan berjaya. Sebaliknya, adalah perlu untuk mempertimbangkan umur dan jantina dyads kanak-kanak ibu bapa dalam merekabentuk dan menyediakan intervensi yang disasarkan kepada keluarga berikutan kecederaan traumatik kanak-kanak.
Melero S., Sánchez-Sandoval Y.	Kesihatan mental dan pelarasan psikologi pada orang dewasa yang diterima pakai semasa zaman kanak-kanak: Kajian	2017	Kajian Kanak-kanak dan Belia	Dalam dua dekad yang lalu, penyelidikan mengenai keperluan psikososial anak angkat dan remaja telah berkembang secara dramatik. Walau bagaimanapun, kurang diketahui tentang kesihatan mental mereka apabila mereka mencapai usia dewasa. Tujuan kertas kerja ini adalah untuk mengkaji secara sistematik bukti mengenai kesihatan

PENULIS	TAJUK ARTIKEL	TAHUN	JURNAL	PENEMUAN
	sistematik			mental dan pelarasan psikologi di kalangan orang dewasa Selain itu, terdapat bukti bahawa populasi yang diterima pakai adalah agak heterogen, yang melibatkan pembolehubah individu dan kontekstual. Terdapat perbezaan diagnostik yang jelas apabila jantina diambil kira. Beberapa pembolehubah keluarga (mis., Lampiran, gaya keibubapaan) muncul sebagai faktor pengantara kesan status angkat pada pelarasan psikologi. Risiko dan faktor perlindungan yang lain tidak mencukupi untuk dikaji (mis., Usia pada masa penerimaan), jadi penyelidikan tambahan diperlukan.
Pinquart M.	Persatuan dimensi dan gaya keibubapaan dengan masalah yang melampaui masalah kanak-kanak dan remaja: Meta-analisis yang dikemaskini	2017	Psikologi Pembang unan	Meta-analisis kini mengintegrasikan penyelidikan daripada 1,435 kajian mengenai persatuan dimensi dan gaya keibubapaan dengan gejala yang melampau di kalangan kanak-kanak dan remaja. Kegawatan ibu bapa, kawalan tingkah laku, pemberian autonomi, dan gaya keibubapaan otoritatif menunjukkan sangat kecil kepada persatuan bersebelahan dan membujur negatif yang kecil dengan masalah yang mengatasi masalah. Kesan pemodelan persampelan, umur kanak-kanak, bentuk masalah yang menimbulkan masalah, kemahiran keibubapaan dan masalah yang timbul, kualiti tindakan, dan status penerbitan telah dikenalpasti. Implikasi untuk penyelidikan dan amalan masa depan dibincangkan.
Parolin M., Simonelli A.	Lampiran teori dan ketagihan dadah ibu: Sumbangan kepada campur tangan ibu bapa	2016	Sempadan dalam Psikologi	Perkembangan emosi dan hubungan kanak-kanak boleh dipengaruhi secara negatif oleh penyalahgunaan bahan ibu, terutamanya melalui persekitaran penyembelihan yang tidak berfungsi. Teori Lampiran menawarkan rangka kerja yang istimewa untuk menganalisis bagaimana penagihan dadah boleh menjejaskan kualiti gaya lampiran dewasa, sikap dan tingkah laku keibubapaan dan tingkah laku terhadap kanak-kanak, dan bagaimana ia boleh memberi kesan buruk terhadap pembinaan bersama ikatan ikatan oleh ibu dan bayi. Kajian ini meninjau kesusasteraan tentang gaya lampiran dewasa dan bayi dalam konteks penagihan dadah, menerangkan program rawatan sedia ada yang menangani keibubapaan dan khusus menumpukan

PENULIS	TAJUK ARTIKEL	TAHUN	JURNAL	PENEMUAN
				pada ikatan ibu-bayi, bergantung pada Teori Lampiran.
Cablova L., Csemy L., Belacek J., Miovsky M.	Gaya keibubapaan dan tipologi pengambilan alkohol di kalangan kanak-kanak dan remaja	2016	Jurnal Penggunaan Bahan	Kajian terbaru menunjukkan bahawa gaya keibubapaan memainkan peranan penting dalam corak penggunaan alkohol di kalangan kanak-kanak dan remaja. Matlamat: Matlamat kajian kami adalah untuk mengkaji pengaruh faktor keibubapaan khusus terhadap kejadian mabuk dan kekerapan penggunaan alkohol dan, atas dasar penemuan ini, mencadangkan tipologi minum antara kanak-kanak dan remaja. Kesimpulan: Tingkah laku orang tua dan gaya keibubapaan mungkin memberi kesan yang signifikan terhadap pola minum remaja. Oleh itu pencegahan utama perlu memberi tumpuan kepada penyelidikan dan aplikasi praktikal dan pelaksanaan program, di mana ibu bapa dan anak-anak mereka terlibat.
Dembo R., Briones-Robinson R., Barrett K.L., Winters K.C., Ungaro R., Karas L., Belenko S.	Amalan Keibubapaan di kalangan ibu-ibu biologi yang terdiri daripada remaja yang terlibat dalam dadah: Analisis Profil Laten	2015	Jurnal Kanak-kanak dan Remaja Penyalahgunaan bahan	Penyelidikan telah mengesahkan pengaruh berterusan ibu bapa dalam kehidupan kanak-kanak melalui dewasa. Walaupun pengaruh rakan sebaya terhadap sikap remaja, nilai, dan tingkah laku meningkat ketika mereka memasuki masa remaja, pengaruh ibu bapa tetap menjadi aspek penting dalam kehidupan mereka. Tidak banyak yang diketahui mengenai amalan keibubapaan, yang merupakan unsur penting dalam perkembangan gaya keibubapaan, khususnya di kalangan ibu bapa belia yang terlibat dengan dadah (DITY). Empat puluh peratus ibu-ibu di Institut Penyalahgunaan Dadah Nasional (NIDA) ini melaporkan praktik amalan keibubapaan yang meningkatkan risiko hasil pembangunan belia yang lemah. Analisis data cagaran menyokong kegunaan profil yang ditunjukkan. Implikasi penting dari penemuan ini untuk perkhidmatan campur tangan dibincangkan.
Barlow J., Bennett C., Midgley N., Larkin S.K., Wei Y.	Psikoterapi ibu bapa- bayi untuk meningkatkan kesihatan mental ibu bapa dan bayi	2015	Pangkalan data Cochrane mengenai Kajian Sistematik	Latar belakang: Psikoterapi ibu bapa dan bayi (PIP) adalah campur tangan dyadik yang berfungsi bersama ibu bapa dan bayi bersama-sama, dengan tujuan memperbaiki hubungan ibu bapa dan bayi serta mempromosikan lampiran bayi dan

PENULIS	TAJUK ARTIKEL	TAHUN	JURNAL	PENEMUAN
				perkembangan bayi yang optimum. PIP bertujuan untuk mencapai matlamat ini dengan mensasarkan pandangan ibu terhadap bayinya, yang mungkin dipengaruhi oleh pengalamannya sendiri, dan menghubungkannya dengan hubungannya dengan anaknya, untuk meningkatkan hubungan ibu bapa dan bayi secara langsung. Kesimpulan penulis: Walaupun penemuan tinjauan semasa menunjukkan bahawa PIP adalah model yang menjanjikan dari segi meningkatkan keselamatan lampiran bayi dalam keluarga berisiko tinggi, tidak terdapat perbezaan yang signifikan berbanding dengan tiada rawatan atau rawatan seperti biasa untuk ibu bapa yang lain- berdasarkan hasil atau berdasarkan hubungan, dan tidak ada bukti bahawa PIP lebih berkesan daripada kaedah lain untuk bekerja dengan orang tua dan bayi. Penyelidikan yang lebih ketat diperlukan untuk menubuhkan impak PIP mengenai faktor pengantara yang berpotensi penting seperti kesihatan mental ibu bapa, fungsi reflektif, dan interaksi ibu bapa dan bayi.

Jadual 1 Model Prisma untuk Proses Carian Rekod

4.0 IMPLIKASI

Merujuk kepada artikel kajian oleh Noria. Et. El (2019) dalam kajiannya yang melihat adakah terdapat kesamarataan terhadap orang kurang upaya, dimana adakah aspek penerimaan dan ketidakadilan wujud dalam silang budaya. Begitu juga dengan kajian ini, pelbagai faktor lain juga boleh dikaitkan dengan silang budaya yang melibatkan etnik bagi melihat sejauhmana gaya keibubapaan ke atas remaja yang terlibat dengan penyalahgunaan bahan. Selain itu, kajian ini juga melihat adakah gaya keibubapaan memainkan peranan dan menjadi salah satu faktor penyumbang ke atas penglibatan remaja terhadap penyalahgunaan bahan selain daripada faktor persekitaran. Ini juga dapat dilihat sama ada gaya asuhan ibu atau bapa yang

memberi signifikan yang tinggi. Selain itu sikap ibu atau bapa yang menjadi pendorong kepada anak-anak terlibat dengan penyalahgunaan bahan.

5.0 KESIMPULAN

Sebagai penutup, diakui bahawa, gaya keibubapaan memainkan peranan penting dalam diri remaja, dimana ianya dapat mengelakkan remaja berkenaan terlibat dengan penyalahgunaan bahan. Menerusi tinjauan ini juga, diakui gaya autoritatif merupakan gaya keibubapaan yang paling sesuai untuk dipraktikkan oleh ibu bapa.

6.0 PENGHARGAAN

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029 : Gaya Keibubapaan dan Penyalahgunaan Dadah: Kajian Sistematik Literatur

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ABSTRAK

Sistematik literatur ini dibuat untuk mengesan sejauh mana gaya keibubapaan memberi pengaruh terhadap penyalahgunaan dadah dalam kalangan remaja. Objektif kajian ini melihat kaitan gaya keibubapaan dengan penagihan dadah, mengenal pasti jenis gaya keibubapaan yang dikaitkan dengan penagihan dadah, dan melihat faktor lain yang mempengaruhi penagihan dadah. Kajian sistematik literatur ini dijalankan melalui penggunaan beberapa kata nama seperti parenting style dan drug abuse dengan menggunakan pencarian daripada SCOPUS, Science direct, dan Elsevier database, sebagai sumber utama untuk mendapatkan artikel jurnal. Implikasi dari kajian ini, kaunselor mesti menerima golongan ini tanpa syarat dan melayan mereka dengan lebih terbuka. Selain itu, penerokaan masa lalu golongan ini berkaitan gaya asuhan yang diterima juga sangat penting. Hasil kajian ini jelas menunjukkan bahawa gaya asuhan berkait rapat dengan kecenderungan remaja dalam melibatkan diri dengan penagihan dadah. Kesimpulannya, gaya autoritatif dan autoritarian lebih melindungi remaja berbanding gaya permisif dan pengabaian.

Kata Kunci*: parenting style; drug abuse*

1.0 PENDAHULUAN

Menurut Karim, dan Hassan (2019), kepelbagaian budaya, keadilan dalam pekerjaan, penghapusan diskriminasi dan prasangka serta kebebasan merupakan prinsip asas multikulturalisme. Semua orang akan berusaha untuk mencari ruang untuk memenuhi diri, penyesuaian, dan kepuasan. Penagih dadah merupakan sebahagian dari kelompok kepelbagaian budaya yang cuba untuk memenuhi prinsip asas multikulturalisme dengan cara tersendiri iaitu mengambil dadah. Kajian ini dijalankan untuk melihat kaitan antara gaya keibubapaan dan penagihan terutamannya dalam kalangan remaja.

Gaya keibubapaan didefinisikan sebagai mengawal, melihara, mengasuh serta mendidik. Ia merupakan proses dua hala yang memberi input dan output yang bakal terhasil (Baumrind, 1971). Terdapat empat jenis gaya keibubapaan iaitu autoritatif, autoritarian, permisif dan pengabaian . Autoritatif merupakan ibu bapa yang menggunakan prinsip kuasa dan alasan dalam mendidik anak-anak. Autoritarian pula merupakan gaya keibubapaan yang membentuk peraturan dan jangkaan yang tegas terhadap anak-anak. Ibu bapa ingin anak-anak patuh kepada setiap peraturan yang ditetapkan. Manakala gaya keibubapaan permisif pula merupakan gaya yang lebih terbuka dan memberi kebebasan kepada anak dalam setiap tindakan. Gaya keempat pula pengabaian. Gaya ini merujuk kepada ibu bapa yang tidak ambil peduli, tidak responsif dan tidak menuntut.mereka tidak berbuat apa-apa berkaitan tingkah laku anak-anak, dan terlibat sangat minimum dengan aktiviti anak-anak (Kopko, 2007).

Penagihan dadah dalam kalangan masyarakat merupakan salah satu masalah besar kepada negara yang melibatkan pelbagai kaum termasuklah golongan remaja. Statistik yang dikeluarkan oleh Agensi Anti Dadah Kebangsaan (AADK) seramai 3362 orang yang berumur 13 hingga 18 tahun didapati pernah positif dadah dari tahun 2014 hingga 2018. Jumlah ini merangkumi pelbagai kaum. Walaupun agak kecil jumlahnya, ia mampu mengancam dan mendatangkan banyak masalah kepada pelbagai pihak. Selain kecelaruan persekitaran rumah tangga, cara gaya keibubapaan yang tidak berkesan turut menjadi faktor penting dalam pengambilan bahan terlarang ini. (National Institute On Drug Abuse, 2010).

Penagihan dadah pula merujuk kepada perbuatan menggunakan dadah seperti syabu,ganja, estacy, heroin, dan sebagainya yang mendatangkan ketagihan dan pergantungan fizikal dan psikologi terhadap bahan tersebut. (Engku Mardiah Engku Kamarudin, Wan Shahrazad Wan Sulaiman, 2018)

2.0 OBJEKTIF

1. Melihat kaitan gaya keibubapaan dengan penagihan dadah.
2. Mengenal pasti jenis gaya keibubapaan yang dikaitkan dengan penagihan dadah.
3. Melihat faktor lain yang mempengaruhi penagihan dadah.

3.0 METODOLOGI

Kajian sistematik literatur ini dijalankan melalui penggunaan beberapa kata nama seperti *parenting style and drug abuse*. Menurut kajian, sistematik literatur didefinisikan sebagai satu proses untuk mendapatkan ulasan penulis daripada bias melalui kritikal analisis dan sintesis, LeBlanc (2010). Ini dapat membantu pengkaji dalam mendapatkan ruang melaksanakan kajian baharu dari sudut yang berbeza terutama dalam kalangan pengkaji baharu. Selain itu, objektif jurnal yang dipilih akan membantu pengkaji membuat rumusan dan kesimpulan baharu dalam menjalankan kajian baharu melalui pemilihan jurnal-jurnal yang tertentu.

4.0 STRATEGI PENCARIAN LITERATUR

Kajian ini menggunakan SCOPUS , Science direct, dan Elsevier database, sebagai sumber utama untuk mendapatkan artikel jurnal. Menurut Subramaniam, N., Hassan, S.A., & dan Zakaria, N.,S. (2017), strategi pencarian dimulakan dengan menaip kata kunci untuk tajuk yang ingin dikaji. Dalam konteks kajian ini, perkataan *parenting style* dan *drug abuse*. Kemudian, pencarian diteruskan dengan membuat saringan mengikut tahun iaitu tahun 2015 hingga 2019. Disaring lagi dengan merujuk kepada kriteria inklusif dan kriteria eklusif dalam bidang seperti psikologi dan sains sosial. Pencarian dikecualikan daripada jurnal dalam bidang penyalahgunaan bahan, alkohol, dan masalah sosial.

Jadual 1 Kriteria Inklusif

Kriteria dipilih	Penerangan	Literatur diperoleh	Literature akhir
Istilah perkataan	*Parenting style*	4641	4641
Istilah perkataan	*drug abuse*	439	439
Tahun	2015 - 2019	162	162
Pemilihan akses	Akses terbuka	49	4

Jadual 2 Kriteria Eklusif

Kriteria dilipih	Literatur diperoleh
Artikel kualitatif	40
Artikel yang tidak boleh diakses (berbayar)	2
Artikel bahasa asing	1
Artikel tidak berkaitan	2

Jadual 3 Bila berdasarkan Sumber

Sumber jurnal	*Southeast Asia Psychology Journal*	*1*
	BMJ Open	*1*
	E-Bangi	*1*
	International Journal of Culture and Mental Health	*1*
	European Scientific Journal	*1*
	Substance Use and Misuse	*2*
	Songklanagarind Medical Journal	*1*
	Jurnal Antidadah Malaysia	*1*
	Drug and Alcohol Dependence	*2*

Rajah 1 Proses Pemilihan Artikel

5.0 PENEMUAN

Jadual 4 Dapatan Kajian

Penulis	Tajuk Artikel	Sampel	Penemuan
Azahar Che Latiff Balan Rathakrishnan Norhamidah Jarimal@Safri Siti Noor Fazariah Suis@Mohd Rusdy Surianti Lajuma (2017)	*Perkaitan antara Perapatan Ibubapa dan Rakan Sebaya dengan Penglibatan Remaja dalam Penyalahgunaan Dadah di Sabah*	Sampel yang digunakan adalah 533 yang sedang mendapatkan rawatan dengan Agensi Anti Dadah Kebangsaan (AADK)	Wujud hubungan yang penting dalam penglibatan remaja dengan perapatan dalam penyalahgunaan dadah.
Balan Rathakrishnan & Rahimah Abd Rahim (2017)	Etnik dan gaya keibubapaan ke atas penglibatan pelajar dalam Penagihan dadah: satu kajian awal di Sabah	Seramai 100 orang responden dari Sekolah Menengah Kebangsaan Benoni (50 pelajar lelaki dan 50 pelajar perempuan)	Gaya keibubapaan autoritatif dengan penyalahgunaan dadah.
Rebecca S. Hock,Michelle J. Hindin,Judith K. Bass,Pamela J. Surkan,Catherine P. Bradshaw &Tamar Mendelson (2015)	Parenting styles and emerging adult drug use in Cebu, the Philippines		Wujud kaitan pengabaian ibu bapa dalam trend peningkatan mengambilan dadah dalam kalangan remaja lelaki.
Juliana Y.ValenteaHugoCogo-MoreirabZila M.Sancheza (2017)	Gradient of association between parenting styles and patterns of drug use in adolescence: A latent class analysis	Seramai 6381 dari pelajar sekolah menengah ke-7 dan ke-8 di enam bandar raya Brazil	Persatuan songsang ditemui antara gaya keibubapaan (berwibawa, autoritarian, dan memanjakan, dengan gaya mengabaikan sebagai titik rujukan
J Berge K Sundell A Öjehagen A Håkansson (2015)	Role of parenting styles in adolescent substance use: results from a Swedish longitudinal cohort study	1268 remaja (48% perempuan), berumur 12-13 tahun dari 21 sekolah rendah di Sweden	Gaya keibubapaan yang tidak diingini dikaitkan dengan hasil penggunaan bahan yang lebih buruk di semua zat Daripada analisis multivariate, gaya keibubapaan didapati tidak berkaitan dengan hasil penggunaan bahan (pengecualian: gaya keibubapaan berwibawa dikaitkan dengan minum kurang kerap. Persatuan dengan rakan-rakan yang menyimpang, tingkah laku yang bermasalah, penyediaan alkohol oleh ibu bapa, dan penggunaan bahan-bahan lain sebelum ini dikaitkan dengan hasil penggunaan bahan pada tindak lanjut

Penulis	Tajuk Artikel	Sampel	Penemuan
E.Vermeulen-Smit J.E.E.VerdurmenaR.C. M.E.Engelsa W.A.M.Vollebergh (2015)	The role of general parenting and cannabis-specific parenting practices in adolescent cannabis and other illicit drug use	Data diperolehi daripada Ukur Sekolah Kebangsaan Belanda mengenai Penggunaan Bahan di kalangan pelajar (N = 3209; berumur 12-16 tahun)	Peraturan ibu bapa khusus yang boleh dikawal oleh kanser dikaitkan dengan kurang dewasa ganja remaja dan penggunaan seumur hidup dadah haram lain, walaupun dikawal untuk faktor sosiodemografi, keibubapaan umum, penggunaan tembakau remaja, dan keibubapaan khusus tembakau.
Anake, p. Mbua ada p. Adigeb (2015)	Parenting styles and adolescents' behaviour in central educational zone of cross river state	Seramai 627 responden di sekolah rendah di Cros River State, Nigeria	Penggunaan ubat / penagih dadah dengan gaya keibubapaan demokratik adalah ubat yang lebih baik (dari segi penggunaan dadah bukan) berbanding remaja dengan gaya keibubapaan autokratik dan permisif.
Aisling McLaughlin,Anne Campbell &Mary McColgan	Adolescent substance use in the context of the family: a qualitative study of young people's views on parent-child attachments, parenting style and parental substance use	Seramai 62 orang sampel yang berumur 13 hingga 17 tahun dari kalangan pelajar lepasan sekolah rendah di Ireland Utara	Gaya keibubapaan dan kanak-kanak telah dikenalpasti sebagai faktor penting dalam melindungi remaja daripada penggunaan bahan sebagai tambahan kepada keibubapaan yang berkesan terutamanya gaya berwibawakomunikasi ibu bapa dan kanak-kanak yang kuat untuk menggalakkan pendedahan kanak-kanak.

Penulis	Tajuk Artikel	Sampel	Penemuan
Lorena Peña, Elma I. Lorenzo-Blanco, Adriana Pérez, Paola Morello, Edna Arillo Santillan, Christy Kollath-Cattano, James F. Thrasher, James Sargent & Raúl Mejia (2017)	Parental Style and Its Association With Substance Use in Argentinean Youth	Sampel yang selesa dari 33 buah sekolah dari tiga bandar besar di Argentina (Buenos Aires, Cordoba, dan Tucumán) dengan sekolah-sekolah awam yang dikenal pasti oleh Kementerian Kesihatan telah mengambil keputusan masing-masing (n = 15, 8, dan 10), dan Kementerian Pendidikan n = 18) dan sekolah swasta yang dikenal pasti melalui hubungan peribadi (n = 15).	Ketidakhadiran ibu yang lebih tinggi secara bebas dikaitkan dengan kemungkinan menurunkan anddruguse (AOR = 0.71; 95% CI: 0.61-0.83)
Suchawadee Pongthanawisuth, Jaturaporn Sangkool, Chonnakarn Jatchavala (2016)	Parenting Styles in Patients with Substance Use Disorders: A Study in Songkhla, Thailand	Seramai 237 pesakit berumur 18 tahun ke atas, mereka yang menerima perkhidmatan di hospital Thanyarak Songkhla	gaya keibubapaan yang biasa di kalangan pesakit adalah berwibawa (70.3%) diikuti oleh, autoritarian (6.8%). Tiada hubungan antara penggunaan dadah dan gaya keibubapaan yang dianggap (p-value = 0.535). Peserta keagamaan yang sederhana, dan miskin, 2.39 kali lebih berkemungkinan menggunakan ubat [95% selang keyakinan (95% CI) = 1.33, 4.28]. Di samping itu, peserta yang mempunyai sejarah kegunaan dadah dalam keluarga adalah 2.52 kali lebih berkemungkinan menggunakan dadah (95% CI = 1.21, 5.29).
Engku Mardiah Engku Kamarudin, Wan Shahrazad Wan Sulaiman, Norulhuda Sarnon & Aizan Sofia Amin (2018)	Aspek kesedaran kendiri dalam kalangan pesakit di klinik terapi rawatan dadah gantian: satu kajian rintis di Kajang	Seramai 50 Orang Pesakit yang Mendapatkan Rawatan Penagihan swasta Di Kajang di bawah kelolaan Kementerian Kesihatan Malaysia	

6.0 PERBINCANGAN

Menurut (Peña dan rakan-rakan, 2017) ibu bapa yang mempunyai peraturan tertentu dalam keluarga yang perlu dipatuhi dikaitkan dengan kadar pengunaan penyalahgunaan dadah yang rendah yang merujuk kepada gaya autoritatif dan autoritarian. Hasil kajian mendapati objektif pertama kajian ini, iaitu ingin

melihat kaitan gaya keibubapaan dengan penagihan dadah adalah sangat signifikan. Menurut (Azahar Che Latif dan rakan-rakan, 2017), wujud hubungan yang penting antara ibu bapa dan keterlibatan remaja dalam penyalahgunaan dadah. Manakala menurut Longmore, Monica dan Giardano (2001), gaya keibubapaan yang betul dan baik akan mendorong tingkah laku yang lebih positif. Objektif kedua yang ingin dilihat adalah jenis gaya keibubapaan yang dikaitkan dengan penagihan dadah. Kajian ini mendapati gaya pengabaian boleh menyebabkan remaja terjebak dengan gejala ini. Menurut Rebecca S. dan rakan-rakan (2015), gaya keibubapaan pengabaian atau kecuaian boleh menyebabkan peningkatan kes penagihan dadah dalam kalangan remaja. Berdasarkan kajian lepas, gaya keibubapaan permisif juga menunjukkan kaitan yang jelas dengan kadar penyalahgunaan dadah. Walaubagaimanapun, terdapat sejumlah kes penagihan yang dikenalpasti dalam kalangan keluarga yang mengamalkan gaya keibubapaan autoritatif dan autoritarian. Ini menunjukkan terdapat faktor lain yang boleh mempengaruhi tabiat penyalahgunaan dadah seperti pengaruh rakan sebaya dan penyalahgunaan bahan seperti arak. (Berge dan rakan-rakan, 2016).

7.0 IMPLIKASI

Sebagai seorang kaunselor, penerimaan klien mestilah tanpa syarat termasuklah golongan minoriti seperti penagih dadah. Kaunselor perlu memahami golongan tersebut serta meneroka latar belakang gaya asuhan ibu bapa mereka semasa mereka kecil hingga mereka terjebak dengan kancah penagihan dadah. Menurut Noria A., Karim N. & Hassan, S., A. (2019) klien dianggap unik dan pelbagai. Dengan keunikan dan kepelbagaian itu, penerimaan tanpa syarat adalah sangat penting. Seseorang kaunselor akan berjumpa dengan pelbagai jenis etnik, kaum, kumpulan, jantina, latar belakang, sosio ekonomi yang jelas berbeza yang menunjukkan kepelbagaian silang budaya.

8.0 RUMUSAN

Secara keseluruhannya, gaya keibubapaan boleh mempengaruhi remaja dalam penyalahgunaan dadah. Gaya keibubapaan permisif dan pengabaian dikaitkan dengan kecenderungan kepada penyalahgunaan dadah. Ibu bapa yang tidak jelas dengan jenis-jenis gaya kepimpinan dalam mendidik juga menjadi faktor anak remaja terjebak dengan gejala penagihan dadah. Gaya keibubapaan yang sesuai seperti autoritatif dan autoritarian dengan situasi yang diamalkan sangat penting untuk menjamin perkembangan hidup remaja dan mengelakkan remaja terjebak dengan penagihan dadah walaupun mereka telah meningkat ke usia dewasa. Walaupun terdapat sejumlah kes penyalahgunaan dadah dalam kalangan ibu bapa yang mengamalkan gaya autoritatif dan autoritarian, namun ia menunjukkan jumlah yang sangat rendah berbanding gaya keibubapaan permisif dan pengabaian.

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030 : Kepentingan Budaya Campur Tangan Keluarga Sebagai Sokongan Perubahan Tingkahlaku Penagih

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ABSTRAK

Dadah menjadi bahan larangan apabila digunakan secara salah dan memberi impak yang negatif kepada penggunanya sehingga menyebabkan ketagihan yang melampau dan sukar dipulihkan apabila terjebak.Masalah ini sudah menjadi isu Global dan Malaysia tidak terkecuali dalam menghadapi permasalahan ini. Oleh itu, kajian ini dilaksanakan untuk mengkaji, melihat punca serta mencari solusi yang sesuai serta pendekatan yang boleh merubah tingkahlaku penagih daripada terus menjadi penagih tegar, pendek kata daripada mengulangi semula tabiat setelah pulih dari ketagihan.Penelitian dilaksanakan dengan membuat kajian terhadap kajian-kajian jurnal yang berkaitan dan dikumpulkan untuk melihat semula budaya yang berjaya membentuk penagih dadah dengan perubahan tingkahlaku meninggalkan ketagihan dadah. Data kajian jurnal yang berkaitan bagi tempoh 5 tahun berturut-turut iaitu dari tahun 2015 hingga 2019 di analisis bagi mendapatkan maklumat yang terkini dan bersesuaian dengan kajian.Tinjauan lebih menumpukan kepada golongan yang paling rapat dengan penagih iaitu keluarga penagih itu sendiri serta melihat fungsi keluarga itu sendiri sebagai sokongan dalam pembentukan tingkahlaku penagih untuk menghentikan tabiat ini setelah pulih bagi memastikan kepulihan sepenuhnya.Oleh yang demikian,kajian jurnal ini dillaksanakan untuk melihat sejauhmana kepentingan Budaya Campur Tangan Keluarga menyumbang kepada sokongan perubahan tingkahlaku penagih. Walaubagaimanapun budaya sokongan dari sudut pihak lain juga turut diambilkira bagi menjalankan kajian ini berdasarkan kajian -kajian yang lepas.

Kata Kunci: *Family support, Among Drug addict, Asia*

1.0 PENGENALAN

Sejarah awal Isu penyalahgunaan dadah di Malaysia telah bermula pada pertengahan abad ke -19 sewaktu penjajahan British di Tanah Melayu.Isu dadah ini boleh dikatakan terbahagi kepada kumpulan etnik di Malaysia,apabila Pengaruh dadah candu mula dibawa masuk ke Malaysia oleh buruh dari China yang bekerja di sektor perlombongan bijih timah. Pada waktu itu,dasar pemerintahan British di Tanah Melayu membenarkan penjualan Candu di Government Chandu Shop mengikut peruntukan Chandu Shops Enactment 1906 . Oleh itu wujudlah golongan penagih dadah dari golongan Cina pada ketika itu.Secara tidak langsung mulalah berlaku perkembangan penggunaan Dadah di Malaysia dan ditambah lagi pada lewat 1960-an terutamanya apabila semasa Perang Vietnam, tentera laut Amerika Syarikat membawa masuk tabiat menyalahgunakan dadah Heroin ketika singgah di Pulau Pinang dan seterusnya menular dikalangan masyarakat tempatan. Hari ini, penyalahgunaan dadah merupakan isu global dan merupakan masalah yang berlaku dalam setiap lapisan masyarakat yang boleh sahaja melibatkan golongan pelbagai etnik budaya sama ada ahli berpendidikan tinggi, golongan professional, mereka yang tidak berpendidikan mahupun penganggur.

Keluarga juga merujuk kepada seseorang ataupun golongan yang mempunyai hubungan pertalian darah dengan seseorang yang lain merupakan orang yang paling rapat dan mempunyai kuasa pengaruh yang kuat dengan pembentukan tingkahlaku seseorang.Penagih pula merujuk kepada seseorang yang terlibat dengan penyalahgunaan dadah.Manakala penagihan dadah membawa maksud pergantungan seseorang terhadap dadah secara sengaja atau tidak sengaja dan bukan disebabkan oleh masalah kesihatan atau keperluan yang menyebabkan kebergantungan.

Merujuk kepada hubungan sesebuah keluarga yang mempunyai hubungan dengan penagih dadah, keluarga sangat memainkan peranan penting dalam membentuk kejayaan seseorang bekas penagih untuk berhenti daripada ketagihan dadah .Peranan keluarga dalam memahami keadaan penagih, menyokong penuh perubahan yang ingin dilakukan penagih, dan penerimaan ahli keluarga serta rakan adalah sangat penting dan perlu dibudayakan.

Pelbagai cabaran dihadapi untuk mengatasi isu ini bagi mendapatkan satu jalan penyelesaian kepada permasalahan ini yang tidak juga berkunjung reda dari semasa-ke semasa. Pelbagai kaedah dan rawatan diwujudkan, .Penerapan budaya sokongan oleh ahli keluarga sendiri juga merupakan salah satu intervensi yang boleh digunakan untuk menggalakkan perubahan tingkahlaku yang positif kepada individu yang terlibat dengan ketagihan dadah ini.

2.0 OBJEKTIF

Tujuan utama ulasan jurnal ini dibuat adalah untuk meneroka dan mengkaji sejauhmana budaya sokongan keluarga menjadi fakkor utama yang mempengaruhi perubahan tingkahlaku penagih.

Persoalan kajian ialah:

a) Adakah budaya sokongan keluarga menjadi faktor utama yang menyumbang kepada perubahan tingkah laku penagih?
b) Apakah pendekatan-pendekatan yang bersesuaian yang boleh dibudayakan sebagai amalan dalam membantu kepada perubahan tingkahlaku penagih dadah?
c) Sejauhmanakah perlunya budaya sokongan daripada pihak-pihak lain yang bersesuaian dan perlukah dibudayakan untuk mengatasi dan membantu pemulihan dadah?

Semua persoalan ini menjadi tunjang utama kepada kajian ini untuk mengkaji kajian-kajian yang lepas.

3.0 METODOLOGI

Carian Kajian sistematik literatur ini dijalankan melalui penggunaan beberapa penggunaan kata nama iaitu *Family support*, *among drug addict,*. Berdasarkan kepada artikel kajian oleh Neerushah Subramaniam, et.EL (2017) bahawa hasil kajian lepas dicari dengan menggunakan kata kunci yang bersesuaian dengan tajuk kajian bagi mendapatkan maklumat.Menurut Le Blanc (2010) kajian literatur adalah untuk mendapatkan ulasan penulis melalui kritikal analisis dan sintesis.Jurnal yang diplih ini membantu pengkaji untuk mendapatkan maklumat, rumusan dan kesimpulan baharu dalam melaksanakan kajian ini.

Figure 1 Literature Selection based on PRISMA (2009) Flow Diagram

4.0 STRATEGI PENCARIAN

SCOPUS database menjadi sumber rujukan utama bagi mendapatkan artikel jurnal ini bagi memenuhi keperluan kajian ini. Pertama pencarian bermula dengan menggunakan kata kunci iaitu *Family Support among Drug Addict.* Kemudian, disaring mengikut tahun yang hendak dikaji iaitu dari tahun 2014 hingga 2019 serta disaring lagi dengan merujuk kepada pencariankajian dalam asia. Kajian jurnal yang kurang bersesuaian dengan tajuk kajian dibuang.

Jadual 1 Kriteria Inklusif

Item	Keterangan	Literatur Yang Dikenalpasti	Baki Literatur
Kata Kunci	Family Support	225236	225236
Tahun	2015-2019	40253	40253
Carian dalam	Family support Among Drug Addict	233	233
Carian Dalam	Asia	17	17
Carian Dalam	Kuantitatif	10	10

Jadual 2 Kriteria Terkecuali

Kriteria Terkecuali	Keterangan	Literatur dikenalpasti	Baki Literatur
Jurnal Kualitatif	Jurnal bukan bentuk kuantitatif	17	10

4.0 DAPATAN KAJIAN

Jadual 3 Dapatan Kajian

Penulis	Tajuk Artikel	Tahun	Sumber	Penemuan
Jalali A., Yekzaman M., Bazrafshan M.-R., Salari N., Rahmati M.	*Investigating the effect of family counseling on the acceptance and support of patients under methadone maintenance treatment*	**2018**	Shiraz E Medical Journal	Keputusan: kadar sokongan sosial keluarga untuk pesakit sebelum dan 4 minggu selepas kaunseling dalam Kumpulan kawalan berubah daripada 165.14 ± 23.91 kepada 152.36 ± 17.66, menunjukkan tiada perbezaan yang ketara. Selain itu, kadar ini meningkat dalam Kumpulan intervensi daripada 156.16 ± 22.88 kepada 167.6 ± 20.41, menunjukkan perbezaan yang signifikan. Kadar penerimaan keluarga pesakit sebelum dan 4 minggu selepas kaunseling dalam Kumpulan kawalan berubah daripada 26.86 ± 4.94 kepada 26.30 ± 4.48, menunjukkan tiada perbezaan yang ketara. Tambahan pula, kadar ini dalam Kumpulan intervensi meningkat daripada 26.93 ± 6.38 kepada 31.76 ± 3.72, menunjukkan perbezaan yang ketara. Kesimpulan: keputusan kajian menunjukkan bahawa kaunseling keluarga boleh meningkatkan kadar sokongan untuk penagih dadah dan penerimaan mereka oleh keluarga.
Seabra P.R.C., Amendoeira J.J.P., Sá L.O.	*Testing Nursing Sensitive Outcomes in Out-Patient Drug Addicts, with "Nursing Role Effectiveness Model"*	2018	Issues in Mental Health Nursing	Matlamat kami adalah untuk mengenal pasti faktor yang menyumbang kepada hasil yang lebih baik dalam pengguna dadah dan untuk memahami keberkesanan campur tangan kejururawatan, dengan memohon "model keberkesanan peranan kejururawatan" (NREM). It's a correlational, lintang kajian rentas dengan 180 pengguna dadah dalam program metadon, secara rawak dipilih daripada tiga Perkhidmatan masyarakat. Kami telah mengenal pasti bahawa masa rawatan, lebih rendah Co-morbidities, kurang Poli-dadah penggunaan, sokongan keluarga dan sedang bekerja menyumbang

Penulis	Tajuk Artikel	Tahun	Sumber	Penemuan
				kepada kualiti hidup yang lebih baik, kesihatan mental yang lebih baik, kurang kesan ketagihan dadah dan lebih kepuasan dengan penjagaan kejururawatan (p < 0.05). data tersebut juga berkaitan dengan campur tangan kejururawatan menggunakan model persamaan struktur dan kami mendapati bahawa penjagaan kejururawatan menyumbang 29% kepada peningkatan hasil kesihatan. Model ini mendedahkan dirinya mencukupi untuk menilai keberkesanan campur tangan kejururawatan (X 2:82.51/(34) = 2.426; p < 0.01, NFI = 0.927, CFI = 0.955, RFI = 0.903, GFI = 0.917, PGFI = 0.567, PCFI = 0.722, PNFI = 0.700, RMSEA = 0.089). Berbanding dengan model asal NREM, penemuan kami mendedahkan hubungan baru antara pembolehubah struktur pengguna dan hasil kesihatan dan juga hubungan antara unit ' pemboleh ubah struktur dan pembolehubah struktur jururawat.
Jalali A., Rahmati M., Salari N., Behrouzi M.K.	*Group spiritual intervention and happiness of help-seekers receiving methadone maintenance treatment*	2018	Annals of Tropical Medicine and Public Health	Keputusan menunjukkan bahawa skor min daripada intervensi dan Kumpulan kawalan adalah 24.7 dan 20.5 sebelum campur tangan dan mencapai 43.9 dan 20.6 selepas campur tangan. Perbezaan ini ketara dalam Kumpulan intervensi (P < 0.05) dan tidak penting dalam Kumpulan kawalan. Perbezaan min antara campur tangan dan Kumpulan kawalan adalah tidak penting sebelum campur tangan dan ketara selepas ia (P < 0.05). Ia boleh dikatakan bahawa campur tangan rohani Kumpulan boleh menjadi berkesan sebagai kaedah yang berguna untuk meningkatkan kebahagiaan dalam penagih di bawah MMT dan digunakan sebagai rawatan pelengkap pada masa yang sama dengan rawatan metadon untuk mengurangkan kemungkinan kembali kepada penyalahgunaan dadah. .
Zhou K., Li H., Wei X., Yin J., Liang P., Zhang H., Kou L., Hao M., You L., Li X., Zhuang G.	Relationships between received and perceived social support and health-related quality of life among patients receiving methadone maintenance treatment in Mainland China	2017	Substance Abuse: Treatment, Prevention, and Policy	Hasilnya adalah HRQoL, yang dinilai dengan menggunakan borang pendek 36 versi kajian Kesihatan 2 (SF-36v2) dan kualiti skala hidup untuk penagih dadah (QOL-DAv 2.0). Kami menjalankan sampel bebas ujian t-Test dan pelbagai analisis regresi linear untuk memeriksa hubungan antara yang diterima dan dilihat sokongan sosial dan HRQoL. Keputusan: penemuan kajian menunjukkan bahawa pesakit dengan sokongan sosial yang baik mempunyai skor yang jauh lebih tinggi pada SF-36v2 dan QOL-DAv 2.0 (p < 0.05). Selepas mengawal ciri individu, faktor penting meramalkan HRQoL adalah hubungan kekeluargaan yang baik, biasanya berkomunikasi dengan orang lain, masa perkhidmatan yang mudah, caj rawatan yang sesuai, dan sokongan sosial yang dirasakan baik (p < 0.05). Kesimpulan: keputusan kami mencadangkan yang

Penulis	Tajuk Artikel	Tahun	Sumber	Penemuan
				diterima dan dilihat pengaruh sokongan sosial HRQoL antara individu yang menerima MMT. Oleh itu, pemboleh ubah ini perlu dipertimbangkan semasa usaha pengurusan kesihatan dan campur tangan yang ditujukan kepada populasi pesakit ini.
Juibari T.A., Lotfi B., Ghobadi K.N., Aghaei A., Moradi M., Najafi F., Farnia V.	Factors affecting the duration of addiction in individuals visiting drug abuse treatment centers in Kermanshah Province in 2013	2016	Acta Medica Mediterranea	Keputusan: sama sekali, data yang berkaitan dengan 2652 orang yang merujuk kepada 80 pusat rawatan dianalisis. Min umur adalah 37.98 (± 11.18), dengan lelaki perakaunan untuk 97 peratus daripada penduduk. Dapatan menunjukkan bahawa faktor berikut menjejaskan tempoh masa antara pengalaman penyalahgunaan dadah yang pertama ke dalam percubaan yang pertama dengan ketara ($p < 0.05$): umur, jantina, umur dalam masa penderaan pertama, homelessness, hashish penggunaan, heroin penggunaan, sejarah keluarga ketagihan, dan sejarah keluarga gangguan mental. Kesimpulan: ia boleh menyimpulkan bahawa sebilangan besar faktor peribadi dan sosial mempengaruhi cubaan keluar oleh penagih dadah. Untuk mengurangkan beban ketagihan kepada masyarakat melalui merawat penagih, sokongan yang menyeluruh daripada keluarga serta kerajaan dan organisasi yang bertanggungjawab diperlukan.
Fattahi B., Ghaffari O.	Analyzing and recognizing causes of drug tendency and changing consumer pattern from low-risk drugs (traditional) to high risk (synthetic)	2016	IIOAB Journal	Penduduk statistik pelanggan pemulihan Pusat dan kem pemulihan dadah pertubuhan kebajikan dalam Daerah Ardabil dan persampelan dilakukan secara rawak untuk tujuan ini 150 ketagih kepada trend industri narkotik yang telah layak untuk mengambil bahagian dalam kajian dan 120 daripadanya telah dipilih dan diterima untuk bekerjasama. Kesahan alatan penyelidikan adalah berdasarkan pendapat pakar dan kesahihan soal selidik dengan pekali Alpha Cronbach telah digunakan untuk menukar corak penggunaan dadah yang 97%. Berdasarkan analisis data, Perangkaan deskriptif dan statistik dan menggunakan perisian SPSS, ia diringkaskan dan dimuktamadkan dan juga berkaitan dengan isu yang dibangkitkan dalam cadangan projek ini telah dibincangkan.
Yazici A.B., Yazici E., Kumsar N.A., Eerol A.	Addiction profile in probation practices in Turkey: 5-year data analysis	2015	Neuropsychiatric Disease and Treatment	Keputusan: Menurut kajian ini, majoriti penagih dikesan pada 2013. Lelaki membentuk 98.2% daripada populasi sampel, umur purata mereka adalah 32.12 ± 10.21 tahun, dan umur minimum dan maksimum untuk kegunaan ubat pertama adalah 7 tahun dan 45 tahun, masing-masing. Penggunaan ganja ditemui pada 90.8% daripada pesakit, 90% daripada mereka hidup dengan keluarga mereka, dan 59.6% daripada mereka memegang pekerjaan tetap. Tindak balas rawatan adalah berkaitan dengan umur penggunaan ubat-ubatan yang pertama, tempoh penggunaan ubat-ubatan, dan rawatan anamnesis terlebih dahulu pesakit. Kesimpulan: dalam kajian ini, ia telah ditentukan bahawa dadah yang paling kerap digunakan ganja. Risiko penagihan dadah

Penulis	Tajuk Artikel	Tahun	Sumber	Penemuan
				boleh menjejaskan mana-mana individu dalam masyarakat, tanpa mengira pendidikan, pekerjaan, atau tahap sokongan sosial. Model rawatan alternatif, terutama bagi pengguna yang kronik dan jangka panjang, perlu dikaji.
Wang C., Rou K., Pang L., Luo W., Cao X., He L., Zhang H., Wu Z.	A case-control study on the causes of new HIV infection among heroin addicts attendees at the methadone maintenance treatment clinics	2014	Zhonghua liu xing bing xue za zhi = Zhonghua liuxingbingxue zazhi	KEPUTUSAN: 108 (54 berpasangan) pelanggan pada MMT telah diambil kerja, dengan 76 lelaki dan 32 perempuan. Di antara mereka, 95 adalah orang Cina Han dan 13 adalah minoriti, dengan purata masa penggunaan dadah sebagai 12.1 ± 5.0 tahun. Antara 54 jangkitan HIV baru, 33 telah dijangkiti melalui jarum perkongsian, 12 melalui hubungan seksual dan 9 tidak dikenali. Hasil daripada multivariate keadaan regresi logistik menunjukkan bahawa mempunyai tempoh yang lebih lama penggunaan heroin sebelum pada MMT (lebih daripada 10 tahun vs. kurang daripada 10 tahun, atau = 20.9, 95% CI: 1.62-269.34, P = 0.02), jarum dikongsi dalam 6 bulan yang lalu (atau = 276.7, 95% CI: 5.65-> 999.99, P < 0.01) merupakan faktor risiko sementara pematuhan yang lebih baik (lebih daripada 0.5 vs kurang daripada 0.5, atau = 0.07, 95% CI: 0.42-0.87, P = 0.04) dan hidup dengan keluarga (atau = 0.002, 95% CI: 0.001-0.94, P < 0.01) adalah faktor perlindungan. Kesimpulan: jarum perkongsian adalah laluan utama jangkitan baru HIV antara pelanggan yang berada di MMT. Faktor yang telah menerima lebih banyak sokongan daripada kedua-dua keluarga dan masyarakat, peningkatan pematuhan kepada MMT, mengurangkan kekerapan suntikan dan sebagainya, boleh mengurangkan risiko jangkitan HIV di kalangan klien-pelanggan MMT
Gupta V.K., Kaur P., Singh G., Bansal P., Sidhu B.S.	Ticomprehensive evaluation of Drug De-Addiction Centres (DDCs) in Punjab (Northern India)	2014	Journal of Clinical and Diagnostic Research	Keputusan: tempoh rawatan adalah 1 bulan di palang merah dan ia adalah kira-kira 6 bulan pada DDCs peribadi. Kakitangan di DDCs peribadi tidak mencukupi. Ubat utama yang disalahgunakan oleh pesakit adalah Propoxyphene, alkohol, Bhukki dan ganja. Pesakit biasanya dirujuk kepada DDCs sama ada oleh ahli keluarga (35.3%) atau pekerja sosial (29.8%). Kira-kira 72.5% pesakit telah berkahwin, 36.3% telah lulus Standard 10 dan 54.4% telah digunakan. Majoriti digugurkan daripada DDCs kerana alasan peribadi dan kekurangan sokongan keluarga. Pada perbandingan, lebih ramai pesakit didapati akan dirawat di Pusat palang merah (75.3%) daripada di Pusat persendirian (65.8%). Semua DDCs telah mengadakan sesi kaunseling individu, Kumpulan dan keluarga untuk pesakit. Red Cross DDCs memastikan bahawa bekas pelanggan menerima susulan dan lawatan rumah. Lebih ramai pesakit berpuas hati dengan perkhidmatan yang disediakan oleh palang merah. Sebaliknya, lebih ramai pesakit di DDCs peribadi mengadu tentang gangguan kakitangan from(p > 0.05). Kesimpulan: adalah disyorkan bahawa semua DDCs harus

Penulis	Tajuk Artikel	Tahun	Sumber	Penemuan
				diperiksa dengan kerap, dan bahawa Pusat swasta harus disediakan dengan sokongan tambahan daripada kerajaan, untuk membantu menjalankan mereka dengan lebih cekap
Tomori C., Go V.F., Tuan L.N., Huong N.M., Binh N.T., Zelaya C.E., Celentano D.D., Dat D.T., Quan V.M.	"In their perception we are addicts": Social vulnerabilities and sources of support for men released from drug treatment centers in Vietnam	2014	International Journal of Drug Policy	Keputusan: wawancara ini mendedahkan stigmatilsouran yang berkaitan dengan dadah, sering dipasangkan dengan kesan-kesan yang berkaitan dengan HIV dan diskriminasi, yang menghalang pekerjaan, meningkatkan pengasingan sosial peserta dan diburukkan lagi perjuangan mereka dengan Ketagihan. Keluarga adalah para peserta ' sumber utama kewangan, pekerjaan, dan sokongan emosi, tetapi ketegangan keluarga yang berkaitan dengan ketagihan juga mempunyai kesan psikologi negatif. Peserta yang mengenal pasti rawatan penyenggaraan metadon sebagai cara yang berkesan untuk mengatasi ketagihan, namun sedikit yang boleh mendapat manfaat sepenuhnya daripada rawatan ini disebabkan oleh ketersediaan yang terhad. Kesimpulan: kajian kami menunjukkan bahawa PWID yang dikeluarkan daripada "06 Pusat " akan memberi manfaat daripada skala langkah pengurangan bahaya berasaskan komuniti yang termasuk rawatan penagihan dan HIV, ditambah pula dengan sokongan pekerjaan dan keluarga yang berpusatkan mental Perkhidmatan Kesihatan.

6.0 PERBINCANGAN

Proses rawatan dan pemulihan penagih dadah menjadi isu utama yang dibincangkan dalam kajian jurnal ini bagi membentuk perubahan tingkahlaku penagih dadah ke arah pemulihan sepenuhnya daripada dadah. Pelbagai cabaran yang dihadapi sudah pasti memerlukan strategi dan pelbagai cara untuk mencapai pemulihan dadah dikalangan penagih. Oleh itu kajian ini telah dilaksanakan dengan melihat serta meneliti jurnal-jurnal hasil kajian yang lepas untuk mengenalpasti sama ada budaya sokongan keluarga menjadi faktor utama kepada perubahan tingkahlaku penagih.

Umumnya seperti yang diketahui, keluarga merupakan orang terdekat yang paling rapat dengan penagih dadah. Penagih dadah pada awalnya juga merupakan insan seperti orang lain dalam keluarganya sebelum terlibat dengan penyalahgunaan dadah. Sepanjang proses mencapai kematangan usia sebelum keterlibatan lagi, penagih sudah dipengaruhi corak hidupnya oleh ahli keluarga terlebih dahulu sebelum memasuki ruangan masyarakat yang lebih besar.Sebahagian daripada tingkahlaku dan sikap penagih itu sendiri sebenarnya pernah melalui zaman pembentukan daripada ruang lingkup keluarganya sendiri. Malahan, keyakinan seseorang untuk berhadapan dengan orang lain dalam masyarakat juga bermula dari dalam keluarganya sehinggalah akhirnya seseorang itu cuba mencari identiri dan melibatkan dirinya ke dalam perkara-perkara yang berada disekitarnya. Sebagaimana seseorang peagih tersebut akhirnya terjerumus ke dalam penyalahgunaan dadah. Tanpa disedari sebenarnya sokongan keluarga amatlah perlu untuk menarik semula penagih dadah daripada mengulangi lagi tingkahlaku penagihan dadah. Berdasarkan kepada kajian yang yang dilaksanakan oleh Jalali A., Yekzaman M., Bazrafshan M.-R., Salari N., Rahmati M. dalam Shiraz E Medical Journal mengatakan bahawa pemahaman, sokongan keluarga dan rakan adalah faktor yang mempengaruhi proses rawatan dan pemulihan.Sokongan daripada keluarga termasuklah , perhatian, kasih sayang, sokongan agar penagih mempunyai keyakinan dan ketabahan dalam menghentikan kegiatan penagihan sangatlah diperlukan oleh penagih untuk membantu golongan ini daripada terus-menerus terjerumus dalam penagihan dadah.

Antara pendekatan yang bersesuaian yang boleh dibudayakan sebagai amalan dalam membantu kepada perubahan tingkahlaku penagih daripada mengulangi lagi penagihan ialah sokongan sosial daripada persekitaran hidupnya sendiri termasuklah penerimaan golongan ini dalam masyarakat seperti orang lain yang diberikan peluang untuk hidup tanpa dipulaukan, diberi peluang bekerja,upah atau gaji

yang setimpal dengan pekerjaannya, diterima untuk tinggal dalam persekitaran tanpa pandangan yang prejudis dan dilayan tanpa adanya perbezaan. Hujah ini disokong lagi dengan adanya kajian yang telah dilaksanakan oleh Zhou K., Li H., Wei X., Yin J., Liang P., Zhang H., Kou L., Hao M., You L., Li X., Zhuang G.LDalam jurnal kajiannnya yang mengatakan sokongan sosial telah dianggap sebagai satu faktor penting dalam penilaian kualiti hidup yang berkaitan dengan Kesihatan iaitu *health -related quality of life(HRQoL)* iaitu sokongan sosial telah dianggap sebagai salah satu faktor penting dalam penilaian kualiti hidup yang berkaitan dengan kesihatan dikalangan populasi yang berbeza.

Selain itu, sokongan daripada pihak-pihak lain juga perlu dibudayakan untuk mengatasi dan membantu pemulihan dadah. Semua pihak -pihak yang berkaitan seperti hospital,agensi pemulihan dadah, pusat serenti mahupun mana-mana badan yang berkaitan dengan pencegahan dan pemulihan dadah ini juga sangat diperlukan terutamanya aktiviti dan program pemulihan kerohanian, pemulihan secara spiritual,pemulihan tingkah laku dan program bimbingan perlu dirangka dan dipergiatkan. Ini kerana, hasil daripada kajian ini usaha ke arah memulihkan penagih dadah bukan sekadar proses rawatan dan pemulihan tetapi harus disusuli dengan pelbagai program bimbingan yang melibatkan semua pihak termasuklah orang yang paling signifikan dengan penagih itu sendiri iaitu ahli keluarga perlu dibudayakan begitu juga dengan penglibatan dan peranan semua pihak juga perlu bagi membantu proses pemulihan dadah.

Ini dibuktikan juga dengan kajian oleh Seabra P.R.C., Amendoeira J.J.P., Sá L.O. dalam kajian jurnalnya iaitu Testing Nursing Sensitive Outcomes in Out-Patient Drug Addicts, with "Nursing Role Effectiveness Model"menyatakan keberkesanan campur tangan rawatan dan intervensi oleh jururawat serta dengan kerjasama sokongan keluarga juga membawa kepada kualiti hidup yang lebih baik terhadap penagih dadah.

Perubahan tingkahlaku penagih dadah ke arah pemulihan dadah memerlukan motivasi yang tinggi bukan dari dalam diri sendiri malahan dalam kedaaan yang sebenarnya memerlukan sokongan daripada semua pihak terutama sekali keluarga,menerusi pelbagai cara dan yang utamanya ialah melalui proses interaksi dan panduan dari pihak yang berkepakaran.Campurtangan semua pihak untuk menjayakan sama ada keluarga, masyarakat, institusi kesihatan, institusi pencegahan dadah dan semua orang -orang yang ada dipersekitaran penagih ini sebenarnya perlu memainkan peranan untuk membudayakan budaya campurtangan mengambil tahu serta menyokong usaha pemulihan kepada penagih dadah untuk kembali ke pangkal jalan.Benarlah sebagaimana yang diperkatakan oleh Juibari T.A., Lotfi B., Ghobadi K.N., Aghaei A., Moradi M., Najafi F., Farnia V.dalam kajian jurnalnya yang bertajuk Factors affecting the duration of addiction in individuals visiting drug abuse treatment centers in Kermanshah Province in 2013 menegaskan bahawa ksesimpulan dari kajiannnya mendapati bahawa sebilangan besar faktor peribadi dan sosial mempengaruhi cubaan keluar oleh penagih dadah, dalam masa yang sama untuk mengurangkan beban ketagihan , sokongan yang menyeluruh daripada keluarga serta kerajaan dan organisasi yang bertanggungjawab diperlukan dalam usaha menangani isu permasalahan ini daripada terus menular dalam masyarakat itu sendiri.

7.0 RUMUSAN

Kajian oleh Shiraz 2018 boleh menjadi panduan kepada pengkaji untuk menggalakkan intervensi kaunseling keluarga dalam membantu bekas penagih daripada mengulangi semula tingkahlaku ketagihan dengan cara menerapkan sokongan keluarga sebagai pendorong kepada perubahan tingkahlaku menghentikan secara terus penglibatan penagih kepada ketagihan dadah.

Oleh kerana itu, Peranan keluarga sebagai kelompok sokongan perlulah dibudayakan dan adalah sangat perlu untuk membantu dan mengawal serta memberi sokongan kepada penagih justeru itu program kemahiran dan latihan kepada keluarga perlulah dilaksanakan dalam usaha mengelakkan daripada berlaku penagihan semula.

Pemantauan yang kerap dan berterusan, kaunseling, dorongan serta sokongan keluarga dan sokongan persekitaran boleh mencegah golongan bekas penagih daripada kembali kepada ketagihan semula dan ini perlu menjadi budaya yang sama-sama di amalkan.Istilah "Budaya Menjaga Tepi Kain Orang" sepatutnya dilihat dari sudut positif bagi mengelakkan pertambahan golongan penagih dadah tegar apabila semua orang mula mengambil tahu, cakna serta mengambil peduli terhadap golongan ini.

8.0 IMPLIKASI

Melalui kajian ini, kaunselor perlu memainkan peranan untuk mendekatkan diri bukan hanya dengan klien iaitu penagih dadah itu sendiri tetapi juga perlu mengambil kira orang yang paling rapat dengan

klien yakni keluarga sebagai satu kelompok yang boleh di ajak untuk bersama-sama bekerjasama bagi melaksanakan intervensi yang bersesuaian dalam usaha menangani daripada berlakunya penagihan semula dikalangan penagih. Satu pendekatan yang sesuai dan teknik yang berkesan perlu dicipta bagi menangani isu ini.Selain itu kaunselor juga perlu bersedia untuk bekerjasama dengan institusi-institusi lain yang mungkin mempunyai kaedah yang boleh digabungkan untuk membantu penagih pulih dari permasalahannya contohnya dengan kerjasama dengan pusat kesihatan yang menawarkan rawatan pemulihan seperti klinik dan hospital.Masyarakat juga tidak terkecuali untuk diberi pemahaman tentang keperluan penerimaan masyarakat terhadap bekas penagih serta di dedahkan dengan program-program yang bersesuaian bagi menangani isu ini. Sokongan daripada pelbagai pihak sudah pasti akan membuahkan hasil atau sekurang-kurangnya mengurangkan bilangan yang terlibat dengan penagihan semula.

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048 : A Review on Holland's Career Theory

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ABSTRACT

Holland's Theory is about people and environment. Holland developed RIASEC model, which is applied to personality types and environment. This systematic review explores on how Holland's Theory is applied in various researches and aims to explore the effects of using Holland's Theory and RIASEC model on the research participants. Journal articles were sourced from ProQuest electronic database and Google Scholar. Only research articles in the form of quantitative research are included in this systematic review. Moreover, articles only in English language are used. Subject area related to counselling is included, which are Counselling and Career Development Planning. The countries of the articles in this systematic review are from various countries, namely United States, United Kingdom, Italy, Korea, Nigeria, Pakistan, and Belgium. 10 journal articles extracted were reviewed. Results showed the application of Holland's theory on researches to examine career aspects and related variables. Various effects of Holland's Theory and RIASEC model towards participants, including benefits and effects on various variables. Implications of RIASEC towards career counselling and other related aspects were discussed, vastly bringing awareness among career counsellors and related mental health professionals to use RIASEC model of Holland due to the benefits it provides to the society. Moreover, Holland's theory is also a pioneer in the field of career counselling and career related researches.

Keywords: Holland, theory, career counselling, quantitative, systematic review

1.0 INTRODUCTION

John Holland's idea is that career choice and career adjustment both are extension of the personality of a person. He hypothesised that people's impressions and generalizations regarding work, which he mentioned as "stereotypes", are generally correct. His theory is about the interaction between a person and the environment. There are six types of environment and personality, RIASEC, namely Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. Other than that, when real people and work environments are described, Holland uses a combination of three types, because there are never just one type. For instance, the usage of SEA, which is Social, Enterprising and Artistic (Sharf, 2013).

Realistic is about working with tools and equipment. People with this personality choose concrete or tangible items as compared to abstract tasks or intangible items. They choose to work solo or other realistic people. Occupations of realistic type are electrician and plumber. Investigative is about cognitive skills and thinking. People with this personality choose to work in environment which needs to use analytical skills. It also requires people to be intellectual oriented. Occupations of investigative type are laboratory technician and electronics worker. Artistic is about individual style and creativity. People with this personality choose to work in a flexible environment which allows them to express themselves via art. They are imaginative and rather independent. Occupations of artistic type are designer and writer. Social is about people-oriented. People with this personality choose to deal with people and care about social issues. They have good interpersonal skills. Occupations of social type are counsellor and teacher. Enterprising is about persuasion. People with this personality are aggressive, extroverted, persuasive and adventurous, among others. They are always goal-oriented. Occupations of enterprising type are businessperson and salesperson. Conventional is about structure. People with this personality are conservative and practical. They choose structured and repetitive tasks. Occupations of conventional types are clerk and accountant (Zunker and Osborn, 2002).

Combination of types is three-letter codes of RIASEC, where the first letter represents strongest about the person, second letter represents second strongest, and third letter represents the third strongest personality type of an individual. With this combination, personality type becomes more definite. The types are measured by Holland' instruments, namely Vocational Preference Inventory (VPI) or Self-Directed Search (SDS). There are four crucial constructs to conceptualise and use Holland's types in counselling, namely congruence, differentiation, consistency and identity. Congruence is the relationship between the personality and the environment. The higher the level of similarity of personality is to the environment, the higher the levels of congruency it is. For instance, using Holland's three-letter code, SRA personality is most congruent with SRA environment and less congruent with SRC environment. Similarly, Social type people might find the environment of Enterprising or sales to be incongruent with their personality type. Differentiation is the relationship between and the relative importance of types. Some people represent one Holland type, whilst some may be undifferentiated and have interest across all six types in RIASEC. For instance, an individual who likes painting and volunteering dislikes machineries and office work. This is clearly differentiated because their social and artistic interests are very distinct from their realistic and conventional dislikes. Consistency is the relationship of types with each other. It is the similarity or dissimilarity of the types. This is based on the hexagon structure of RIASEC in the exact sequence. The closer the types are to each other, the more the consistency. For instance, social people have more consistency with artistic type and enterprising type. On the other hand, social type is inconsistent with realistic. In hexagon structure, both social and realistic are at opposite ends. Identity is the stability and clarity of an individual's present and future goal. Identity does not relate directly with Holland's typology like the mentioned three aspects. It is not measured via VPI or SDS, but My Vocational Situation (MVS). For instance, a person desires to be a doctor in order to gain high remuneration has yet to form his identity. Only when he has information about how to become a doctor or whether he likes the job scope of a doctor will his sense of identity turn clearer (Sharf, 2013).

Holland's theory of types is clear and direct. It is well-known and used until the present era. Moreover, many instruments were based on Holland as a pioneer. Also, many researchers refer to Holland's RIASEC model when conducting researches.

In this systematic review, application of Holland's theory in career counselling is searched. The way Holland's theory is used in the field of career counselling, such as the use of SDS in surveys of researches before conducting career counselling based on the results of the SDS. Also, there may be other inventories which referred to Holland's theory in validating, comparing or developing their inventories. Hence, this review aims to find out which inventories referred to Holland's SDS as this is a pioneer career inventory.

The effects of Holland's theory on research participants are also found. In this systematic literature review, the effects are focused on the positive side. Benefits for research participants are taken into account only. Benefits in terms of career choice, decision, and more career-related effects are being noted.

1.1 Objectives

The objective of this review is to determine how Holland's theory is applied in the field of career counselling. Moreover, this review intends to seek the effects of the application of Holland's theory for participants.

1.2 Research Questions

1. How is Holland's theory applied in the field of career counselling?
2. What are the effects of the application of Holland's theory on participants?

2.0 METHODOLOGY

2.1 Search strategy

This systematic review is conducted following Preferred Reporting Items for Systematic Reviews and Meta Analyses (PRISMA) guidelines. Electronic database used for this systematic review is ProQuest Central. Furthermore, Google Scholar website is used. The search term used is "Holland's theory", "Career Counselling" and other relevant derivations. The flow diagram is depicted in Figure 1.

2.2 Inclusion criteria

All articles from various journals are from January 2013 to November 2018, which is at most five years back. Only research articles in the form of quantitative research are included in this systematic review. Moreover, articles only in English language are used. Subject area related to counselling is included, which are Counselling and Career Development Planning. The countries of the articles in this systematic review are from various countries such as United States, United Kingdom, Italy, Korea, Nigeria, Pakistan and Belgium. The inclusion criteria is depicted in Table 1.

2.3 Exclusion criteria

Studies of qualitative research are excluded. Also, features, news and thesis are excluded. Subject areas which are irrelevant to this area is excluded, namely Management, Education Policy, School Administration and Entrepreneurship. The inclusion criteria is depicted in Table 2.

Figure 1 Flow Diagram for Selection Review of Studies of Holland's Theory in the Field of Career Counselling

Table 1 Inclusion Criteria of the Systematic Review

Inclusion criteria	Items	Literatures identified	Remaining literature
Key terms	Holland and Career Counselling	15042	15042
Year	2013 to 2018	4022	11020
Subject Area	Counselling and Career development planning	2843	8177

Table 2 Exclusion Criteria of the Systematic Review

Inclusion criteria	Items	Literatures identified	Remaining literature
Inclusion criteria	Holland and Career Counselling	8177	8177
Article Type	News (n=25) Feature (n=212) Thesis (n=825)	1062	7115
Journal source	The Career Development Quarterly	2	10
	The Professional Counselor	1	
	International Journal For Educational And Vocational Guidance	2	
	Research In Higher Education	1	
	College Student Affairs Journal	1	
	Gender and Behaviour	1	
	Career Development International	1	
	Pakistan Journal of Psychological Research	1	

3.0 FINDINGS

Findings from various journals were tabulated. Many journals observed difference in RIASEC codes based on genders. Other than that, there is investigation between RIASEC and various aspects, such as consideration of career alternatives, career choices, subjects and so on.

3.1 Application of Holland's theory in Career Counselling

Holland's theory is used in career counselling for pupils in educational institutions. Behrens and Nauta (2014) distributed Self-Directed Search (SDS) to participants to determine number of career alternatives being considered 4 weeks after. Dozier, Sampson and Reardon (2013) divided their participants into two groups, with one group to receive computer-generated SDS Interpretive Report (SDS: IR) and another group to receive two paper booklets as interpretive materials. They intended to examine the participants' tendency to recall the SDS codes and expansion of career choices. Ekore (2014) examined sex-role expectation on career interest in terms of RIASEC careers. Ferrari et al. (2015) investigated career exploration and children's perception of RIASEC occupations between genders and age. In Fonteyne, Wille, Duyck and De Fruyt's (2016) study, SIMON Interest Inventory (SIMON-I) is validated from Holland's RIASEC as a tool to conduct career researches. They examined gender on RIASEC interests. RIASEC was associated with various fields of study. Holland's SDS is also compared with Career Key Urdu (CKU) in the study by Hussain et al. (2014) as to whether it is suitable for the Pakistanis or not. Joeng, Turner and Lee (2013) examined RIASEC types on choices of prestige, sex-type and interest when choosing occupations by males and females. Johnson and Muse (2016), investigated race, genders, salary expectation, and financial status, among others, was related with RIASEC codes. McClain, Sampson, Lenz and Reardon (2015) used Holland's theory to investigate Greek-letter organizations members on vocational identity, career decision-making self-efficacy, and goal directedness. In the study conducted by Woods, Patterson, Wille and Koczwara (2016), there were comparison between Big Five personality scores and Holland's RIASEC among medical personnel.

3.2 Effect of application of Holland's theory on research participants

There are various effects of Holland's theory on participants. According to Behrens and Nauta (2014), completion of the SDS connected to a rise in the number of career alternatives being considered 4 weeks after the survey. Dozier, Sampson and Reardon (2013) revealed that participants in Group 1, which are those who received computer-generated SDS Interpretive Report (SDS: IR) had significantly higher tendency to recall the first and third letters of their summary codes (84 per cent and 88 per cent), when compared with participants in Group 2, which are those who received two paper booklets as interpretive materials (61.5 per cent and 50 per cent, $p < .017$). Participants in Group 1 had significantly higher tendency to expand their career choices than those in Group 2 (72 per cent vs. 57.6 per cent, $p < .05$). Ekore (2014) mentioned that sex-role expectations significantly assumed career interests. Femininity significantly assumed all the six types of career. Sex role expectations play crucial part in career interests among senior secondary school pupils. Adolescents with masculine mindset chose Investigative, Artistic, Social, Enterprising and conventional careers. The findings revealed that masculinity have significant impact on career interest. According to Ferrari et al. (2015), findings revealed a closer relationship between career exploration and actual knowledge than children's knowledge perception. There were higher levels of actual knowledge and perception of occupational knowledge for social jobs, but lower levels for conventional jobs. Social occupations are understood as more well-known and conventional occupations are understood as lesser known than other categories. There is a principal impact for age on perception of social and investigative occupational knowledge. Specifically, perception of social and investigative occupational knowledge plunged with age. Also, there is a principal impact for gender in predicting perception of realistic and social occupational knowledge. Specifically, male gender predicted perception of realistic occupational knowledge and female gender predicted perception of social occupational knowledge. The significant interaction impact between gender and age was discovered on perception of artistic occupational knowledge. Specifically, perception of artistic occupational knowledge plunged with age in boys, but rose with age in girls.

The study conducted by Fonteyne, Wille, Duyck and De Fruyt (2016) compared SIMON Interest Inventory with Holland's SDS to determine students' field of study. It is a validated tool to be used for guidance and counselling. According to Hussain et al. (2014), the structure of interests for Pakistani pupils does not match with Holland's theoretical expectation as compared with Career Key Urdu (CKU) career test. This shows that Holland's theory may not fit other nationality. The research by Joeng, Turner and Lee (2013) depicted that there were significant principal impacts for Holland interest types and for gender. The researcher found out that based on RIASEC and three types of preference, namely prestige, sex-type and interest, R-type pupils preferred prestige and sex-type to interest. I-type pupils preferred prestige to sex-type. A-type pupils preferred interest to sex-type and prestige. Also, they preferred sex-type to prestige. S-type pupils preferred prestige to both sex-type and interest. E-type pupils preferred prestige to both sex-type and interest. When comparing males and females, males preferred prestige to both sex-type and interest, whereas females preferred prestige to sex-type. According to Johnson and Muse (2016), first generation status brings to a higher tendency of picking engineering careers for males. Financial difficulties have a bigger impact on choosing scientific fields than engineering fields by females. This is opposite for males. Pupils who expect more financial stress had higher tendency to choose technical and life sciences fields or ''safe bet'' majors with better career outlooks and more salary expectations. Passing grades in calculus, quantitative test scores, years of mathematics in high school and self-ratings of abilities to analyse quantitative problems and to use computing are positively connected with selection of engineering fields. Females who passed calculus have more tendency of choosing a realistic discipline.

Passing calculus in high school by a female also creates higher tendency in going into an investigative field. Males who pass calculus have higher tendency of choosing realistic fields. Salary expectation had a significant positive impact on discipline choice by females and males. Caucasian students had lower tendency to choose a realistic discipline. The impact of ethnicity is consistent across models and matched for both males and females. High school GPA is positively related with the preference of investigative and realistic fields over social fields and negatively related with the preference of enterprising and artistic fields over social fields. Years of doing mathematics in high school are positively connected with picking realistic fields. It also increases the tendency of preferring realistic fields. Extra year of history or social science in high school is connected with a higher tendency of choosing social fields over enterprising, investigative, and realistic disciplines by males and a higher tendency of preferring social fields over investigative fields for females. Pupils who took more years of foreign language have lower tendency to enter investigative and realistic fields for both genders. These

findings depicted that high school curriculum is a crucial factor in preference of a discipline both by males and females. On the aspect of involvement in extra-curricular activities, participation in performing or visual arts is connected to higher chances of choosing artistic and realistic fields by females and males. Females who report more participation in athletic teams have higher tendency to choose a social discipline over an artistic discipline, but this impact does not depict a visible change in expected probability of preferring artistic fields with a point change in female involvement in athletic teams. On the other hand, males preferred enterprising field. Increase in participation in vocational clubs leads to increases in percentage of preferring enterprising disciplines by females and males. Participation in religious youth groups and community service or volunteer work is positively connected with higher tendency in selecting social disciplines by female students. However, this result does not hold for male students. It is interesting that females also report more participation in religious youth groups, community service, and volunteer work. Although prior involvements in extra-curricular activities have statistically significant impact on choice of discipline by females and males, these impact are small in terms of changes in expected probabilities.

This participation was observable on choices of females but not on choices of males. Pupils' self-ratings of their preparation to write clearly and effectively have significant positive impact on expected probabilities of choosing artistic fields over social fields for females and males and a negative impact on the expected probability of choosing a realistic field by males. Pupils who are confident in their ability to talk clearly and effectively chose social and enterprising field over investigative and realistic disciplines. The impact of self-rating of preparation to analyse math and quantitative problems is stronger than the impact of self-ratings of ability to speak, write or think in a critical way. Confidence in a person's ability to use computing or information technology is related with higher tendency of preferring realistic over social fields. People's greater confidence in ability to work effectively with others and learn effectively on their own is related with lower tendency of preferring a realistic field. To sum up, controlling for high school performance, test scores, high school curriculum and prior participation in extra-curricular activities, confidence in a person's abilities and preparation has a significant impact on preference of major. Self-ratings of preparation to analyse math and use computing are most consequential for the preference of major. Mostly, direction and significance of impact of self-ratings on choice of disciplines are consistent for both genders. Also, females had a higher tendency to rate themselves lower in areas that have a strong positive impact on the choice of enterprising, realistic and investigative fields, and higher in areas that have a positive impact on the choice of artistic fields.

The study by McClain, Sampson, Lenz and Reardon (2015) revealed that Greek-letter organizations members have higher levels of vocational identity, career decision-making self-efficacy, and goal directedness when compared to non-Greek members. Based on the research conducted by Woods, Patterson, Wille and Koczwara (2016), junior doctors' agreeableness (with social) and neuroticism (with realistic, artistic and enterprising) were the principal predictors of the RIASEC profiles of their specialty choices. There were comparison between Big Five personality scores and Holland's RIASEC. In the study, neuroticism and agreeableness were the main traits connected with the specialty RIASEC dimensions. Extraversion was negatively related with the conventional dimension. Neither doctors' agreeableness was related with more social elements in their specialties, but that extraversion was not. Junior physicians' agreeableness was also connected with less pronounced artistic and conventional occupational features in their specialties. Doctors' neuroticism was negatively related with the realistic and enterprising dimensions of their specialties. There was a positive relationship between participants' neuroticism and the artistic dimension of their specialties was also seen.

Table 3 Summary of Selected Literatures

No.	Author (Year)	Title of article	Journal	Country	Sample	Relevant findings
1	Behrens and Nauta (2014)	The Self-Directed Search as a stand-alone intervention with college students	The Career Development Quarterly	United States (US)	131 undergraduate students from a huge, public university in the Midwest (n=131)	Completion of the SDS connected to a rise in the number of career alternatives being considered 4 weeks after, but did not connect to career exploration, career decision-making self-efficacy, career indecision, and seeking of career counselling services.
2	Dozier, Sampson and Reardon (2013)	Using two different Self-Directed Search (SDS) interpretive materials: Implications for career assessment	The Professional Counselor	United States (US)	24 random students chosen from gifted high school (n=24)	Participants in Group 1 had significantly higher tendency to recall the first and third letters of their summary codes (84% and 88%), when compared with participants in Group 2 (61.5% and 50%, p < .017). However, there were no significant differences between the groups on the ability to recall the second letter of the summary code. Participants in Group 1 had significantly higher tendency to expand their career choices than those in Group 2 (72% vs. 57.6%, p < .05), but participants in the two groups revealed no significant differences in their ability to elaborate, confirm or narrow their choices.
3	Ekore (2014)	Sex role expectations as predictors of career interests among senior secondary school students in Ibadan metropolis	Gender and Behaviour	Nigeria	997 comprising of both male and female respondents selected from 5 private and 5 public schools in Ibadan metropolis (n=997)	Sex-role expectations except androgyny, significantly assumed career interests. While femininity significantly assumed all the six types of career, masculinity did not assume realistic career type. Sex role expectations play crucial part in career interests among senior secondary school pupils.
4	Ferrari et al. (2015)	Career exploration and occupational knowledge in Italian children	International Journal for Educational and Vocational Guidance	Italy	60 elementary and 60 middle school pupils (n=120)	Findings revealed a closer relationship between career exploration and actual knowledge than children's knowledge perception. There were higher levels of actual knowledge and perception of occupational knowledge for social jobs, but lower levels for conventional jobs. There was no rise with age for career exploration and actual occupational knowledge. A decrease showed in the perception of occupational knowledge in Social and Investigative categories. Gender differences revealed in perception but not in actual occupational knowledge.
5	Fonteyne, Wille, Duyck and De Fruyt (2016)	Exploring vocational and academic fields of study: Development and validation of the Flemish SIMON Interest Inventory (SIMON-I)	International Journal for Educational and Vocational Guidance	Belgium	3,962 higher education pupils (n=3962)	Men had higher scores on Realistic, Investigative, Enterprising and Conventional interests, whereas woman had higher scores on Artistic and Social interest dimensions. Furthermore, men had a higher score on the Academic scale as compared to women. The two biggest differences between men and woman were discovered for Social and Realistic interests.
6	Hussain et al. (2014)	Adaptation of the career key into Urdu	Pakistan Journal of Psychological Research	Pakistan	179 pupils from various academic institutions (n=179)	Findings revealed sound psychometric properties for the Career Key Urdu (CKU) version. However, Holland's hexagonal interest structure did not fit assumption. The corresponding indices of randomized test of assumed order for both measures were low when compared with samples of US.
7	Joeng, Turner and Lee (2013)	South Korean college students' Holland types and career compromise processes	The Career Development Quarterly	Korea	376 undergraduate pupils from 2 universities in Seoul, South Korea (n=376)	There were significant principal impacts for Holland interest types and for gender, but not for college major on theirs career compromise processes.
8	Johnson and Muse (2016)	Choice of academic major at a public research university: The role of gender and self-efficacy	Research in Higher Education	United States (US)	20,000 pupils from a research university (n=20,000)	First generation status brings to a bigger likelihood of picking engineering careers for males, but not for females. Financial difficulties have a bigger impact on choosing scientific fields than engineering fields by females. This is opposite for males. Passing grades in calculus, quantitative test scores, years of mathematics in high school and self-ratings of abilities to analyse quantitative problems and to use computing are positively connected with selection of engineering fields.
9	McClain, Sampson, Lenz and Reardon (2015)	Fraternity and sorority membership and college student career development	College Student Affairs Journal	United States (US)	Participants included 205 pupils associated with fraternities and sororities and 231 non-affiliated pupils (n=436)	Greek-letter organizations members have higher levels of vocational identity, career decision-making self-efficacy, and goal directedness when compared to non-Greek members.
10	Woods, Patterson, Wille and Koczwara (2016)	Personality and occupational specialty	Career Development International	United Kingdom (UK)	199 junior doctors working for the UK NHS in the Yorkshire and Humber region (64 per cent female, 36 per cent male (n=199)	Junior doctors' agreeableness (with social) and neuroticism (with realistic, artistic and enterprising) were the principal predictors of the RIASEC profiles of their specialty choices.

4.0 DISCUSSION

4.1 Application of Holland's theory in Career Counselling

Holland's Theory is applied to various researches via usage of instrument and comparison with other assessments. Holland's SDS was compared with other models such as Big Five Personality, CKU, and SIMON-I. This shows that it is a strong theory. Hence, many other inventories used SDS as a referral. Holland's SDS is used for participants to fill in in order to determine career related data of participants. Moreover, comparison between Big Five, CKU, and SIMON-I with Holland's RIASEC model is used as well. Woods et al. (2016) mentioned that Big Five was also compared with RIASEC. According to Hussain et al. (2014), the main goal of their research was to build a valid and reliable equivalent of the Career Key (CK) in Urdu, and this was hugely achieved. The Career Key Urdu (CKU) possess a good reliability level as shown by its acceptable range of internal consistency estimates and the correlations between the RIASEC scales for English and Urdu versions of the CK are strong and positive, ranging from .85 to .90 for general sample of representative. CK measures among the population of Pakistani. Although it is tough to establish the possible factors behind these results in Pakistan where few studies have been done, the role of cultural differences is required to be seriously taken into account.

The study conducted by Fonteyne et al. (2016) was regarding documentation and validation of SIMON-I and its feedback tool. SIMON-I is an interest assessment which is new and freely available for pupils on the verge of choosing a higher education study program. The accompanying feedback tool provides respondents with a list of study programs that are fitted to their interest profiles. Their results revealed validity and usefulness of SIMON-I and its feedback tool in the educational guidance and counselling context. When RIASEC is used, this well-defined position of the six personality and environment types across the interest circle enables the analysis of person-environment congruence, which is highly related for both career researchers and practitioners.

4.2 Effect of application of Holland's theory on research participants

There are effects of Holland's RIASEC towards participants of various researches, which is discussed. Based on the research conducted by Woods et al. (2016), they intend to examine how distinct traits form careers of people once they have chosen an occupation. The relationship between Big Five personality scores with the characteristics of the participants' chosen specialties was examined. According to the results, junior doctors' agreeableness and extraversion had relationship with the social dimension of their

specialties. Physicians with increased scores on agreeableness indeed chose specialties with more pronounced social features. Junior doctors' neuroticism negatively associated with the realistic and enterprising dimensions of their specialties. Doctors with increased scores on neuroticism were had lower tendency to select specialties with pronounced realistic and enterprising features. More neurotic physicians also had higher tendency of choosing specialties with more artistic features.

According to Hussain et al. (2014), gender differences were discovered among the RIASEC scales of the CKU, where male pupils scored statistically higher in Realistic, Enterprising, and Conventional types of CKU, whilst, female pupils scored in Artistic type. The findings revealed in their research correspond to the results of other researches that were conducted in the Pakistani society. The gender differences in career interest may be due to a multitude of reasons, both internal and environmental.

The study conducted by Fonteyne et al. (2016) showed men generally scored higher on Realistic and Investigative interests. On the other hand, women had higher scores on Artistic and Social interests. SIMON-I did not show significant gender differences for Conventional interests. There was significant difference between men and women in terms of Enterprising interests, with men having higher scores. The biggest gender differences were revealed for the 'People or Things' dimension, with men preferring to work with things and woman choosing to work with human. Also, analyses revealed that their Academic scale is different from the conceptually related Holland Investigative interest scale. This shows that Holland's scale is being compared with other assessments.

According to Ferrari et al. (2015), the aim of their research is to provide enhanced knowledge on career construction of children. It emphasised on relationships among children's career exploration, their perception of occupational knowledge and their real occupational knowledge for each of RIASEC based on age and possible gender role. The findings partially confirm their hypotheses. Career exploration determined perception of investigative occupational knowledge and actual occupational knowledge for the realistic, investigative, artistic, and enterprising occupational categories. In a more specific way, the more students participated in exploration activities, the more their actual knowledge increases. However, this appeared from domains regarding which they have moderate experience and not from those they know quite well, like the social one, or regarding which they have very limited experience, like the conventional category. This finding also supports a role for contextual learning experiences for knowledge regarding the world of work. There is a possibility that exploration process assists collecting information on aspects and categories which are partially known, thus more easily understood, in order for new information to be linked with existing knowledge. Also, researchers discovered a role for exploration activities on actual knowledge than on perception of knowledge. Regarding the perception of occupational knowledge and actual occupational knowledge on Holland's categories, researchers emphasize higher knowledge levels and knowledge perception related to the named occupations of teacher and nurse, which are categorized as social occupations. In their study, lower knowledge levels and knowledge perception appeared for accountant and secretary occupations, categorized as conventional. Higher social knowledge levels could be connected to higher exposure, but also to comments shared at school, such as what educators' work include. As age increased, there was no rise recorded in exploration and actual occupational knowledge. However, a decrease appeared in the perception of occupational knowledge for social and investigative occupations. These findings revealed that perhaps the progression of occupational knowledge is slow and a wider age range is needed to detect such progression.

About gender role, the findings revealed that males and females differ in their perception of occupational knowledge but not in their actual occupational knowledge. This finding confirms that these are two different processes in career development and it focuses the relevance of separately considering them in future research. As age increased, girls displayed higher scores in their perception of occupational knowledge for the artistic category. There is a rise in attention for the world of show biz and fashion in which girls spend time more as they develop.

The study by Joeng, Turner and Lee (2013) is on career compromise process among South Korean college pupils. Their study showed that the students preferred prestige to sex type and interests with a moderate effect size. Across RIASEC, except A and C, for both females and males, they preferred occupations high in prestige. According to the researchers, making decisions according to interests is also crucial. When they are unable to obtain high prestige jobs after graduation, they are still able to obtain slightly lower prestige jobs which suit their interests.

According to Behrens and Nauta (2014), their research aimed to examine whether the SDS, when applied to college pupils outside the context of counselling, is able to serve as an effective stand-alone intervention in addressing these pupils' career concerns. As compared to pupils who did not receive any intervention, those who finished the SDS revealed a rise in the number of occupations they were considering 4 weeks later. Hence, this brings more career alternatives for them. However, the completion of the SDS was not related with a significantly greater degree of subsequent career exploration.

Dozier, Sampson and Reardon (2013) revealed that participants receiving the SDS:IR generated by the SDS software portfolio computer system had higher tendency to recall their SDS overall three-letter summary code, and the first and third letters of their code, than those receiving the YYC and the EOF booklets. Results showed that the interpretive materials used in this study enabled pupils to wide their choices, but no significant relationships were discovered regarding their ability to narrow or confirm their choices.

The study by McClain et al. (2015) revealed that participants with Greek organisation membership had higher scores on career development measures when compared with participants without this membership. Also, this membership had more benefits in personal development and social learning as compared to the latter. This is due to the rise in chances of interaction and learning with each other. The members are clearer of their RIASEC codes best matched their personality types during their participation in organisational activities as Greek organisation members. Furthermore, they had higher chances of discovering their personality preferences, identifying their interests, and building a sense of self, as compared to those without the mentioned membership. They had higher career decision-making self-efficacy. They have lower goal instability too. Overall, there is usage of Holland's RIASEC code with their personality types.

Ekore (2014) did the study on sex role expectations as predictors of career interest among senior secondary pupils in Ibadan metropolis. Findings revealed that both femininity and masculinity sex role expectations are significant predictors of RIASEC, but androgyny did not significantly determine RIASEC career interests. Male and female career decisions were reported to be normally distinct due to the difference in their self-concepts. It was revealed in the research that both masculine and feminine orientations were related with five out of the six career areas. Masculinity assumed all except realistic career orientation. However, males had been discovered to engage in realistic career related activities than females.

The contrary positions with the findings may be because differences in cultures where previous researches were conducted. Holland may not have encompassed African sample in building the career personality matching. This may prove that the Nigerian society with its culture is not rigidly divided according to sex role expectations. Hence, it is easier for adolescents of either gender to go for any career interest that they want or are interested in. However, little difference was found as both the feminine and masculine dimensions of sex role expectations significantly assumed career interests in the study.

5.0 IMPLICATION

Based on the study by Joeng, Turner and Lee (2013), it is crucial for career counsellors to assist clients in widening their perspective when choosing career. Perhaps the best method when planning career counselling interventions is to assist pupils to balance their career decision making strategy based on prestige, gender consistency or interest. They should also comprehend the internalization of their parents' expectation of them.

Ekore's (2014) research has added to a growing body of literature on sex role expectations and career interests of teenagers, especially those in senior secondary education institutions. There is a strong relationship between sex role expectations and career interests. Hence, vocational and career counsellors are required to consider the importance of sex role orientation of students in career planning. The researcher suggested that a prior assessment of pupils in addition to their academic performances would facilitate to achieve result-oriented outcome in career guidance. Following the conclusion that connect sex role expectations with career interests of pupils in the study, it is needed for vocational counsellors to work with pupils in order to educate or sensitise them toward overcoming the traditional perceptions of occupations based on gender orientations. Instead they can be made aware about chances in emerging and non-stereotypic traditional career areas. Pupils and their parents can be assisted to make result-oriented career choices without the belief that certain vocations only match certain gender.

According to Johnson and Muse (2016), more years spent on particular subjects are associated with the related RIASEC codes. This shows that more time spent increased tendency to have the particular

personality or traits. Calculus results, participation in extra-curricular activities and financial status are among of those aspects which determined RIASEC codes. It can be analysed that RIASEC certainly have relationship with various aspects of life.

According to Johnson and Muse (2016), overall, there is empirical evidence of relationship between student self-rated abilities and chosen academic fields. Due to weaker ratings of one's ability to analyse quantitative problems among female pupils, college counsellors are required to take into account that motivation and reassurance might be more crucial to females than to males.

According to Behrens and Nauta (2014), if the aim of using the SDS is to prompt pupils' consideration of more career options, their findings suggest that doing so with broad pupils' groups outside the context of counselling may be one way for efficiently facilitating pupils. This form of intervention would seem to be most beneficial with pupils in fairly early stages of career development when the aim is to motivate pupils not to overlook careers that match their personalities. Their findings suggest that SDS completion alone may not encourage much extra career exploratory behaviour. This shows that the presence of career counsellors is crucial in this context. With the combination of SDS and career counsellors' services, students are able to benefit more. Significant others are also able to help pupils as they proceed on to the next procedures suggested in the SDS assessment booklet.

Based on the research conducted by Woods et al. (2016), within-occupation specialties should feature in career guidance discussions and interventions more explicitly so that people are able to decide whether occupational specialties are present that appeal to their individual differences. There is an influence of specific personality traits on vocational behaviour change at distinct stages of people's careers. There are implications for people participating in guiding and facilitating people to make career decisions. Conventional methods of looking at person-vocation fit have tended to see fit at the level of occupation, which is by corresponding vocational interests with environment characteristics. There is implication on occupational profiling as well. Particular affective features of medical specialties make them somewhat appealing to people based on their neuroticism level. It is crucial to build a more thorough appraisal of the emotional and affective characteristics of occupation and specialty environments, maybe adding these to established occupation profile analyses like those captured in the O*NET database.

According to Fonteyne et al. (2016), SIMON-I was used to determine students' RIASEC interest profiles. Also, it is used to connect this to a set of study courses with matching interest codes. Data from six study programs revealed that the expert-rated RIASEC program codes showed good match with the average interest profiles of the pupils in the study programs.

According to McClain et al. (2015), their study has implication on pupils interested to join sororities' and fraternities. Also, there is implication for higher education staff, such as college administrators, faculty staff and more. Career counsellors play a crucial role in encouraging pupils to join societies or groups since it is proven to be more beneficial to pupils in terms of building skills, career development and more.

Overall, the implications brought awareness to career counsellor and related mental health professional that Holland's RIASEC model is widely used and brings effect to the society.

6.0 CONCLUSION

According to Joeng, Turner and Lee (2013), their results provided beneficial information to career counsellors and researchers in comprehending about South Korean college students' career decision-making processes. This provides counsellors with insights in order to prepare more effective career counselling interventions for the students. Johnson and Muse (2016) stated that their analysis of college major choices of going into first-time freshmen suggests that female pupils have higher tendency to self-select into social (Education, Social Sciences, Health Sciences, Psychology, and Nursing), artistic (Arts, Communications, English, Music, Foreign Language, and Theatre) and investigative (Agriculture, Sciences, Biosystems Engineering, and Mathematics) disciplines, when compared with males. Males have higher tendency to pick realistic (Architecture, Engineering, Building Science, and Computer Science) and enterprising (Industrial and Systems Engineering, Business, and Economics) disciplines. Lower socio-economic status (SES) is related with a slightly higher tendency to choose more lucrative occupations and careers with brighter outlooks. Regarding gender differences, researchers discovered that first-generation status leads to higher tendency of choosing realistic fields for males, but not for females. Financial stress has a larger impact on choosing investigative disciplines than realistic disciplines by females. Males have opposite choices as compared to females. Moreover, highest degree intentions are strongly related with the choice of investigative fields over other fields. The impacts of the highest degree

intensions are not related with larger expected probabilities of selecting liberal arts (social or artistic) disciplines. The expected probability of selecting an artistic or social discipline by females plunges as the degree expectation rises. For males, the expected probability of selecting an artistic or social discipline stays about the same as the highest degree expectation rises. Unsurprisingly, student high school academic performance and curriculum are strongly related with their major choices. Quantitative ability is one of the most crucial factors in choice of major. For instance, higher ACT quantitative scores are related with higher tendency in selecting realistic fields by both males and females. Surprisingly, female pupils who had passing grades in calculus have higher tendency to enter either investigative or realistic fields, whilst males who passed calculus have higher tendency to enter realistic fields. It should be noted that fewer females report a passing grade in calculus; whilst males achieved higher ACT quantitative scores.

Differences in major choices between males and females reflect the impact of pre-collegiate preparation. Pupils with more years of science have higher tendency to select investigative and realistic fields. Years of history and social sciences are positively related with the social fields' selection. Pupils with more years of mathematics have higher tendency to select realistic fields. Years of foreign language are related with higher tendency of choosing an enterprising field. While the impacts of years of mathematics and foreign language are consistent across gender, females report fewer years of mathematics and more years of foreign language completed in high school. Participation in religious youth groups and community service has a significant positive relationship with the choice of a social field over all other fields for female pupils. There was no such relationship found for male pupils. Also, descriptive analysis showed that females reported more participation in these activities. Females' selflessness appears to be a significant factor in their social fields' choice. In total, the impact of participation in extra-curricular activities on choice of major is statistically significant but not always substantial based on expected probabilities. Controlling for other characteristics, pupils' confidence in their preparation to perform distinct academic tasks such as writing, speaking, critical thinking, analysing math, using computing, and working effectively with others and by themselves, has a significant relationship with choice of major. Mathematics self-efficacy is stronger for males when compared with females (Johnson and Muse, 2016).

According to Hussain et al. (2014), assisting pupils' understanding of their interests and personality is a fundamental procedure in career exploration. In this process, it is crucial that they have a valid and reliable instrument and one that is easily comprehended and applied. The CKU appears to match these criteria well. According to Behrens and Nauta (2014), there is a limited value of SDS when it is used as a stand-alone administration for pupils, but benefits pupils when there are counsellors guiding them on the administration of SDS. The impact is more exploration of those careers, higher levels of career decision-making self-efficacy, or lesser career indecision. Fonteyne et al. (2016) proved that SIMON Interest Inventory (SIMON-I), which is based on Holland's RIASEC model, is a tool which assist pupils in smooth transition from secondary to tertiary education. It motivates study choices exploration when conducting vocational choices. Study by McClain et al. (2015) showed that students who join Greek-letter organization have higher levels of career development and vocational identity based on Holland's person-environment fit theory, among others. In general, Holland's theory and RIASEC model have proven to be beneficial to the research participants. This model is also used to compare with other instruments by researches.

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049 : The Effect of Socio-Economic Status (SES) on Health Status: A Systematic Review of Literatures

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ABSTRACT

Socio-economic has long recognized as a significant factor affecting the health status. Lower socio-economic status has always been categories as low chance of getting the healthcare service or resources. This study is aims to determine effect of different level of socio-economic status on health status. Besides, we are looking how counselling help may differ between the groups of socio-economic status. Scopus, Science direct and Medline searched to identify research published between 2014 and 2018, which had reporting about the socio-economic status and health. A total 10-journal article selected for present a systematic review. 90% of the article reported that inequality in the socio-economic status has been affected the health of people. Lower socio-economic status people need more concern from the society and better health care service for them to increase the health status.

Keywords: socio-economic, health status, multicultural, systematic review.

1.0 INTRODUCTION

1.1 Socioeconomic

Socioeconomic status (SES) known as individual income, educational level and wealth of an individual. SES standing refers to the social and economic position of an individual given inside the larger society (Campbell, 2013). It normally can be determined for the individual, family, household or community. While for the past decade, a lot of research has been done based on SES and some of the report showed that socioeconomic status inequality have the large relevant with getting the social resources such as healthcare service and education (Dickinson & Adelson, 2014). Others than social resources, SES also cause problem to the individual to participate in a society where is different level with them.

The problem for measuring SES is still a doubt in the society. There is no standard method to measure SES but there are some traditional indicators for people to identify SES such as income of the individual, education level, and also occupational position (Berzofsky, Smiley-McDonald, Moore, & Krebs, 2014). Income will be most basic item for determining or measure SES. While income refer to the salary of individual will get in their servicing job. Most of the researchers will define salary into three level such as low, medium and high. The official federal poverty line will use as the reference point for the categorizing (Berzofsky, Smiley-McDonald, Moore, & Krebs, 2014). Education level is the next indicator for measuring SES. Some of the research showed that it is the critical indicator for SES because education is the main point for earning potential in our lifespan (Berzofsky, Smiley-McDonald, Moore, & Krebs, 2014). Occupation is a customary marker of SES since it is need to relate on data in regards to a person's capacity, pay, and education requirement related with different positions in the occupational structure. The rank or the categories of labor was always been determine by the SES calculation (Berzofsky, Smiley-McDonald, Moore, & Krebs, 2014). For example, unemployed is categorizes as the lowest SES, while professional labor is mark as the highest SES.

Other than the three variable above, SES also can be measure by the external variable where can be the environment surrounding the individual. The most obvious external variable was parental education level. Parental education was strongly correlate with the individual education level (Marks, McMillan, Jones, & Ainley, 2000). Higher education parent will be positive perspective toward education. They will impose more positive values to their child compare to the lower education parent who see money is more important than education. Higher education parent will properly understand the requirement of school and will better equid and assist their child in their daily school task (Marks, McMillan, Jones, & Ainley,

2000). As above had mentioned, individual education is the indicator for SES. Higher education parent will have the higher possibilities to educate their child in pursuit higher education. So different level of parental education will be affect the socioeconomic status of an individual. It does not mean lower education level parent education level will not have high SES child or high education child, it just higher education parent will have high chance to educate high level education child and also better SES.

1.2 Health Status

The word "Health" originally came from Old English in the year 1000. In that, time health is mean by state of being sound or entirety (Boruchovitch & Mednick, 2002). All the more exactly, health was relate with the physiological working, as well as with mental and moral soundness (Boruchovitch & Mednick, 2002). Nowadays, there is three major view about the meaning of health. The three major view is the traditional medical concept; follow by the World Health Organization concept and lastly the ecological concept. Three of them have the different definition about health and as well as their major assumptions (Boruchovitch & Mednick, 2002).

The traditional Health concept, as the name this concept was the first traditional medical concept that state health as a disease-free (Boruchovitch & Mednick, 2002). In the early stage of this concept, health and disease statement based on the assumption. Health defined as observable and objective in this concept. The anatomy, bacteriology and physiology areas was the main contributor where helps to develop in this concept. By follow the evolution and the presence of some statement or contributions, this health concept were then changed and defined health as without disease or lack of problems and it more focus on specific diseases and part of body. Therefore, this concept does not view individual as a whole (Boruchovitch & Mednick, 2002). Later traditional health concept also concluded that a healthy person not absolute to be disease free, as long as he or she is less disease than an unhealthy people is, they are in heath form. This was the limitation or criticize of this concept facing where the ideas or concept of absence of disease was not strong enough to determine a health of a person (Boruchovitch & Mednick, 2002).

The second main concept of health were introduce by World Health Organization (WHO) in the year 1948. WHO have defined health as a condition of complete from the aspect of physical, mental and social well-being where is not just only absence of disease (Callahan, 1973). This definition has change the perspective of health concept and it solve the negative part of the traditional health concept where only state health is disease free. This concept included the view of physical, mental and social. However, it solve the negative part of traditional health concept, WHO definition also received a lot criticism from other researcher. This is due to the word of "complete" that use in definition (Huber, Green, & Jaded, 2011). Some researcher report that to fulfill complete health will be hardest part and not everyone will be "complete" healthy for most of the time. This mean the standard of health is still blur and not specific. The definition is not practical due to the complete statement and neither operational nor measurable (Huber, Green, & Jaded, 2011).

The third concept is the ecological concept of health. Ecological health concept is introduce in the year of 1960s and 1970s. It can be the latest health concept compare to the previous one. Ecological concept of health is different with both previous concept. Ecological health concept relate health with environment and quality of life of individual. The level of health is based on how well a person can adapted with the environment and level of functioning (Boruchovitch & Mednick, 2002). Ecological health concept is more on function-oriented concept where it defined health as the functional capacity for individuals to make sure they are fine for their work and responsibilities. The mental and physical health were differentiate in ecological health concept. The ability to carry out social roles been defined as mental health, while for physical health were based on the effective the individual can solve or complete their task (Boruchovitch & Mednick, 2002). In later ecological health concept had summarize health as how well an individual can adjust them to adapt to environment changes based on their past experienced. Some criticize on ecological health concept were there are not clear about what make up a healthy and unhealthy adaptation. For example, a person might be unhealthy but he or she still can perform their social responsibilities.

1.3 Socio-economic Status and Health Status

Socioeconomic status (SES) is always been related with the health status of an individual. According to WHO report, social and economic resources is the main item to shape up human health and population (Blakely, Hales, & Woodward, 2004). This can been seen from the economics of the country. Richer countries have better average health condition of population compare to the poorer countries. Some of the

report show that the lower socioeconomic status individual is always associated with poor health status (Berkman, Kawachi, & Glymour, 2014).

As the above mentioned socioeconomic is indicator by three item, which is income, education and occupation. The health status inequality is also have big relation with this three item (Berkman, Kawachi, & Glymour, 2014). The lower position of the occupational in a workspace will tend to have lower health status; the lower education will make them in lower health status. This is because the higher SES people will have more resources, which mean money, knowledge, power to maintain their health status or to protect themselves from disease attack (Berkman, Kawachi, & Glymour, 2014). So the relationship between SES and health status is strongly related.

2.0 Objectives

The main objective is to explore on how the socioeconomic affecting health status. The different socioeconomic status and health issues, which included physical, mental and social, was screen in this review. Furthermore, different cultural or countries research were use in this review to find out whether there is different between the cultures would have different effect of SES on health status on the population. Other than that, this review is expecting to identify the risk factor of health issues through screening the literatures. By the end of this review is expecting to look out some ways and ideas for a counselor to give the best support for different level of SES and health status people. The point of view is referred to the different of the SES effect on the health status.

The question addressed provide some ideas about the contest review:

2.1 What are the relationship between SES and health status?

This question will found out what are the main relationship between the SES and health status. In the introduction part, we only found the evidence from some of the literature review, at the finding part, we will review the result and the data collect by others researchers to determine the relationship between SES and health is there a significant between both of them.

2.2 What are the main factors could affect SES and health?

The focus given to the factors that will affect SES and health. What are the main factor that make individual fall into the lower SES stages. Does the SES is one of the main factors contribute to health problem. We review the view of various research and look out the factors.

2.3 What are concerns for counselor to consider in facing different SES and health status individual?

The last attention given to the item or the main things for a counselor should aware when facing different level SES or health status individual. This might be more abstract or not obvious in the research but there will be some suggestion stated in most of the journal.

3.0 METHODOLOGY

The first step of this systematic review is using a few key word. The key word it take from the area of interest such as socioeconomic and health status. A specific search strategy used to look out or retrieve quality literatures that is relate with the topic. The benefit of systematic review is reduce the author bias through basic investigation. Besides, systematic review will helps researchers to discovery and prompts new definitions from all the literatures that reviewer review. The objectives above is to helps reviewer understand which journal article or literature will be the best suit for the topic. The question above is helps reviewer to get the better ideas what is looking for in the journal or literatures.

3.1 The Search Strategy

The literature search was done by using UPM library subscribe database. Few subscribe databased was chosen to search literatures. Scopus, Science direct and Medline used to search and identify research or literatures. Using socioeconomic status and health as the main key words to get the list of literatures in the database. To get relevant literatures, few inclusion and exclusion criterion were been used in the search process. The first inclusion criteria was the year of the literatures publish. The latest five year journal been chosen. 2014 to 2018 is been set for the year of the literatures retrieved which to get the latest information or data. Only English language is limited due to reviewer prefer to write in English language

only. Other than that, most of the paper can, get from the database is in English language. Health professional, sociology, medicine, social sciences and psychology chosen as the main area in the searching. Only journal article and research paper chosen in the searching of literature. Review article, conference paper, article in press, short survey, note, letter, book chapter and editorial chosen as the excluded criteria in the search. Furthermore, only quantitative research paper will be choose as the journal for review. This is because this review is quantitative synthesis, so only quantitative paper selected.

Number of journal or literatures is high when using only using key word. The numbers of article decreased when using the inclusive and exclusive criteria by the reviewer. Reviewer stop searching when there is 10 best-fit journal article found in the database. All journal article were save as Adobe-PDF format that will easy for reviewer to review after this. All journal article been studied and review. Discussions done after the review. The searching flow of the systematic review from starting to get the journal that reviewer want showed in figure 1. Figure 1 shown a clearer picture of how systematic review search done by using PRISMA figure, it will make reader to have a better understanding and how the journal or literatures chosen.

There were total 4066 relevant journal were found by using the big title which is socioeconomic status (SES) and health. 723 were excluded due to the title is only relevant to only one key word. After limited to 2014 to 2018 there left 2556 journal. Then, 2277 journal were selected from the journal article type is a research base article. The research were then narrowed to English language only where left 2267 journal are relevant to the topic of review. All the inclusive criteria shown in table 1 below.

In the next table, the exclusion criteria shown. This review were excluded the non-relevant subject area which have 2245. There is only 22 article is left with the relevant subject area. There is only few subject area were selected in this searching which is, psychology, social science, sociology, medicine and professional health. Then, reviewer will full-text articles accessed for eligibility. The duplication will be excluded where only 3 is duplicated. Lastly the non-quantitative research or article were excluded due to the review is a quantitative synthesis systematic review. At the end there is 10 journal article were selected for this systematic review.

Table 1 Inclusion Criteria of the Systematic Review

Inclusion Criteria presented in order	*Particulars*	*Literatures identified*	*Remaining literature*
Key term	SES and Health	4066	3344
Year	2014 to 2018	2556	2556
Journal type	Journal Article	2277	2277
Language	English	2267	2267

Table 2 Exclusion Criteria of the Systematic Review

Exclusion Criteria presented in order	***Particular***	***Literatures identified***	***Remaining Literature***
Subject area	Non-relevant area	2245	*22*
Research type	Non-quantitative research	12	10

Figure 1 Flow Diagram for Selection Review of Studies on Socioeconomic Status Affecting Health Status

4.0 FINDINGS OF LITERATURE REVIEW

Table 3 showed below is the summarizing of the effect of socioeconomic status in health. From the result, we can see that different level of socioeconomic status will have different effect on health status. Most of the researcher found out indicator SES is one of the risk factor to health issues.

Table 3 Statistical Data from Selected Journal

Number of Literature	Number of participant	Statistical data
1	35,744,540 individuals	Different gender have different disease problem due to the inequality of SES. Lung cancer and Ischemic heart disease is more to SES inequality man, while diabetes and ischemic heart disease is more to woman.
2	47 Asian countries and 2 regions	The lower income countries face double risk of disease burden compare to the higher income countries.
3	819 students from private and government school	Only 21.67% of private students having ear problem, while there is higher in government school which have 43.1% having ear problem.
4	2937 students in Scottish	Subjective SES is decrease with age. SES affect the student mental health where lower and medium SES had lower mental health.
5	42,208 men and 45,448 women aged 65 years or older	Depressive have 72.8% happened at low and middle group SES among man and 67.9% happened at low and middle group SES woman. It showed high compare to higher SES group in both gender.
6	12,357 individuals	Lower education level and lower social status will have higher chance depressive symptom.
7	12,246 individual	No significant different between the level of SES and health status in wealthy region but differences in poor region.
8	22,770 Japanese employees	There is no difference in physical assaults in gender difference which is 1.8% but physical assaults is 2-3times higher in blue collar compare to white collar.
9	303 036 people	People in Asia with primary education or lower have 56% involve in high risk of death. While Australia is only 14%
10	40,885 children	Rural children is higher chance to get anemic compare to urban children. 47.9% is from poor household, 19.9% is from middle and 14% is from high income household.

5.0 DISCUSSIONS

This review is looking on the relationship between socioeconomic status and health status. In the reading and review of the literatures, we found that health status is affect by few main item, which is education level, social class, country economic status, and family income. The entire item mentioned above it can be the indicator for socioeconomic status. The educational level is very important for individual to prevent disease and live healthy.

5.1 Education Level

Few of the literatures is stressing about education level can effect on individual health and the way to prevent disease. Education is not only on individual, it also mentioned about parental education and society education level. The better parental education will increase rate of survive and better health status. This may be due to the higher chances of getting a better job and better income (Goswmai & Das, 2015). The second item discuss by most of the literatures is social class. Lower social class is highly link with mortality or disease. The surprise was country economic status is also one of the risk factor of affecting health status. Lastly is family income which is the measure point of SES is another item that discuss in the literature. There is other item had been discuss in the literature but is not strong as the other item above. Health care policy and gender different is the item can found in some of the research.

The Socioeconomic status inequality happened in every countries. In the research of Alicandro, there is some gender different on the SES inequality and health based on their education. Alicandro report that less educated people will higher risk of death compare to the higher education. In Italy, lower education individual have lower life expectancy and it different in gender (Alicandro, et al., 2018). Education is one of the key point in their research. As above mentioned, education is one of the indicator

for socioeconomic status. High education will help individual to get the access of resources. Besides, it also link to the understanding about the disease and the risk factor for disease. The way for them to avoid for the disease and get a better health can be enquiry from education. The lower education will have lower knowledge about the disease compare to higher education. Some of the example can get from Alicandro report is chronic liver diseases was the main disease facing by both man and women in all level of SES (Alicandro, et al., 2018). The main factor is the uneven distribution of the vaccine, which is the social accessibility, higher SES will have higher chance to get the vaccine. The second is the way to avoid the disease, lower education lack of information for the disease. Therefore, they will not have the ideas about what are the things can cause liver disease. For example, over intake of alcohol will be the causes. Alicandro believe that, gender different in SES inequality will facing different disease risk.

Goswmai also stress on the important of the education in preventing disease. According to Goswmai and Das (2016), the risk of child anemia increase is due to low parent education level. Parent education level related with the childcare, it would influences the parent practices and prevention of disease (Goswmai & Das, 2015). Other than that, low education is the main risk of death in Asia (Woodward, et al., 2015). According to Woodward et al (2015), people in Asia is facing higher risk of death compare to Europe due to lacking of health knowledge. The problem is because the service of education inequality in some Asia countries is higher than Europe. The chance for individual in low socioeconomic status to involve in higher education is very low. The low level of education is not sufficient for individual or the population to understand the danger of disease. In other word, individual with low education does not understand what causes of cardiovascular disease. Lower education is associated with high risk of getting cardiovascular disease in Asia (Woodward, et al., 2015). Some of the society may not know what causes cardiovascular disease occur in human body and how to prevent it. It the individual have tertiary education, they may easily get the information about disease and will know the easy to prevent it.

5.2 Country Economic Status

Besides, the country economic is another risk factor for health status. Some of the report had showed Asia country have the higher risk of getting disease affect compare to Europe country (Woodward, et al., 2015). According to Woodward et al (2015), other than education, the country economic status will be affect population health status. The research had showed that the lower economic status country with lower education level have the high risk of mortality. Furthermore, economic gap is another cause of unhealthy status. Economic gap mostly happened in the developing country. The economic in the country is not stable and causes big different in the society economic. The poor can be very poor and the richer people can be very rich. This is because the income inequality in the society. It can be seen from 90s China, Thailand and Singapore where there are in developing stage. The rapid economic transformation causes the inequality happened (Woodward, et al., 2015). The poor cannot get the facilities of health service due to the financial problem. High index of poverty in a country also put the society or individual in the risk of getting disease (Goswmai & Das, 2015).

There is other researcher supporting the country economic status have the effect of influences population health status. According to Ng, Tao, Ho, Tan and Tan (2014), people in higher income country will have longer life and healthier compare to the lower income country. From the data of life expectancy get from WHO 2011, the higher income country such as Singapore and Hong Kong have the better life expectancy compare to those low-income countries such as Cambodia and Myanmar (Ng, Tao, Ho, Tan, & Tan, 2014). It is same in Asia and Europe, but the gap is smaller in Europe. The different in life expectancy is most probably due to the healthcare service, lifestyle and environmental factor. High-income country have the better policies and involvement in healthcare. The government and the society is all involving in solving the healthcare issues. For example, Qatar one of the high-income country in the world have the highest birth life expectancy where is due to the Supreme Council of Health which establish at their country. All people is taking positive step to solve the health inequality together (Ng, Tao, Ho, Tan, & Tan, 2014). While for the low-income country, less effective healthcare service provide by the government, unhealthy lifestyle and involving in war or pollution environment is the main cause of short life expectancy. For example, people in Iraq who facing war have bad service in healthcare, which will lead to short life expectancy and high risk of mortality. The higher income countries majorities face with non-communicable disease, for low-income countries they facing communicable and non-communicable disease and the risk is double than the high-income countries (Ng, Tao, Ho, Tan, & Tan, 2014).

5.3 Social Class

Social class is another main item that can found in the literatures. The difference social class affected the individual to get the resources of healthcare and education. Low social class individual or children will hard to get some of the facilities and services such as books, computers, lower schooling service system and medical health service (Gupta, Gulati, & Gupta, 2015). People will have bias toward low social class individual. According to Gupta, Gulati and Gupta (2015), some government schoolteacher in India have low expectations towards the low social class student. They categories low social class student as less mature because of the poor financial background. So the passion of them to teach and help student to accomplish their goal is very low (Gupta, Gulati, & Gupta, 2015). Besides, high social status child will have better education system and better school. Private school will have more facilities and better teaching system compare to the government school in India. Healthcare system also are easier for the high social class child to get the service. In Gupta research, state that, higher social class children have less ear disease compare to the low social class. High social class is less risk to have ear disease and have better knowledge pool that helps them to main their health (Gupta, Gulati, & Gupta, 2015).

The social class statement is support by Tsuno research. According to Tsuno and Kawakami (2016), the lower social class will have suffering higher physical assaults from customers or colleagues. Physical assaults is associated with the mental health problem where is depression. The blue-collar worker is suffering high physical assaults in Japan country and it will lead to the depression. There is no significant different is gender differences. Which mean male and female who is blue-collar in Japan is suffering high physical assaults and depression. However, Tsuno research have find out, white-collar or high socioeconomic status individual actually suffering the same level of depression as blue-collar individual although they less involve to get physical assaults in their workspace (Tsuno & Kawakami, 2016). This explained as the high socioeconomic status or higher position individual is more sensitive in intrapersonal problems (Tsuno & Kawakami, 2016).

5.4 Income Level

Last item that discussed in some of the literatures is income level. It can be personal income, family income, and household income. In most of the research showed that income is affecting the psychological part of an individual. According to Jiao (2016), the depressive symptoms of an individual is the indicator of physical functional status. The relationship between depressive symptoms and physical functional status is inversely proportional, when level of depressive symptoms is high, the lower the physical functional status. Depressive symptoms is influences by the individual income. The lower income level would probably have the higher level of depressive symptom. This mean the individual with lower income will have lower physical functional status (Jiao, 2016). The higher income group will have better physical functional status and lesser depressive symptoms. In the other way, low SES is associated with physical and psychological distress (Sweeting & Hunt, 2014).

The statement above been supported by another research from Korea. According to Kim, Lee, Shin and Park (2014), income inequality is highly associated with death and depressive. In their result found out, low household income and low social class will have higher depressive symptoms compare to those with high income. Depressive symptom is highly associated with income, however to measure depressive symptoms need multi-dimensional tools, which mean there is more variables can influences depressive symptom (Kim, Lee, Shin, & Park, 2014).

According to Haseda, Kondo, Takagi and Kondo (2018), other factors need to be measure with income to determine the depressive level of individual. Result of depressive may differ with only measure with one indicator. Depressive symptom will increase if the extra burden imposing to individual, extra burden such as peer pressure and stigma. The negative effect will be higher in low income group due to the more sensitive inferiority complex feeling is higher (Haseda, Kondo, Takagi, & Kondo, 2018). Other than that, the level of community civic participation is the item that need to measure when measuring stress level and income of an individual. The high level of community civic participation will lower the risk of depressive symptom. Furthermore, Haseda et al, have reported that the death or mortality risk will increase if income of a man is been deprivation (Haseda, Kondo, Takagi, & Kondo, 2018).

From the discussion above, the first and second objective is been answered. The Socioeconomic status (SES) is associated with health status. SES and health status is link with each other. People measure SES with the main three indicator. Education affect the most and it is the beginning point. The indicators of SES is all the risk factor of health status. Example of indicator of SES is education, income, social

class and occupation level. An individual in unhealthy form most probably fail in some part of the indicator of SES.

6.0 LIMITATION / FUTURE RECOMMENDATIONS

This study is to understand the relationship between socioeconomic status and health status from different country. The journal article research country take for review is not broad enough. The result found are more base on Asian countries and cultural. The data or the result from every country may be differ. Result may occur generalizability. Therefore, the result cannot represented the view for all the country. Besides, the economic status of the country not chosen wisely for the review. The high economic countries may have differ result of SES on health status compare with the low economic countries. The next study may look into only Asian country or western countries or a balance cross-cultural study and with difference country economic status. Furthermore, the health status is consider a big word, it including physical health and mental health. For the next study may narrow down some specific disease or problems.

6.1 Practical Implication

This review can have positive impact on future socioeconomic status and health research and for counselor training curriculum development. By understanding the different of the client, counselor could management the differences between counselor and clients (Kim & Cardemil, 2012).

Counselor or trainee counselor who working under multicultural setting will need to serve their service out of the comfort zone (Hage & Bryant, 2007). Counselor may need to work with client that is different racial, ethnic, educational level and socioeconomic with them. As a counselor, we are not choosing our client. To build a therapeutic environment or trust between client and counselor, counselor need to understand difference client personal value, beliefs, and their ecological history. Counselor need have to practice on reflecting on the areas of discomfort, it will helps counselor to break their blind spot and break their bias toward the client that is difference background with them (Kim & Cardemil, 2012). By understanding the background of the client, counselor will have improving their self-reflection ability and the competence in working with broader range of client.

Besides, counselor or trainee counselor have to understand how social class can affect the life style or health status of clients or students. Counselor have to open acknowledgement of difference. To being know the differences between the client and counselor may cause the uncomfortable at beginning of the counseling session but if counselor avoid accepting the differences, it may affect some of the counseling process. This could be serious if the client is particularly attend counseling and presenting societal values in the session. Acknowledging the difference between client and counselor will bring benefits or increase the relationships (Kim & Cardemil, 2012). Clients will also get benefits from the acknowledgement where they will understand and realize their social realities (Kim & Cardemil, 2012).

Other than that, client with lower socioeconomic status or with health issues visit counseling service which mean they will have some objective to achieve. As a counselor, we have to stand on client perspectives to view the needs as a starting point. Therefore, we have to understand more about others situation by reading, research and personal experience it.

7.0 CONCLUSION

Based on discussion above, we can clearly see that health status or condition is affecting by the indicator of the socioeconomic status (SES). Quite of the number of risk factor of health issue discussed in the discussion above. Most of the research showed that the education level of individual or parental education is the main causes of involving in unhealthy or diseases. Most of them states that education can be a tool for individual to change their life. High level of education can increase the chance of getting better career and will have better income. Besides, parental education will helps parent to prevent disease transmitted to child and prevent child disease. It important for child health care. Parental education also preparing the next generation for better education and well equid their child. Education is one of the key or chance for people in low SES to change their situation.

Besides, the socioeconomic of a countries also equally important as the education as mentioned above. The economics of a country affecting the health status of their population. Low socioeconomic countries have shorter life expectancy and will have higher chance to involve in disease problem. Problem occur is because the health care service provided by government in the low socioeconomic countries is very low and insufficient compare to the high socioeconomic countries. So all the health agent such as

Non-profit Organization should take step to working together with local government to provide better health care service in low socioeconomic countries.

Social class and income is the next point had discussed above. Individual or household income is highly related with social class of an individual or the family. Both of this is highly associated with mental or psychological health. The low social class and income will lead to high depressive symptoms. Both of this is mainly facing the discrimination or physical assault from others due to the low status. The situation can be change when the poverty and rich gap is getting smaller. It need the support and work by the local or the country government to change the situation and improve the population life style.

As a counselor in multicultural setting, counselor have to understand a lot situation that facing by the client. Counselor need to be ready to accept the client in any form and any status. In multicultural setting, counselor need think creatively to address the problem of socioeconomic status and health status. Counselor have to understand their own cultural competent when involving in the counseling.

Overall review is socioeconomic status is associated with the health issues. Most of the health issue related with the indicator of SES. All countries government have to provide a better education system for everyone equally and as well as the healthcare service system. It will help to reduce the gap of accessibly of resources between low, middle and high socioeconomic status.

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053 : Kaunseling Kelompok: Kajian Sistematik Literatur

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ABSTRAK

Kajian literatur ini dijalankan bertujuan untuk memahami kaedah kaunseling kelompok. Terdapat banyak kebaikan kaunseling kelompok ini seperti melatih klien untuk berfikiran positif, menggalakkan ahli menjadi penyumbang secara aktif dengan individu lain serta mewujudkan keberkesanan dalam penghasilan solusi yang variasi di peringkat klien sesame klien, kaunselor bersama klien mahupun klien bersama kaunselor.Walaupun begitu, kaunselor seharusnya memainkan peranan agar klien berasa selesa dan berjaya mewujudkan kelompok yang saling percaya, saling menyokong, saling memahami dan saling menerima. Hal ini boleh dicapai dengan melakukan proses saringan yang betul dan melindungi hak-hak klien secara maksima.

This study is to identify the problems affected from the Impact Drug Abuse without acknowledge the type of it. Victims of this situation as early as a fetus until an adult. Besides that, a teenager especially who is smoking starts addicted to nicotine and become an active smoker. They never imagine will involve with drugs through tobacco. Hence, they try an extreme activity likes to use a synthetic drug such as in pill form or powder type. Methodology used for this research is finding the records using a Prisma Model. The limitation of records is according to keyword, years and subjects area. During that activities, there was so hard to get a quantitative journals which correspond to the title and without any hesitations, that research is still done successfully. Therefore, this Impact Drug Abuse gave a lot of negatives impression than positive to the people. This research can use multiculture understanding to create modules and implement programmes or consultations for drug addicts in rehabilations sessions.

Kata Kunci: Kaunseling Kelompok

1.0 PENDAHULUAN

Perbezaan antara tinjauan sistematik dengan tinjauan literatur sukar untuk dibezakan kerana kedua-dua kajian tersebut bertujuan untuk meringkaskan sesuatu literatur atau penyelidikan bagi topik yang dipilih. Menurut Kysh & Lynn (2013), Tinjauan Sistematik *(Systematic Review)* membawa maksud iktisar tahap tinggi penyelidikan yang memberi focus utama kepada mengenalpasti persoalan, pilihan-pilihan, mensintesis dan menilai semua bukti kualiti penyelidikan yang berkaitan dengan soalan

Manakala Tinjauan Literatur *(Literature Review)* pula membawa maksud pembuktian secara kualitatif terhadap topic yang menggunakan kaedah tidak rasmi atau method subjektif untuk mengumpul data. Menurut Kamus Dewan Edisi Keempat (2005), kaunseling ialah suatu proses teratur yang mempunyai perbincangan teliti berkaitan masalah yang dihadapi oleh seseorang individu dan usaha bagi mengatasi atau menyelesaikannya melalui proses bimbingan dan nasihat. Manakala, Good dalam Pengantar Kaunseling (Sapora Sipon & Wan Anor Wan Sulaiman, 2002) mentakrifkan kaunseling sebagai suatu proses membantu bagi menyelesaikan masalah yang dilaksanakan oleh individu berkemahiran dan berpengetahuan sehingga seseorang itu dapat membuat keputusan yang baik.

Gazda, Duncan, & Meadows, 1967 dalam Jurnal *Group Counseling: A Developmental Approach* (1969) menyatakan Kaunseling kelompok menggambarkan proses kaunseling dengan penglibatan lebih daripada seorang individu yang berlangsung secara serentak. Manakala, menurut Wenjing Yao (2019) Kaunseling kelompok berasal dari terjemahan kelompok kaunseling dalam bahasa Inggeris. Kelompok ialah mempunyai pasukan, organisasi, koloni, kumpulan dan makna lain. Kaunseling pula boleh diterjemahkan sebagai proses kaunseling, bimbingan dan perundingan.

2.0 OBJEKTIF

1. **Apakah keberkesanan dalam perhubungan antara kaunselor dengan klien?**

Hal ini merupakan kajian keberkesanan antara klien dengan kaunselor, kaunselor dengan klien serta klien sesama klien bagi mewujudkan solusi yang bervariasi

2. Apakah kesan yang dihadapi oleh klien sendiri?

Klien berdepan masalah secara positif dan menganggap bukan hanya mereka yang menghadapi masalah ini. Walaupun begitu, terdapat juga klien yang bersikap negatif dan pasif dalam kajian ini disebabkan oleh beberapa punca yang akan dijelaskan dalam perbincangan.

3. Bagaimanakah klien boleh menyumbang kepada masyarakat?

Klien terbabit boleh menjadi penyumbang secara aktif dalam perhubungan dengan individu lain

3.0 METODOLOGI

Kajian ini telah dijalankan dengan hasil pencarian menggunakan istilah *Kajian Kelompok.* Metodologi yang digunakan ialah Model PRISMA untuk proses pencarian maklumat-maklumat yang diperlukan menggunakan tajuk yang dipilih. Menurut David Moher, Larissa Shamseer, Mike Clarke, Davina Ghersi, Alessandro Liberat, Mark Petticrew, Paul Shekelle, Lesley A Stewart and PRISMA-P Group (2015) PRISMA atau *Preffered Reporting Items for Systematic Reviews and Meta-Analyses* yang merupakan satu set item minimum yang berasaskan bukti bagi pelaporan dalam tinjauan sistematik dan meta-analisis. Tujuan penyataan PRISMA diguna pakai dalam kajian ini bagi membuat pelaporan sistematik terhadap jenis penyelidikan bagi kajian-kajian yang telah dirujuk.

4.0 STRATEGI PENCARIAN LITERATUR

Kajian ini telah menggunakan SCOPUS database sebagai sumber utama untuk mendapatkan artikel-artikel jurnal kajian (Neerushah Subarimaniam, Siti Aishah Hassan dan Noor Syamilah Zakaria, 2017). Strategi pencarian literatur pertama sekali adalah dengan menaip kata kunci iaitu bagi konteks kajian ini adalah ***Group Counseling*** telah digunakan untuk mengenalpasti artikel yang berkait. Setiap artikel yang mempunyai perkataan yang sama akan memberi tindak balas dan pelajar perlu bijak memilih jurnal yang bersesuaian.

Kemudian, artikel disaring "dalaman" mengikut mengikut kata kunci *ethical issues* bagi memperincikan lagi skop tajuk yang dicari oleh pelajar. Saringan seterusnya adalah dengan mengikut tahun bermula dari tahun 2017 sehingga tahun 2019 sahaja. Saringan ini memberi fokus kepada artikel-artikel yang diterbitkan pada tahun tersebut. Tujuan saringan ini dibuat supaya pelajar dapat menumpukan fokus kepada jurnal-jurnal terkini sahaja.

Akhir sekali, pencarian dihadkan kepada jenis capaian secara terbuka. Hasil carian ini adalah jumlah jurnal yang perlu dibaca oleh pelajar dan dipilih mengikut kesesuaian tajuk. Pencarian dikecualikan daripada jurnal yang tidak berkait dengan tajuk kajian.

Jadual 1 Kriteria Inklusif

Kriteria Dipilih	Penerangan	Literatur Diperoleh	Literatur Akhir
Mengikut istilah perkataan	*Group Counseling*	49841	49841
Saringan "dalaman" mengikut kata kunci	*Ethical issue*	1876	1876
Saringan kepada jurnal terbuka	*Open access*	268	268
Tahun	2017 – 2019	78	15

Jadual 2 Kriteria Eksklusif

Kriteria Dikecualikan	Jumlah Literatur Dikecualikan
Jurnal Tidak berkait dengan tajuk	63

PRISMA 2009 Flow Diagram

Rajah 1 Model Prisma untuk Proses Carian Rekod

5.0 PENEMUAN

Jadual 3 Dapatan Kajian

Penulis	Tajuk Artikel	Tahun	Tajuk Sumber	Penemuan
Burns S.T.	Pembuatan Keputusan Etika Pelajar Apabila Menimbangkan Perbatasan Sempadan Dengan Pendidik Kaunselor	2019	Kaunseling dan Nilai	Walaupun para peserta menilai semua sumber kecuali plasebo sebagai membantu sederhana, sumber-sumber ini mempunyai sedikit pengaruh kepada pengambilan keputusan etika mereka. Hanya 47% pelajar dalam 2 kelompok model membuat keputusan etika melaporkan mereka akan menggunakan model yang mereka terdedah pada masa akan datang ketika merenungkan lintasan sempadan.
Morgan J., Coe R.R., Lesueur R., Kenny R., Price R., Makela N., Birch P.H.	Masyarakat Orang Asal dan genomik: Memulakan perbualan	2019	Jurnal Kaunseling Genetik	20 peserta yang memberikan maklum balas bersetuju dengan tafsiran tematik: Perkauman sistemik menguasai kebanyakan perbualan, terutamanya dalam tema kepercayaan. Tema tadbir urus menekankan privasi dan ketakutan terhadap diskriminasi. Sesetengah peserta berfikir bahawa pangkalan data yang dikawal oleh pribumi adalah penting; yang lain mengiktiraf kelebihan pangkalan data antarabangsa. Tema pelaksanaannya termasuk idea-idea kreatif untuk mengumpul genom asli, tetapi kelulusan terdahulu daripada pemimpin Orang Asal ditekankan. Video akhir (https://youtu.be/-wivIBDjoi8) dikongsi dengan peserta untuk digunakan kerana mereka ingin mempromosikan kesedaran dan perbincangan berterusan mengenai ketidakadilan diagnostik genomik.
Sweeney A., Clement S., Gribble K., Jackson E., Carr S., Catty J., Gillard S.	Kajian sistematik mengenai kajian kualitatif pengalaman orang dewasa yang dinilai untuk terapi psikologi	2019	Jangkaan Kesihatan	Penemuan menampakkan kesan emosi penilaian, kolaborasi, persilangan, hak, patologi, sekatan sosioekonomi, dan keperluan maklumat dan sokongan. Implikasi dan batasan telah ditunjukkan. Perbincangan dan kesimpulan: Penemuan terletak dalam kesusasteraan trauma-maklumat (TIA). Prinsip penilaian trauma yang bermaklumat, termasuk penilaian kolaboratif, boleh menjadi cara yang bermanfaat untuk meningkatkan pengalaman orang. Walaupun faedah kerjasama kelihatan jelas, pendekatan secara kolaboratif bukanlah norma, dan juga kajian yang dijalankan secara bebas. Penyelidikan pengguna perkhidmatan selanjutnya diperlukan. Pemahaman yang lebih luas mengenai pengalaman kelompok minoriti juga diperlukan.

Penulis	Tajuk Artikel	Tahun	Tajuk Sumber	Penemuan
Stopford C., Ferrer-Duch M., Moldovan R., MacLeod R.	Meningkatkan tindak lanjut selepas ujian ramalan dalam penyakit Huntington: menilai sesi kelompok naratif kaunseling genetik	2019	Jurnal Genetik Komuniti	Dalam projek ini, seorang kaunselor genetik dan ahli psikologi klinikal mengembangkan sesi kelompok yang berasingan menggunakan amalan naratif kolektif untuk individu ujian pra-ramalan. Di sini kami membentangkan penilaian pengalaman satu kelompok enam orang yang telah menguji mutasi positif untuk HD dan kekal pra-simptomatik. Dua rakan kongsi turut menghadiri sesi tersebut. Pemerhatian, borang penilaian dan wawancara telefon digunakan dalam pengumpulan data. Data temuduga tersedia daripada lima individu positif mutasi dan satu pasangan. Data kualitatif dianalisis menggunakan pendekatan rangka tematik. Respons amat positif, menekankan pentingnya masa dan ruang yang disusun secara khusus untuk berkongsi pengalaman dalam cara yang berstruktur. Ini biasanya kali pertama peserta bercakap secara terbuka dengan seseorang dalam situasi mereka. Fasilitasi perbincangan secara terperinci menggalakkan peserta untuk menemui semula kekuatan dan ketahanan mereka, dengan pengalaman yang serupa ditemui melalui hubungan dengan orang lain. Penilaian berjaya dalam melaksanakan campur tangan naratif kelompok sebagai sebahagian daripada sokongan kaunseling ujian ramalan untuk penyakit Huntington. Peserta mencadangkan pendekatan itu dapat diperluaskan dan diguna pakai untuk keadaan genetik lain.
van Niekerk A., May M.S.	Membina integriti bersama: Rangka kerja konsep	2019	Jurnal SA dalam Psikologi Perindustrian	Penemuan menunjukkan bahawa organisasi boleh menggunakan rangka kerja dengan berkesan dengan menyesuaikannya mengikut keperluan khusus mereka, strategi organisasi, visi dan misi. Implikasi praktikal / pengurusan: Rangka kerja ini akan membolehkan pengurusan kanan mempengaruhi tingkah laku pengikut secara positif mengenai integriti mereka dalam organisasi. Rangka kerja ini akan membantu pengurus pertengahan dalam mendapatkan pemahaman yang lebih baik tentang pengurusan kanan impak yang mempunyai pengalaman integriti mereka. Sumbangan / nilai tambah: Kajian ini juga menyoroti pertubuhan-pertubuhan peranan penting dalam mewujudkan dan mewujudkan iklim kerja etika yang akan memastikan integriti korporat. Ini akan membolehkan organisasi memberi nilai kepada pemegang kepentingan korporat dan masyarakat secara keseluruhan
Hong S.H.	Potensi untuk komunikasi doktor untuk membina	2019	*PLoS ONE*	Seramai 211 orang ahli senior yang menderita hipertensi telah menyelesaikan soal selidik, yang termasuk *Primary Care Assessment Survey* (PCAS) dan *Beliefs about Medicines Questionnaire (BMQ)*. Yang pertama mempunyai dua domain pesakit-

Penulis	Tajuk Artikel	Tahun	Tajuk Sumber	Penemuan
	kepercayaan ubat yang menggalakkan di kalangan orang dewasa yang lebih tua dengan hipertensi: Satu tinjauan keratan rentas			doktor komunikasi-informatif dan interpersonal-sementara yang kedua diukur ubat merugikan dan kepercayaan berlebihan. Komunikasi pesakit interpersonal dengan ketara menjelaskan ubat yang berlebihan ubat-ubatan (β = -0.28, $p < 0.05$), sedangkan komunikasi interpersonal dan tidak bermaklumat secara jelas menjelaskan kepercayaan merosakkan ubat. Perempuan (β = 1.29, $p < 0.01$) dan peserta dengan pendidikan tinggi (β = 2.66, p = 0.02) lebih percaya bahawa ubat-ubatan terlalu banyak. Bagaimanapun, peserta yang berpendapatan rendah lebih percaya bahawa ubat-ubatan berbahaya. Komunikasi pesakit-doktor, jika menyentuh aspek-aspek interpersonal, berpotensi untuk mengubah ubat-ubatan yang berlebihan yang berlebihan di kalangan orang dewasa yang lebih tua dengan hipertensi. Pengenalpastian faktor-faktor penting yang mempengaruhi kepercayaan ubat, akan memaklumkan reka bentuk program komunikasi pesakit-pesakit yang memupuk kepercayaan ubat-ubatan yang menggalakkan di kalangan pesakit hipertensi geriatrik.
Emanuel F., Molino M., Presti A.L., Spagnoli P., Ghislieri C.	Kajian *crossover* dari perspektif jantina: Hubungan antara ketidakamanan pekerjaan, kepuasan kerja, dan kepuasan hidup keluarga pasangan	2018	*Frontiers in Psychology*	Kesimpulan: Penemuan kajian ini menyerlahkan bagaimana ketidakamanan pekerjaan mungkin secara tidak langsung dan negatif berkaitan dengan kepuasan hidup keluarga anggota, melalui pengantaraan kepuasan kerja. Berkenaan jantina, corak spillover dan crossover yang sama muncul, menyumbang kepada literatur yang menyoroti kesamaan yang lebih besar dalam model interaksi antara kerja dan keluarga di kalangan wanita dan lelaki. Intervensi harus ditujukan untuk mengurangkan persepsi tentang ketidakamanan pekerjaan di kalangan pekerja, termasuk mereka yang mempunyai kontrak tetap. Majikan harus meningkatkan komunikasi dan aliran maklumat mengenai perubahan organisasi masa depan. Selain itu, intervensi yang berguna untuk memantau dan mengukuhkan kepuasan kerja pekerja perlu dirancang. Akhirnya, pengamal kerjaya boleh menyediakan projek kaunseling dan bimbingan yang bertujuan untuk memperkuat kekentalan pekerja dan keupayaan mereka untuk menghadapi perubahan.
Stafford M.R., Cooper M., Barkham M., Beecham J., Bower P.,	Keberkesanan dan keberkesanan kos kaunseling humanistik di sekolah untuk golongan muda	2018	*Trials*	Perbincangan: RCT ini dikuasai untuk mengesan perbezaan klinikal yang bermakna, dan akan memberikan sumbangan utama kepada asas keterangan untuk peruntukan kesihatan mental untuk remaja. Ia akan mempunyai implikasi kepada semua pihak berkepentingan, termasuk pembuat dasar, badan penasihat berkanun untuk

Penulis	Tajuk Artikel	Tahun	Tajuk Sumber	Penemuan
Cromarty K., Fugard A.J.B., Jackson C., Pearce P., Ryder R., Street C.	yang mengalami masalah emosi (ETHOS): Protokol kajian untuk percubaan terkawal secara rambang			kebajikan kanak-kanak, guru besar, anak-anak dan pengamal muda, kebajikan kanak-kanak dan organisasi keibubapaan, dan orang muda.
Wilkes M.S., Day F.C., Fancher T.L., McDermott H., Lehman E., Bell R.A., Green M.J.	Meningkatkan keyakinan dan mengubah tingkah laku dalam penyedia penjagaan primer yang terlibat dalam kaunseling genetik	2017	Pendidikan Perubatan BMC	Kesimpulan: Walaupun intervensi kami dianggap lebih menyeronokkan, menunjukkan pembelajaran fakta dan pengekalan yang signifikan, dan meningkatkan amalan membuat keputusan bersama, terdapat sedikit perbezaan dalam perubahan tingkah laku di sekitar perbincangan ELSI. Malangnya, halangan untuk melaksanakan perubahan tingkah laku dalam genetik klinikal bukanlah unik kepada campurtangan kami. Mungkin elemen yang hilang adalah bahawa doktor sibuk memerlukan sokongan peringkat sistem untuk melibatkan diri dalam perbincangan bermakna mengenai masalah genetik. Langkah seterusnya dalam mempromosikan penglibatan aktif antara doktor dan pesakit mungkin untuk meletakkan peralatan yang diperlukan untuk PCP dengan mudah mengakses bahan-bahan yang mereka perlukan pada titik penjagaan untuk melibatkan diri dalam perbincangan bersama sekitar genetik klinikal.
Quinn E., O'Hara B.J., Ahmed N., Winch S., McGill B., Banovic D., Maxwell M., Rissel C.	Meningkatkan maklumat mendapatkan maklumat dan perkhidmatan kejururawatan untuk orang dewasa Orang Asli: Penilaian process and impact of the program	2017	Jurnal Antarabangsa untuk Ekuiti dalam Kesihatan	Hasilnya: Walaupun maklum balas daripada penyelidikan formatif adalah positif, orang asli mengenal pasti bidang untuk peningkatan perkhidmatan, termasuk meningkatkan kandungan program, penghantaran dan promosi perkhidmatan serta memastikan laluan rujukan yang sesuai dengan budaya. Apabila perubahan ini dilaksanakan, bahagian peserta Aborigin meningkat dengan ketara (3.2 hingga 6.4%). Terdapat penambahbaikan penting dalam beberapa faktor risiko yang ditaksir selepas enam bulan (purata penurunan berat badan: 3.3 kg dan pengurangan lilitan pinggang: 6.2 cm) untuk peserta Aborigin yang melengkapkan program. Kesimpulan: Bekerjasama dengan Orang Asli, Penatua, masyarakat dan badan puncak untuk meningkatkan GHS untuk Orang Orang Asli mengakibatkan program yang dapat diterima dan disesuaikan dengan budaya yang dapat mengurangkan faktor risiko penyakit kronik bagi peserta Aborigin. Perkhidmatan berasaskan telefon utama boleh diubah suai dan dipertingkatkan untuk memenuhi keperluan

Penulis	Tajuk Artikel	Tahun	Tajuk Sumber	Penemuan
				masyarakat Aborigin melalui proses perundingan, penglibatan masyarakat, perkongsian dan tadbir urus.
Orozco-Gutiérrez M.H., Cervantes-Aragón I., García-Cruz D.	Pertimbangan etika dalam diagnosis presimtomatik autopsi spinocerebellar ataxias dominan [Consideraciones éticas en el diagnóstico presintomático de ataxias espinocerebelosas autosómico dominantes]	2017	Neurologia	Pengenalan Maklumat mengenai mencapai diagnosis presimptomatik *spinocerebellar ataxia (SCA)* adalah terhad. Munculnya diagnosis molekul memungkinkan untuk mengenal pasti pembawa penyakit yang berbeza dan juga memperkenalkan prospek mengesan penyakit walaupun sebelum permulaan mereka. Ini telah memberi perhatian kepada implikasi etika yang mesti dipertimbangkan dalam subjek ini dengan tujuan memelihara kesejahteraan fizikal dan psikologi mereka. Pembangunan SCA terdiri daripada sekelompok gangguan neurodegeneratif dengan warisan dominan autosomal. Hanya beberapa penerbitan yang menggambarkan proses kaunseling genetik dan garis panduan untuk diikuti dalam proses *presymptomatic diagnosis (PSD)*. Saiz pasukan pelbagai disiplin, bidang kepakaran mereka, dan bilangan sesi kaunseling berbeza untuk setiap kajian yang dianalisis di sini. Bagaimanapun, asas diagnosis presimtomatik berasal dari garis panduan umum yang mana ahli-ahli pasukan kami telah menyumbang baru-baru ini. Kesimpulan Diagnosis presimtomatik perlu dilakukan mengikut garis panduan yang melindungi kebajikan subjek. Proses diagnostik hanya disyorkan untuk pesakit berusia lebih 18 tahun dengan gejala menunjukkan SCA, dan risiko minimum 50%. Program kaunseling genetik mesti tersedia di semua pusat yang menawarkan diagnosis presimtomatik SCA.
Oxenford K., Daley R., Lewis C., Hill M., Chitty L.S.	Pembangunan dan penilaian sumber latihan untuk menyediakan profesional kesihatan untuk kaunseling wanita hamil mengenai ujian pranatal yang tidak invasif untuk Sindrom Down: kaedah kajian campur	2017	BMC Kehamilan dan melahirkan anak	Keputusan: Latihan yang diberikan kepada para profesional kesihatan didapati memberi kesan positif terhadap keyakinan mereka dalam membincangkan NIPT dengan wanita di klinik mereka, dan pengetahuan dan pemahaman mereka terhadap NIPT telah meningkat. Pengetahuan kekal lemah dalam empat bidang; tahap DNA janin bebas selalunya meningkat dengan kehamilan; masa pusingan untuk keputusan NIPT; DNA fetal sel bebas adalah asal plasenta; dan kadar positif palsu NIPT. Kesimpulan: Bahan-bahan latihan, termasuk rancangan pelajaran, persembahan PowerPoint dan lembar fakta bertulis mengenai NIPT, telah dibangunkan dan dinilai untuk digunakan dalam mendidik bidan dan menyokong pengenalan NIPT. Pelaksanaan latihan perlu memasukkan fokus yang lebih besar kepada bidang-bidang di mana pengetahuan masih rendah. Beberapa kelompok bidan akan

Penulis	Tajuk Artikel	Tahun	Tajuk Sumber	Penemuan
				memerlukan latihan tambahan atau sokongan untuk mengoptimumkan keyakinan mereka dalam membincangkan NIPT dengan wanita.
Augestad M.T., Høberg-Vetti H., Bjorvatn C., Sekse R.J.T.	Mengenalpasti Keperluan: Kajian Kualitatif Pengalaman Wanita Mengenai Ujian Genetik Rapid untuk Herediter Payudara dan Kanser Ovari dalam Kajian DNA BONUS	2017	Jurnal Kaunseling Genetik	Tiga tema teras telah dikenalpasti: 1) menjadi "di samping diri sendiri" 2) altruisme dan dilema etika 3) keperluan sokongan dan kaunseling untuk membantu proses keputusan. Kajian ini menunjukkan bahawa wanita yang ditawarkan ujian genetik ketika baru didiagnosis dengan kanser payudara atau ovari ingin mengadakan konsultasi dengan profesional kesehatan. Sokongan peribadi dan kaunseling mungkin memberi kuasa kepada wanita untuk meningkatkan keupayaan mereka untuk mengurus dan memahami situasi yang luar biasa ini, dan mencari makna dalam pengalaman ini.
Nannozi V., Wobudeya E., Matsiko N., Gahagan J.	Motivator pasangan kaunseling dan ujian HIV (CHCT) pengambilan di kawasan luar bandar di Uganda	2017	Kesihatan Awam BMC	Keputusan: Kajian ini dijalankan dari Jun 2013 hingga Julai 2013 Kami telah mengadakan 4 perbincangan kelompok fokus, 10 temu ramah informan utama dan mewawancara 53 orang dalam hubungan pasangan. Tiada seorang pun daripada pasangan itu. Wanita adalah 68% (36/53) dan 49% (26/53) daripada mereka berusia di atas 29 tahun. Motivator pengambilan CHCT adalah; mendapat manfaat ujian HIV, penyakit pasangan atau anak dalam keluarga dan kecurigaan terhadap ketidaksetiaan. Motivator penting lain adalah penglibatan lelaki dalam kehadiran dan persiapan untuk perkahwinan antenatal (ANC). Kesimpulan: Motivator untuk pengambilan CHCT termasuk manfaat yang diiktiraf dalam ujian HIV, penyakit pasangan atau anak, penyediaan perkahwinan, kekurangan kepercayaan di kalangan pasangan dan penglibatan lelaki dalam rawatan antenatal. Perhatian yang lebih baik kepada pencipta pengaturcaraan CHCT diperlukan dalam usaha untuk menguatkan pengambilannya.
Urbina M.T., Benjamin I., Medina R., Jiménez J., Trías L., Lerner J.	*Expanded carrier screening in gamete donors of Venezuela*	2017	*Jornal Brasileiro de Reproducao Assistida*	Hasil: Keputusan genotip bagi semua penderma dianalisis; 41% (58/143) penderma telah dikenalpasti sebagai pembawa sekurang-kurangnya satu keadaan. Kami mendapati kekerapan pembawa 1/24 untuk CF, 1/72 untuk SMA dan 0/120 untuk sindrom Fragile X. Antara kesan-kesan yang paling tinggi dalam kajian kami (kelompok Peta Carrier) adalah: 21-*Hydroxilase Hyperplasia Adrenal Nonclassical*-Kekurangan Cecair (1/8), Kekurangan Faktor V (1/12), Hemochromatosis: Type 1:

Penulis	Tajuk Artikel	Tahun	Tajuk Sumber	Penemuan
				1/12), *Short Chain Acyl-CoA* (1/14) dan kekurangan MTHFR 1/3 (39%). Kesimpulan: Kadar donor gamet yang dikenal pasti sebagai pembawa sekurang-kurangnya satu keadaan adalah 41%, yang menyokong penawaran pemeriksaan pembawa yang diperluaskan kepada penduduk kita. Kajian dalam populasi Latin Amerika boleh membantu menyesuaikan panel pemeriksaan. Penduduk pesakit ART mempunyai peluang yang unik untuk ditawarkan pemeriksaan pembawa yang lebih luas dan kaunseling yang sesuai, untuk membuat keputusan terbaik.
Russell Haber & Jennifer D. Deaton	Memudahkan Kelompok Eksperimen dalam Persekitaran Pendidikan: Menguruskan Hubungan Dua Hala	2019	Jurnal Antarabangsa Psikoterapi Kelompok	Akhir sekali, garis panduan dan pertimbangan amalan yang khusus disesuaikan untuk peranan pendidik sebagai pengajar dan peranan proses sebagai fasilitator kelompok disediakan.
Maryam Safara, Minoo Khanbabaee, Mina Khanbabaee	Keberkesanan Kaunseling Kelompok Spiritual mengenai Kesejahteraan Psikologi Gadis dari Keluarga Bercerai	2018	Artikel Asal Kesihatan, Kerohanian dan Etika Perubatan. 2019; 6 (1): 18-24	Keputusan: Hasil menunjukkan bahawa kaunseling kelompok rohani dapat meningkatkan kesejahteraan psikologi kanak-kanak perempuan dari keluarga bercerai ($p < 0.05$).
GINA CICCO	Memberi khidmat kaunseling di sekolah tinggi: perkongsian dalam pendidikan tinggi	2018	Jurnal i-manager o, Vol. No. 2	Kesan program dan perkhidmatan kaunseling yang berkesan akan dikaji semula serta keperluan bagi pelajar untuk mendapatkan persediaan kolej dan kerjaya yang ketat, yang boleh dipertingkatkan melalui teknologi dan perisian yang ditujukan untuk menyampaikan kurikulum bimbingan. Satu contoh perkongsian sekolah tinggi dan universiti yang sebenar akan dikongsi untuk menggambarkan potensi sekolah tinggi untuk bergaul dengan institusi pengajian tinggi untuk memenuhi matlamat bersama semasa berkhidmat kepada komuniti pelajar. Institusi pendidikan tinggi boleh menyumbang kepada sekolah-sekolah K-12 dengan menawarkan perkembangan profesional dalam teknologi pengajaran, terutamanya yang digunakan dalam perkhidmatan persediaan kerjaya dan kuliah untuk pelajar, dan

Penulis	Tajuk Artikel	Tahun	Tajuk Sumber	Penemuan
				dengan menyediakan kepakaran fakulti terlatih dan pelatih mereka untuk menambah sumber sekolah sedia ada (Gysbers, 2013)
Dicky Novriansyah , Edy Purwanto & Mungin Eddy Wibowo	Keberkesanan Kaunseling Kelompok Terapi Ringkas Terfokus Penyelesaian untuk Memperbaiki Konsep Diri Pelajar	2019		Hasil kajian menunjukkan bahawa kaunseling kelompok SFBT adalah berkesan untuk meningkatkan sepenuhnya konsep diri para pelajar, dan sebahagiannya dalam setiap aspek konsep diri, iaitu moral, etika moral, peribadi, keluarga, sosial, dan kritikan diri individu. Akhirnya, perbincangan artikel ini diarahkan untuk mengkaji keberkesanan SFBT untuk meningkatkan konsep diri pelajar sekolah menengah
Ronald H. Rooney and Rebecca G. Mirick	Strategi untuk Bekerjasama dengan Pelanggan yang Tidak Bertoleransi (edisi ke-3)	2018	Kesihatan & Sosial Kerja Jilid 44, Bilangan 2	

6.0 PERBINCANGAN

6.1 Klien mampu berinteraksi secara terbuka dengan kaunselor.

Kepelbagaian jawapan yang diperoleh oleh pihak kaunselor daripada klien membuktikan yang pihak klien bersikap optimistik dan terbuka dengan pihak kaunselor.

6.2.1 Klien bersikap positif dengan kaunselor.

Sikap klien dalam kajian ini terbahagi kepada dua mengikut pengalaman hidup masing-masing. Bagi yang bersikap positif, mereka menganggap peluang berinteraksi dengan kaunselor secara berkelompok ini sebagai peluang untuk meluahkan perasaan dan meyalurkan perasaan sebenar mereka dengan cara yang betul dan dengan orang yang betul agar masalah yang dihadapi akan diselesaikan dengan cara yang positif dan professional. Mereka ingin keluar daripada kemelut dadah ini dan ingin berubah menjadi orang yang positif agar masyarakat kembali menerima mereka.

6.2.2 Klien yang terlalu takut untuk berinteraksi sosial dengan orang lain.

Pengalaman lampau klien yang trauma dalam perbincangan kelompok akibat masalah untuk mencapai kesefahaman apatah lagi jika kelompok yang terdahulu tidak boleh dipercayai, saling tidak memahami, tidak mendapat sokongan ahli mahupun penerimaan ahli yang negatif.

6.2.3 Tingkah laku klien yang tidak boleh mengawal diri dalam situasi berkelompok.

Individu-individu ini ada yang bersifat pasif ataupun agresif. Mereka sendiri tidak faham tentang perasaan sendiri serta berasa terumbang-ambing dan tidak tahu bagaimana untuk berkongsi perasaan dan pengalaman dengan orang lain.

6.2.4 Individu yang mempunyai konflik peribadi atau konflik antara perseorangan yang terlalu peribadi untuk dikongsi bersama.

Individu-individu ini tidak disaring terlebih dahulu dan ada antara mereka yang tidak bersedia untuk berkongsi maklumat peribadi secara terbuka sebelum disaring secara individu oleh kaunselor.

6.3 Klien menjadi jurucakap kepada klien yang lain.

Kemampuan seorang klien yang bermasalah untuk menjadi jurucakap kepada klien yang lain merupakan salah satu kejayaan yang dicapai oleh mereka. Hal ini kerana mereka boleh mendekati klien-klien lain dengan lebih baik dan penerimaan klien juga bergantung kepada cara olahan yang diberikan oleh klien-klien yang menjadi jurucakap ini kerana mempunyai sejarah yang mungkin sama atau hampir sama. Mereka boleh menjadi jurucakap dan pendengar yang baik serta dipercayai oleh pihak klien.

7.0 RUMUSAN

Oleh itu, kaunselor sentiasa berhadapan dengan klien yang pelbagai dan unik. Adalah sangat penting seseorang kaunselor untuk melindungi klien daripada mengalami trauma secara fizikal, emosi mahupun psikologi bagi membina kepercayaan antara mereka agar solusi yang diperolehi adalah variasi. Selain itu, kaunselor juga perlu menyaring peserta agar keperluan dan matlamat peserta adalah selaras dengan matlamat kelompok bagi menghindari daripada tersekatnya proses kelompok dan kebaikannya tidak diancam oleh pengalaman kelompok terbabit.

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STREAM 5 – HUMAN RESOURCE DEVELOPMENT

007 : Factors Affecting Organizational Commitment among Academicians of Tertiary Institutions

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ABSTRACT

The study was carried out to establish the relationship between organizational commitment and the factors affecting organizational commitment among lecturers of tertiary institutions in Lagos State, Nigeria. The main problem that called for this research was to ascertain whether the level of lectures commitment affect or influence their level of satisfaction, involvement and perceived organizational commitment of lecturers in tertiary institutions in Lagos state, Nigeria. A standard self-administered questionnaire were employed to gather data among 404 selected lecturers from the tertiary institutions in Lagos state, Nigeria, based on Cochran (1977) formula for sample size determination that was used to calculate for the sample size. Descriptive analysis and Structural Equation Modelling (SEM) was conducted for data analysis. It was revealed that most of the respondent reported moderate in their response on the constructs: Organizational commitment, with (Mean=3.17, SD=0.86), leadership styles with (Mean=3.55, SD=0.84). Perceived organizational support is moderate (M=3.32, SD=0.81). These results mean that tertiary institutions lecturers have rated moderate in explaining their leadership styles, perceived organizational support and organizational commitment of their institutions. Also Overall score for job involvement satisfaction are moderate at (M=3.56 SD=0.90). Structural Equation Model analysis results respectively, indicated that there is positive significant relationship between the organizational commitment. leadership styles, perceived organizational support and job involvement. In conclusion, it is recommended that practitioner, government and society should take great focus on perceived organizational support, job involvement, as well as leadership styles in order to improve academic staff organizational commitment. At the same time, reduce the turnover rate among lecturers of tertiary institutions in Lagos state, Nigeria.

Keywords: Organizational commitment, Academic staff, Tertiary institutions, and Perceived organizational support

1.0 INTRODUCTION

In any higher institutions, organizational commitment of academic staff has been the benchmark for promoting and enhancing the level of institutional goal attainment based on their vision and mission. This makes the members of academic staff to be considered as the most respectable human resource, bedrock, and spine of any educational institution because they develop plan, organize, implement, and harness other resources towards the achievement of the educational goals. And as such, the way and manner the academic staff of the tertiary institutions functions and performs their duties is of paramount to the growth and standard of the system. The issue of organizational commitment of academic staff has been a matter of concern especially as quality and standard seems to serve as the yardstick for overall development of Nigeria education and the world at large (Nwanzu & Uche–Okolo, 2017).

The need to achieve all round quality and standard higher institutions, and knowledge economy, appears to have made both the government and the management of the higher institutions to explore motivational variables like promotion, pay-rise, rewards, allowance, recognition, seminars, conferences,

and career advancement opportunities, provision of resources, and workshop to improve organizational commitment of the academic staff. However, despite the concerted efforts low commitment is still being reported (Onoyese, 2017). For instance, Amusa, Iyoro, and Olabisi (2013) and Onoyese (2017) studies found that academic staff of tertiary institutions in Nigeria was observed to be at low commitment. Meanwhile, tertiary Institutions are converging in the direction of inspiring and recalling committed lecturers inside their scheme. However, this wouldn't be attainable with no commitment of lecturers who are the primary motorists within the education development at the institution to attain significant improvement (Malefe, 2010).

1.1 Statement of Problem

The impact of economy recession in the mid nineties, globalization and information explosion have vast consequences on the educational policies. Major focus was given to education and training as it is deemed to the survival of the nation in an increasingly competitive advantage in world market. Cross border education has created challenges to national policies, regulation and quality issues. The immediate challenge is the setting the scene for the implementation and this involves extensive training, involvement and commitment of all staff in higher learning education institutions.

This is of particular interest for Higher Education Institutions, because the costs of hiring and training new employees are high. Therefore, the organization should try to keep a constant workforce, which also helps to reduce the risks of deterioration in services offered to its customers. Generally, it is expected that employees are more likely to stay with their organization and be highly committed when they can see a strong linkage between the organization and their work. No matter considerable research on organizational commitment is " regards to the determinants of organizational commitment questions are still unanswered" (Krishna & Casy, 2008).

1.2 Objectives of the Study

The study aims to:

1. Determine the level of organizational commitment, job involvement, leadership styles and perceived organizational support among academicians of tertiary institutions in Nigeria.
2. Determine the relationship between job involvement, leadership styles, perceived organizational support and organizational commitment among academicians of tertiary institutions in Nigeria.

1.3 Theoretical Orientation

Theoretically, organizational commitment might be viewed when it comes to expressions of social exchange relationship (Meyer & Allen, 1997). The social exchange may be used to determine how these components, affects the amount of organizational commitment which an employee has. According to Larger, Barnett, Hester, and Relyea (2003), researchers have continued to reveal harmonious association between the way support for organization and support for supervisors are perceived, alternate of organizational commitment and perceived organizational support.

The interactions between employer and employee are frequently checked, compared to the theory of social exchange. In a devoted relationship, joint exchange is definitely an expected result. The theory of social exchange stated that behaviour are determined by the way rewards are expected and reciprocated, (Blau, 1964). Social exchange can be a major factor which affects work gratification, perceived support or organization, and work participation among the employees (Chen et al., 2007).

The interaction of employer or employee is always investigated in comparison with the social exchange theory since mutual exchange is an expected outcome in committed relationship (P. Ayers & J. Ayers, 2010). Li (2013) indicated that Individuals pursue equity in their exchange with the organization, this was assumed in “Social Exchange Theory”. They agree to make specific contributions to their organization (time, effort, talents and experiences), and they clearly expect to receive the benefits (payment, a support climate, fringe benefits or promotion prospects) proportional to their contributions from the organization.

2.1 Factors Influencing Organizational Commitment

2.1.1 Organizational commitment

Organizations are very much involved in the concept of organizational commitment since long. But still, it is a very important concept because of the changing dynamics of the industry. The demand for the

skilled employee is rising due to the intense competition, so the skilled employee is invited in many organizations to join for the job. Whereas, it is very difficult for an organization to find skilled and qualified employees as the replacement in the organization. Therefore, organizational commitment is considered as one of the most important concepts. A number of different definitions are presented by a number of researchers to explain and define the concepts (Jain, Giga, & Cooper, 2009: Mahmood et al., 2016).

Researchers considered organizational commitment as the psychological commitment or attachment of employee with the organization. Researchers mentioned that it shows the amount of which adopts or internalize the characteristics of an organization. Its also been defined as the force which binds the employee to certain actions required to achieve certain goals and objectives of the organization (Ruokolainen, 2011). Organizational commitment is defined by the scholars as having three characteristics including (1) strong desire in the organizational employee to maintain its membership (2) willingness of employee to put effort for the goals and objectives of organization (1) self-belief to accept the goals and objectives of organization (Enache, M. Sallán, Simo, & Fernandez, 2013).

On the other hand, according to the theory of Allen Meyer (1990), there are three different forms of commitment in the employee namely normative commitment, continuance commitment and affective commitment (García-Cabrera & García-Soto, 2012). The emotional involvement, identification and attachment of employee with the organization are known as affective commitment. The employees having strong affective commitment wants to stay in the organization because they want to stay (Allen & Meyer, 1990). The commitment based on the amount of cost, which will be bearded by the employee if the employee leaves the organization. So, they want to stay in the organization because they do not have any other choice. In the end, under normative commitment, the employee is obligated to stay in the organization. In other words, the employee ought to stay in the organization, so he/ she stay in the organization (Norizan, 2012; Rosli & Siong, 2018).

2.1.2 Job involvement and organizational commitment

There exists a significant impact of job involvement on a number of organizational outcomes. It's been reported by a number of researchers that there exists positive significant impact of job involvement of professional and organizational commitment. As a result, the turnover, productivity sales, profit, stress, turnover intention and satisfaction are also impacted as well. (Singh & Gupta, 2015). It is because past studies have conceptualized job involvement as the active participation of one employee in his/ her job. It is also conceptualized as a degree of involvement of employee in its job, so that the intrinsic needs can be fulfilled.

As these needs are fulfilled, satisfaction is achieved by the employee, as the result of the job, involvement employee can make a decision regarding his. Her job, which also strengthens job involvement (Zopiatis, Constanti, & Theocharous, 2014). As a result, high job involvement brings a commitment to the employee towards its organization. So, the employee put a lot of effort to achieve organizational goals and objectives (Rotenberry & Moberg, 2007).

Researchers pointed out that there exists a strong relationship between normative commitment and effective commitment and job involvement with lead to the continuance commitment (Kuruüzüm, Ipekçi Çetin, & Irmak, 2009). According to scholars, normative and affective commitment has a strong relationship with the involvement of the job of the employee (Tayyeb & Riaz, 2004).

2.1.3 Leadership styles and organizational commitment

According to Nyengane (2007), employee commitment reflects the quality of the leadership in the organization. Therefore it is logical to assume that leadership behaviour would have a significant relationship with the development of organizational commitment. Previous researches suggest a positive direct relationship between leadership behaviour and organizational commitment. Transformational leadership is generally associated with desired organizational outcomes such as the willingness of followers to expend extra effort (Bass, 1985). A willingness to expend extra effort indicates some degree of commitment. Contingent reward behaviour that represent transactional leadership have been found to be reasonably associated with performance and work attitudes of followers although at a lower level than transformational leadership behaviour (Nyengane, 2007).

A relationship between commitment and leadership style has been reported in the organizational and management literature. Nyengane (2007) reported a positive relationship between leader support and commitment. In three separate studies, Popper, Mayseless and Castelnovo (2000) in Nyengane (2007) found evidence to support the hypothesis that a positive correlation existed between transformational

leadership and attachment. Kent and Chelladurai (2001) found that individualised consideration has positive correlation with both affective commitment and normative commitment. Hayward, Goss and Tolmay (2004) also found that transformational leadership has moderate positive correlation with affective commitment. Lower correlation coefficients between transformational leadership and normative, as well as continuance, commitment were found. No correlation was found between transactional leadership and affective, normative and continuance commitment.

According to Walumbwa and Lawler (2003), there is considerable research available suggesting that the transformational leadership style is positively associated with organizational commitment in a variety of organizational settings and cultures. Nyengane (2007) indicated that transformational leaders are able to influence employees' organizational commitment by promoting higher levels of intrinsic value associated with creating a higher level of personal commitment on the part of the leader and followers to a common vision, mission, and organizational goals.Transformational leaders influence followers' organizational commitment by encouraging them to think critically by using novel approaches, involving followers in decision-making processes and inspiring loyalty while recognizing and appreciating the different needs of each follower to develop his or her personal potential (Nyengane, 2007). By encouraging followers to seek new ways to approach problems and challenges and identifying with followers' needs, transformational leaders are able to motivate their followers to get more involved in their work, resulting in higher levels of organizational commitment (Walumbwa & Lawler, 2003). This view was supported by prior research that showed that organizational commitment was higher for employees whose leaders encouraged participation in decision-making (Nyengane 2007), emphasized consideration (Walumbwa & Lawler, 2003) and were supportive and concerned for their followers' development (Allen & Meyer, 1990).

2.1.4 Perceived Organizational Support and Organizational Commitment

Previous studies conducted on POS and OC have found that there is a positive and statistically significant relationship between perceived organizational support (POS) and organizational commitment (OC) (Loi,Hang-yue and Foley 2006). In addition, researchers have reviewed the relationship between various antecedents of perceived organizational support and organizational commitment (Eisenberger et al 2001). However, from the various studies on POS and organizational commitment, there are contradictory issues that could be argued. For example, studies on training had a contradictory finding; Wayne et al (1997) found employees who had more formal training and development experience reported higher level of POS and thus increased OC. On the other hand, Whitener (2001) found that POS was stronger when organizations offer less comprehensive training opportunities. This reflects a contradictory finding regarding interaction between perceived organization support and training.

In addition, Whitener's (2001) study also indicated that employees with low perceptions of organizational support expressed higher commitment when they worked for organizations with more comprehensive training. However, when they worked for an organization with less comprehensive training, the employees with high perceptions of organizational support expressed high commitment. Thus, it can be argued that perhaps other unmeasured variables that related to employees' perception of special treatment might be interacting with perception of support and training that would affect the commitment. Another study on POS and OC is a study conducted by Tansky and Cohen (2001). They concluded that employee development activities were positively related to both POS and organizational commitment. However, due to weak justification of the definition of variables, it is difficult to make a concrete judgment related to employee development activities and both POS and organizational commitment. These variables were also not empirically tested in this study. Although Allen et al (2003) found that human resource practices were related to POS, this study could be disputed because not all elements of human resource practices are included.This calls for further empirical study to assess the antecedents of POS and how it will affect commitment. The current study will help fill the empirical research gap in the literature.

3.0 Methodology

3.1 Research Design

This research employed a quantitative cor relational design. The purpose of a cor relational study is to determine the relationships between variables and to use these relationships to make predictions.

3.2 Population of the Study

Academics working in the six tertiary institutions in Lagos state Nigeria was where the sampling frame was drawn from. The prospective population includes academic employees in the said institutions.

3.3 Sample size

The sample size was **404** lecturers in the tertiary institutions in Lagos state, Nigeria, because the population of the lecturers in tertiary institutions in Lagos state Nigeria is known, the sample size for the finite population was used to determine the sample size.

3.4 Sampling Techniques

Simple random sampling was used. This research utilized Simple random sampling techniques; in which the populations of the study were given an equal chance of being selected.

3.5 DATA ANALYSIS

3.5.1 Sources of Data

Questionnaire was used to gathered information for this study, Job satisfaction Survey by (Spector, 1997), was used to measures job satisfaction of lecturers, Organizational commitment questionnaire by (Allen & Meyer, 1997), was used to measures three kinds of commitment: affective commitment, normative commitment, and continuance commitment, leadership style was measured by the multifactor leadership questionnaire. The MLQ was developed by (Bass & Avolio, 2000). Perceived organizational support was measured using 13-item scale in the products of Eisenberger et al. (2002) POS scale, were selected to determine employees' perceived organizational support regarding the quantity of support they receive from their institution and Job involvement is measure by an instrument produced by kanungo (1982), with Ten (10) products and every one of the products is going to be measured on the 5- point Likert-varying from ("strongly disagree") to 5("strongly agree").

Table 1 Reliability Test of Instrument

Construct	Number of Items	Cronbach's Alpha (Pilot study)
Organizational commitment	23	0.934
Perceived organizational support	13	0.942
Job satisfaction	15	0.962
Job involvement	10	0.847
Leadership styles	21	0.943

The integrated measurement model which is an important step for the evaluation of reliability and construct validity (convergent and discriminant) was done. These items fit the measurement model with $\chi 2(720)=1268.064$, $p=0.00$, $\chi 2/DF=1.761$, GFI=0.867; TLI=0.957, CFI=0.960; IFI=0.960, and RMSEA= 0.043 in addition, the RMSEA met the cut-off point 0.043, which fell between the recommended range of acceptability.

3.5.2 Measurement Model for the Instrument

Figure 1 Measurement Model

4.0 Findings and Discussion

4.1 Analysis of Result for objective 1

Level of organizational commitment, leadership styles, job involvement and perceived organization support

Table 2 Mean and Standard Deviation for Related Items to Perceived Organizational Support (n=404)

Item	Mean	SD
Organizational Commitment	3.17	0.86
Leadership Styles	3.63	0.93
Perceived Organizational Support	3.32	0.81
Job Involvement	3.56	0.90

Note: Low (1-2.33), Moderate (2.34-3.66), High (3.67-5).

The above table indicates tertiary institutions lecturers perception on organizational commitment, leadership styles, job involvement and job involvement in their tertiary institution. Finding revealed that the lecturers perception on the four constructs was at moderate level. This means that lecturers perception was moderate in tertiary institutions in Lagos state, Nigeria, based on the analyzed variables.

4.3 Analysis of Result for objective 2:

Table 3 Total Direct Effect of Independent Variables on DV

Path			B	β	S.E.	C.R.	P value
OC	**<---**	**POS**	0.119	0.154	0.04	2.966	0.003
OC	**<---**	**LS**	0.386	0.343	0.087	4.424	<0.001
OC	**<---**	**JINV**	0.23	0.371	0.045	5.129	<0.001

Based on the result **(Table 1.2)** independent variables has positively impact on organizational commitment and were significant. The greatest effect among independent variables was observed for job involvement (ß=.371, p<0.01) which indicated that respondents with higher level of job involvement tends to show higher level of organizational commitment. The second important predictor was leadership's styles (ß=0.343, p <0.001) which also had positive and significant effect on organizational commitment and according to the results respondents with higher level of leadership's styles shows higher level of organizational commitment. According to these results perceived organizational support also significantly had a positive effect on organizational commitment (ß =0.154, p=0.003). The R2=0.562 for organizational commitment revealed that a combination of all independent variables are able to explain 56.2% of variance in organizational commitment. The growing figures of organizational support is provided by their employing institution this was due to the fact that lecturer will felt emotionally connected to the organization This was consistent with findings reported by Wann-Yin and Htaik (2011), Bilgin and Demirer (2012). As well as in support of the following studies, revealing perceived organizational support as an important factor in organizational commitment (Riggle et al., 2009).

5.0 CONCLUSION

It was concluded that lecturers with a good job involvement are more likely to feel committed than lecturers with low job involvement. Thus, having feel valued and respected is fundamental to lecturer to feel committed to the organization because they were included in the decision-making process and consequently, obtain a high level of commitment. From the result of structural equation modelling on the relationship between leadership styles and organizational commitment on tertiary institution lecturers in Lagos state, Nigeria.

Based on the findings of the research objectives, it was concluded that leadership styles has a significant relationship with organizational commitment. Therefore, leadership styles of the tertiary institutions is a function of effective management of institutional level. Proper leadership styles of the human, physical/material and financial resources is a pee-requisite for organizational commitment. The level of organizational commitment of lecturers determines to a great extent the way the institutional administrators manage the resources of the institutions.

5.1 Contribution to HRD

This study has successfully allayed the fear of managers, leaders, administrators, management, employers and organization with respect to organizational commitment by sharing of power and control between them and employees. The practice is just to encourage employees to have sense of belonging and to perform better on their job and not for administrators to feel that they will lose their grip of authority.

5.2 RECOMMENDATION

Future researchers are suggested to target different type of respondents such as students as they are in larger size and easier to approach to, and target both private and public tertiary institutions.

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012 : Philanthropy in Malaysian Higher Learning Institutions

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ABSTRACT

Current economic crisis has brought many universities around the globe to source for the alternative funds to meet a substantial part of their expenditures (Haseeb, 2019). They are also confronting rising income inequality and declining rates of social mobility (Osilli, 2019). Malaysian public universities are not left behind. With more than 30 years of experience in international education and hosted more than 100 universities of both public and private (Malaysia Higher Education in Brief, n.d) it is high time for Malaysian universities to call for new approaches to meet with these complex challenges. Philanthropy has long history in universities and its contribution was immense. It supports the longevity of the university. In 1634, Harvard University started its first fund raising campaign and by some recent measures, Harvard receives an average of $3 million a day (Dogdson & Gann, 2018). Drawing from this argument and the recent trend of the university challenging environment, as well as the researcher own experience of more than 20 years in the education industry, this paper conceptually discussed on the current landscape of philanthropy in Malaysian Higher Learning Institutions (MHLI). This paper is derived, based on the available literature, with the hope to entail future academic research in philanthropy.

Keywords: Philanthropy, Higher Learning Education, Malaysia.

1.0 INTRODUCTION

Philanthropy plays a pivotal role in the longevity and development of the universities. Renowned universities in the US and Europe, like Oxford, Cambridge, Stanford, Duke and Drexel to name a few, are the living proof. They have been receiving donations from philanthropists since very long time ago. They relied on the patronage of powerful people and some put their names of their founding benefactors (Dodgson and Gann, 2018). Philanthropy continues its significant roles in education until today. Many universities around the world have started embracing philanthropy to meet their funding needs. This is due to various factors, mainly the rising cost to run a university. They are having challenging time in term of matching the revenue and escalating cost, while trying to meet the demand for growth and higher quality (Mohd Isa, R et.al 2016). In addition, government support is also limited and to some is declining (Haseeb, 2019). Malaysian Universities are not left behind when it comes to this issue. Despite the growing importance of philanthropy in higher education across the globe, the literature on philanthropy in Malaysian Higher Learning Institutions (MHLI) was still very limited. Hence, the objective of this paper is to fill in the gap of the past literatures, to explore the current landscape of philanthropy in MHLI and to suggest for future research.

1.1 The Trend of Philanthropy in Malaysian Higher Learning Institutions (MHLI)

While scholars, researchers, academics and practitioners were advocating philanthropy to the society through conference and publications, practically, MHLI have also taken initiatives to establish their own foundations as to strengthen their philanthropy, mainly through endowment. In order to strengthen the university financial sustainability, as well as to remain global and competitive, they can no longer rely on the traditional way of running the university. Through the university's foundation, the leadership of the universities were trying to opt for the alternative revenue source, namely philanthropy Legon (2011) mentioned that almost all public colleges, universities, and university systems are supported by one or more foundations that fulfil a variety of functions namely gift repositories, manage endowments and other assets, and provide stewardship to donors. History has recorded that UM has received endowment fund as early as in 1912. Mohd Salleh (2018) also mentioned that education endowments fund have-long been practiced in Malaysia. Similarly, contribution from corporate and wealthy individuals to Malaysian universities is not new. In 1981, Universiti Putra Malaysia received a RM1 million donation from Malayan Banking Berhad ("History of Establisment", n.d) In 1996, Yayasan Pok Rafeah (YPR) donated to Universiti Kebangsaan Malaysia (UKM) to create YPR Chair for International Studies ("Pok Rafeah Foundation", n.d). In 1999, the International Islamic University of Malaysia (IIUM) has established the Islamic Endowment Fund (IEF) ("IIUM Endowment Fund", n.d). In 2009, Universiti Malaya and Genting Bhd launched the Tan Sri Dr Lim Goh Tong Endowment Fund. The RM1mil fund, established

in honour of Genting Group's late founder, was given to students in UM's Faculty of Business and Accountancy, in the form of scholarships and sponsorship of educational and research-based programmes ("RM1mil funds", 2009). In 2016 UTM received RM1 million donations from Johor Port Berhad ("UTM Endowment Fund Receives Rm1 Million", 2016). In 2018, it received RM30million donation from Malaysian business tycoon and philanthropist, Azman Hashim, through Yayasan Azman Hashim (Azian, 2016). All these massive funds are expected empower universities to advance research, support immense wage bills, provide financial aid and cover operating expenses, among others (Ng, 2019).

In 2016, Malaysian Higher Education (MHE) published the University Transformation Programme (UniTP) Purple Book, stressing on financial sustainability through enhancing university income generation, endowment and waqf ("Enhancing University Income Generation, Endowment and Waqf", n.d). To date, 13 Malaysian public universities have set up their endowment fund with contributions come from individuals and companies. The recent figure reported that a total RM1.85 billion has been collected via varsities endowment funds, with UM recorded to have the highest endowment of RM1.6 billion, followed by UKM at RM71 million ("RM1.85b collected via public universities endowment funds", 2017). Comparing to endowment, RM23 million was collected through waqaf fund, with UPM recorded the highest at RM 8 million and Universiti Sultan Zainal Abidin (USZA) which collected RM4.84 million (Fong, 2017) . However, this number is too small compared to Malaysian population of more than 32 million. This shows that the government and MHLI have to do more work to educate the public about philanthropy and endowment fund (Mohd Salleh, 2018)

The recent activities have seen a shift of focus when UiTM launched its RM1billion Education Fund in 2015, aimed at raising RM1billion in endowment from the university's 500,000 alumni members, followed by UM with its launching of Universiti Malaya Endowment Fund (UMEF), targeting RM200 million from its alumni (Azman, 2019). The initiative on alumni giving has shown that MHLI have put efforts in enhancing their philanthropic moves by capitalizing on their alumni. These initiatives are supported by Osilli (2019) when he highlighted that foundations and individual giving by alumni and non-alumni to higher education make up the most significant component of higher education philanthropy.

1.2 Issues and Challenges

Despite all efforts put by the practitioners and the academics in the world of philanthropy and the contributions made by corporations and individuals towards the universities' endowment fund in the last few decades, plus the recent effort on alumni giving, the study on Malaysian Philanthropy is still very little. Looking at the MHLI philanthropy, the empirical evidence was mostly focusing on endowment and waqf. The study on other aspects of philanthropy in MHLI like bequest, gift, fundraising, development, donation and volunteerism are yet to be fully explored.

In addition, information on philanthropy development and statistical data are not easily available even though all non-profit organizations and non-government organizations have to register themselves with Registrar of Society (ROS) or Registrar of Company (ROC). For those who are register under the Trustees Act have to go through the Prime Minister Department. The data source with regards to Malaysian philanthropy can be made available at Charities Aid Foundation (CAF). The annual global study held by CAF, entitled "The World Giving Index" showed that in 2010, Malaysia was in the rank of 76 in the World Giving Index ranking. In 2011 Malaysia dropped to the rank of 87. According to Mazlan et al (2014), the degree of philanthropy in citizens of Malaysia is upsetting as the drop in the ranking indicates that Malaysians are getting less interested to get involved in the act of philanthropy or in doing general good deeds. Nevertheless, a year later after Mazlan's work was published, Malaysia has made top ten placing in the World Giving Index 2015 published by the CAF in early November, making it the tenth most generous nation in the world. The World Giving Index measures which countries volunteer and give most money to charity and according to the survey, Malaysians are a generous lot, ranked 10 among 145 nations surveyed. Malaysians helped our country to record impressive results - 27th globally for helping strangers and 17th position for donating funds but with 37% of Malaysians active in volunteerism. However, for 2016 Malaysia has dropped to number 22 (Charities Aid Foundation, 2017). As highlighted by Osilli (2019), an in-depth look at the data can suggest some challenges ahead for higher education philanthropy.

2.0 METHODOLOGY

Philanthropy plays important roles, not just in MHLI, but also to the society at large. However, the number of available literature and research on Malaysian philanthropy in general is scarce. When

narrow to philanthropy in MHLI, the focus was more on waqf and endowment. Other areas such as bequest, gift, fundraising, development, donation and volunteerism were under-explored and many dimensions were untapped. This practical gap can call for specific research to investigate further on Malaysian philanthropy from various perspectives, particularly in MHLI.

A search for published literature was conducted through various databases such as Google Scholar, Emerald, Sage, Science Direct, Scopus, Springer, Taylor & Francis. Obviously, philanthropy yields enormous results in the body of knowledge of social sciences. The literature appeared in many aspects, domains, dimensions and perspectives. However, when narrowed to Philanthropy in Malaysia, not many articles were encountered. This field of study in Malaysia is untapped. The search was based on the following keywords which are related to Malaysia: philanthropy, charity, higher learning institutions, non-profit organizations, non-governmental organizations, third sector, performance and leadership with scholarly work between 2000 and 2019.

3.0 RESULTS AND DISCUSSIONS

Among the earliest study done on Malaysian philanthropy was Private Philanthropy in Multi-ethnic Malaysia by Elizabeth Agee Cogswell in 2002. It was to explore the philanthropy in Malaysia including the extent to which it either follows the religious or cultural traditions of the major ethnic groups or works as a force to unite these groups, to tackle collaboratively the challenges of rapid change in a globalized economy (Cogswell, 2002). The National Conference on the State of Philanthropy in Malaysia was organized in the same year with the work done by Josie M.F and Abdul Rahim, Ibrahim on The Giving Society? A State of Philanthropy in Malaysia (Abdul Rahim & Josie, 2002). While Cogswell, Josie and Abdul Rahim talked about the general overview of the status philanthropy in Malaysia as a whole, most studies on Malaysia philanthropy between now and then, were focusing on charitable behaviour with various focussed area and target group, using Theory of Planned Behaviour (TPB) as the basis. In addition, quite a number studied on Malaysian Islamic philanthropy with waqf and zakat as the focussed area. Rohayati Mohd Isa did few studies on philanthropy in MHLI, one was focusing on factors influencing donors in giving to universities (Isa and Williamson, 2014) and the others were on growing university's funding through philanthropy (Mohd Isa, R 2014) and philanthropic fundraising of higher education (Mohd Isa, R et.al 2016). This is followed by Khadijah, A.M (2017) who studied philanthropy in higher learning in association with waqf. More articles on waqf and endowment in association with MHLI were encountered in the recent research. Paper by Bakar, R et.al (2019) titled Corporate Waqf University: A sustainability mode, Hassan et.al (2018) on the endowment fund as a source of sustainability for higher education in Malaysia, maximizing investment return and Mahamood and Rahman (2015) on the possibility of financing universities through waqf, pious endowment, were all discussed about the sustainability of the university through waqf and endowment. There was also article on promoting the culture of philanthropy and another one on philanthropy performance using Balanced Score Card (BSC). The recent research done by Awang SA et al (2017) mentioned that the subject of charitable giving in Malaysia is still relatively infancy. This is supported by Shapiro et al (2018), when he highlighted that the Malaysian experience of philanthropy is history in the making.

4.0 CONCLUSION

Within 19 years span of time, little research was done on MHLI philanthropy. The study on philanthropy in MHLI has huge potential for future research. Scholars and researchers could embark into various areas, context, domains and perspectives that could add new edition to the body of knowledge. MHLI could also consider introducing courses, programs, Centre of Excellence (COE) in philanthropy. Beside promoting awareness, it will also attract more participation from the industries to collaborate with scholars and academics for future research, hence, contribute to the university sustainability as well as strengthening the overall philanthropic eco-system in Malaysia.

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039 : Factors Influencing Safety Work Behaviour: A Research Framework

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ABSTRACT

The study explores the moderating role of gender on individual-related and safety work behaviour focusing on the manufacturing industry. This paper applies the individual-related to examine the relationship between three factors perception of the minimum wage, work engagement and intention to leave toward safety work behaviour. This paper expected to offer future research and suggestion to the manufacturing managers to enhance their employees' safety work behaviour practice and indirectly toward preventing workplace accidents.

Keywords: Safety work behaviour, Manufacturing, Individual-related

1.0 INTRODUCTION

The early concept of safety in the workplace in Malaysia has started with the Factory and Machinery Act (FMA) since 1967. The rapid growth in industrial during that time causes the government to enforce the act among the manufacturing industry. FMA is a stepping stone to a more holistic act. As in 1994, the Department of Safety and Health (DOSH) has enacted the Occupational Safety and Health Act 1994 (OSHA 1994) which covers almost Malaysia working area. By then OSHA takes charge of safety and health issues in Malaysia and wider coverage for hazards introduced in the workplace. OSHA's main objective is to ensure the safety, health, and welfare of the employees in the workplace. It is the acts that protect employees to have a safe work environment also for an employer to have employees that have safety and health-minded.

1.1Statement of Problem

The implications of safety issues can incur the cost such as fatality and disability. According to SOCSO, the numbers of accident investigate for the year 2017 is 69,980 cases which are increasing more than a year before with 66,618 cases. For the 2018, occupational accident statistics by sector showed the number of accidents is increasing as reported by the Department of Statistics Malaysia (DOSM) with the manufacturing industry contributed to the highest number of accidents involving about 3228 victims followed by agriculture with 749 victims and construction industries with 232 victims. For the fatality, the construction industries are a higher contribution to the statistics with 118 victims followed by manufacturing with 62 victims and 26 victims for agriculture industries.

According to Gyekye (2010), besides the working environment (unsafe condition), the safety behaviour of the employees (unsafe act) is the major fundamentals that cause an occupational accident. Mullen, J. (2004) also reports in his study that the majority of workplace accidents were due to unsafe behaviours of the workers higher than an unsafe work environment. Based on the mentioned literature, in Malaysia until recently, relatively little focused has been paid to safety within the individual-related. (Ezrin Hani Sukadarin, N. S. (2012); Muhammad Safizal Abdullah, Y. H. (2015); Bavani Sugumaran, M. S. (2017). There more focus on safety culture and Safety Compliance Behaviour. Although there was past literature that focused on the safety work behaviour it is not specified in the manufacturing industry from point of view from workers but the Safety Officer views (Rosliza Osman, N. A. (2015)). Various efforts from previous researchers to understand and identify problems related to safety behaviour among employees from different sectors that includes army and SMEs (HASHIM, S. A., 2012; Abdullah Osman, K. K. (2019). However, there is still a lack of past literature that studies the relation between the perception wage, work engagement and turnover intention towards safety work behaviour. Therefore, this paper attempts to provide the research framework to explain safety work behaviour in the manufacturing industry using the individual-related.

2.0 LITERATURE REVIEW

Manufacturing had been a core towards economic growth to generate a high contribution to Gross Domestic Product (GDP). The manufacturing considers as a backbone toward the transformation of Malaysia from the agriculture sector towards the more intense and competitive sector to face globalization back then. Since the revolution of industries in the 1960s, the demand for the manpower to run the operation is highly increase. Somehow the local manpower cannot support the shortage of direct labor and outsource from other countries. This scenario has shown that the manufacturing industries are high owing to the labor in Malaysia and any carelessness from employees towards safety can contribute to the accident rate. The employees play a big role to avoid any of the accidents as the major causes of the safety issues are occurs from human behaviour.

According to Geller, E. S. (2005), safety behaviour is the most effective element to prevent workplace accidents and reduce injuries. Safety work behaviour is an approach to safety that focuses on employees' behaviour as the cause of most work-related injuries and illnesses. Geller, E. S. (2005) also defines human as refer to the individual that have a knowledge, experience, ability motivation and personality. Culture and practise of the daily life has been the factor of the way of the human act or behave. According to Mark A Griffin, A. N. (2000), there are two dimension of safety behaviour which is safety compliance and safety participation. Safety compliance describes safety practices such as performing standard work procedures while the safety participation refers to behaviours that support workplace activities to prevent safety issues.

According to Dov Zohar (2003), the manager had a greater challenge to face careless behaviour from the employees to educate the employees toward the safety mindset. As reported by Shimmin, Leather, and Wood (1981), two-thirds of a sample of accident victims claimed that the accidents could have been avoided if not because of inappropriate work behaviour. On the same note, Heinrich, H. W. (1941) also stated that unsafe act can contribute into 85% of the accident. Therefore, there is a need to focus on how to enhance safety behaviour that can overcome careless behaviour and unsafe acts.

Although safety work behaviour has been emphasized by past researchers (Mark A Griffin, A. N. (2000); Dov Zohar, G. L. (2003) on reducing near miss and accident, little study has been done to investigate the factor influencing safety work behaviour in Malaysia, especially in the manufacturing industries. Past literature only focused on safety culture adapting from management ways to reduce the risk of hazard to implemented in the work area Muhammad Safizal Abdullah, Y. H. (2015); Ali D., 2017). Many questions about what influences the safety behaviour of the workers remain unanswered, especially from the point of view of employees Rosliza Osman, N. A. (2015). Therefore, this study target to provide a theoretical framework that can assist managers to improve their employees' safety behaviour.

2.1 Perception of Minimum Wage

The minimum wage had given advantage towards the employees to job-hopping from another workplace to another. The minimum wage had been introduced to all business organizations on January 1, 2013, to improve the living standard of Malaysia and give social security and at the same time can reduce poverty issues in Malaysia (Central Bank of Malaysia, 2013; Thiagarajah, R. (2000). This minimum wage also had been implemented by other countries such as Thailand and the United State. The implementation of the minimum wage had been studying through national employment from 2009, found that nearly 40% of employees earning less than RM700.00 in the private sector in which the amount below poverty line income RM800.00 per month.

The initiative from Malaysia Government designed a policy with a fair to protect employees from being exploited and now a new statutory minimum wage has been gazetted by the government which is RM1,100.00 in peninsular and RM1,000.00 in Sabah and Sarawak. However, on the point of view from the cost of operation is highly increase and influence decision making and performance. In the study done by Malaysia Association of Hotels (MAH)(2013a2013b) found the labor cost increase between 29% to 40% since the minimum wage policy took effect in 2013 in the hotel sector. The labor-intensive and highly dependent on manpower are highly affected by this minimum wage worse off in the manufacturing sector. Mahyut, M. S. (2013). However, there is no study has been done by the research to know the link between perception of minimum wage towards the safety work behaviour of the employees.

2.2 Employee engagement

There is research that can be considered as related to the relationship between employee engagement and safety. Gallup Organization (2006) supports the connection between employee engagement and safety performance. The study found that business units that report "someone talked with them about their progress in the last six months" report 10 to 15% higher productivity and 20 to 40% fewer accidents. Wagner & Harter (2006) also adding the employees who feel a strong emotional relationship between their company tend to reduced absenteeism, fewer accidents and increased productivity. This is showing that good relations between companies and employees can influence the safety work behaviour of the employees. When workers feel more secure about their employment, there is a higher level of trust and commitment and directly influence the way how they work.

There are varied studies Tomas (1999) that reveal that subordinates are engage involved in safety-related behaviour when supervisors are also actively engage involved in monitoring performance rewards to them. Tomas (1999) find that critical role of supervisor on developed attitude towards safety behaviour can influenced their subordinate in responses to safety (i.e. attitudes, behaviour, risk and accidents). The studies show that the supervisors play a big role in order to encourage safety work habit toward subordinate by discuss, reward and encourage safe work habits, employees model similar behaviour and this result of the higher safety performance by the employees and directly contribute towards effectiveness in financial of the organization. (Komaki, Zlotnick & Jensen, 1986).

2.3 Turnover Intention

The rate of employee recruitment and the rate of employee leaving an organization is the formula to calculate the turnover intention. Production in manufacturing consists of a production line based on standard and fixes the amount of line workers is required. With the non-flexible working hours make an impact toward production performance with the high staff turnover that occur and this serious phenomenon are been facing by the management in many organization (Chen et al.2011). The multi task is the responsible skill that the supervisor should have. Production supervisors' responsibilities are cost-sensitive. Early studies (McHugh 1993; Clarke 2006) shows that employment in manufacturing industry heavily contributes to stress management issues and significantly contribute for high turnover and occupational injuries and accident which will affect the firm's goal and objectives in a long run. Past literature indicated that turnover intention has the possibility of an unsafe act that may occur from the employee. According to Azma et al (2013), there is a lack of studies conducted to understand the safety work behaviour in Malaysia, especially in manufacturing industries.

3.0 RESEARCH METHOD

For this study, the researcher had used the dependent variable which is safety work behaviour and the three independent variables which are the perception of a minimum wage, employee engagement, and turnover intention. Hence the keywords for this study are safety work behaviour, perception of minimum wage employee engagement and turnover intention. This study will be conducted through the form of a questionnaire study. The sample group was the operator level in the manufacturing industries..

Figure 1 The conceptual framework role of moderating gender between individual-related and safety work behaviour

4.0 IMPLICATION AND RECOMMENDATION

The study conducted is a factor influencing safety work behaviour by using three individual-related such as perception towards minimum wage, employee engagement, and turnover intention by moderating gender. The researchers can use this study as a starting point for future investigation. This paper provides researchers and practitioners with a comprehensive framework of safety work behaviour in manufacturing industries, serving as a guideline for clearer understanding. The findings of this study will contribute information and justification about the current factors influencing safety work behaviour in manufacturing industries. Thus, it is likely the study also helps human resource management about the range of strategies available. The suggestion for future research is to do implementation of research framework at put in practice. Researchers and practitioners can adopt the research framework into the qualitative and will be valuable for understand the safety work behaviour among the employees.

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051 : Post-Harvest Handling of Cormels, Leaves and Inflorescence of Cocoyam in Terms of Processing in Kogi East Agricultural Zone of Kogi State, Nigeria

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ABSTRACT

This paper is aimed at investigating the post-harvest handling of cormels leaves, and inflorescence of cocoyam in terms of processing in Kogi East Agricultural Zone of Kogi State, Nigeria. A sample of 27 Cocoyam farm families were purposively selected from the nine Local Government Areas in the zone. The data were collected using Focus Group Discussion (FGD), tape recorded and interpreted. The results indicated that farmers of cocoyam can traditionally process cocoyam cormels into flour, formulate livestock feeds using cocoyam flour, and process cocoyam leaves, petiole, and inflorescence into food condiments aimed at enhancing preservation and storage for future usage. The study concluded that cocoyams are high in coagulating contents, contain little protein and lipid, has significant potential for livestock feed, provide materials for renewable energy source, and industrial raw materials which place them as major food and cash crops. The study therefore recommended, amongst others, that hard work should be put in place by Extension Agents to educate cocoyam farmers on the high dietary worth of cocoyam hence the need for the farmers' involvement in various forms of its processing.

Keywords: Postharvest, handling, cocoyam cormels, leaves, inflorescence, Processing

1.0 INTRODUCTION

Cocoyams are aroids grown principally for their eatable cormels, leaves, and inflorescence and belong to the family Araceae (Vaneker & Slaats, 2013). There are 110 genera in Araceae family where Colocasia, Xanthosoma, Amorphallus, Alocasia and Cytosperma are the most important ones apart from other 2000 species. Similarly, Alocasia, Xanthosoma and Colocasia belong to the tribe Colocasia and sub-tribe Colocasinae; while Xanthosoma belong to the sub-tribe Caladinae (Opara, 2000). The positions "edible aroids" or "cocoyams" are often considered for both Colocasia (taro) and Xanthosoma (tannia) which is often differentiated when it comes to their post-harvest characteristics. There are two basic varieties of cocoyam under cultivation in the study area, the *Colocasia esculenta* (Taro) and *Xanthosoma spp* (Tannia).

Cocoyams (*Colocasia esculenta and Xanthosoma spp*) are well improved diet crops across good number of agro-ecological zones of sub-Saharan Africa. After cassava and yam, cocoyams rank third in importance amongst the root and tuber crops planted and eaten in West and Central Africa countries. On the nutrient contents, cocoyams are richer than cassava and yam as it possesses greater protein, mineral, vitamin, and digestible thickener that form a stable crop in Ghana, Japan, Nigeria and Hawaii (Opera 2000). Eatable aroids (taro) form a high amount of the root crops in South Pacific Island countries. However, in the Caribbean and West Africa, tannia leads in root crops (Opera 2000). Back thirty years, Africa has unfailingly recorded greater percentage increase of global cocoyam production in which 10 million tonnes are currently produced per annum (FAO, 2012).

The cultivar, tannia (*Xanthosoma sagittifolium*) has the ability to produce high yield, resist diseases; and has moderate energy content when compared with cereals like maize. Though, amongst other varieties of cocoyam, *Xanthosoma sagittifolium* tends to have content of some anti-nutritional issues as problems limiting its use (Abdulrashid, Agwunobi, Akpa, and Adeyinka, 2006). These anti-nutritional issues can be curbed through boiling or sun-drying before eating it. In terms of leaf attachment of tannia, stalk attaches to the leaf edge and its cormels are recycled for human and livestock feeding while the cormels are put forth for asexual propagation. The plant hardly withstand water-logged

areas but prefer partial shade. It is an annual crop that thrive best on deep, well drained soils with a pH 5.5 - 6.5. This implies that it performs best on saline soils.

The second cultivar of cocoyam is taro (*Colocasia esculenta*). Some quarters call it taro, odumukpokpo, ikachi, eddoe, dasheen gabi, keladi, taru, arvi, kolkas, dalo or satoimo etc noted for as a focus of cocoyam research. The cultivar contains anti-nutritional components such as oxalates, phytates, tannins and saponins but neutralized through boiling (Agwunobi, Angwukam, Cora, and Isika, 2002). Using taro in formulating alternative energy source of feed in poultry production is remarkable. In view of this use, Abdulrashid et al (2006) said in a study conducted that taro feed materials should not exceed 25% replacement of maize when compounding broiler diets. Whether *Xanthosoma sagittifolium* or *Colocasia esculenta* cultivar, each produces cormels, leaves, petioles, and inflorescences that benefit both man and farm animals on their intake.

Nutritionally, cocoyam cormel is rich in starches if compared to potato (Wang, 1983), and higher in protein, mineral, and vitamin contents when compared to cassava and yam (Parkinson, 1984). Cocoyam cormels are in good suggestion for diabetic victims, older people, children with reactions, and those with intestinal ailments (Plucknett, 1970). Similarly, Emmanuel-Ikpeme et al., (2007) said that cocoyam starch present in the cormels is appropriate for patients with pancreatic disorder, peptic ulcer victims, patients with gallbladder disease, individuals with chronic liver dis-functioning and patients suffering from inflammatory bowel disease.

The fresh leaves, usually called spinach or vegetable. It is principally a major spinach and basis of income generation to all farming households. Other essential nutrients present in the leaves include: vitamin C which is good in boosting the immune system of the body; source of vitamin A good enough for keeping the health of eyes; contain a higher amount of dietary fibre that prevent digestive problems (constipation, diarrhea, indigestion etc); and less fat with appreciable amount of protein helpful to gain muscle lost and has the properties to reduce excess body weight (Onwueme, 1994; Nnamdi, 2018; Lim, 2016; Anselm, 2019).

The cocoyam leaves have ingredients that control the inflammation procedure of any part of the body and reduce blood pressure. The leaves of the plant also contain riboflavin, vitamin B6, thiamin, niacin, and vitamin B complex that protect the nervous system. More so, the leaves of cocoyam contain calcium, phosphorous and magnesium for stronger bone and teeth formation. Similarly, the iron mineral in the leaves is helpful to form red blood cells reason for anaemia prevention during pregnancy (Onwueme, 1994; Opara, 2003; Lim, 2016; Anselm, 2019). The magnesium constituent in the crop's leaves reduce risks of rising preeclampsia in women and the elastin and collagen contain in the leaves reduce the wrinkle skin and thereby promoting healthy skin.

Table 1 Proximate Composition of Cocoyam on a Fresh Weight Basis

Component	Content
Moisture	63-85%
Carbohydrate (Starch)	13 – 29%
Protein	1.4 – 3.0%
Fat	0.16 – 0.36%
Crude fibre	0.60 - 1.18%
Ash	0.60 – 1.3%
Vitamin C	7 – 9mg/100g
Thiamine	0.18mg/100g
Riboflavin	0.04mg/100g
Niacin	0.9mg/100g

Source: Onwueme (1994).

In the same vein, the leaves of cocoyam contain body energizers (isoleucine amino acid) which is indispensable to function our body. Enkephalins and Leucine (painkillers) present in the leaves are good sources in promoting good bone and skin. Equally, dopamine in the leaves enhances memory and good mood. On the other hand, tyrosine (amino acid) helps people to reduce drug addiction from nicotine, while arginine (amino acid) increases sperm count, and finally, histidine remedies damages due to radiation and removes heavy metals from our body (Osborne et al, 1978; Hanif et al, 2006; and Lim, 2016). From the above health importance it is important to process it for future use.

Processing consists of all activities put in place to modify the shape and size of a product and with a hope of improving its handling and worth (Akwaji, 2006). Similarly, Hornby (2006) explained

processing as a series of things that are done in order to achieve a particular result. In relation this paper, cocoyam cormels, leaves, and inflorescence processing involves series of activities put in place to modify their bulkiness and short shelf-life into either flour, chips, pellets, or food condiments aimed at improving their keeping quality for use in future. The series of activities involved in cocoyam cormels, leaves, and inflorescence processing include to determine the cocoyam variety that is most suitable for processing, remove hairs and dirt from cocoyam cormels, leaves, and inflorescence with knife, wash with clean water, put cormels in drum or big container and boil long enough to change colour, and spread on a raised platform for cooling. After cooling, peeling the back, slicing the cooked cormel with knife, smoking or drying the sliced cormels thoroughly follow. Also, the dried cormels are then packed in air tight drums and later crush to powder (flour). Similarly, leaves and inflorescence are sliced, spread on a clean floor to dry under room temperature, and stored in sacks or squeeze to form food condiment or thickeners **(**Ukonze, and Olaitan, nd and Acheampong, Osei-adu, Amengo, and Sagoe (2015)**.** Cocoyam flour from processed cormels can be prepared into fufu as food, in food industry backed into biscuits or pellets which are packaged and used for feeding livestock as concentrates. Also, processed cocoyam chips can be mixed with other beans to form a complete nutrition.

2.0 PROBLEM STATEMENT

Cocoyams (*Xanthosoma sagittifolium* and *Colocasia esculenta*) produce cormels, leaves and inflorescence that are nutritionally valued by people of the farming communities. Cocoyam cormels are rich in starches if compared to potato and higher in protein, mineral, and vitamin contents when compared to cassava and yam (Wang, 1983). The cormels can be eaten after cooking and roasting or crushed to form paste (fufu). On the other hand, the leave and inflorescence called spinach or vegetable contain minerals, vitamins, and thiamine; and has great anti-inflammatory properties. The inability of the people or farmers in the area to totally consume or utilize cormels, leaves, and inflorescence occur as a result of its limited shelf-life of 3–5 days after harvest which lead to a lot of wastes due to decay in storage. The yield of cocoyam is two times higher than the people to consume without adequate plan to process it into other forms of usage. Government has no plan to put in place facilities to encourage processing of these wonderful produce year in year out as these experiences discourage many farmers from farming it further. The exploration of postharvest handling of cormels, leaves and inflorescence in terms of processing would encourage farmers to take bold step in its processing and offer the products for future use in the local communities and cities with high income level because additional values have added. Summarily, the problems of this produce are the inability to have a good storage mechanism after harvest and the non- governmental readiness to provide a processing facility for the cocoyam in this location of study.

2.1 Objective of the Study

The main objective of this study was to investigate the post-harvest handling of cormels leaves, and inflorescence of cocoyam in terms of processing in Kogi East Agricultural Zone of Kogi State, Nigeria, while the specific objectives were:

i. To understand the traditional processing of cormels into flour in the study area.
ii. To investigate whether livestock feeds can be formulated traditionally using cormel in the study area.
iii. To explore the traditional forms of processing cocoyam leaf, petiole, and inflorescence in the study area.

2.2 Research Questions

Below are research questions that directed the study:

i. What is the traditional way of processing cocoyam cormels into flour in the study area?
ii. In what way can livestock feeds be formulated traditionally using cormel in the study area?
iii. What are the traditional forms of processing cocoyam leaf, petiole, and inflorescence in the study area?

3.0 METHODOLOGY

3.1 Design of the Study

A qualitative research method was adopted for this phenomenological study. The purpose of this study was to explore experiences of cocoyam farmers who are currently in the field of production. Most

specifically, it aims to explore how farmers of cocoyam in their own effort process cormels, leaves, and inflorescence of cocoyam to avert too much of storage wastes and encourage others for mass production of the crop. It is said to be a qualitative research because it centres on human experiences to gather results (Denzin and Lincoln, 2011; and Creswell, 2012). The design was appropriate because it was suitable enough to gather responses from cocoyam farmers on how cormels, leaves, petiole and inflorescence of cocoyam are traditionally processed.

Population sample and sampling technique

Three Local Government Areas were purposively selected from the study area based on their high involvement in the crop production. These Local Government Areas included Ankpa, Omala, and Olamaboro Local Government Areas. Purposeful sampling is appropriate for use when the researcher needs to select a sample based on his knowledge of the population, its element and the nature and purpose of the research aim (Creswell, 2012). In each of the Local Government Areas, nine cocoyam farm families were purposively selected based on their active participation in the cocoyam production. This gave a study sample size of 27 cocoyam farm families and used for the study.

Instrument for data collection

The instrument for data collection was the use of Focus Group Discussion. A Focus Group Discussion was intended by the researchers based on the research questions to facilitate good communication with the 27 Cocoyam farm families drawn from the Local Government Areas that constitute the study area. The key questions used to qualitatively examine post-harvest handling of cocoyam cormels, leaves, and inflorescence in terms of processing included the following apart from probe questions that were equally asked:

- Do you sell all cormels harvested?
- What do you do with the unsold cormels?
- Do you process harvested cocoyam cormels locally?
- What are the procedures involved in the processing?
- Do you need special tools for processing?
- Do you harvest leaves, petiole, and inflorescence of cocoyam alongside with cormels?
- Do you consume leaves, petiole, and inflorescence of cocoyam raw?
- Do you process them before taking them for sale?
- If not sold, what do you do with the leaves, petiole, and inflorescence?
- Do you process them for future use?
- How do you process them from spoilage?
- How do you use the processed products?
- How do you use the products for soup making?
- What other forms of its usage?

3.2 Method of Data Collection

The intended data for the study was collected through organized Focus Group Discussions between the researchers and the 27 cocoyam farm families. In each of the LGAs purposively selected, a Focus Group Discussion was organized for nine selected cocoyam farm families. Tape recorder and jotters were used to store data to manage misrepresentation and misplacement of information gathered.

3.3 Trustworthiness of Instrument

The Focus Group Discussion Guide was validated by three experts in the field of crop science. Each of the questions was translated to the language of the farmers to elicit free and reliable responses during each discussion session to avert communication gaps. The data collected in the language of the farmers were equally translated to English Language which was done over and over to ensure useful information were not left out. This was achieved through the use of tape recorder and hand written jotter through the help of other research assistants.

3.4 Method of Data Analysis

Data analysis involves examining discussants' words and trying to make unambiguous knowledge that is present (Patton, 2000). The data gotten through the Focus Group Discussion were qualitatively analyzed and offered using descriptive illustration of the voice and understanding of the respondents. The process is cognitive where the researchers has to put aside own beliefs, by not making judgments while collecting the data and remaining open to the data revealed. The researchers observed, interviewed, described, interpreted, and appraised settings as they were.

Findings and discussion on research questions

Research question one: What is the traditional way of processing cocoyam cormels into flour in the study area?

The result of the study indicated that cocoyam farmers in the areas are actively involved in the processing of cormels into edible forms such as a boiled cocoyam, roasted cocoyam, and fried chips. In view of cormels flour processing, it was affirmed that fresh cormels from cocoyam can be processed into flour for soup thickening and for porridge making during winter (dry season) periods possibly done after washing, peeling, slicing, and sun drying until the moisture content is depleted. This shows that cocoyam farmers in the study area are involved in cocoyam cormel flour processing but done with local tools and methods. These results agree with the opinion of Ammar, Hegazy, and Beder (2009) who said eatable cocoyam flours is beneficial in the preparation of many products by the food production industries as it is valuable in making dehydrated soup, preparing infants' food, used for snacks and making breakfast foodstuffs. Also, Huang (2005) puts forth that flour from cocoyam has been used in baking of products due to its fine starch granule. Similarly, Ojinnaka et al., (2009) in their studies showed that the availability of starch in cocoyam can be used to improve weaning food which is simply digestible and accessible to people of low income earners. The methods involved in the processing of cocoyam flour include: washing, peeling, re-washing and shredding into thin slices/size or thickness, sun drying for 2hours, spreading thinly on dry trays and placing in the oven, dry at a temperature of 65° C for 9hours, remove dried samples from the oven, cool and store in a polyethylene bag. Also, before milling, it is advisable to put samples into an oven and dry at 65° C for one hour in order to make the slices crispy; then allow to cool and crushed into flour using appropriate millers.

Research question two: In what way can livestock feeds be formulated traditionally using cormel in the study area?

In the course of the discussion, the respondents said ruminants feed on cocoyam peels but rarely fed to mongastrics owing that it may be detrimental to their health if taking raw as it depletes protein synthesis in human. Some said if at all it should be given, it has to be cooked, dried or through other pre-cooking activities. Specifically, it should be cooked, crushed and pelleted before giving to birds. This showed that the farmers in the study area can process livestock feeds using cocoyam cormels. The findings conform to the idea of Esonu (2000) who said the feed for starter broilers should consist 20% of cocoyam. In support of this, Uchegbu, Etuk, Omede, Okpala, Okoli and Opara (2010) posited that dried cocoyam, when crushed, be used in the preparation of finisher broilers' diets without being harmful to their general performance. One hundred percent inclusion of cocoyam in animal feeds guarantees daily body weight advantage, high feed conversion ratio, and cost efficiency. On the other hand, Cocoyam corms set aside for pig feed preparation must be cooked first before drying and feeding aimed at removing the toxic constituents (oxalic acid) inherent in cocoyam edible parts (Esonu, 2000). However, it is suggested that sow on gestation and in late lactation can be fed with cooked dried cocoyam but not to those in the early growing stage. Pigs in the early stage, fattening stages, and gilts in gestation and lactation can feed on cocoyam silage.

Research question three: What are the traditional forms of processing cocoyam leaf, petiole, and inflorescence in the study area?

The respondents said cocoyam has edible leaves, petiole, and inflorescence for preparing condiments when processed. The preparation takes the form of either cut, steamed/cooked to form paste; boiled and pounded with pepper, onion, and fish and serve with fufu. Also, cormels are cooked, crushed and applied to soup as thickener. This showed that the farmers can process cocoyam leaves, petiole and inflorescence into many forms in the study area. It is in line with the view of CABI (2014) who said farmers and dwellers of cocoyam production use the leaves, petioles, and inflorescence as ingredients for soups, pottages, and pastes. The leaves gotten from cocoyam are delicacies in pottages and soups but seldomly utilized due to its limited shelf-life of 3–5 days. To address this challenge, Acheampong, et al (2015) stressed that cocoyam leaves be processed into purees or flours for end users such as in the preparation of soups and sauces, as well as in novel products to tap their nutritional value.

4.0 CONCLUSION/RECOMMENDATIONS

Cocoyams are highly rich in starch contents. The protein and lipid contents present in cocoyam are in little quantities but can be harnessed into potential animal feeds. Renewable energy source and industrial raw materials are derived from cocoyams placing them as major food and cash crops. This implied that rural men and women in Kogi State should continue to engage their strengths to exploit many advantages inherent in cocoyam production. This will improve sustainable food supply, generate income, increase employment opportunities, and standard of living of the rural dwellers will be improved.

Edible aroid flours are gotten from cormels and used in the production of countless products such as boiled/roasted food, preparation of baby diet, snacks, and breakfast products. The corm/cormels when cooked, crushed and pelleted can be given to birds as feed. Finally, cocoyam petioles and inflorescence can be preserved to form condiments for soups and sauces. It is therefore recommended that:

i. Agricultural Extension Agents and other humanitarian agencies should enlighten cocoyam farmers on the continuous active participation in cocoyam farming, harvesting, processing, storage, and utilization in view its nutritional values.
ii. Studies on proper processing and packaging techniques of cocoyam leaves, petiole, and inflorescence should be commenced to boost its longer stay and utilization in urban cities by the growing consumer need for diversity and convenience.
iii. Government through National Root Crop Research Institutes introduce and make available improved cultivars of cocoyam and set of technologies on its success.
iv. Extension workers should intensify effort towards creating enough awareness of the need to adopt new technologies of processing cormels, leaves, and inflorescence to promote mass production of the crop in the vicinity.
v. Farm inputs (fertilizers, herbicides, and pesticides etc) should be offered to rural cocoyam farming communities to boost its production.
vi. Innovation of processing cocoyam into chips and flour should be taught to cocoyam farmers as part of making the products available for a long period of time to avoid wastes.

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STREAM 6 – MORAL EDUCATION

060 : Exploring the Teaching and Learning of Moral Education in Melaka Secondary School

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ABSTRACT

Moral Education is a compulsory course for non-Muslim students in Malaysia education system. Started from primary schools until secondary schools, students will study Moral Education for 11 years. The aim of Moral Education is to develop a disciplined, cultured and united individual. This curriculum is significance in the multi-cultural society to unite the country. However, teaching and learning activities are the main factor in succeeding the curriculum. This paper will discusses the background of Moral Education, explore the teaching and learning activities in a secondary school and propose suitable activities for moral class.

Keywords: Moral Education, Teaching and Learning, Classroom Activities

1.0 INTRODUCTION

Moral Education is one of the value education programs in Malaysia especially for non-Muslim students. The program aims to produce non-Muslim students who have moral values through the practice of moral values in daily life. This chapter will discuss on the background of the research, problem statement, objectives, significance and limitation of the study.

Moral Education started existing in Malaysia since 1988. It had went through several revision to ensure the syllabus are stick with the current moral and ethical changes (Vishalache, 2010). The Cabinet report in 1979 stated that "To build a disciplined, cultured and united society, it is recommended that while Muslim students study Islamic Religious Knowledge, and this includes other pupils who choose to follow this subject, non-Muslim pupils should be taught Moral and Ethics education. All pupils who study this subject, Moral and Ethics Education must take it in the examination. In both these subjects, respect for the individual and the freedom to embrace any religion in a multi-religious society must be cultivated." Hence, the Moral Education was then born and later become a compulsory course for non-Muslim.

The ideas of Moral Education was introduced as the core subject for Standard One in the New Primary Schools Curriculum (NPSC). Moral Education was started to implement in 1983 in all standard one throughout Malaysia. In 1988, all the primary schools from standard one until standard six were studying Moral Education. While Moral Education of secondary schools started from 1989 aligned with the implementation of Integrated Curriculum for Secondary Schools (ICSS). During that moment, the syllabus if Moral Education aimed to develop a spiritual, humanitarian, and social individual. The students must be able to recognises, accepts and internalises his or her role as a responsible decision maker pertaining to moral values in a democratic society. (Vishalache, 2010)

There are 16 moral values covered in the first syllabus of Moral Education for secondary school. The moral values included: compassion, self-reliance, humility, respect, love, justice, freedom, courage, physical cleanliness and mental health, honesty, diligence, cooperation, moderation, gratitude, rationality and public spiritedness. Students are suggested to relate the values learnt from Moral Education in their family, school, society and then the national and international level. This Moral Education syllabus are designed based on the principles of National Philosophy of Education, Federal Constitution and the Rukun Negara. But this version of syllabus were consider failed to recognise the socio-cultural richness of Malaysia. Hence, a new syllabus were announced to revise the first version. (Vishalache, 2010)

While the revised version included the Malaysian Vision 2020 ideology which developed by Prime Minister of Malaysia, Tun Dr Mahathir Mohamad. It provided the ideas toward national and global building. The content of the syllabus were more globalisation and associated concerned, wider and more critical issues were covered. The objective of the Moral Education was to develop responsible individuals with high moral standards, who are able to contribute towards peace and harmony of the country and the global community (MOE, ME Syllabus for Secondary School, 2000) The focus of teaching and learning

is aligned with the National Education Philosophy where assumed to deliver holistic individuals physically, intellectually, emotionally, spiritually, and socially. (Vishalache, 2010)

The main moral values learnt from the first and revised are still the same, but they are different in scope and emphasis. The revised syllabus will discussed moral issues complexly following the needs and maturity of the students. Besides, 21st century skills such as critical and creative thinking skills, generic skills, conflict resolution skills, and social skills will be enhance in Moral Education. This is aligned with Malaysia Education Blueprint 2013-2025 to prepare students in facing the information technology worlds with moral thinking and moral behavior. (Vishalache, 2010)

A new syllabus was implemented in all Year 1 primary school starting from the year of 2011. The syllabus are focused on 14 core values: Belief in God, good-hearted, responsible, thankfulness, courteous, respect, love, justice, bravery, honesty, diligence, cooperation, humility and tolerance. All the subjects in primary school including Moral Education will have a Standard Document as the syllabus. Difference with the old version, the students would have to achieve the criteria mentioned in the Standard Document. This will help to ensure no child is left behind. The content and syllabus of the Moral Education are designed to cater every student's need. The final product of Moral Education is to produce individuals who share a common moral language. (Vishalache, 2010)

Staring from 2017, all secondary schools will have a new syllabus based on Dokumen Standard Kurikulum dan Pentaksiran Pendidikan Moral (DSKP Moral Education). This syllabus provided the guideline for all the teacher to conduct a holistic assessment for Moral Education. This will guides the teachers of Moral Education to evaluate students and ensure student's performance based on their individual growth. This syllabus is planned and designed by Moral Education experts to ensure students able to face the daily moral dilemmas with understand, appreciate and responsibility. (Vishalache, 2010)

2.0 MORAL EDUCATION IN MALAYSIA SECONDARY SCHOOL

Moral Education is a program that educates students to be morally or emotionally endearing by emphasizing the development of moral thinking, moral feeling and moral behaviour. The Moral Education Curriculum aims to create noble and integrity human beings that hold universal values based on moral principles, contribute to the unity and well-being of the country and the global community. Moral Education in secondary school focuses on cultivating the spiritual and moral strength of students through the appreciation and practice of the noble values of Malaysian society. The noble values are found in the various religions, traditions and customs of the various races in the country. These noble values will provide students a living guide that enables them to become immoral. This allows them to become an individual who are morally and socially responsible for all decisions and actions taken. (MOE, 2017)

There are six main objectives in the teaching of Moral Education for secondary schools. First is to let the students know and understand the moral concepts and moral issues in everyday life. Second, develop moral reasoning in making decisions and resolving moral issues based on moral principles among students. Third, nurture moral emotions toward empathy and fair behaviour. Fourth, adopting moral conduct responsibly and with integrity. Fifth, strengthen the element of unity within students to create a harmonious society. Last, appreciate and practice universal values for noble character. (MOE, 2017)

Seven key principles have been identified as a guide in generating a comprehensive human, intellectual, emotional, spiritual and social well-being. These principles are done to realize the spirit and intentions contained in the Rukun Negara, Vision 2020 and National Education Philosophy. The principles are: 1) responsible for self, family and others; 2) cling to the teachings of religion; 3) attentive to the environment; 4) maintaining peace and harmony of life; 5) patriotic enthusiasm; 6) respecting human rights; and 7) practice the principles of democracy in life. (MOE, 2017)

In order to enable students in understanding, appreciating and practicing these principles, seven areas of learning have been identified and moral values are delivered through the field of learning. In addition to the spiritual and humanitarian aspects, the field of learning also emphasizes the social and cultural aspects. The field of learning is as follows: 1) self-development; 2) family; 3) environment; 4) patriotism; 5) human rights; 6) democracy; and 7) security and harmony. (MOE, 2017)

3.0 THEORIES RELATED TO MORAL

Value teaching should focus on the Whole-Man Model that includes three-dimensional moral interrelation. Positive character should consist of these three moral dimensions, namely moral thinking, moral feeling and moral behaviour. Effective Moral Education should help students to understand moral

values, accept and demonstrate their commitment to it, and practice them in daily life. These three dimensions are necessary to enable a student to reach a level of moral maturity. (MOE, 2017)

The best moral development theory is to consider these three dimensions, namely moral thinking, moral feeling and moral action. The moral development that covers these three dimensions will nourish and stimulate consciousness conscience that causes the person to be happy to do what is right and feel guilty if doing something that is not right or immoral. Moral Education should not ignore the consciousness of conscience that serves to integrate all three moral dimensions. (MOE, 2017)

Frankena (1973) described moral values as values that are considered 'good' and 'worthy' in the context of infidels and societies. Therefore, moral values can vary and depends on individual and community views. In the context of Moral Education in Malaysia, there are thirty-six values considered as moral values. In this study, the understanding of moral values is the understanding of the moral values found in all areas of Moral Education learning and the moral values acquired based on the existing knowledge and knowledge of the students. Understanding moral values also illustrates the values that are considered to be good and worthy amongst students.

4.0 ISSUES IN MORAL EDUCATION

The Moral Education was introduced as core subject in 1983 in all primary school. It is a compulsory subject for all the non-Muslim students while Muslim students will take the Islamic Education. There are 7 themes and 36 noble values that the students will learn in the upper secondary school. But the level of courtesy, politeness, patience, humility, tolerance and respect among the students are still disappointed low. (Lee Lam Thye, 2017)

According to Tan Sri Dato Lee Lam Thye, there are total 2784 criminal cases involved teenagers are being reported from January until June of 2017. The criminal case are such as molestation, robbery and stealing. Besides, there are 193 cases showed that teenagers age 13-18 involves in serious drug abuse cases. These statistic only showed the number of cases that caught by the police. (Nanyang Siang Pau, 2017) These are the most common issues that are being discussed in the Moral Education textbook and students are being taught. But why these kind of negative behaviour still exist?

Students learnt the 36 noble values in the Moral Education, but are they practising them in the everyday life? Or they just memorising the 36 noble values for the sake of passing the subject. (Lee Lam Thye, 2017) The senior lecturer of University Malaya, Dr Vishalache (2013) found out that the Moral Education is too exam-oriented. The students are frustrated with the set of moral values, each of these values are defined neatly with specific keywords and terms in syllabus. The questions being ask in Moral Education can only test on how the students memorising the moral values. They are trained like robots, memories the key words in order to score in the SPM. Besides sitting for the examination, the students have to prepare a Moral Project as a component of Moral Education evaluation for SPM. This project encourage students to apply the moral values in the activities such as community service and volunteer activities. But the implementation of the project is consider fail as the focus are still more on reports and grading. The students are just pose and take picture evidence as they are cleaning the environment. In fact, they do not involve in any of the cleaning activities. Some of the teachers even forced the weaker students to copy the project reports for the grading purpose. (Daily Express, 2016)

Many parents found out that Moral Education is unnecessary and should not be included in the SPM examination. (Vishalache, 2013) The subject is not really relevance to the real world. There is also political slant in the Moral Education. The answer provided by the students during the examination must regurgitate with the syllabus, others answers will not be accepted no matter how rational or logical the arguments provided are. The moral education need a review, memorising a list of moral values and brainwashing are pointless. (The Star, 2017) The Minister of Home Affairs (former Minister of Education) Tan Sri Dato (Dr) Haji Muhyiddin bin Haji Muhammad Yassin do agreed that the Moral Education need for review. He realized that the memorising of moral values are not suitable and some contents of Moral Education will need to inspect. The title and the content of the subject also required an improvement. (Orientaldaily, 2015) It's time for Malaysian to address these issues and ask ourselves to what extend we have been courteous and practise the noble values. The moral education syllabus should reinforced to emphasise the importance of learning and practising the 36 noble values. The noble values should put into practice in our daily life. (Lee Lam Thye, 2017) The subject should able to teach students about moral, ethics, religion and philosophy that can help them holistically. Moral Education should not an examination subject but one that imbibes principles and values for life. (Vishalache, 2013) As

conclusion, there is a need to investigate the practically of Moral Education to improve student's moral behaviour in secondary schools.

5.0 METHODOLOGY

In short, this research is aimed to explore and understand the capability of the Moral Education in enhancing the moral behavior of students in secondary school. This research applied qualitative research by interviewing moral teachers and students in a national-type school at Malacca. 2 teachers and 5 students who meet the criteria as sample are purposely picked to participant in this research. This research applies the semi-structured interview. All the participants are managed to share their understanding and opinions toward the teaching and learning activities of Moral Education.

6.0 FINDINGS AND DISCUSSION

The teaching and learning process is playing a significant role in Moral Education. Students nowadays are born in the digital world. It is believed that the usage of digital media in the teaching process will help in learning morals. Students feel happy when they are bringing to the computer room to access online materials. Students would like to participate in online activities such as quizizz and Kahoot!. This will enhance their interest in learning Moral Education. Frog VLE is also implemented in the school and students can answer the questions available on it. But the information and materials available are limited, so the teachers have to put some effort themselves to create their teaching materials.

In moral class, presentation is always the key activities. Students were divided into groups and topics will be given. Students discussed in groups and prepared for a presentation. After the presentation, open discussion is allowed and teachers provided feedback to them. In most of the classes, textbooks are seldom being used. Teachers asked students to copy down the main points in their notebooks. This notebook will be their main reference when answering moral questions.

Every student has their own style to adopt knowledge, different people learn differently. Teachers should spend time understanding the strengths and weaknesses of the students. Teachers should explore the suitable teaching methods for teaching in class. Some teaching activities might work for certain classes, but not necessarily applicable to all the classes. The teaching activities should apply the following students' level and absorptive capacity. Teachers should put effort to evoke students' interest in Moral Education. When students are interested, they will have the intention to study. It's suggested that outdoor activities should be carried on in Moral Education. Outdoor activities allow students to learn knowledge outside the classroom. Learning trips to old folk homes, orphanages, the mental hospital is good for students to learn moral values. This will helps students in understanding the real situation happening in society. Activities such as discipline camps and charity bazaar are also working to construct moral values of students.

Language is one of the challenges of learning Moral Education. The Malay language is the medium of language uses in teaching Moral Education. Some non-Muslim students are not familiar with the language. So they found difficulty in learning morals. Students able to understand what teachers taught in the classroom but they suffered when answering the questions. Some of the words used in the questions are not familiar to them. Hence they might misunderstand the meaning of the words and answer wrongly. Other than that, some in-deep topics such as laws and acts of Malaysia are suffering the students as well. As students are not exposed to this information, they felt difficult to learn these topics. Teachers are suggested to provide more examples for students to understand these topics.

Assessment is a curriculum process in implementing a curriculum. The assessment of Moral Education can be divided into two parts: examination and project paper. During the examination, the writing and answering skills of the students are very important. They should understand the formula of answering questions to score in the examination. Other than that, students will be assessed through project papers. Students' moral behavior can be assessed when they doing the project papers. They were require to communicate with their family, friends, and community when doing the projects. Teachers believed that students will practice moral values when doing the project paper. In contrast, students argued that examination and project papers do not really effective in assessing students' moral behavior. During the preparation of the project paper, students can discuss with their teachers and friends. The photos that they took for the project paper are just to fulfil the criteria. It doesn't mean they apply the moral values in doing the activities. Besides, the examination is also not strong enough to represent students' moral behavior. There is a schema provided to mark exam paper, the answers wrote by students are just to score in the examination. Hence, it cannot represent the moral behavior of the students. It is believed that the

assessment of Moral Education should involve parents, friends, and teachers on their moral behavior in daily life.

7.0 CONCLUSION

The discussion above had proved that Moral Education are effective in enhancing students' moral behavior. The syllabus of the Moral Education are suitable for the secondary schools students. The curriculum should be continued with some improvement.

Generally, the Ministry of Education especially the Curriculum Development Centre should enhance the quality of teaching and learning activities of Moral Education. This will help to improve understanding, constructing and adopting moral values in students' daily life. Ministry of Education should provide sufficient budget and resources to schools. Training and courses should be provided to strengthen teachers' confidence in teaching Moral Education.

In addition, the Ministry of Education should emphasis on practicing moral informally in the schools. Activities such as co-curriculum activities outside the school can help in developing a moral individual. From the discussion above, it believed that moral learning is not only taking place in the classroom but also outside the classroom. Hence, activities such as community service and volunteer programs should be implemented in the schools. Study trips to the orphanage, old folk home, a disability recovery center and native village will help students in forming a moral practice such as community spirit, love, and care in the community.

Schools should give their full support to the formation of a caring and equitable society that establishes and develops student moral behavior in schools. The various forms of interaction between the school management and the students at the school also influence the students' moral behavior. School relationships with the outside community need to be strengthened by working together to inculcate values that support the development of moral conduct. One of the most effective collaborations is to develop programs that enable students to reach out to members of the public directly. Activities such as volunteerism in the community, community welfare activities in orphanages, old folk homes, the center of the disabled and rehabilitation center can help in shaping students' moral behavior.

The role of parents in learning moral are very important. Parents should act as facilitators and to diversify their interactions with their children in shaping their moral behavior. Besides, parents need to establish and develop a motive for practicing moral conduct in the family institution.

Students involved in this study is that they need to stick to the concepts and principles of morality in their daily lives. They also need to respond positively to the forms of interaction they experience in daily life to practice the moral practice of daily living.

Implementation of Moral Education in Malaysia will not achieve its goal if all parties do not unite to realize it. This study is not intended to expose the deficiencies and faults of certain parties who are too dependent on the subject of Moral Education in the pursuit of student personality. Instead, it aims to find the best solution to produce a student with a comprehensive moral development. Moral Education is one of the mediums that can help the morale of the human being but it requires the support and cooperation of all parties to achieve its goal.

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STREAM 7 – SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS

013 : Pemikiran Komputasional dalam Kalangan Pelajar Berdasarkan Jantina dan Tahap Pendidikan

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ABSTRAK

Pemikiran komputasional adalah salah satu kemahiran abad-21 yang merangkumi satu set kemahiran yang boleh diaplikasikan dalam proses penyelesaian masalah dan aktiviti harian. Kepentingan kemahiran komputasional pada abad ke-21 ini telah membuka minda para pendidik untuk mengaplikasikan kemahiran ini dalam proses pengajaran dan pemudahcaraan. Satu kajian tinjauan telah dilakukan bagi mengenal pasti tahap kemahiran pemikiran komputasional dalam kalangan pelajar dan perbezaan tahap pemikiran komputasional dari aspek jantina dan tahap pendidikan pelajar. Seramai 354 orang pelajar menengah rendah dan menengah atas dari sekolah di sekitar daerah Pasir Mas telah dipilih sebagai responden. Program IBMSPSS Versi 20.0 digunakan untuk menganalisa data yang diperoleh. Statistik deskriptif yang melibatkan frekuensi, peratusan, skor min dan sisihan piawai, serta statistik inferensi melibatkan ujian-t digunakan bagi menjawab kesemua persoalan kajian. Dapatan kajian menunjukan bahawa tahap pemikiran komputasional pelajar berada pada tahap yang tinggi. Dari aspek perbandingan jantina, tahap pemikiran komputasional pelajar perempuan lebih tinggi daripada pelajar lelaki. Selain itu, hasil kajian juga menunjukkan bahawa tahap pemikiran komputasional antara pelajar menengah atas dan menengah rendah adalah sama. Hal ini menjelaskan bahawa penekanan terhadap kemahiran pemikiran komputasional dalam PdPc perlu dilakukan oleh guru, samada menerusi aktiviti yang berasaskan komputer atau aktiviti unplugged. Oleh yang demikian, langkah yang proaktif perlu dilakukan bagi meningkatkan tahap penguasaan kemahiran pemikiran komputasional pelajar agar pelajar dapat mempersiapkan diri dengan kemahiran asas bagi menghadapi cabaran abad ke-21.

Kata Kunci: Pemikiran Komputasional, Pendidikan STEM, Penyelesaian Masalah, Kreativiti, Algorithma

1.0 PENGENALAN

Revolusi industri ke-empat kini dirancakkan lagi dengan kemunculan superkomputer, robotik, kenderaan automasi, perkembangan neuroteknologi, dan suntingan genetik yang membantu individu menggunakan peranan otak secara optimum (Schwab 2016). Kemajuan pesat dunia teknologi ini memperlihatkan penumpuan dan keutamaan dalam bidang pendidikan diberikan kepada penerapan kemahiran abad ke-21. Lantaran daripada itu, pengintegrasian pendidikan sains, teknologi, kejuruteraan dan matematik (STEM) dalam pengajaran dan pemudahcaraan (PdPc) semakin mendapat tempat dan dititikberatkan dalam sistem pendidikan di Malaysia.

Pendidikan STEM melibatkan aktiviti pengajaran dan pembelajaran dengan mengimplementasikan dan mengaplikasikan empat bidang utama: sains, teknologi, kejuruteraan dan matematik, dalam konteks dunia yang sebenar. Pelaksanaannya dijalankan dengan menggunakan pelbagai strategi seperti pembelajaran berasaskan masalah, pembelajaran berasaskan projek, pembelajaran berasaskan permainan dan pembelajaran secara inkuiri (Adnan et al. 2016; Nor et al. 2016; Siong & Osman 2018). Pendekatan pendidikan STEM ini melibatkan kaedah pembelajaran yang lebih realistik dan praktikal kerana kaedahnya yang mengutamakan aktiviti *hands on* yang meningkatkan keupayaan berfikir seterusnya menyelesaikan masalah (Adnan et al. 2016). Dalam pada itu, strategi pembelajaran ini juga berpotensi untuk melatih serta menerapkan kemahiran abad ke-21 terutamanya aspek celik digital melalui penekanan terhadap konsep mereka cipta projek bagi menyelesaikan masalah dunia yang sebenar (Rasul et. al, 2016).

Pemikiran komputasional merangkumi satu set kemahiran asas abad 21 yang diaplikasikan dalam proses menyelesaikan masalah dalam kehidupan seharian. Pemikiran komputasional melibatkan kemahiran asas bagi pemikiran analitikal seperti pemikiran matematik, pemikiran kejuruteraaan dan pemikiran sains (Wing 2006). Pemikiran komputasional juga berpotensi dalam mengasah kemampuan

berfikir secara kritis dan kreatif dalam mereka cipta peralatan teknologi dan proses menyelesaikan masalah (Yadav et. al 2014; Voogt et. al 2015). Justeru itu, seiring dengan kewujudan pelbagai peluang pekerjaan yang berkait rapat dengan pengkomputeran pada era digital kini, menjadi satu keperluan untuk melengkapkan diri dengan kemahiran pemikiran komputasional.

Pelaksanaan kaedah pengajaran pendidikan STEM ini memerlukan pelajar untuk menyelesaikan masalah melalui penemuan dan penerokaan. Menurut Mustafa (2018), menerusi kaedah ini penguasaan kemahiran pemikiran komputasional: teknik penyelesaian masalah, teknik kreativiti, teknik pemikiran algorithma, teknik pembelajaran kooperatif dan pemikiran kritis, amat penting bagi memastikan objektif pembelajaran tercapai. Oleh itu, guru sebagai individu penting perlu mempunyai kepakaran dalam merancang dan melaksanakan strategi pengajaran yang memberi makna kepada pelajar. Namun begitu, bagi memastikan pengajaran memberi impak kepada pelajar, guru perlu mengetahui sejauh mana tahap pemikiran komputasional pelajar. Justeru itu, kajian ini dilakukan untuk mengenal pasti tahap pemikiran komputasional dalam kalangan pelajar.

Selain itu, kajian Yadav et al. (2014) mendapati bahawa perempuan pada masa ini tidak diberi perhatian yang sepatutnya, perkara ini menggambarkan bahawa tidak ada keseimbangan dalam pendedahan dan penerapan kemahiran pemikiran komputasional antara lelaki dan perempuan. Kajian Djambong dan Freiman (2016) pula melaporkan tahap pemikiran komputasional juga berbeza mengikut tahap pendidikan kerana tempoh pendedahan dan tahap penguasaan teknologi adalah berbeza. Oleh itu, terdapat keperluan yang cukup untuk mengetahui kemahiran pemikiran komputasional dari segi jantina dan tahap pendidikan.

Keseluruhannya, kajian ini akan membincangkan tahap pemikiran komputasional dalam kalangan pelajar dan perbezaannya berdasarkan aspek jantina dan tahap pendidikan. Oleh itu, diharapkan guru dapat merencana kaedah pengajaran dan pembelajaran yang lebih berkesan setelah mengetahui tahap pemikiran komputasional pelajar.

2.0 PEMIKIRAN KOMPUTASIONAL DALAM PENDIDIKAN

Pelbagai definisi pemikiran komputasional telah dikemukan dalam kajian-kajian lepas. Namun, para sarjana masih tidak dapat mencapai satu kesepakatan mengenai definisi spesifik bagi istilah pemikiran komputasional. Walau bagaimanapun, secara amnya, para sarjana bersependapat bahawa pemikiran komputasional merupakan satu set kemahiran yang sangat penting dan diguna pakai untuk menyelesaikan masalah yang sukar dalam kehidupan manusia (Wing 2006; Schwab 2016; Selby & Woollard 2013; Barr et. al 2011). Konsep pemikiran komputasional adalah luas dan pengaplikasiannya membantu dalam melatih cara berfikir agar lebih kreatif dan kritis terutamanya dalam proses menyelesaikan masalah.

2.1 Model Pemikiran Komputasional

Barr et al. (2011) merumuskan bahawa pemikiran komputasional merupakan proses penyelesaian masalah yang melibatkan: i. merumuskan masalah kearah yang melibatkan penggunaan komputer atau peranti lain sebagai bantuan untuk menyelesaikan masalah, ii. menyusun, menganalisa serta mewakilkan data melalui peniskalaan seperti penggunaan model atau simulasi, iii. mendalami masalah menggunakan pemikiran algorithma, iv. menyusun dan menganalisa data secara logik, v. mengenalpasti, menganalisa dan mengaplikasi beberapa kemungkinan penyelasaian bagi menentukan cara gabungan penyelesaian yang paling berkesan dan vi. mengeneralisasikan dan memindahkan proses penyelesaian yang berkesan kepada pelbagai masalah yang lain. Berdasarkan deskripsi tersebut, dapat dilihat pemikiran komputasional terdiri daripada beberapa komponen. Namun, komponen yang dikemukan oleh Wing (2006) adalah yang paling bersesuaian dan diterima secara meluas dan digunakan oleh para pakar dalam kajian seperti kajian Korkmaz (2012), Korkmaz et al. (2017) dan Korucu (2017) : Penyelesaian Masalah, Pemikiran Algorithma, Pemikiran Kritikal, Pembelajaran Kooperatif dan Pemikiran Kreatif (ISTE 2015).

Gelbal (1991) mentafsirkan masalah sebagai semua perkara yang mengelirukan pemikiran dan memberikan cabaran kepada manusia dalam kehidupan harian. Setiap individu mempunyai strategi penyelesaian yang berbeza bergantung kepada tahap kemahiran menyelesaikan masalah seseorang individu. Bagi menerapkan kemahiran penyelesaian masalah, pembelajaran secara tersusun dan sistematik perlu dilakukan dengan melatih kemahiran asas. Menurut Mayer (1998), langkah umum bagi kemahiran menyelesaikan masalah adalah dengan menganalisa setiap masalah menggunakan kemahiran kognitif yang diperlukan bagi penyelesaian masalah dan seterusnya mengaplikasikan kemahiran tersebut secara sistematik sehingga mahir.

Konsep algorithma kini digunakan secara meluas dalam pelbagai bidang yang melibatkan proses yang memerlukan prosedur tertentu serta menggunakan protokol atau teknik. Istilah algorithma merujuk kepada susunan langkah-langkah dalam memastikan kerja atau maklumat dilakukan dalam keadaan yang tersusun menggunakan kemahiran memahami, mengaplikasi, menilai dan menghasilkan satu algorithma baru (Brown 2015; Katai 2015). Kemahiran pemikiran algorithma berpotensi untuk meningkatkan keupayaan individu untuk memproses sesuatu maklumat dengan cekap dan teliti selain dapat melatih kebolehan untuk berfikir secara lebih terperinci dan terarah.

Pemikiran kritis merupakan satu daripada elemen pemikiran aras tinggi. Definisi pemikiran kritis menurut Halpern (1996) adalah penggunaan kemahiran kognitif atau strategi bagi meningkatkan kemungkinan tingkah laku yang diingini. Individu yang berfikiran kritis adalah individu yang mampu mengikuti dan menggunakan setiap perubahan maklumat dengan cekap (Bökeoğlu & Yılmaz 2005). Pemikiran kritis juga ditakrifkan sebagai proses yang aktif, biasa dan bermakna yang dapat digunakan untuk memanfaatkan pemahaman dan kemahiran individu atau idea dan buah pemikiran orang lain (Özdemir 2005).

Slavin (1980) menyatakan bahawa pembelajaran kooperatif merujuk kepada kerjasama antara pelajar dalam proses pembelajaran di dalam kelompok yang kecil serta prestasi pelajar dinilai berdasarkan perkembangan dan persembahan kumpulan. Pembelajaran kooperatif merupakan salah satu kaedah pembelajaran yang efisien disebabkan oleh sumbangannya terhadap kejayaan akademik pelajar, perkongsian maklumat dan pembentukan hubungan sosial antara pelajar (Korkmaz 2012). Kaedah ini juga membantu pelajar mencapai tahap pembelajaran yang maksimum bila mana pelajar dengan kebolehan dan kelebihan yang berbeza, bekerja bersama dalam satu kumpulan kecil bagi memperoleh matlamat yang sama.

Konsep kreativiti meliputi pandangan yang berbeza-beza daripada pelbagai lapisan mansyarakat. Korkmaz et al. (2017) menyatakan bahawa kreativiti adalah kemahiran dalam menghasilkan produk yang tiada di pasaran atau produk baharu, dapat membayangkan atau melaksanakan sesuatu kerja yang berbeza daripada pemikiran orang lain serta dapat menghasilkan idea-idea baru. Sternberg dan Lubart (1999) pula melihat kreativiti sebagai satu kebolehan untuk mencipta dan menghasilkan sesuatu yang baru dan bermanfaat kepada orang ramai, serta kreativiti juga amat penting kepada individu untuk menyelesaikan masalah harian dan membantu masyarakat mendapatkan ciptaan dan maklumat yang baru serta asli.

Secara kesimpulannya, pemikiran komputasional dijangka menjadi salah satu daripada kemahiran asas yang diperlukan oleh setiap individu pada abad ke-21 kini. Tambahan lagi, sistem pendidikan STEM yang mengutamakan strategi pembelajaran berasaskan masalah berdasarkan dunia sebenar, memerlukan pelajar untuk menguasai dan mengaplikasi kemahiran pemikiran komputasional. Justeru itu, tahap kemahiran pemikiran komputasional pelajar perlu dinilai bagi mengetahui sejauh mana tahap penguasaan pelajar terhadap kemahiran ini.

3.0 METODOLOGI

Penyelidikan ini menggunakan kaedah penyelidikan kuantitatif yang dijalankan secara tinjauan. Kajian ini melibatkan kaedah tinjauan bagi mengenal pasti tahap pemikiran komputasional dalam kalangan pelajar. Sasaran sampel kajian ini merupakan pelajar tingkatan dua mewakili pelajar menengah rendah dan pelajar tingkatan empat mewakili pelajar menengah atas di sekolah menengah kebangsaan di daerah Pasir Mas dengan bilangan populasi seramai, N=4524 orang pelajar. Seramai n=354 orang pelajar telah dipilih sebagai sampel kajian menggunakan kaedah persampelan rawak mudah. Justifikasi pemilihan sampel kajian ini disebabkan oleh para pelajar ini telah mendapat pendedahan mengenai pemikiran komputasional melalui subjek asas sains komputer.

Proses pengumpulan data dijalankan menggunakan instrumen soal selidik yang diadaptasi daripada kajian Mustafa (2018) serta telah diuji kesahan dan kebolehpercayaannya. Penggunaan soal selidik sebagai instrumen bagi pengumpulan data disebabkan oleh caranya yang efektif bagi mendapatkan data responden secara tepat dalam kuantiti yang banyak selain lebih mudah ditadbir dan dianalisis. Soal selidik ini mengandungi dua bahagian iaitu Bahagian A dan Bahagian B. Bahagian A meliputi soalan berkaitan ciri-ciri demografi sampel. Bahagian B merangkumi soal selidik berkaitan tahap kemahiran pemikiran komputasional pelajar: teknik penyelesaian masalah, teknik pembelajaran kooperatif dan pemikiran kritis, teknik kreativiti dan teknik pemikiran algorithma.

Skala Likert lima mata telah digunakan bagi menentukan skor setiap item. Data kemudiannya dianalisis menggunakan ujian deskriptif yang melibatkan peratus, min dan sisihan piawai. Interpretasi

min bagi setiap konstruk dibahagikan kepada tiga tahap, iaitu rendah, sederhana dan tinggi. Tahap interpretasi min yang digunakan di dalam kajian ini adalah berpandukan Jadual 1.

Jadual 1 Interpretasi Min

Julat Min	Interpretasi
1.00 hingga 2.33	Rendah
2.34 hingga 3.67	Sederhana
3.68 hingga 5.00	Tinggi

Tiga orang pakar telah menentukan kesahan bagi instrumen yang digunakan dalam kajian ini. Satu kajian rintis yang melibatkan seramai 30 orang pelajar telah dilakukan bagi menentukan kebolehpercayaan instrumen yang digunakan. Analisis menggunakan "Alpha Cronbach" menunjukkan bahawa instrumen yang digunakan berada pada tahap yang sangat baik (Cronbach's Alpha= 0.899). Hal ini menunjukkan bahawa instrumen yang digunakan dalam kajian ini mempunyai kesahan dan kebolehpercayaan yang tinggi dan hasil data yang diperoleh adalah lebih tepat dan boleh dipercayai.

4.0 DAPATAN DAN PERBINCANGAN KAJIAN

Profil responden ini menerangkan demografi pelajar berdasarkan jantina dan tahap pendidikan. Dapatan kajian menunjukkan sampel terdiri daripada 128 orang (36.2%) pelajar lelaki dan seramai 226 orang (63.8%) pelajar perempuan. Berdasarkan tahap pendidikan, jumlah pelajar menengah rendah adalah seramai 185 orang (52.3%) manakala pelajar menengah atas adalah seramai 169 orang (47.7%). Profil peserta kajian ditunjukkan dalam Jadual 2.

Jadual 2 Profil Responden Kajian

Aspek	Responden	Frekuensi	Peratus
Jantina	Lelaki	128	36.2
	Perempuan	226	63.8
Tahap Pendidikan	Menengah Rendah	185	52.3
	Menengah Atas	169	47.7

4.1 Tahap Pemikiran Komputasional Dalam Kalangan Pelajar

Dalam kajian ini, elemen pemikiran komputasional yang dikaji adalah penyelesaian masalah, pembelajaran kooperatif dan pemikiran kritis, kreativiti dan pemikiran algorithma. Analisis deskriptif dijalankan bagi mengenal pasti tahap pemikiran komputasional dalam kalangan pelajar. Hasil kajian menunjukkan keseluruhan teknik pemikiran komputasional pelajar berada pada tahap yang tinggi (m=3.70, sp=0.34). Jadual 3 menunjukkan teknik penyelesaian masalah (m=3.80, sp=0.40), teknik kreativiti (m=3.81, sp=0.48) dan teknik pemikiran algorithma (m=3.71, sp=0.51) pelajar berada pada tahap tinggi. Manakala teknik pembelajaran kooperatif dan pemikiran kritis (m=3.17, sp=0.49) berada pada tahap sederhana.

Jadual 3 Tahap Pemikiran Komputasional dalam Kalangan Pelajar

Konstruk	Min	Sisihan Piawai	Tahap
Penyelesaian Masalah	3.80	0.40	Tinggi
Pembelajaran Kooperatif dan Pemikiran Kritis	3.17	0.49	Sederhana
Kreativiti	3.81	0.48	Tinggi
Pemikiran Algorithma	3.71	0.51	Tinggi
Jumlah Keseluruhan	3.70	0.34	Tinggi

Dapatan kajian menunjukkan bahawa pelajar dapat menguasai teknik penyelesaian masalah dengan baik (m=3.80, sp=0.40). Tahap penguasaan kemahiran peyelesaian masalah yang tinggi amat penting dalam menyelesaikan masalah kompleks. Teknik penyelesaian masalah merupakan satu teknik yang melibatkan kemahiran menilai, memahami dan menganalisis masalah yang dihadapi selain menyusun strategi serta langkah-langkah penyelesaian bagi menyelesaikan masalah (Heppner & Krauskopf 1987; Heppner & Reeder, 1983). Oleh yang demikian, pelajar yang menguasai teknik penyelesaian masalah akan dapat mengurus dan menyelesaikan masalah kompleks, berani mengambil

risiko serta menjadi seorang yang mampu berfikir pada tahap yang tinggi dalam menyelesaikan masalah Nor et al. (2016).

Berdasarkan hasil kajian, skor min bagi teknik kreativiti pelajar adalah tinggi (m=3.81, sp=0.48). Dalam proses penyelesaian masalah, kemahiran kreativiti yang tinggi membolehkan pelajar menggunakan idea dan kaedah yang pelbagai bagi melengkapkan tugasan serta menyelesaikan masalah. Menurut Kong et al. (2018), asas pembelajaran STEM yang menekankan pencarian solusi bagi permasalahan dunia yang sebenar dalam persekitaran seharian dan alam sekitar mampu mengasah, seterusnya membentuk kreativiti pelajar kerana kreativiti didasari oleh pengalaman dan pengetahuan sedia ada. Justeru itu, kaedah pembelajaran STEM dapat meningkatkan dan mencungkil kreativiti pelajar dalam menyelesaikan masalah.

Skor min bagi teknik pemikiran algorithma pelajar adalah pada tahap yang tinggi, menunjukkan bahawa tahap penguasaan teknik pemikiran algorithma pelajar adalah baik. Kemahiran pemikiran algorithma yang tinggi penting dalam merangka strategi bagi menyelesaikan masalah. Berdasarkan kajian Rodriguez et al. (2017), pelajar memahami masalah, namun, menghadapi kesukaran untuk merangka strategi yang bersesuaian dan berkesan bagi menyelesaikan masalah. Hal ini kerana satu algorithma yang berbentuk formula, teknik, peraturan atau langkah-langkah perlu dibentuk berdasarkan maklumat yang dikumpul daripada dua atau lebih masalah yang hampir sama. Sehubungan dengan itu, kaedah pembelajaran STEM mampu melatih dan meningkatkan tahap penguasaan teknik pemikiran algorithma dan seterusnya membantu dalam merancang kaedah penyelesaian yang lebih berkesan dan sistematik.

Dapatan kajian bagi teknik pembelajaran kooperatif dan pemikiran kritis adalah pada tahap sederhana (m=3.17, sp=0.49). Pembelajaran kooperatif mengutamakan kerjasama dan penglibatan aktif pelajar dalam satu kelompok kecil. Teknik pembelajaran kooperatif mendorong kerjasama antara pelajar yang memiliki keupayaan yang berbeza dalam mencapai target dan faedah secara bersama (Johnson & Johnson 2009). Melalui pembelajaran kooperatif, pemikiran kritis yang merangkumi kebolehan dalam membuat kesimpulan dan generalisasi, serta kemahiran untuk menilai dan menimbang dengan teliti logik dan ketepatan keputusan yang diambil, dapat dilatih (Mustafa 2018). Namun demikian, faktor utama untuk meningkatkan efikasi kendiri pelajar terhadap pembelajaran kooperatif adalah minat dan sikap terhadap pembelajaran kooperatif. Sikap yang positif serta minat yang tinggi terhadap pembelajaran kooperatif boleh merangsang kebolehan pelajar dalam menguasai teknik pembelajaran kooperatif dan pemikiran kritis.

4.2 Perbezaan Antara Tahap Pemikiran Komputasional Pelajar Terhadap Jantina

Analisis ujian-t dua sampel bebas digunakan bagi mengenal pasti perbezaan penguasaan kemahiran pemikiran komputasional dalam kalangan pelajar berdasarkan jantina pelajar. Hipotesis yang diuji adalah:

Ho_1: Tidak terdapat perbezaan skor min yang signifikan dari segi tahap pemikiran komputasional berdasarkan jantina.

Berdasarkan Jadual 4, dapatan kajian menunjukkan bahawa terdapat perbezaan yang signifikan bagi tahap pemikiran komputasional (t=-2.742, p=0.006) antara pelajar lelaki dan pelajar perempuan. Hal ini menunjukkan Ho_1 ditolak pada aras signifikan 0.05.

Jadual 4 Perbezaan Tahap Pemikiran Komputasional Pelajar Terhadap Jantina

Konstruk	Jantina	Min	Sisihan Piawai	t	*Sig.*
Penyelesaian Masalah	Lelaki	3.73	0.39	-2.874	0.004
	Perempuan	3.85	0.40		
Pembelajaran kooperatif & Pemikiran Kritis	Lelaki	3.13	0.54	-1.172	0.242
	Perempuan	3.19	0.47		
Kreativiti	Lelaki	3.77	0.50	-1.310	0.191
	Perempuan	3.84	0.48		
Pemikiran Algorithma	Lelaki	3.63	0.52	-2.343	0.020
	Perempuan	3.76	0.49		
Jumlah Keseluruhan	Lelaki	3.64	0.33	-2.742	0.006
	Perempuan	3.74	0.34		

Hasil kajian menunjukkan terdapat perbezaan yang signifikan bagi tahap pemikiran komputasional antara pelajar lelaki dan pelajar perempuan. Hasil kajian ini seiring dengan kajian oleh Weintrop et al. (2015) yang dilakukan bagi mengenal pasti tahap pemikiran komputasional antara pelajar lelaki dan pelajar perempuan. Skor min kajian ini menjelaskan bahawa tahap penguasaan pemikiran komputasional pelajar perempuan lebih tinggi daripada pelajar lelaki. Hal ini kerana menurut Weintrop et al. (2015), pelajar perempuan memiliki sikap yang positif serta tahap keyakinan diri yang lebih tinggi terhadap pemikiran komputasional berbanding pelajar lelaki. Sikap yang positif diringi dengan efikasi kendiri yang tinggi mendorong pelajar untuk berani mencuba perkara baru dalam menyelesaikan masalah.

Hasil min bagi setiap konstruk menunjukkan tahap penguasaan pelajar lelaki masih rendah berbanding pelajar perempuan. Perkara ini adalah berpunca dari sikap pelajar lelaki terhadap penyelesaian masalah menggunakan kemahiran komputasional masih pada tahap sederhana dan kurang berminat untuk mencuba masalah yang lebih kompleks serta kurang usaha untuk mencari solusi bagi menyelesaikannya (Ngah & Zakaria, 2016). Namun, dapatan kajian oleh Atmatzidou dan Demetriadis (2016) menunjukkan hasil yang berlainan. Dapatan kajiannya menyatakan bahawa tahap kemahiran pemikiran komputasional adalah sama antara pelajar lelaki dan pelajar perempuan. Namun demikian, dalam aspek kemahiran, pelajar perempuan memerlukan masa yang lebih lama berbanding pelajar lelaki untuk memahirkan diri dengan kemahiran pemikiran komputasional. Perkara ini menunjukkan variasi dalam perbandingan hasil kajian-kajian lepas.

4.3 Perbezaan Antara Tahap Pemikiran Komputasional Pelajar Terhadap Tahap Pendidikan

Analisis ujian-t dua sampel bebas dilakukan bagi mengenal pasti perbezaan penguasaan kemahiran pemikiran komputasional dalam kalangan pelajar berdasarkan tahap pendidikan pelajar. Hipotesis yang diuji adalah:

Ho_2: Tidak terdapat perbezaan skor min yang signifikan dari segi tahap pemikiran komputasional berdasarkan tahap pendidikan.

Berdasarkan Jadual 5, dapatan kajian menunjukkan bahawa tidak terdapat perbezaan yang signifikan bagi tahap pemikiran komputasional (t=-1.162, p=0.261) antara pelajar menengah rendah dan pelajar menengah atas. Hal ini menunjukkan Ho_2 gagal ditolak pada aras signifikan 0.05.

Jadual 5 Perbezaan Tahap Pemikiran Komputasional Pelajar Terhadap Tahap Pendidikan

Konstruk	Tahap Pendidikan	Min	Sisihan Piawai	t	*Sig.*
Penyelesaian Masalah	Men. Rendah	3.78	0.41	1.245	0.214
	Men. Atas	3.84	0.39		
Pembelajaran kooperatif & Pemikiran Kritis	Men. Rendah	3.16	0.51	0.214	0.809
	Men. Atas	3.17	0.49		
Kreativiti	Men. Rendah	3.81	0.50	0.316	0.752
	Men. Atas	3.82	0.47		
Pemikiran Algorithma	Men. Rendah	3.67	0.54	1.547	0.123
	Men. Atas	3.76	0.46		
Jumlah Keseluruhan	Men. Rendah	3.68	0.35	1.162	0.261
	Men. Atas	3.73	0.33		

Berdasarkan hasil kajian, tahap pemikiran komputasional pelajar terhadap tahap pendidikan tidak menunjukkan perbezaan yang signifikan. Setiap konstruk mempamerkan nilai min pelajar menengah atas adalah lebih tinggi berbanding pelajar menengah rendah. Selari dengan hasil kajian oleh Atmatzidou dan Demetriadis (2016) yang menunjukkan bahawa, tahap kemahiran pemikiran komputasional pelajar tidak berbeza dari aspek tahap pendidikan. Sebaliknya, pemupukan kemahiran pemikiran komputasional memerlukan latihan yang berterusan dalam jangka masa yang tertentu. Perkara ini disokong oleh kajian Korucu (2017), yang menjelaskan bahawa tempoh penggunaan teknologi mampu mempengaruhi kemahiran pemikiran komputasional.

Menurut Korucu (2017), pelajar yang menggunakan teknologi dalam tempoh waktu yang lebih lama memiliki tahap kemahiran komputasional yang lebih tinggi. Oleh itu, pendedahan terhadap penggunaan teknologi secara terkawal merupakan salah satu bentuk latihan yang bersesuaian dalam memupuk kemahiran pemikiran komputasional tanpa mengira tahap pendidikan dan umur. Sehubungan dengan itu, menjadi tanggungjawab guru untuk mendedah, menggalakkan dan memanfaatkan sepenuhnya teknologi dalam aktiviti pengajaran dan pemudahcaraan bagi membiasakan pelajar dengan penggunaan teknologi. Dengan ini, penekanan terhadap kemahiran komputasional dalam PdPc dapat dilakukan dan sekali gus dapat menerap dan mangasah kemahiran pemikiran komputasional pelajar.

5.0 KESIMPULAN

Perkembangan pesat dunia digital telah memberikan impak yang besar terhadap sistem pendidikan dalam menghasilkan aset negara yang mampu berdaya saing dan bertaraf global. Lantaran itu, kemahiran abad ke-21, khususnya kemahiran pemikiran komputasional menjadi satu keperluan pada era kini. Justeru itu, dalam memastikan kemahiran pemikiran komputasional dapat ditingkatkan, proses PdPc perlu dirangka secara lebih terarah dan terperinci agar pembelajaran menjadi lebih bermakna. Bagi memastikan elemen pemikiran komputasional diterapkan secara konsisten, aktiviti pembelajaran berdasarkan penyelesaian masalah dalam PdPc amat digalakkan serta penilaian dan pentaksiran perlu dilakukan secara berkala. Pentaksiran yang baik dapat menjamin pemupukan kemahiran komputasional dalam PdPc dengan jayanya.

Dapatan kajian ini dapat memberi bayangan bahawa pelajar mempunyai tahap kemahiran pemikiran komputasional yang tinggi. Justeru itu, pihak Kementerian Pelajaran Malaysia (KPM) boleh memanfaatkan informasi ini dalam usaha memperkenalkan inovasi bagi pendidikan di Malaysia. Kajian ini juga diharapkan dapat dijadikan panduan kepada para pendidik, khususnya guru STEM dalam menjana idea bagi menerapkan elemen pemikiran komputasioanl dalam PdPc. Hal ini demikian kerana penglibatan murid secara dinamik dalam menyelesaikan masalah menerusi aktiviti pembelajaran bukan sahaja dapat menolong murid menguasai konsep dan teori dengan cepat dan mudah, malah dapat mendorong sekali gus meningkatkan minat pelajar dalam pendidikan STEM.

5.1 Limitasi dan Cadangan Penambahbaikkan

Hasil penyelidikan ini hanya merangkumi saiz sampel yang kecil, justeru itu dicadangkan tinjauan lanjutan dilakukan dengan menggunakan bilangan responden yang lebih ramai serta berskala besar untuk memperoleh hasil yang lebih jitu dan boleh diyakini. Selain itu, pelbagai aktiviti boleh dilakukan dalam mengintegrasi kemahiran pemikiran komputasional dalam PdPc. Antaranya melalui aktiviti *unplugged*, Scratch, mereka cipta permainan, pembelajaran berasaskan permainan dan pembelajaran berasaskan masalah terutamanya. Oleh yang demikian, penyelidikan lanjutan boleh dilakukan bagi menentukan sejauh mana aktiviti-aktiviti PdPc yang melibatkan pembelajaran aktif ini dapat menyokong proses pengintegrasian kemahiran pemikiran komputasional dalam pendidikan STEM. Kajian secara kualitatif dengan menjalankan temu bual juga boleh dilaksanakan bagi mendapatkan maklum balas guru dan pelajar mengenai pemahaman dan pengetahuan mereka terhadap pemikiran komputasional.

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032 : Learning Science and Mathematics Using English as The Medium of Instruction

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ABSTRACT

The growth of English is inevitable resulting countries around the globe to implement English as the medium of instruction (EMI) in teaching and learning content subjects such as science and mathematics. In Malaysia, English was once the medium of instruction for science and mathematics via the 'English for Teaching Mathematics and Science' (ETEMS) policy. After the abolishment of ETEMS, the Dual-Language Programme (DLP) is implemented. To accentuate, learning science and mathematics in English requires a good language proficiency besides positive attitudes for students' engagement in the learning process. Hence, that serves the foundation underpinning this study. Given survey research design, 345 secondary school students responded to a set of survey questionnaire. They represented two groups, DLP and non-DLP students. Data were analysed using descriptive and inferential statistics. The findings revealed the respondents have a positive level of language capabilities and attitudes. The inferential test also yielded significant differences in both domains studied. In encapsulation, learning science and mathematics in English is promising as students possess the language capabilities and positive attitudes. However, continuous support and provisions are in dire need for the benefits of their learning process.

Keywords: English as medium of instruction, perceived language skills, attitudes, Dual-Language Programme, students

1.0 INTRODUCTION

The growth of English as the global language is inevitable. English is an indispensable tool to learn new knowledge and communicate, and it functions as a fundamental prerequisite for a country to be a developed one (Mohamad & Zakaria, 2018; Aziz & Nair, 2015). English has now become the second or preferred foreign language for studying in several education systems around the globe, including Malaysia's. English serves as a platform to connect people of different regions and nationalities. Thus, the need to be proficient and competent in English is deemed essential and fundamental, especially as globalisation has heightened the use of English in business, commerce, education, medicine, scientific research and other domains (Hugo, 2018).

Attention should be given to language development programmes to confront potential language-related challenges in classrooms that use English as a medium of instruction (EMI) and ensure the quality of instruction (Margic & Vodopija-Krstanović, 2018). Hence, numerous language-related programmes have been introduced, including teaching content subjects in English. Several countries have adopted the practice of teaching science and mathematics in English, such as South Africa (Mokiwa & Msila, 2013; Mthiyane, 2016). Similarly, studies as revealed in Fernandez-Sanjurjo, Fernandez-Costales & Blanco (2017); Karabay (2017); Mifsud & Farrugia (2016) portrayed the use of English as the instructional medium in science and mathematics subjects. In these studies, the competency of the teachers besides the use of bilingual strategy are commonly discussed apart from the students' performance in the respective subjects. This reflects that the integration between language (English) and content subjects (science and mathematics is riddled with some hindrances.

This issue is also debatable and prominent in the Asian context. Former European or American colonies may have already used English in their education system. According to Education First (2016), English proficiency tends to be high in countries with historical ties to the language. Several Asian countries have imposed the use of EMI in science and mathematics as reflected in Racca & Lasaten

(2016); Lee, Watt & Frawley (2015); Lin & Wu (2015); Nguyen & Thi Kieu (2015); Din & Wing (2007). They have shown variety of views pertaining to the issue of English as the medium of instruction in teaching and learning the subjects. Such a situation may also be prevalent in Malaysia.

Presently in the context of Malaysia, science and mathematics are taught using the English language via an educational programme named Dual-Language Programme (DLP). This is executed in only certain schools which have fulfilled the criterion outlined by the Ministry of Education. Unlike the compulsory PPSMI, the DLP is implemented on a voluntary basis. To note, rural school students negatively perceived the learning of mathematics in English (Teo & Rasul, 2017). On another point of interest, students were found to be moderately confident and ready to learn using English despite the limitation in language mastery (Suliman, Nor & Yunus, 2017). This is also revealed by Unting and Yamat (2017) affirming that one of the major factors impeding the success of DLP was due to students' limited language proficiency. Unlike in the DLP, certain schools have imposed the teaching of science and mathematics in which students and teachers fully utilise English in the lessons. With limitation and scarcity on the studies pertaining to this issue, it has motivated this study, aiming to unravel the following questions:

1. What are students' perceived language skills and attitudes in learning science and mathematics using English?
2. What is the relationship between the types of programme and students' perceived language skills and attitudes in learning science and mathematics using English?

2.0 LITERATURE REVIEW

In teaching any content subject, English mastery needs to be addressed before the subject understanding (Domingo, 2016). This mastery is important in the process of integrating science and mathematics with EMI. Students must possess sufficient language mastery to apprehend the lessons taught. With language proficiency, it assists students better in the lesson. It also lessens the challenges confronted by the students, which in return helps to assist their peers experiencing difficulties in the lesson. Racca and Lasaten (2016) believed that when students are more proficient in English, there is a higher chance for them to perform better in the content subjects. Accordingly, Mifsud and Farrugia (2016) contended that failure to master English and ineptitude to comprehend and translate the mathematical language has led to the weak academic performance in mathematics. Hence, English mastery serves a great role in the learning of content subjects using the target language.

Students are able to explore the knowledge globally when they learn science and mathematics in English. It also increases students' opportunities in the workforce (Suliman, Nor & Yunus, 2017). In addition, it exposes students to the English language, which aids in enriching their language repertoire (Unting & Yamat, 2017). To highlight, learning science and mathematics using the English language is in tandem to the Malaysian Education Blueprint (2013–2025) aspiration, to develop bilingual students in Malay and English (Ministry of Education, 2013). Indubitably, many students found it comfortable and better to learn science and mathematics in English (Besar & Jali, 2010; Probyn, 2015). This blueprint provides an avenue for students to learn the subjects through their preferred medium of instruction. The main aim is to enhance students' comprehension in their lessons irrespective of the language used.

Attitude is an important component in the teaching and learning process. It evolves through time in a specific sociocultural context (Papaja, 2012). In the case of teaching and learning science and mathematics in English, a positive attitude is crucial in assisting the learning process. Students generally possess negative attitude towards science and mathematics as opposed to other academic areas (Rice et al., 2013). This attitude may have brought different views when these two subjects are taught in English. Students may have either positive or negative attitude in dealing with this issue, so motivation and assistance are necessary to boost their confidence level. In addition to motivation and language aptitude, attitude is an essential element affecting the success in learning content subjects in the target language (Papaja, 2012).

Several studies have been conducted in relation to this issue. Din and Wing (2007) conducted a study involving students from 100 schools in Hong Kong. They claimed that students had struggled with learning science in English because they found understanding their teachers' instruction in the second language difficult, which suggests that using EMI may exert negative effects on learning science. In addition, students from the Cambodian bilingual schools displayed better performance in the mathematics subject in comparison to those in the monolingual schools as argued by Lee, Watt and Frawley (2015). Nguyen and Thi Kieu (2015), with reference to 100 Vietnamese students ascertained that more than 60% students were in favour to learn subjects in English although having limited listening and writing skills.

Other studies include Racca and Lasaten (2016) in the Philippines and Otwinowska and Forys (2015) in Poland.

In the Malaysian context, Sulaiman and Konting (2014) compared the readiness of first year students in the urban and rural areas to learn science in English. Students in the urban area were better than their counterparts in three major domains: communication, classification and observation. In another study, Norsyazwani et al. (2013) revealed that 60% of 1311 students wanted to continue learning mathematics in English and that 50% preferred learning science in English. With great peer support from parents, teachers and friends, students learning these content subjects may display positive attitudes and yield high perceptions in their science and mathematics abilities (Rice et al., 2013). All of these studies revealed different findings, calling for a study involving students from different types of programmes dealing with learning science and mathematics in English.

3.0 METHODOLOGY

Quantitative in nature, this study employed survey research design. A questionnaire was used to gather the data. Adapted from Ishak and Mohamed (2010), the instrument consisted of three sections, namely, respondents' demographic profile, perceived language skills and attitudes. The instrument also used a five-point Likert-scale. Perceived language skill and attitude constructs had seven items. The instrument was validated by three experts from different fields to verify the suitability of the items. Changes were made on the basis of experts' recommendation. Thereafter, the instrument was administered for a pilot test on 30 students in one high school. A reliability test was also administered. With 0.878 Cronbach alpha value, the instrument was deemed reliable and made the total number of items 14.

The respondents of this study were 345 secondary school students in the East Malaysia. These students have been learning science and mathematics using the English language for a duration of more than a year. Purposive sampling was used as the subjects are well-versed with the issue scrutinised in this study. The respondents were from two types of programmes: DLP and non-DLP. Under the DLP, students were allowed to choose their medium of instruction in learning science and mathematics. In this case, these respondents opted to learn in English as opposed to Bahasa Melayu. Non-DLP respondents were learning science and mathematics on a compulsory basis. The school imposed both subjects to be taught in English fully. Table 1 depicts further details on the respondents.

Table 1 Respondents' Profile

Age	14	49.9%
	15	50.1%
Gender	Male	38.8%
	Female	61.2%
Type of Programme	DLP	41.7%
	Non-DLP	58.3%
Positivity in Learning using English	Yes	63.5%
	Unsure	34.5%
	No	2.0%

The findings were analysed using a statistical software. Given the survey research design, the researcher used descriptive statistics involving frequency, percentage and mean. In addition, t-test was also conducted to determine the difference in the perceptions based on the type of programme.

4.0 FINDINGS AND DISCUSSION

4.1 Students' Perceived Language Skills

For perceived language skills, 'I can read in English' recorded the highest mean with 4.12, indicating the confidence of the respondents had on their reading skill. Following, 'I can master the basics of English', 'I can write in English' and 'I can understand the S&M information in English' had the mean score of 3.73, 3.78 and 3.73, respectively. 'I can understand the S&M textbook, notes or references in English' and 'I can understand the S&M exam instructions in English' obtained 3.93 and 3.96 mean scores, respectively. Only 61.5% agreed that they mastered basic English, whereas 67.6% could write in English.

66.1% could understand information in English, whereas 72.4% could understand science and mathematics textbooks, notes and references in English. In detail, 74.8% could understand the S&M exam instructions. Reading skill appeared as the skill that the respondents were most comfortable with, as indicated by the 87.2% agreement. This number opposed the lowest mean score, 'I can communicate in English', which scored 3.48. Overall, the students' perceived language skills were high with a total of 3.82 mean score.

The respondents were competent and positive in learning in English but lacked confidence. Although almost 64% claimed to have a positive attitude in learning science and mathematics in English, some of them still doubted their own abilities. Even though they have been learning English formally for at least six years in the primary schools, their uncertainty of the language aspect is still inevitable. Reading appeared as the most appealing skill amongst them although language skills focus on four domains. This preference was also highlighting on the dominance of reading skill as reflected via the understanding of textbooks and exam instructions. This skill was then followed by listening and writing skills, indicating lesser comfortability in productive skills than receptive skills. This supports Nguyen and Thi Kieu (2015) affirming that students have limitation in the listening and writing skills. In fact, speaking was the least competent language skill among the respondents in this study as revealed by 48% believing to have the competency. This result possibly indicates that teachers do not place as much importance towards assessing listening and speaking skills in schools as disclosed by the Ministry of Education (2015).

In addition, the findings reinforced past studies claiming that improving speaking skill was perceived the most challenging (Suliman, 2014; Suliman, Nor & Yunus, 2017). The findings showed that the respondents were having a good mastery in language with the exception in speaking skill. Productive skills (e.g. speaking) should be enhanced further as this skill is highly demanded in students particularly when they go to seek job opportunities. Among the ways for students to develop their speaking skill include presenting ideas in group discussions or having a common talk of their daily life. In addition, getting engaged in a conversation with teachers and peers would also assist in enriching speaking skill. To accentuate, language competency and proficiency are indeed essential when learning subjects in target language. When students are more competent in their language skills, they perform better in science and mathematics (Racca & Lasaten, 2016).

4.2 Students' Attitudes

The average mean score revealed the high level of attitudes, with a 3.86 mean score. The highest scoring item was 'The knowledge of science/mathematics in English is necessary for my future', with a 4.53 mean score. 'I hope the teacher can teach science/mathematics bilingually', 'I try to answer the S&M oral questions given by the teacher in English' and 'I can follow the S&M teaching and learning process in English' scored 4.43, 3.91 and 3.89, respectively. Only three items recorded a moderate level, namely 'I like to read in English', 'I will answer S&M exam questions in English when given the choice' and 'I like to communicate in English with my teachers and friends', with mean scores ranging from 3.30 to 3.60. Approximately 91.3% of the respondents believed English is essential for future purpose and 86% of the respondents wanted the subjects to be taught bilingually. Surprisingly, only 40% of the respondents agreed to converse in English with the friends and teachers.

The respondents possessed a positive attitude towards learning the two subjects in English. this positivity may be derived from the learning motivation that they have. To better illustrate, a number of respondents demonstrated the essential needs of English for their future. Considering that may have indirectly influenced their positive attitudes in the learning process. This reiterates Hugo (2018) arguing that the perceptions held towards any language domain would signify their attitudes towards the language speakers and users. Ishak and Mohamed (2010) even raised the concern that English mastery and future employability are likely to be affected by the use of English in learning science and mathematics. Similarly, Malaysia needs a future workforce that is capable of using English for communicating outside and within the country (Ministry of Education, 2015).

To reinforce the findings, students expressed their hope for the subjects to be taught bilingually. This preference was also found from item on answering exam questions. This reiterated past studies such as Domingo (2016); Mifsud and Farrugia (2016); Mthiyane (2016); Mokiwa and Msila (2013). This implies that they were not profound in using English as the only means of instruction. Therefore, they prefer for the integration of the national language in the learning process. As affirmed by Hugo (2018), language attitudes were tantamount to language-based social evaluations as well as explicit preferences of a language and judgments towards its speakers and users. Although bilingual strategy is allowed, it

may become a concern if the use of national language affects the teaching and learning process. One main reason for students to opt for bilingual strategy may be due to limited language competency.

Replicating the earlier findings on students' less competency in speaking skill, the similar result was garnered in this construct. That is on the preference to converse in English. It stresses how speaking skill needs to be solidified and enhanced. As ascertained earlier, speaking is indeed vital for the students in future workforce. This finding also reinforces Cambridge Baseline, which reveals that the challenge posed by speaking skill as the weakest language skill not only affects students but teachers as well (Ministry of Education, 2015).

4.3 Difference Based on Types of Programme

As the respondents were under two different types of programmes, an independent sample t-test was conducted to examine the difference based on the two constructs. Table 2 provides the results.

Table 2. T-test Result on Difference between DLP and Non-DLP Students

	Types of Programme							
	DLP			Non-DLP				
	M	SD	n	M	SD	n	t	Sig.
Perceived Language Skills	3.601	0.569	144	3.977	0.555	201	6.125	0.000
Attitudes	3.700	0.555	144	3.974	0.483	201	4.883	0.000

A statistically significant mean difference in the two constructs between DLP students and non-DLP students was observed. Non-DLP students were more positive in all constructs than their counterparts. Supposedly, students who voluntarily participated in the DLP should have the upper hand as they enrol in the programme with certain pre-requisites. Non-DLP students may display fewer positive attitudes because they are required to learn in English. However, the opposite case was observed, thus calling for further investigation to shed light on this unique scenario.

5.0 CONCLUSION

The findings show that language mastery continues to present a major challenge in learning science and mathematics in English despite students established a high level of perceived language skills and positive attitudes in learning. Moreover, non-DLP students learning the subjects as a compulsory requirement in their schools demonstrated a more positive perception than the students enrolled in the DLP. Programmes for language development should be widely available because language should not be a stumbling block (Margic & Vodopija-Krstanović, 2018). This finding is promising and encouraging in improving the standard of English amongst Malaysian students through science and mathematics. Therefore, students' language proficiency and competency must be enhanced further.

To conclude, learning science and mathematics in English helps students develop their linguistic repertoire and master content knowledge. Students need support and assistance when they have problems in learning the subjects. All these factors can be rendered by the teachers, parents and even their peers, which may boost the students' confidence level and aid their learning process at the same time. The students' potential may also be maximised. To recapitulate, using English in learning science and mathematics fosters more opportunities for students to explore their capabilities rather than poses challenges in the learning process.

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038 : Mathematical Creative Approach for Enhancing Mathematics Achievement among Secondary School Students

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ABSTRACT

Inspiring creativity through curriculum is the outcome of continuous effort in worldwide instructive change development of the 21st Century. The main purpose of this study was to examine the effects of Mathematical Creative Approach (MCA) on Mathematics achievement among secondary school students. The objective of this research study was to compare students' achievement in Mathematics between a particular intervention group and a comparison group. A quasi-experimental research study was conducted using a total of 64 Form Four students from two urban schools in Kuala Lumpur; whereby there were 32 students in the intervention group and 32 students in the comparison group, who had been selected using purposive sampling. The research instrument was Mathematics Achievement Test (MAT). The quantitative data were analysed using both descriptive and inferential statistics. The main findings are as follows: i) there was a significant difference in the students' achievement in Mathematics between the intervention and comparison groups. The research findings indicate that the use of Mathematical Creative Approach has tremendous educational benefits, which are important for a nation that seeks to cultivate creativity and innovation in education, particularly in improving achievements in the Mathematics subject among students in the primary schools up to tertiary levels.

Keywords: Mathematical creativity, Mathematics achievement, Mathematical creative approach

1.0 INTRODUCTION

Malaysia Education Blueprint 2013-2025 aims to attain a noteworthy change in creating a balanced education for students as a fundamental aspiration (Ministry of Education, 2018). It is important to visualise a highly successful education system framework to enable the nation to achieve better in the international level. Aspiration for every student is carved in accordance with the National Education Philosophy which integrates knowledge, thinking skills, leadership skills, ethics, bilingual proficiency, national identity and spiritually (Ministry of Education, 2018). It is conveyed that students' thinking skills is the second aspiration in the Malaysia Education Blueprint, in which the Ministry of Education (2018) has defined that every student should adapt a variation of cognitive skills such as critical thinking, apart from reasoning and learning ability and creative and innovative problem-solving. Therefore, the development of creativity is one of well-discussed topics in the world of education including Malaysia and this needs to be encouraged among the students.

Students' learning approach used in the teaching process in the class and their negative attitude towards Mathematics are among the factors influencing their low achievements in Mathematics (Mullis, Martin, Gonzalez, & Chrostowski, 2004; Saha, 2007; Mullis, Foy, Martin, & Mullis, 2008; Martin, Foy, & Arora, 2012). Research by Marzita Puteh (2002) has also revealed that the learning approach for Mathematics is rather conservative, with almost no interaction with real-life situation and is dull, leading to poor grades attained in Mathematics, especially among weak students. The utilisation of different learning approaches also affects the outcomes of students' performances in Mathematics as it cultivates their curiosity, enthusiasm and excitement in the class (Ministry of Education of Malaysia, 2018; Curriculum Development Centre, 2018). The conventional learning approach, which emphasises on Mathematics work drilling and chalk-and-talk approach that produce passive learning atmosphere, teacher-centred way of attaining knowledge further contributed to students' poor achievements in Mathematics (Johnson & Johnson, 2000; Ministry of Education Malaysia, 2018). According to Tan and Leong (2003) and Chung and Cheng (2005), this issue should be solved by encouraging teachers to use more systematic, creative and innovative learning strategies to gain their students' interest in learning Mathematics.

One strategy that can be done to enhance students' achievement in Mathematics by utilising learning approach that emphasises on mathematical creativity on three distinctions, which are fluency, flexibility elaboration and originality that focus on critical thinking and creativity in Mathematics problem solving. Students should be encouraged to think independently and to use the mathematical problem in real-world situations so as to stimulate their understanding and enhance their interest in the syllabus in a creative way. This is very true in Mathematics education where teachers are encouraged to use mathematical creativity that enhances their students' interest and positive attitude in solving mathematical problems (Curriculum Development Centre, 2018). Thus, this study is an attempt to develop and study the effects of mathematical creative approach on students' achievements in Mathematics and mathematical creativity among secondary school students.

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1.1 Mathematical Creativity

Mathematical creativity is measured as a crucial force for the future and it is seen as one of the main priorities in research area (Dorn, Kanikeberg, & Burke, 2012). All students can become creative if they are placed in a conducive environment (Sternberg, 2006). Enhancement in mathematical creativity for all students requires motivation, encouragement, equity, and strong support. Thus, Mathematics educators should embrace the interpretation that mathematical creativity is something that can be developed if their students are assisted with the right kind of learning approaches. Paragraphs should be indented as specified earlier.

Although no specific explanation incorporates the principle of mathematical creativity (Haylock, 1987; Torrence, 1995; Runco, 2010), it is generally linked to relevant criteria and defined in terms of four major components, namely, fluency, flexibility, elaboration and originality (Taylor, 1975; Lev-Zamira & Leikina, 2011; Leikin & Pitta-Pantazi, 2013). Creativity is also linked with shifting ideas in generating solutions (Leikin, 2009). Description for the attributes of creativity is given in Table 1.

Fluency is the frequency of relevant ideas and it shows the ability to produce several different responses (Torrance, 1967). It is simply the number of relevant answers to a problem. It also relates to the continuousness of ideas and knowledge procedure (Leikin, 2009). Flexibility is generally based on the number of categories represented in a respondent's ideas or responses (Torrance, 1967). Originality is defined as the uniqueness of student's solutions and is novel compared to other responses (Torrance, 1967). It is considered by a unique approach of thinking to produce creative products (Leikin, 2009). Meanwhile, elaboration is the amount of details and explanation given by a respondent to a given problem (Torrance, 1967).

Table 2 Attributes of Creativity used to Assess Creativity Potential

Creativity Criterion	Ability	How it is Scored in this Research Context
Fluency	Produce a large number of ideas in images, words, or activities	Total number of relevant responses given by students
Flexibility	Produce a variety kinds of ideas, draw in relevant ideas from a variety of fields, alteration between domains easily	Number of different categories of relevant responses in students' answers
Originality	Produce ideas that are expected but that are uncommon or unique	The uniqueness of answers given by students
Elaboration	Cultivate, embellish or elaborate ideas	Amount of details in students' responses

(Source: Taylor, 1975; Lev-Zamira & Leikina, 2011; Leikin & Pitta-Pantazi, 2013)

2.0 CONCEPTUAL FRAMEWORK

The framework of the study was developed based on the literature reviews and the existing gaps in the literature based on the research objectives. In this research, the independent variables are the learning approaches. The distinctions of students' creativity, fluency, flexibility, originality and elaboration as described by Torrance (1967) were included, and the students' achievement in Mathematics was used as the dependent variable (see Figure 1).

Figure 1 The Conceptual Framework

3.0 METHODOLOGY

3.1 Research Design

The study was designed in the line of a Quasi-Experimental study quantitative research design, with pre-test and post-test were used. Experimental design is the most structured experimental investigation as the procedures of the design can be controlled by the researcher (Noraini Idris, 2010). Meanwhile, a quasi-experimental design is an empirical study used to estimate the causal impacts of an intervention but there is no random assignment of participants to the treatment or control groups (Chua, 2006; Graziano & Rauli, 2010; Othman Talib, 2013). The quasi-experimental design was also done in a control environment (Campbell & Stanley, 2005).

The samples were selected using the purposive sampling technique. The main aim of using the purposive sampling is to emphasise on particular characteristics of a population that are of interest, and which will provide best answers to the research questions. The independent variable in this experimental study is the two types of approaches; the mathematical creative approach and the conventional learning approach. The quasi-experimental design with non-equivalent pre-test and post-test controlled group (Creswell, 2008; Graziano & Raulin, 2010) in this study is shown in Table 2.

Table 2 The quasi-experimental with non-equivalent pre-test and post-test controlled group design (Cohan, Manion & Morrison, 2000)

Application	Pre-Application	During Application	Post-Process
Intervention Group	O_1	X_1	O_2
Comparison Group	O_1	X_2	O_2

Note:

X_1 : Learning using the mathematical creative approach

X_2 : Learning using the conventional or traditional approach

O_1 : Pre-test assessment on students' achievement in Mathematics and mathematical creativity

O_2 : Post-test assessment on student's mathematics achievement and mathematical creativity

3.2 Participants

The target population was form four students aged 16 years who were studying Mathematics as one of the subjects learned at their secondary schools in Kuala Lumpur, Malaysia. The form four students in the intervention school were taught by using the mathematical creative learning approach, while the form four students in the control group were taught the same topics by using the conventional learning approach. The demographic data of the sample groups are shown in Table 3.

Table 2 Distribution of the Samples of Form Four students

Group	Gender		Total
	Male	Female	
Intervention Group	14	18	32
Control Group	18	14	32
Total	32	32	64

According to Fraenkel, Wallen, and Hyun (2011), threats to internal validity include subject characteristics, mortality, instrumentation, testing, history, maturation, and implementation. This research examined the possible contamination of the findings in this study by these threats and made attempts to control them. In terms of characteristics, every effort has been done to ensure that students in both the groups are as homogeneous as possible in relations of age, gender and learning exposure to the Mathematics subject.

3.3 Mathematics Achievement Test (MAT)

Over the years, numerous instruments have been developed to measure mathematical achievements (e.g., Balka, 1974; Sheffield, 2000; Kim & Cho, 2003). For the pre- and post-testing of dependent variable, Mathematics Achievement Test was used with Mathematical Creative Approach (MCA) for the intervention group and Conventional Approach (CA) for the comparison group. Mathematics Achievement Test (MAT), which served as the pre-test and post-test to the students on the topics covered, was used to collect all the relevant data for the study. In particular, the MAT score was used as a measurement of the students' achievement in Mathematics.

The Mathematics test outline emphases on two measurements of mathematical content and cognitive demand. The Mathematics achievement pre-test structure focuses on four mathematics content areas in Form three syllabus; geometry, number properties and operations, algebra, probability and data analysis, while the Form Four chapters of Quadratic Expressions and Quadratic Equations, Sets, Mathematical Reasoning, and the Straight Lines were included and tested in the Mathematics achievement post-test. The students were required to complete answering the questions within one hour. The MAT was reviewed and assessed for content validity by two experienced secondary school Mathematics teachers and a test expert in the area of test construction in Mathematics. The reliability of Mathematical Creativity Test was determined by using a pilot test administered to the same group of students who were not involved as the samples in the research. The reliability of Mathematics Achievement Test was determined and it was reported as .809 (Cronbach's alpha), which was considered as a reliable test.

3.4 Conduct of the Study

The students of the intervention group were taught through lessons using Mathematical Creative Approach (MCA). The duration of one period was around 40 minutes. This continued for 6 weeks. This study was designed to be conducted in a total of fifteen sessions of using the mathematical creativity approach that had been specifically tailored for Form Four students. Similarly, this study covered as wide a range as possible of the Form Four Mathematics syllabus. The problem questions used in class were designed to observe students' fluency and flexibility by producing as many answers as they could and to introduce various types of responses and methods. The students were also encouraged to determine their uniqueness and elaboration parts by encouraging them to justify responses using different methods.

The intervention group also adapted a two-way discussion atmosphere. The facilitator made an effort to assist the class, but not to give fixed explanations to the Mathematics problems. Since it was designed to provide a diversity of creative learning approaches, the lesson matters were prepared in the same order as the curriculum for Form Four Mathematics syllabus and also other relevant materials closely associated to it. In the duration of six weeks, it covers Form Four chapters of Quadratic Expressions and Quadratic Equations, Sets, Mathematical Reasoning and the Straight Lines. The students' development of mathematical creativity in the four dimensions of fluency, flexibility, originality and elaboration was encouraged and guided in Mathematics lessons (Torrance, 1967).

When exposing to stimulate flexibility component for example, students were enquired questions like 'How many different techniques would you solve this equation?'. Fluency required the student to answer many different ways of expanding mathematical expression solutions. Explaining and giving reasons to Mathematical problems and answering questions like 'what else….' would extend and improve methods in solving Mathematics questions were used to enhance elaboration criteria. While originality required answering questions like what is it or why to provide novel, unique and unobvious responses from students. Students were also encouraged to think independently and use the mathematics problem in real world situations to stimulate their imagination and to improve their thinking skills in higher order level (Haylock, 1997). Support for help to guide the students through inquiries, investigations and collection of information about the mathematical knowledge and strategies were also given to the

students. Students were also asked to make efforts in sharing and make comparison of mathematical solutions and justify the ways to reflect their mathematical ideas.

For the Conventional Learning Approach, the students in the comparison group learned mathematical concepts using recitation and memorisation of formulas. The students were also divided into small groups for discussion, with the help of chalk-and-talk approach and recognition of learned materials according the syllabus. However, the students in the conventional approach group were not given any information about the mathematical creative approach. The pre-test was given to both the intervention and comparison groups in the first week of the study in March. At the end of the pre-testing, research data for this study were collected. After 20 sessions of classes using different approaches applied to both the groups, the post-test was administered to the group.

4.0 RESULTS

The results of the t-test indicated no significant difference between the students in the comparison group and those in the intervention group at the beginning of the research study in term of their pre-test; $(t = .133,\ df = 62, p > .05)$.This is an indication that both groups were comparable, homogeneous and had similar behaviour. These characteristics made them suitable for the study.

Inspection of the statistics showed a significant difference in the pre- and post-test for the students in the comparison group; $(t(31) = 1.974,\ p < .05)$ after the intervention process. Therefore, there is a significant difference in the students' achievement in Mathematics for the comparison group at the beginning and the end of this study after being taught using the conventional teaching approach. A paired sample t-test was also conducted to compare the means between the pre-test and post-test for the intervention group. There is a significant difference in the students' pre- and post-test scores for the intervention group $(t(31) = -2.09,\ p < .05)$ and therefore, it can also be noted that the Mathematical Creative Learning Approach has enhanced the intervention group students' achievement in Mathematics after being given the treatment in this study.

An independent samples t-test was carried out to investigate whether the means for both groups were significantly different after the treatment. The variances of both groups are equal (0.05 < 0.89) for the post-tests. The results indicated a significant difference in the mean overall post-test performance for Mathematics Achievement Test between the intervention group and comparison group $(t = 2.98,\ df = 62, p < .05)$. In other words, there is a significant difference in the Mathematics achievement at the end of the research study between the students in the comparison group who are taught using Mathematical Creative Learning Approach and those in the intervention group who are exposed to the conventional learning approach. This finding indicates that the Mathematical Creative Approach group performed significantly better in Mathematics Achievement Test than the conventional approach group.

4.0 DISCUSSION

The results revealed a statistically significant difference in the mathematics achievement between the students exposed to the Mathematical Creativity Approach (MCA) and those taught using the Conventional Approach (CA) after the intervention. This indicates that the MCA was more effective in enhancing students' achievement in the mathematics topics of the study compared to the conventional approach. Therefore, lessons that integrate the mathematical creative approach could promote students' achievement in Mathematics. The findings of this study are consistent with those in the literature, indicating that the mathematical creative approach is important in fostering better mathematics achievement (Mann, 2006; Balka, 1974; Getzels & Jackson, 1962).

4.0 CONCLUSION

The results of this study show that the Mathematical Creative Approach (MCA) is more effective in nurturing students' achievement related to the Conventional Approach (CA). This finding indicates that the use of MCA develops students' capability to solve mathematical problems. It is therefore recommended that the mathematical creative approach be incorporated in Mathematics classrooms. Nonetheless, a further study incorporating a more systematic way and a longer period of time is recommended to determine how the mathematical creative approach affects students' achievement in Mathematics.

In addition, the creative approach should be highly encouraged in school for Mathematics education and it should be used for other subjects at school level since it can stimulate students'

achievement in Mathematics, divergent thinking, motivation, creative ideas and enhance their interest in Mathematics. Future research concentrating on providing rich mathematics achievement problems may help improve the mathematics achievement of all students. Thus, there is a need to develop a more refined instrument and a systematic consideration for the components of mathematics achievement test in a mathematical context.

In fact, the Mathematical creative approach should not be neglected in the development of Mathematics curriculum in schools. The most important task of Mathematics educators is to identify and develop mathematical creativity approaches in their classrooms. Thus, one of the important responsibilities of Mathematics educators is to ensure the growth of mathematical creativity among the students. Students should also be provided the opportunities to engage in solving mathematics problems which could lead them to practice their unique creative thinking in learning Mathematics. This will indirectly encourage students to challenge new problems and develop creative thinking and mathematical creativity. Educators can relate theoretical models to practical situations, support modules related to educational studies which are exposed to various creative techniques and incorporate the mathematical creativity enhancing learning strategy in the teaching and learning process.

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062 : Penggunaan Kit Instrumentasi Virtual Berasaskan Komputer dalam Pembelajaran dan Pengajaran untuk Meningkatkan Persepsi Pelajar Terhadap Sains dan Teknologi Maklumat dan Komunikasi

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ABSTRAK

Kajian yang dijalankan adalah untuk membangunkan sebuah bahan bantu mengajar yang dinamakan Kit Instrumentasi Virtual Berasaskan Komputer bagi membantu proses pembelajaran dan pengajaran pengukuran dalam bidang sains. Berkaitan pembangunan ini, persepsi pelajar terhadap pembelajaran sains dan penggunaan Teknologi Maklumat dan Komunikasi dalam pembelajaran dan pengajaran ditentukan sebelum penggunaan kit tersebut. Kajian ini juga bertujuan untuk meneroka sama ada aktiviti yang dijalankan menggunakan kit ini berjaya menarik minat pelajar terhadap sains serta dapat membantu pelajar memahami konsep pengukuran dalam sains. Selain itu, kit yang dibangunkan ini juga berpeluang untuk meneliti persepsi pelajar terhadap penggunaan kit ini. Kajian melibatkan 46 subjek Tingkatan 2 daripada sebuah sekolah menengah di Kuala Lumpur. Terdapat dua soal selidik yang dibangunkan dalam kajian ini, iaitu *Soal Selidik 1 dan Soal Selidik 2, yang ditadbir sebelum dan selepas penggunaan Kit tersebut. Analisis data Soal Selidik 1 menunjukkan majoriti responden meminati subjek sains (min purata 4.0) dan majoriti responden juga bersetuju bahawa penggunaan TMK akan menarik minat mereka dalam mempelajari subjek sains (min purata 4.1). Analisis data Soal Selidik 2 pula menunjukkan tiga dapatan utama kajian Pertama, pelajar berpendapat penggunaan Kit yang dibangunkan ini menambah minat mereka untuk mempelajari sains (min purata 4.0). Kedua, lebih daripada separuh pelajar bersetuju bahawa mereka memahami konsep pengukuran daripada aktiviti yang dijalankan dengan Kit ini walaupun ia adalah sesuatu yang baru untuk mereka (min purata 3.9). Ketiga, majoriti pelajar mempersetujui bahawa aktiviti dengan Kit yang dibangunkan ini sesuai dijalankan dalam pembelajaran dan pengajaran (min purata 3.8). Implikasi dapatan kajian dan cadangan kajian lanjutan juga dibincangkan.*

Kata Kunci: STEM, IR 4.0, Teknologi Maklumat dan Komunikasi, Sains

1.0 PENGENALAN

Menurut Menteri Pelajaran Malaysia, Dr Maszlee Malik dalam ucap utamanya di Sidang Kemuncak Kepimpinan Asia dan Ekspo 2019, jumlah pelajar yang mengikuti mata pelajaran Sains, Teknologi, Kejuruteraan dan Matematik (STEM) merosot setiap tahun. Pada tahun 2018, hanya 44% pelajar Malaysia berada dalam aliran STEM berbanding 48% pada tahun 2012 disebabkan pengurangan kira-kira 6,000 pelajar setiap tahun. Ini sangat bertentangan dengan dasar 60:40 yang telah dibina oleh Kementerian Pendidikan Malaysia pada tahun 1967. Dasar yang merujuk kepada Laporan Jawatankuasa Perancangan Pelajaran Tinggi, bertujuan untuk mendaftarkan 60% pelajar ke aliran Sains / Teknikal (atau STEM) manakala 40% lagi ke dalam aliran Sastera. Matlamat dasar ini adalah untuk melahirkan lebih ramai saintis, jurutera, juruteknik dan doktor yang berkemahiran tinggi untuk pembangunan pelbagai bidang sains sejajar dengan peningkatan populasi dan kualiti kehidupan masyarakat (Bahagian Perancangan dan Penyelidikan Dasar Pendidikan, BPPDP, 1989). Namun, trend pengurangan jumlah pelajar yang mengambil STEM ini akan menjadikan usaha mencapai status negara maju pada masa akan datang akan lewat menjadi realiti. Penurunan jumlah pelajar yang mempelajari bidang STEM amat membimbangkan memandangkan adanya keperluan tenaga kerja masa depan negara (Ong & Ling, 2019). Kekurangan jurutera dan juruteknik yang berkelayakan kini dilaporkan menjadi salah satu halangan utama kepada pertumbuhan ekonomi yang dihadapi oleh firma di banyak negara industri dan perindustrian (UNESCO, 2010). Malah, di mana-mana negara kekuatan tenaga kerja STEM dipandang sebagai petunjuk kuat keupayaan negara untuk menghasilkan idea-idea ke arah penciptaan produk dan perkhidmatan yang

inovatif (Chew, Idris & Leong, 2014). Ini kerana tenaga kerja yang celik STEM mempunyai keupayaan untuk mengenal pasti, mengaplikasi dan mengintegrasi konsep-konsep dari sains, teknologi, kejuruteraan, dan matematik untuk memahami masalah yang rumit dan berinovasi untuk menyelesaikannya terutama di dalam bidang IR 4.0 yang semakin berkembang pesat dewasa ini. Oleh itu, usaha perlu dibuat oleh Kerajaan Malaysia untuk menarik lebih banyak pelajar kepada program dan kerjaya STEM untuk mencapai matlamat sebagai negara maju pada masa akan datang.

2.0 PERKEMBANGAN SAINS, TEKNOLOGI, KEJURuteraan dan matematik (STEM) DI ERA REVOLUSI 4.0

Umum mengetahui, untuk menjadi negara yang releven dan mampu bersaing dengan negara-negara yang lain, Malaysia perlu mempunyai tenaga kerja yang mahir terutama dalam industri IR 4.0 yang semakin berkembang dewasa ini. Adakah pelajar-pelajar di Malaysia bersedia untuk menjadi tenaga kerja yang berdaya saing pada masa akan datang? Adakah pelajar ini bersedia untuk menghadapi teknologi IR 4.0? Persoalan-persoalan ini adalah antara perkara yang penting yang menjadi intipati dalam perbincangan sama ada di peringkat menengah atau universiti pada masa ini.

Revolusi industri 4.0 (IR 4.0) mula tercetus di Malaysia mulai 2016 (Berita Harian, 3 September 2019). Menurut katalog terbitan Kementerian Perdagangan Antarabangsa dan Industri (2018) di Malaysia, kekurangan bakat, kemahiran dan pengetahuan yang diperlukan untuk Industri 4.0 terutama dalam bidang IoT, robotik dan kecerdasan buatan (AI) adalah sangat ketara. Oleh itu semua pihak perlu berganding bahu untuk menyediakan diri untuk bergerak seiring dan tidak ketinggalan di pentas dunia. Masyarakat tahu bahawa untuk menyediakan tenaga kerja berpotensi yang mewujudkan idea inovatif, sekolah memainkan peranan yang sangat penting untuk melatih para pelajar dari peringkat awal (Holmes, 2018). Oleh sebab masih terdapat kekurangan tenaga kerja STEM dan IR4.0, banyak pendidik dan pembuat dasar bergerak ke arah STEM untuk memenuhi kekurangan ini (Kelly, 2016). Penerapan pendidikan STEM dalam pengajaran dan pembelajaran adalah untuk menjana potensi pelajar berfikir secara kreatif dan kritis, dan ini kemudian akan membawa kepada berfikir secara inovatif dalam konsep saintifik dan dapat memobilisasi potensi mental pelajar untuk menangani cabaran baru IR 4.0. Banyak negara memberikan perhatian kepada usaha untuk meningkatkan pendidikan STEM selaras dengan permintaan untuk kemahiran STEM (English, 2016; Eguchi, 2016) dan IR 4.0 pada masa depan untuk memenuhi cabaran teknologi dan ekonomi

3.0 PENDIDIKAN SAINS DAN TEKNOLOGI MAKLUMAT DAN KOMUNIKASI PADA PERINGKAT SEKOLAH

Falsafah Pendidikan Sains Negara yang dibentuk selaras dengan Falsafah Pendidikan Negara menyatakan bahawa pendidikan sains di Malaysia adalah bertujuan memupuk budaya Sains dan Teknologi dengan memberi tumpuan kepada perkembangan individu yang kompetitif, dinamik, tangkas dan berdaya tahan serta dapat menguasai ilmu sains dan keterampilan teknologi (*dipetik dari Sukatan Pelajaran Dunia Sains Dan Teknologi, Kementerian Pelajaran Malaysia, 2010)*. Dalam menyediakan sumber tenaga manusia yang berkualiti di samping memiliki kemahiran sains yang diperlukan, pemupukan sikap yang positif terhadap sains dan penerapan sikap saintifik perlu dipertingkatkan di samping penguasaan kognitif pelajar dalam sains dapat diperbaiki agar kenyataan misi mencapai negara maju dapat direalisasikan (Md Nor & Syed Muammar, 2008) Menurut Sumintono (2015), pendidikan sains di Malaysia menunjukkan perkembangan menarik yang dinamik dan memberitahu kita bagaimana sistem pendidikan telah menyesuaikan diri dengan cabaran dan trend.

Selaras dengan era digital kini, Penggunaan Teknologi Maklumat dan Komunikasi dalam pengajaran dan pengajaran memberi peluang kepada para pelajar untuk belajar dan menggunakan kemahiran abad ke 21 (Ghavifekr, Kunjappan, Ramasamy & Anthony, 2016). Penggunaan komputer sebagai salah satu medium dalam mengembangkan teknologi maklumat dan komunikasi ini, adalah sebahagian daripada bahan bantu mengajar yang menggunakan pelbagai format untuk mempersembahkan sesuatu maklumat (Hede & Hede, 2002; Havice, 1999). Ramai pendidik melihat bahawa persembahan komputer melalui multimedia adalah sebahagian daripada kombinasi sumber teknologi, di mana termasuklah elemen media seperti teks, grafik, animasi, video, bunyi, sistem pengajaran dan sistem sokongan berasaskan komputer (Mai Neo & Ahmad Rafi, 2007). Kajian penggunaan komputer dalam pembelajaran dan pengajaran sering dikatakan amat berkesan berbanding dengan kaedah tradisional (Bagui 1998; Flecther 2003; Mayer 2002). Animasi, imej dan klip video juga boleh dibenamkan dalam instrumen maya yang melibatkan pelajar dan memberi mereka contoh dunia sebenar yang berkaitan

dengan pembelajaran mereka. Pelajar dengan itu boleh mendapat bukan sahaja pemahaman yang lebih baik daripada apa yang mereka lakukan tetapi mengapa mereka melakukannya (Smyth, Brabazon & McLoughlin, 2006). Dalam kajian ini, pengajaran berasaskan Kit Instrumentasi Virtual Berasaskan Komputer ialah satu kaedah menggunakan komputer yang dibangunkan menggunakan perisian *LabVIEW National Instrument.*

4.0 INOVASI DAN MINAT PELAJAR TERHADAP PENDIDIKAN SAINS DAN TEKNOLOGI MAKLUMAT DAN KOMUNIKASI

Banyak kajian yang telah dijalankan bagi menjelaskan fenomena penurunan minat pelajar terhadap sains. Menurut kajian Razila (1998), mata pelajaran sains bukan hanya membosankan tetapi terlalu abstrak, juga tanggapan bahawa kerjaya sains tidak membawa kepada pekerjaan serta pendapatan yang lumayan. Pelbagai usaha telah dilakukan oleh pihak yang bertanggungjawab lagi prihatin untuk menangkis sikap negatif pelajar terhadap sains dan seterusnya menambahkan bilangan pelajar dalam aliran tersebut terutama semasa pelajar berada di Tingkatan 4.

Namun, persoalan berkaitan cara untuk memberi motivasi kepada mereka memerlukan beberapa inisiatif tertentu yang akan dijalankan oleh guru-guru sains juga perlu difikirkan Pelajar perlu dicabar berinovasi projek-projek yang pelbagai. Mereka perlu mengetahui isu-isu yang berlaku di sekeliling mereka dan didedahkan kaedah mencari jawapan untuk diri mereka sendiri, dengan menggunakan pengetahuan yang dipelajari di dalam kelas.

Antara yang boleh diketengahkan adalah peranan teknologi maklumat dan komunikasi (TMK) melalui Pengajaran Berbantukan Komputer (PBK) sebagai salah satu proses yang dapat membantu guru dalam menarik minat pelajar mempelajari sains bagi melaksanakan dasar pembelajaran berpusatkan pelajar. Perancangan yang teliti diperlukan dalam menghasilkan perisian pembelajaran yang sesuai dan berkesan dengan teknologi komputer dan multimedia (Nor Hasliza, 2012). Menurut Tri Lukitaningsih (2010), gabungan kepelbagaian yang boleh dilakukan menggunakan TMK memberi peluang kepada pelajar berinteraksi dengan bahan pembelajaran melalui teknologi.

Selain itu, TMK ialah teknologi masa kini yang begitu cepat berkembang. Pelbagai jenis maklumat dapat diperoleh melalui satu 'klik' sahaja. Pelajar hari ini lahir dalam dunia berteknologi tinggi. Oleh hal yang demikian, komputer tidak dapat dipisahkan daripada dunia mereka. Pada masa depan, teknologi komputer akan menjadi lebih canggih dan menakjubkan memandangkan kemajuan pesat teknologi ini pada hari ini.

5.0 METODOLOGI KAJIAN

Bagi kajian ini, pengkaji telah menggunakan model ADDIE bagi menyediakan reka bentuk penyelidikan. Proses penyediaan Kit Instrumentasi Virtual Berasaskan Komputer juga akan dibincangkan dalam topik ini. Instrumen yang digunakan dalam kajian ini juga akan dihuraikan dalam bahagian metodologi kajian. Seramai 46 responden telah dipilih daripada sebuah sekolah menengah di Kuala Lumpur untuk menguji penggunaan Kit yang telah dibina. Kajian kuantitatif dengan menggunakan soal selidik sebelum dan selepas penggunaan Kit dijalankan. Soal Selidik 1 di tadbir untuk mengetahui persepsi pelajar terhadap pembelajaran sains serta penggunaan TMK dalam pembelajaran dan pengajaran. Selepas Kit Instrumentasi Virtual Berasaskan Komputer digunakan oleh subjek kajian maka Soal Selidik 2 ditadbir untuk mengetahui sama ada aktiviti yang dijalankan menarik minat pelajar terhadap sains. Di samping itu soal selidik juga adalah untuk mengetahui sama ada aktiviti dapat membantu pelajar memahami konsep pengukuran dalam sains dan akhir sekali persepsi pelajar terhadap kesesuaian penggunaan Kit Instrumentasi Virtual Berasaskan Komputer di dalam pengajaran dan pembelajaran dalam mempelajari pengukuran dalam sains dikaji. Reka bentuk kajian ini boleh diringkaskan seperti Rajah 1 di bawah.

Rajah 1 Reka Bentuk Kajian yang Dijalankan

5.1 Pembangunan Kit Instrumentasi Virtual Berasaskan Komputer

Reka bentuk sistem model ADDIE (1975) adalah satu tatacara yang teratur untuk *analyze* (menganalisis), *design* (merekabentuk), *develop* (membina), *impliment* (melaksana) dan *evaluate* (menilai). Berikut adalah perincian terhadap setiap langkah yang dilakukan dalam kajian ini:

5.1.1 Fasa Menganalisis

Dalam fasa ini, perkara yang ingin dikaji dikenal pasti secara keseluruhannya. Ia akan meliputi aspek-aspek utama modul Instrumentasi Virtual yang ingin dibangunkan seperti matlamat projek, objektif projek, kumpulan sasaran, dan skop isi kandungan. Penyelidik telah menjalankan kajian tentang topik-topik dalam mata pelajaran sains yang bersesuaian untuk dibangunkan menggunakan perisian LabVIEW. Fasa ini penting bagi memastikan reka bentuk pengajaran yang dihasilkan akan menepati dan memenuhi keperluan pengguna yang sebenarnya.

Daripada kajian dijalankan didapati topik pengukuran adalah topik yang paling bersesuaian untuk dijadikan kajian kerana ianya dapat dipelbagaikan pendekatan pengajaran dan pembelajaran. Di samping itu topik ini agak mudah diikuti oleh semua tahap kecergasan pelajar yang menjadi subjek kajian. Pengukuran yang dikenal pasti untuk dijadikan instrumen kajian adalah suhu dan sesaran linear.

5.1.2 Fasa Mereka Bentuk

Fasa reka bentuk terdiri daripada 3 perkara utama iaitu mereka bentuk 2 set soal selidik, mereka bentuk Kit Instrumentasi Virtual Berasaskan Komputer dan mereka bentuk modul aktiviti yang akan digunakan bersama-sama Kit Instrumentasi Virtual Berasaskan Komputer.

Dalam kajian ini penyelidik telah menyediakan dua borang soal selidik untuk tujuan pengumpulan data. Borang soal selidik disediakan dengan berdasarkan isu-isu penyelidikan yang diperoleh dari pelbagai pihak dan pembacaan. Untuk borang Soal Selidik 1, instrument ini di buat setelah merujuk kepada beberapa kajian lain yang juga menyentuh tentang minat mempelajari sains dan penggunaan TMK dalam sains. Akan tetapi Soal Selidik 2 disediakan sendiri oleh penyelidik setelah merujuk kepada kalangan guru sains. Seterusnya kedua-dua borang soal selidik yang dibuat dinilai oleh beberapa responden termasuk pensyarah pembimbing bagi mengenal pasti kesilapan pada soalan dan bahasa yang digunakan. Setelah kesalahan pada soalan dan bahasa dikenal pasti, maka pembetulan akan dibuat. Untuk menjawab soalan kajian 1 dan 2, item-item daripada Soal Selidik 1 digunakan untuk analisis. Item 1, 2 dan 3 untuk menjawab persoalan kajian 1 dan item 4, 5, 6, 7, 8 dan 9 untuk menjawab persoalan kajian 2. Sementara itu item-item bagi Soal Selidik 2 di gunakan untuk menjawab persoalan kajian 3, 4 dan 5, di mana item 1, 5, 8 dan 15 adalah untuk menjawab soalan kajian 3, item 2, 4, 6, 7, dan 11 untuk menjawab persoalan kajian 4 serta item 3, 9, 10, 12, 13 dan 14 untuk menjawab persoalan kajian 5.

Untuk reka bentuk dan penyediaan Modul Aktiviti 1 dan Modul Aktiviti 2 seperti lampiran A, penyelidik telah meminta pandangan daripada pensyarah kejuruteraan yang mahir tentang program *LabView* dan pembinaan Modul. Atas nasihat beliau, Modul Aktiviti 1 dan Modul Aktiviti 2 disediakan yang bertujuan untuk membimbing pelajar menggunakan Kit dengan betul dan berkesan. Modul-modul aktiviti yang disediakan ini adalah menjurus kepada pengukuran sesaran linear dan suhu yang menjadi asas pembentukan Kit Instrumentasi Virtual Berasaskan Komputer yang dibangunkan.

5.1.3 Fasa Membina

Berasaskan peruntukan kewangan yang terhad, sumber-sumber yang diperoleh, masa yang ada, perisian ini perlu dibangunkan berdasarkan reka bentuk yang telah ditetapkan dalam fasa reka bentuk. Menurut Jamalludin, Baharuddin dan Zaidatun (2001), dalam fasa pembangunan ini juga seseorang pereka bentuk menggunakan segala pendekatan atau reka bentuk yang telah di persetujui dalam fasa reka bentuk, misalnya :-

i. Pengguna disediakan dengan panduan pengguna supaya pengguna tidak menghadapi masalah apabila menggunakan perisian yang dibangunkan.
ii. Kandungan isi pelajaran dalam perisian mesti bersesuaian dengan tahap kebolehan, umur, latar belakang pengguna dan sebagainya.
iii. Latihan disediakan setelah menamatkan pembelajaran untuk menguji kefahaman pelajar supaya boleh menentukan sama ada objektif pengajaran tercapai atau tidak.
iv. Rangsangan-rangsangan yang menarik seperti grafik yang pelbagai, dan sebagainya disediakan agar pelajar tidak berasa bosan semasa menggunakan perisian tersebut.

Seperti yang telah dibincangkan dalam bab-bab sebelum ini, eksperimen yang akan direka bentuk dan dijalankan melibat dua kuantiti fizikal iaitu suhu dan sesaran linear. Oleh sebab itu di dalam fasa pembangunan ini penyelidik akan lebih tertumpu kepada dua perkara ini iaitu pembangunan pengukuran suhu dan pembangunan pengukuran linear.

5.1.4 Fasa Melaksana

Fasa ini dijalankan setelah selesainya fasa pembangunan. Kit Instrumentasi Virtual yang telah dibangunkan perlu dipersembahkan untuk diuji keberkesanan di samping melihat masalah-masalah yang timbul sewaktu fasa reka bentuk dan fasa pembangunan yang mungkin wujud. Fasa ini dilaksanakan terhadap sekumpulan pelajar yang merupakan para pelajar yang mengikuti mata pelajaran sains.

Sebelum sesi penerangan penggunaan Kit Instrumentasi Virtual dijalankan, para pelajar di berikan set Soal Selidik 1 untuk dijawab. Para pelajar diberikan masa selama 15 minit untuk menjawab soal selidik dan kemudiannya soal selidik tersebut di kutip semula.Dalam sesi penerangan dan penggunaan Kit Instrumentasi Virtual, para pelajar dibahagikan kepada kumpulan-kumpulan yang lebih kecil agar setiap pelajar memahami aktiviti yang hendak dijalankan. Pada ketika ini, pelajar-pelajar daripada satu kelas dibahagikan kepada beberapa kumpulan-kumpulan yang lebih kecil iaitu kira-kira seramai 8 atau 9 orang dalam satu kumpulan. Hal ini demikian kerana Kit Instrumentasi Virtual yang disediakan hanyalah satu set sahaja. Maka pengajaran dalam kumpulan yang besar adalah tidak bersesuaian. Setelah itu sesi penerangan penggunaan *software* dan *hardware* dijalankan. Pelajar kemudiannya menggunakan Kit Instrumentasi Virtual Berasaskan Komputer yang telah dibangunkan dengan merujuk kepada Modul Aktiviti 1 dan 2 yang diberikan. Akhir sekali para pelajar di berikan sekali lagi set Soal Selidik 2 yang berikan untuk mengetahui persepsi pelajar terhadap Kit Instrumentasi Virtual yang telah dijalankan

5.1.5 Fasa Menilai

Penilaian adalah satu aspek yang penting dalam pembangunan suatu modul. Perkara-perkara yang perlu dinilai dalam suatu modul adalah objektif, kesan terhadap pembelajaran dan maklum balas tentang perisian. Penilaian dijalankan secara soal selidik sebelum dan selepas modul diperkenalkan supaya proses reka bentuk dan pembangunan modul dapat dinilai keberkesanannya.

5.2 Instrumentasi Kajian

Proses penilaian dalam kajian ini melibatkan penggunaan Soal Selidik 1 dan Soal Selidik 2 yang dilaksanakan sebelum dan selepas modul diperkenalkan. Soal selidik 1 dan soal selidik 2 yang diberikan kepada sekumpulan responden mempunyai skala Likert lima pilihan iaitu Sangat Tidak Setuju (STS), Tidak Setuju (TS), Tidak Tahu (TT), Setuju (ST) dan Sangat Setuju (SST). Pada peringkat awal, kedua-dua kumpulan pelajar akan menjawab Soal Selidik 1 yang diberikan sebelum implementasi Kit Instrumentasi Virtual Berasaskan Komputer yang dibangunkan yang ditadbir untuk menjawab soalan kajian pertama yang dibincangkan dalam Bab 1. Selepas implementasi Kit Instrumentasi Virtual Berasaskan Komputer, Soal Selidik 2 diberikan untuk menjawab persoalan kajian yang selebihnya.

6.0 HASIL DAPATAN KAJIAN DAN PERBINCANGAN

Berikut adalah profil sampel atau responden yang merupakan pelajar-pelajar Tingkatan 2 di sebuah sekolah menengah di Kuala Lumpur.

Jadual 1 Profil Responden mengikut Jantina

	Bilangan	Peratusan (%)
Lelaki	20	43.5
Perempuan	26	56.5
Total	46	100

Jadual 2 Profil Responden mengikut Subjek yang Paling Disukai

	Bilangan	Peratusan (%)
Bahasa Melayu	1	2.2
Bahasa Inggeris	7	15.2
Matematik	5	10.9
Sains	14	30.4
Sejarah	5	10.9
Geografi	3	6.5
Lain-lain	11	23.9
Total	46	100

Merujuk kepada Jadual 2, didapati hanya 30.4% pelajar sahaja memilih sains untuk item subjek yang paling di sukai. Hal ini menunjukkan bahawa, lebih daripada dua per tiga daripada jumlah responden

lebih menyukai subjek lain berbanding sains. Trend ini membuktikan bahawa subjek sains bukanlah menjadi subjek pilihan pertama bagi sebilangan besar responden.

Daripada Soal Selidik 1 dan 2, penyataan-penyataan yang berkaitan dengan persoalan kajian dipilih untuk menjawab persoalan kajian. Dengan berpandukan pada analisis peratusan dan min, Soal Selidik 1 yang di tadbir digunakan untuk menjawab persoalan persepsi pelajar terhadap mata pelajaran sains dan penggunaan TMK dalam mata pelajaran sains manakala Soal Selidik 2 akan menjawab sama ada aktiviti yang dijalankan menggunakan Kit Instrumentasi Virtual Berasaskan Komputer yang dibangunkan menarik minat pelajar terhadap sains. Selain itu Soal Selidik 2 juga akan menjawab dua lagi persoalan kajian iaitu sama ada aktiviti dapat membantu pelajar memahami konsep pengukuran dalam sains dan persepsi pelajar terhadap kesesuaian penggunaan Kit Instrumentasi Virtual Berasaskan Komputer dalam pembelajaran dan pengajaran pengukuran dalam sains.

Analisis dapatan kajian juga mendapati bahawa, majoriti pelajar bersetuju bahawa mereka akan lebih meminati subjek sains sekiranya guru-guru dapat menerangkan penggunaan sains dalam kehidupan dan alam pekerjaan sekaligus ia akan menambah pengetahuan sains pelajar dan membantunya dalam alam pekerjaan nanti. Nilai min purata bagi aspek minat terhadap sains adalah 4.0 iaitu nilai yang berada pada skala setuju. Menurut Harlen (1996), pengetahuan sains yang dimiliki oleh seseorang dimanifestasikan dengan kemampuan melihat dan mengkaji sesuatu secara saintifik dan melihat sama ada penerangan mengenai sesuatu fenomena di sekeliling berasaskan bukti ataupun sebaliknya. Seorang yang berliterasi sains turut menyedari limitasi serta batas pengetahuan sains dalam konteks isu yang diperbincangkan serta diperdebatkan. Tegasnya, untuk mencapai tahap literasi sains ini, seseorang itu bukan sahaja perlu mempunyai sikap yang positif terhadap sains agar dapat menguasai pengetahuan sains dengan baik, bahkan perlu memahirkan diri dengan kemahiran saintifik dan membudayakan diri dengan nilai-nilai sains dalam setiap dimensi kehidupan.

Daripada analisis item berkaitan dengan penggunaan TMK dalam mata pelajaran sains, purata min yang didapati adalah 4.1. Ini menunjukkan bahawa kebanyakan pelajar bersetuju bahawa teknologi memainkan peranan dalam mempelajari sains. Purata pelajar yang mengikuti kajian ini juga bersetuju penerangan guru-guru yang menggunakan pendekatan teknologi akan menarik minat mereka dalam mempelajari subjek sains. Menurut Tan & Leong (2003), pembelajaran yang menyeronokkan akan menjadikan pelajar lebih gembira untuk belajar dengan cara atau gaya pembelajaran mereka sendiri dan ini sekali gus akan membantu mereka lebih cepat untuk memahami sesuatu perkara yang kompleks. Penggunaan gambar, animasi dan bunyi boleh membantu pelajar belajar dengan lebih baik tentang domain pengetahuan yang baru. Secara umumnya pengajaran berasaskan komputer boleh membantu pelajar lebih seronok dan bermotivasi dalam pembelajarannya.

Daripada analisis berkaitan penggunaan Kit Instrumentasi Virtual Berasaskan Komputer, pelajar bersetuju bahawa ia menarik minat mereka. Sekaligus menambah minat pelajar untuk mempelajari sains. Pelajar juga bersetuju bahawa aktiviti yang dijalankan memberi idea baru untuk mempelajari sains dan teknologi. Purata min bagi item-item di atas adalah 4.0. Pada tahun 2013, Menteri Pelajaran ketika berucap merasmikan pelancaran Pelan Pembangunan Pendidikan Malaysia 2013-2025 di Pusat Konvensyen Kuala Lumpur mengatakan bahawa kesedaran tentang penggunaan teknologi dalam sains dan matematik akan meningkatkan kemahiran berfikir aras tinggi, atau *Higher Order Thinking Skills (HOTS)*, dalam kalangan para pelajar yang juga menjadi fokus dalam usaha Kementerian Pendidikan untuk melonjakkan sistem pendidikan negara dalam kelompok negara-negara yang mempunyai sistem pendidikan terbaik di dunia (Berita Harian, 6 September 2013). Di samping itu penggunaan bahan berunsurkan komputer diketahui dapat membantu pemahaman dan meningkatkan pengetahuan murid di samping dapat mencetuskan proses pembelajaran, pemikiran kritis dan kreatif, serta penyelesaian masalah dalam pembelajaran (Zurina & Ahmad Esa 2010).

Di dalam kategori item pemahaman terhadap konsep pengukuran dalam sains melalui aktiviti, lebih daripada separuh pelajar bersetuju bahawa mereka memahami aktiviti yang dijalankan walaupun ia adalah sesuatu yang baru untuk mereka. Pelajar memahami penggunaan sensor dalam menentukan sesuatu bacaan pengukuran secara digital menggunakan komputer (min 3.9) dan pelajar juga dapat membandingkan bacaan mereka secara manual. Beberapa responden memberikan komen ini secara tidak langsung semasa aktiviti dijalankan.

"sekarang baru saya faham macamana komputer boleh tahu suhu atau panjang sesuatu barang"
"sebelum ini saya tak tahu bagaimana sensor boleh kesan peningkatan suhu"
"saya tidak pernah tahu ada teknologi macam ini"

Ini menunjukkan penggunaan Kit Instrumentasi Virtual Berasaskan Komputer ini memberikan input yang baru tentang pengukuran terhadap pengetahuan pelajar dan konsep pengukuran yang diketengahkan dalam kajian ini adalah satu konsep pengukuran yang baru bagi mereka dengan menggunakan komputer dan sensor-sensor. Ini secara tidak langsung akan mempelbagaikan kemahiran proses sains yang ada pada pelajar terutamanya kemahiran pengukuran.

Selain itu, pelajar juga melaksanakan dan memahami aktiviti yang dijalankan di samping ia membantu pelajar memahami konsep sains dan teknologi dengan lebih baik. Penggunaan sensor (min 4.0) dan bagaimana interaksinya dengan komputer (min 3.9) juga dapat difahami oleh pelajar dengan baik. Di samping itu, aktiviti ini juga dapat membekalkan maklumat asas bagi memahami penggunaan sains dalam teknologi (min 4.1). Purata min bagi item-item di atas adalah 3.9.

Umumnya para pelajar, pelatih, guru dan pengajar menunjukkan sikap yang positif terhadap sains dan teknologi (Robiah, Juriah, Khalid & Puteh, 2001). Mereka berpendapat sains dan teknologi berguna kepada manusia. Ini menyebabkan mereka tertarik untuk mempelajari sesuatu yang baru. Oleh itu, mata pelajaran yang berkaitan dengan teknologi perlu dipelajari. Kebanyakan pelajar berminat menjadi ahli profesional dalam bidang sains, teknikal, kejuruteraan, perubatan, arkitek dan keusahawanan tegas Robiah et.al (2001) lagi.

Bagi item-item tentang kesesuaian aktiviti dalam pengajaran dan pembelajaran pula memberikan purata min 3.8 Aktiviti yang dijalankan juga diketahui sesuai dijalankan sebagai bahan bantu mengajar dalam memahami penggunaan sains dan teknologi. Secara keseluruhannya, pelajar berpuas hati dengan aktiviti yang dijalankan dengan nilai min yang menghampiri nilai bersetuju. Atau dengan kata lain aktiviti ini sesuai dijadikan bahan bantu mengajar kerana ia mampu untuk menarik minat pelajar mendalami sains dan teknologi dan sekaligus dipersetujui bahawa ia bersesuaian dengan peringkat umur pelajar. Keputusan ini dapat menyokong pendapat Ahmad Esa, et. al, (2007) yang mengatakan bahawa penggunaan teknologi yang bersesuaian akan mempengaruhi minat para pelajar dalam mempelajari sains.

7.0 KESIMPULAN DAN CADANGAN

Jika dirujuk kepada keputusan kajian ini, Kit Instrumentasi Virtual Berasaskan Komputer yang dibangunkan ini berjaya menarik minat dan perhatian dalam kalangan pelajar untuk mendalami dan memahami satu kemahiran proses sains yang penting dalam kemahiran saintifik iaitu pengukuran. Di samping itu pelajar juga dilihat memahami penggunaan sensor dalam menentukan unit yang hendak diukur dan dalam kajian ini ia merujuk kepada sesaran linear dan suhu. Pengunaan Kit Instrumentasi Virtual Berasaskan Komputer yang dibangunkan dalam kajian ini boleh dikembangkan lagi menggunakan pelbagai lagi sensor yang ada di pasaran. Akan tetapi ia memerlukan kemahiran dari segi pengaturcaraan agar pembinaannya akan menjadi lebih mudah.

Walau bagaimanapun, kajian ini perlu diperhalusi lagi dengan menjalankan kajian lanjutan yang melibatkan lebih ramai lagi responden. Di samping itu, kajian lanjutan berkenaan pembinaan Kit Instrumentasi Virtual Berasaskan Komputer yang memberikan pertimbangan pada tajuk-tajuk lain dalam skop kurikulum sains dan tidak lari daripada sukatan pelajaran sekolah-sekolah Malaysia juga boleh dilakukan. Malah, kajian mengenai usaha guru mengadaptasi Kit Instrumentasi Virtual Berasaskan Komputer untuk proses pembelajaran dan pengajaran juga memerlukan satu kajian lanjut supaya penggunaannya dapat menjadikan guru lebih efisien, efektif dan global.

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064 : Predicting STEM Academic Performance in Secondary Schools: Data Mining Approach

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ABSTRACT

STEM is a curriculum based on the idea of educating students in four specific disciplines — science, technology, engineering and mathematics — in an interdisciplinary and applied approach. Skills developed in students through STEM provide them with strong foundation to succeed in school and beyond. STEM is expected to increase students' critical thinking skills which very much needed in the workforce especially to support for the growth of the economy during the industrial revolution. The main objective of this study is to investigate the appropriateness of applying data mining approach to predict and analyze STEM academic performance in secondary schools. In this study, data will be collected randomly from schools all over Malaysia. There are two types of data collected namely primary and secondary data. Primary data will be collected through questionaire whereas secondary data will be collected from the schools or information through the internet. Three different data mining classification algorithms which are Decision Tree (DT), Artificial Neural Networks (ANN), and Naive Bayes (NB) will be used on the dataset. This study is expected to investigate the process through utilize classification to help to predict students' performance. As a result of this insight, it will gives useful insight of explicit and tacit knowledge to students, teachers, parents and minestry in predicting student performance in STEM and to assist teachers in providing effective teaching method.

Keywords: STEM, academic performance, data mining, prediction model.

1.0 INTRODUCTION

The Fourth Industrial Revolution (IR 4.0) is becoming very crucial in the sense that it is not only will change the things we value and the way we value them but also in how we live, work, and communicate. In order to catalyze innovation, creativity and job sustainability through education in industry 4.0, we need to invest in Science, Technology, Engineering & Mathematics (STEM) programs. STEM is a curriculum based on the idea of educating students in four specific disciplines — science, technology, engineering and mathematics — in an interdisciplinary and applied approach (Lee, Chai, & Hong, 2019). Skills developed by students through STEM provide them with the foundation to succeed in school and beyond. STEM education will also encourage the increase in critical thinking skills which needed in the workforce to support the growth of the economy during the industrial revolution.

Nevertheless, the policy of 60 to 40 per cent of students for Science to Arts field at the tertiary education mandated by the Ministry of Education Malaysia has not been met ("Trained in Science-Base Field: Change of Specialization among Educated Women in Malaysia.," 2015). According to the Malaysian Examinations Syndicate (Lembaga Peperiksaan Malaysia), in 2017, only 27% of the candidates taking Physics and Chemistry, 21% Biology and 35% Additional Mathematics in the Sijil Pelajaran Malaysia (SPM), or the Malaysian Certificate of Education whereas in 2018, only 26% of the candidates taking Physics and Chemistry, 20% Biology and 34% Additional Mathematics. IR 4.0 requires students to perform in STEM subjects but somehow students lose interest in the subjects. Therefore, there is a need to study the factors that lead to students' academic performance especially in STEM subjects in secondary schools.

Previous studies have used various methods to build best predictive model. A lot of variables have been chosen and tested to find most influential attributes to perform prediction. Most of the researchers have used CGPA, attendance, gender and assessment mark. There are a few of the attributes which give most significant impact whether the student will be survived to finish their study or not. The prediction methods are one of the critical components for analyzing student performance. Most of the

researchers are using classification, regression and clustering method. Some of them are using mixed methods in order to provide robust mechanism with a better predictive accuracy model (Asiah et al., 2019).

Data mining is one of the most popular techniques to analyze students performance (Shahiri, Husain, & Rashid, 2015). Data mining has been widely applied in educational area recently (Romero & Ventura, 2010) and it is commonly called educational data mining (EDM). Data mining is the process of extracting useful information from a huge amount of data. One of the most common applications of data mining is the use of different algorithms and tools to estimate future events based on previous experiences (Perner, 2015).

Many of the existing studies primarily conducted to predict students' academic performance at the university level and merely conducted to predict STEM academic performance in secondary schools. Although there are many studies in predicting students' academic performance, very few of them are using data mining technique (Barbosa Manhães, da Cruz, & Zimbrão, 2015). Consequently, the study of STEM academic performance in secondary schools using data mining technique ought to be conducted.

All of the current research well predict academic performance using data mining. They also have identified factors that affects students' performance in general. However, predicting students' performance in Malaysian setting of diverse background and from huge dataset to inform STEM remain unclear. Therefore, this study focusing on integrating data mining techniques to build the best model to predict students' academic performance in STEM. In this study a model was developed based on some selected input variables collected. After testing some hypothesis, some of the most influencing factors were identified and taken to predict the students' performance. The model will produce useful and hidden knowledge to students, teachers and parents to take appropriate action to improve students' results, and contribute to a better quality education especially in STEM related subjects.

2.0 METHODOLOGY

There are two main objectives of this study. First, to explore and identify predictive variables on STEM academic performance in secondary schools. Second, to design the best prediction model on student data. To achieve the objectives, the process of data mining will come into play. There are four main stages in this method; data collection, pre-processing, classification, and interpretation.

Data collection is through gathering all information available on students considering factors affect student performance (Mueen, Zafar, & Manzoor, 2016). These information can be collected from different sources of data available and combined into the dataset. The factors that are considered to have influence on the students' performance will be identified through extensive search of previous studies and discussion with experts on students' performance. These influencing factors will be categorized as input variables. On the other hand, students' grade will be the output variables to this study.

Next is the pre-processing stage which include data cleaning, attributes selection, dimensionality reduction, and data partitioning to get better prediction. Subsequently, the classification stage will be conducted. In the classification stage, different data mining algorithms are executed with different variables and then compared to find the best algorithm. Lastly, we need to interpret the models obtained in the previous stage to best predict the students' performance in STEM related subjects.

A. Data Collection

In this study, we plan to collect learning information for the secondary school students mainly Form 4 students. All students learning activities, personal or student's demographic, socio-economic, psychological aspects and school related variables that are expected to affect student performance in STEM subjects will be collected. There are two ways in getting all the information. First, by using APDM (*Aplikasi Pangkalan Data Murid*), an online based platform that store particular information of school students in Malaysia such as parents' income, the number of siblings, previous school attended and so on. Second, by conducting questionaires to randomly selected schools and get all the important variables. These influencing aspects are considered as input variables.

B. Pre-processing Data

Pre-processing data is an essential step for preparing the dataset before going to the next stage which is classification techniques. It is important to note that this task directly affect the result due to the quality and reliability of available information. Careful and thorough analysis of variable and their corresponding

values is carried out to eliminate any peculiarities. In this study, there are three main pre-processing tasks that will be conducted.

Feature selection: The datasets will be thoroughly checked to identify attributes which have greater impact on the output variable.

Imbalanced data: When the number of instances in one class is much smaller than the number of instances in other class, then the data is said to be imbalanced. Thus, during the training stage classifier take more sample from the classes which have bigger number of instances. Due to this, at test stage classifiers are less sensitive to the classes which have smaller number of instances.

Data transformation: This procedure need to be done in order to conduct appropriate algorithms. The datasets will be transformed accordingly to fullfill the prediction model. This include missing data, outliers and transform the data to the correct data file destination.

C. Data Mining and Prediction Model

To predict students' academic performance in STEM, we have used well known classification techniques: Decision Tree (DT), Artificial Neural Networks (ANN), and Naive Bayes (NB).

These three different data mining classification algorithms which are Decision Tree (DT), Artificial Neural Networks (ANN), and Naive Bayes (NB) will be used on the dataset and compared. The process and outcomes are crucial to help to understand how best to predict students' performance through the model generated.

3.0 CONCLUSION

Data mining techniques allow a high level extraction of knowledge from raw data, offering interesting possibilities for the education domain. In this study a model was developed based on some selected input variables collected through questionnaire method. After testing some hypothesis, some of most influencing factors were identified and taken to predict the grades.

This research is an effort to use Data Mining approaches to predict and analyze STEM academic performance in secondary schools. Three well known approaches namely Decision Tree (DT), Artificial Neural Networks (ANN), and Naive Bayes (NB) will be used. All these techniques will be applied on student's data collected from secondary schools in Malaysia.

The prediction performance of all the approaches are measured and compared. We will then choose the best classifiers to predict STEM academic performance in secondary schools. This research is expected to utilize classification to help predict students' performance. As a result of this insight, it will produce useful and hidden knowledge to students, teachers and parents to take appropriate action to improve students' results, and contribute to a better quality education.

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STREAM 8 – SOCIOLOGY OF EDUCATION

001 : Etnik dan Budaya: Faktor-faktor yang Mempengaruhi Penyediaan Makanan Tradisional di Malaysia

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ABSTRAK

Malaysia adalah sebuah negara yang terdiri dari pelbagai bilang kaum dan agama serta etnik dan budaya. Masyarakat majmuk yang terbina menjadikan Malaysia sebuah negara yang unik. Salah satu daripada identiti budaya ialah makanan tradisional. Justeru itu, objektif kajian adalah untuk mengulas mengenai faktor-faktor yang mempengaruhi etnik dan budaya melalui perspektif makanan tradisional di Malaysia. Ulasan kajian sistematik ini melibatkan 14 hasil kajian lepas. Data kualitatif juga diperolehi untuk mendapatkan lebih maklumat terhadap hasil kajian lepas. Keputusan ulasan kajian terhadap makanan tradisional di Malaysia mendapati terdapat 6 faktor yang mempengaruhi kaum, etnik dan budaya. Ulasan kajian juga memfokuskan kepada jenis-jenis makanan di Malaysia mengikut kaum, budaya dan etnik berdasarkan faktor-faktor yang diperolehi dari pelbagai jurnal. Faktor-faktor itu ialah faktor negeri, perayaan, usia, agama, resipi dan sosio-budaya. Ia membawa kepada perubahan dalam bentuk fizikal makanan, kualiti makanan, masa, cara penyediaan dan sistem jual-beli. Pelbagai cabaran yang perlu diberi perhatian terutamanya dalam mempromosi makanan tradisional agar tidak hilang ditelan masa. Beberapa cadangan menarik turut diberi untuk penambahbaikan dan tindakan sewajarnya. Kesimpulan ulasan kajian ini membuktikan bahawa makanan tradisional telah membentuk sebuah perpaduan kaum dan etnik seterusnya menjadikan makanan tradisional di Malaysia semakin menarik dan unik untuk diterokai

Kata Kunci: *Malaysia, Makanan tradisional, Kebudayaan, Kaum, Etnik*

1.0 PENGENALAN

Malaysia merupakan sebuah negara membangun yang mempunyai pelbagai etnik bangsa dari berbilang kaum dan agama. Rakyat Malaysia mengamalkan cara hidup, adat dan kepercayaan yang berbeza. Setiap kelompok bangsa atau kaum tinggal dalam satu kawasan yang dikenali dengan istilah masyarakat majmuk. Menurut George Foster (1953) menjelaskan bahawa identiti budaya adalah suatu yang boleh dipelajari, sesuatu yang ditonjolkan dalam budaya untuk dikongsi bersama bagi mewujudkan persekitaran mesra dalam sesebuah masyarakat.

Budaya dipandang sebagai satu warisan tradisi. Setiap kaum mempunyai keunikan elemen tersendiri seperti makanan tradisional yang dipercayai telah wujud sejak dahulu lagi dan sehingga kini masih lagi diteruskan oleh generasi baru. Makanan tradisional adalah makanan istimewa yang dihasilkan oleh masyarakat pelbagai kaum dengan aneka citarasa berbeza yang boleh diterima oleh segenap lapisan masyarakat.

Terdapat 3 kaum majoriti; kaum Melayu, kaum Cina dan kaum India di Malaysia. Selain itu Malaysia juga mempunyai kaum dan etnik minoriti yang lain seperti Kadazan, Dusun, Punjabi, Iban, Baba Nyonya dan lain-lain. Jadual 1 menunjukan statistik jumlah penduduk di Malaysia pada tahun 2019 berdasarkan kepada statistik terkini yang diperolehi melalui laman web Jabatan Perangkaan Malaysia (2019).

Jadual 1 Jumlah Penduduk mengikut Etnik di Malaysia pada 2019

Kaum etnik	Jumlah penduduk	Jumlah peratus
Melayu	20.4 juta	69.3 %
Cina	6.7 juta	22.8 %
India	2.03 juta	6.9 %
Lain-lain	294 ribu	1%

Untuk perbincangan dan ulasan berdasarkan hasil kajian lepas, fokus adalah kepada 4 ciri-ciri yang berikut; Malaysia, makanan tradisional, kaum Melayu, Cina, India dan bangsa lain serta mencari faktor-faktor yang akan menjadi diskusi utama dalam menghubungkaitkan kesemua elemen seperti yang dinyatakan.

Rajah 2 Hubungkait antara 4 Elemen Utama

2.0 OBJEKTIF

Sasaran utama hasil ulasan kajian lepas ini adalah untuk mengali faktor-faktor yang mempengaruhi makanan tradisonal di negara Malaysia. Untuk mencari faktor-faktor ini, pelbagai unsur melalui hasil pembacaan seperti kebudayaan, kaum, etnik dan agama menjadi topik utama. Bangsa Melayu, India , Cina dan lain-lain menjadi sumber rujukan. Kaum etnik di Sarawak dan Sabah juga diperlukan. Hasil dari ulasan, penulis cuba mencari cabaran yang perlu ditempuhi serta cadangan yang perlu diatasi dan diberi perhatian. Berikut adalah soalan dan pandangan tentang keseluruhan hasil ulasan kajian lepas:

Apakah faktor-faktor yang mempengaruhi penyediaan makanan tradisional di Malaysia?

> Ini adalah soalan utama untuk mencari jawapan kepada semua isu ulasan hasil kajian lepas. Faktor-faktor ini meluputi pelbagai aspek yang akan mempengaruhi makanan tradisional di Malaysia. Selepas mendapat jawapan kepada soalan ini, barulah penulis boleh meneruskan perbincangan berkenaan cabaran dan cadangan yang diperlukan untuk mengatasi makanan tradisional agar tidak hilang dan dilupai oleh segenap lapisan masyarakat. Soalan ini juga merungkai hubungkait antara 4 elemen utama seperti yang digambarkan dalam rajah 1.

3.0 METODOLOGI

Rekabentuk ulasan kajian jurnal adalah berdasarkan kepada 10 jurnal kuantitatif dan 4 jurnal kualitatif. Ulasan hasil kajian lepas ini menggunakan beberapa kata kunci seperti Malaysia, makanan tradisional, kebudayaan, etnik, Cina, India, Melayu dan tahun jurnal diterbitkan. Sejumlah jurnal telah diperolehi dan penulis memfokuskan kepada faktor-faktor yang mempengaruhi makanan tradisional di negara Malaysia. Sebahagian dari jurnal diperolehi dalam laman SCOPUS dan selebihnya melalui '*Google Scholar'*. Merujuk kepada artikel kajian oleh Neerushah Subarimaniam dan rakan (2017). menyatakan bahawa hasil kajian lepas dimulakan dengan mencari kata kunci di laman pencarian jurnal berdasarkan tajuk yang difokuskan dan seterusnya melalui proses saringan untuk memilih jurnal yang sesuai untuk dijadikan bahan ulasan kajian lepas. Rujuk jadual 2 untuk senarai lengkap kriteria pemilihan jurnal dan jadual 3 untuk senarai sumber jurnal. Untuk rekod proses pencarian dan pemilihan jurnal pada pangkalan data, rujuk carta alir prisma. Seterusnya, rujuk jadual 4 untuk ringkasan abstrak jurnal yang telah dipilih.

Jadual 2 Kriteria dalam Pemilihan Jurnal

Kriteria pemilihan	Perkataan	Jumlah paparan	
Kata kunci	Malaysia	93,060	
Tahun	2014 – 2019	12,138	
Subjek 1	Makanan tradisional	2423	
Subjek 2	Kebudayaan, etnik	458	
Subjek 3	Kaum Melayu, Cina, India	40	
	Makanan pelbagai kaum	5	14
	makanan Nyonya	2	
	Nasi Lemak	2	
	Nasi Kandar	1	
	kuih tradisional	1	
	Keropok Lekor	1	
	Makanan halal	1	
	Makanan tradisional Sarawak	1	

CARTA ALIR PRISMA 2009

Rajah 2 Proses Pemilihan bahan Kajian

Jadual 3: Kriteria dan Sumber Jurnal

	Butiran maklumat	Jumlah kecil	Jumlah besar
Jumlah Jurnal			
Bahasa	Inggeris	13	14
	Melayu	1	
Jenis Artikel	Buku	2	3
	Seminar	1	
Sumber jurnal	Journal of Ethnic Foods	2	11
	Journal of Advanced Manufacturing Technology	1	
	International Journal of Social Science and Humanity	1	
	Social and Behavioral Sciences	1	
	Asian Journal of Quality of Life	1	
	International Food Research Journal	1	
	Asian Ethnicity	1	
	International Journal of Heritage, Art and Multimedia	1	
	Journal of Intercultural Studies	1	
	Asia-Pacific Journal of Innovation in Hospitality and Tourism	1	

Jadual 4 Ringkasan Jurnal

Penulis	Tajuk Artikel	Sumber	Penemuan
Tibère L., Laporte C., Poulain J.-P., Mognard E., Aloysius M. (2019)	Staging a national dish: The Social Relevance of Nasi lemak in Malaysia	Asia-Pacific Journal of Innovation in Hospitality and Tourism	Artikel ini meneliti tentang proses pembuatan nasi lemak yang dijadikan simbol makanan kebangsaan Malaysia. Kajian ini berfokuskan kepada persepsi masyarakat Malaysia terhadap makanan harian yang paling popular dalam kalangan pelbagai kaum dan etnik. Nasi Lemak akhirnya telah menjadi pilihan sebagai menu paling diminati oleh rakyat Malaysia.
Raji M.N.A., Ab Karim S., Ishak F.A.C., Arshad M.M. (2017)	Past and present practices of the Malay food heritage and culture in Malaysia	Journal of Ethnic Foods	Jurnal ini memberi gambaran jelas tentang amalan pemakanan tradisional masyarakat melayu dahulu dan sekarang meliputi utara ke selatan. Makanan tradisional melayu turut dipengaruhi budaya asing seperti arab, cina, siam, jawa, minangkabau dan lain-lain. Daerah yang berbeza masing-masing mempunyai keunikan makanan tersendiri. Kaedah masak, rempah dan herba serta ramuan menjadi perbezaan kepada hasil aroma masakan.
Abdul Rais, A.R., W.A. Manan, W.M., Shariza, A.R. Wan Nadiah, W.A. (2014)	A comparative study of Nasi Kandar eating patterns among patrons in the Klang Valley and Penang Malaysia	International Food Research Journal 20(4): 1789-1797	Satu kajian kuantitatif telah dijalankan di Pulau Pinang dan Lembah Klang berkenaan perbandingan makanan popular masyarakat setempat iaitu nasi kandar. Data yang diperolehi dari hasil kaji selidik mendapati 72% rakyat Lembah Klang makan nasi kandar sekali dalam seminggu manakala rakyat Pulau Pinang makan dua kali dalam seminggu. Selain itu, kajian juga memfokuskan kepada kriteria lain seperti kepentingan restoran mamak, kaum india muslim, menu yang dijual, waktu kesesuaian makan dan banyak lagi.
Zim, A.F.M.I.U.,	Proximate composition, texture	Food Research 3 (6) : 635 - 639	Kajian ini memfokuskan kepada hasil dan proses pembuatan keropok lekor. Bermula dari asal usul, jenis-jenis pilihan ikan, bahan mentah, mengumpul

Penulis	Tajuk Artikel	Sumber	Penemuan
Akter, A.Ali, M.S., Anik, W.A., Ahmed, S. Zamri, A.I.B. (2019)	analysis and sensory evaluation of keropok lekor formulated with herbs and spices	(December 2019)	ramuan lengkap, resipi rempah ratus, komposisi jumlah sukatan, tekstur, kaedah untuk membuat keropok lekor sehinggalah cara masak. Beberapa sampel yang berbeza ramuan turut dikaji dan dianalisis untuk melihat perbezaan dan hasil terbaik.
Ng C.Y., Ab. Karim.S (2016)	Historical and contemporary perspectives of the Nyonya food culture in Malaysia	Journal of Ethnic Foods	Makanan tradisional baba dan nyonya menjadi topik utama dalam kajian ini. Sejarah turut dijelaskan berkenaan dengan kuturuan baba dan nyonya serta perkaitan antara cina dan rakyat setempat. Eksplorasi jurnal memfokuskan kepada cara masakan baba dan nyonya, kepercayaan, jenis-jenis makanan tradisi peranakan, perayaan dan bahan rahsia dalam setiap masakan tradisional baba dan nyonya.
C.W.J. W.M.Radzi, M.H.A. Murad. O.Bakar (2010)	Food intake in Malaysian culture and society: Focus on the younger generation	Journal of Intercultural Studies	Kajian kuantitatif ini memfokuskan kepada persepsi generasi muda dalam kalangan masyarakat Malaysia terhadap pemilihan antara makanan tradisional, makanan barat dan makanan segera. Kaji selidik telah dijalankan ke atas golongan muda bawah 30 tahun seramai 1432 responden berkenaan identiti budaya melalui makanan tradisional, agama, kepercayaan dan kesihatan.
Siti Radhiah Omar Siti Nazirah Omar (2018)	Malaysian Heritage Food (MHF) a review on its unique food culture, tradition and present lifestyle	International Journal of Heritage, Art and Multimedia	Jurnal ini mengupas tentang sejarah dan peranan pameran makanan tradisional Malaysia melalui perkaitan pelbagai kaum dan etnik. Pengaruh budaya memberi kesan terhadap makanan tradisional dari generasi sehinggalah masa kini. Keunikkan makanan tradisional di Malaysia berjaya membawa nama Malaysia ke persada dunia. Senarai kedudukan makanan paling popular di Malaysia turut dinyatakan dalam kajian ini.
Zahari M.S.M., Tumin A., Hanafiah M.H., Majid H.N.A. (2019)	How the acculturation of Baba Nyonya community affects Malacca food identity?	Asian Ethnicity	Kajian ini memfokuskan kepada komuniti baba dan nyonya di negeri Melaka bandaraya bersejarah. Kaji selidik kuantitatif telah dijalankan untuk mencari jawapan perkaitan tentang jenis-jenis makanan, cara hidangan masakan, intipati resipi dan adab ketika makan dengan sejarah perkembangan budaya kaum baba dan nyonya.
A.Md Ramli, Zahari M.S.M, N.A.Halim, M.H.M.Aris (2017)	Knowledge on the Malaysian Food Heritage	Asian Journal of Quality of Life	Seramai 500 responden yang tinggal di Lembah Klang telah menjawab kaji selidik ini untuk mencari sejauh mana tahap pemahaman dan pengetahuan rakyat Malaysia tentang makanan tradisional Malaysia. Kajian mendapati responden mengetahui definisi, kriteria dan jenis-jenis makanan tradisional.
Henderson J.C. (2016)	Halal food, certification and halal tourism: Insights from Malaysia and Singapore	Tourism Management Perspectives	Perbincangan tentang isu makanan halal di pasaran Malaysia dan Singapura. Industri halal memerlukan sijil dan logo halal untuk menentukan status setiap makanan yang dijual. Kajian ini turut melihat peranan industri halal dalam bidang pemasaran dan mendapat maklum balas dari muslim.

Penulis	Tajuk Artikel	Sumber	Penemuan
M.H Jalis, D. Che, K. Markwell (2014)	Utilising local cuisine to market Malaysia as a tourist destination	Procedia - Social and Behavioral Sciences 144 102 – 110	Kepelbagaian cara masakan dan ramuan khas yang digunakan dalam setiap kaum dan etnik menjadikan masakan itu unik dan menarik. Objektif kajian ini adalah untuk mencari cara pemasaran makanan tradisional Malaysia dalam industry pelancongan.
H.Hamzah, M.S. Ab. Karim, M. Othman, A.Hamzah, N.H. Muhammad (2015)	Challenges in Sustaining the Malay Traditional Kuih among Youth	International Journal of Social Science and Humanity, Vol. 5	Seramai 12 responden yang berasal dari timur semenanjung Malaysia dalam lingkungan 18 hingga 25 tahun telah terpilih untuk mencari sejauh mana tahap pengetahuan mereka dalam menyahut cabaran dan mengekalkan kuih muih tradisional yang juga dikenali sebagai pencuci mulut dalam kalangan remaja. Selain itu, perbincangan turut memfokuskan kepada bahan, ramuan, perkakas dapur, proses, cara penyediaan, teknik dan resipi. Semua ini adalah sebahagian daripada identity budaya Malaysia.
Muhamad Fadzllah Hj Zaini (2014)	Masyarakat Pribumi: Makanan Tradisional Masyarakat Melayu Sarawak	Seminar Antarabangsa Psikolinguistik Kali Ke 3	Aspek yang dikaji ialah penghasilan makanan tradisional yang mengambil kira bahan yang digunakan, teknik pembuatan, adat dan pantang larang semasa menghasilkan makanan tradisional serta kesan dan pengaruh positif atau negatif yang boleh memberi impak terhadap makanan tradisional dalam masyarakat Melayu Sarawak. Masyarakat melayu Sarawak ini menghasilkan makanan yang boleh dimakan oleh semua masyarakat terutama yang beragama Islam dan agama lain.
Maidin, S., Latiff, A.N. (2015)	Nasi Lemak packaging: a case study of food freshness and design flexibility	Journal of Advanced Manufacturing Technology	Jurnal ini mengkaji perbezaan pembungkusan nasi lemak di antara daun pisang, bekas, polistren, kertas dan surat khabar. Pengaliran udara sangat penting agar kekal segar dan tidak basi. Penulis juga mencadangkan konsep pembungkusan mesra alam yang lebih kreatif. Penulis percaya bahawa pembungkusan sangat penting untuk menentukan kualiti dan kesegaran nasi lemak. Responden ialah seramai 30 pelajar ijazah sarjana muda dari UTeM.

1.3 Makanan Tradisional

Secara pengertiannya, makanan tradisional ialah makanan yang sudah menjadi amalan dan sebati dengan kehidupan sesebuah masyarakat (Ruhaizan Sulaiman & Ilham M.Salleh, 2010). Makanan bermaksud segala benda atau sesuatu yang boleh dimakan, manakala tradisional yang berasal daripada kata dasar tradisi yang bermaksud sesuatu kebiasaan yang kekal turun temurun dan juga diistilahkan sebagai sesuatu yang bersifat atau mengikut tradisi.

Terdapat pelbagai jenis makanan tradisional di Malaysia mengikut kelompok kaum. Berdasarkan kajian Adilah Md Ramli dan rakan (2017) mendapati beberapa jenis makanan tradisional telah dikelaskan mengikut kategori oleh 500 orang responden yang terdiri daripada beberapa kaum, kumpulan umur, profesion dan latar belakang akademik. Gambar 1, gambar 2 dan gambar 3 adalah contoh makanan tradisional yang menjadi pilihan ramai. Jadual 5 pula adalah 3 juadah makanan yang mendapat tempat teratas mengikut kelas adalah seperti berikut:

Jadual 5 Kekerapan Makanan Pilihan Responden

Kategori / Kelas	Pilihan pertama	Pilihan kedua	Pilihan ketiga
Nasi	Nasi Lemak	Nasi Kerabu	Nasi Dagang
Mi	Laksa	Mi Kari	Mi Mamak
Lauk	Rendang	Masak Asam Pedas	Budu
Juadah pembuka selera	Kerabu Mangga Muda	Sambal Belacan	Cencaluk
	Bubur Cha Cha	Bubur Kacang Hijau	Pengat
Kek, Bubur, Kuih dan	Kuih Seri Muka	Kuih Koci	Kuih Keria
Pencuci Mulut	Karipap	Agar-agar	Bahulu
Minuman	Teh Tarik	Cendol	ABC

Gambar 1: Kuih Seri Muka
Sumber: buatoranglapo

Gambar 2: Bubur Cha Cha
Sumber: DariDapur.com

Gambar 3: Cendol
Sumber: vkeong.com

Dipercayai khasiat yang terkandung dalam makanan tradisional sangat berkhasiat, penuh zat tinggi dan sesuai dengan selera pelbagai masyarakat di Malaysia. Merujuk kepada penulis buku *Health and Beauty from the Rainforest, Malaysian Traditions of Ramuan,* Profesor Gerard Bodeker dan rakannya menyatakan segala yang terkandung dalam ulam ialah ubat. Ulam mencegah jangkitan parasit dan menjadi kegemaran golongan yang tinggal di kawasan pinggir bandar.

Selain itu, ulam dilihat bersifat anti-bakteria yang boleh merangsang penghadaman dan kefungsian metabolisme. Petai, misalnya, mempengaruhi fungsi renal ginjal. Apabila ulam yang dimakan dicicah ke dalam sambal belacan, mikrob sihat masuk ke dalam usus menerusi proses penapaian selain daripada memberikan bekalan protein pada badan. Selain itu, sayur-sayur lain seperti tomato, salad dan selasih ialah contoh terbaik yang mengandungi ciri-ciri farmakologi.

Gambar 4: Rempah Ratus
Sumber: bondamiza.com

Gambar 5: Ulam
Sumber: Riverstone Eco Resort

Di Malaysia terdapat banyak kajian jurnal dan artikel berkenaan dengan kebudayaan dan makanan tradisional untuk setiap kaum. Ada yang membuat kajian terperinci berkenaan makanan tradisonal untuk lebih mengetahui akan asal usulnya, ramuan, cara penyediaan, resipi turun temurun, statistik, punca dan sebab serta banyak lagi. Kaedah digunakan adalah secara kuantitatif dan penilaian subjektif diperlukan untuk meneliti dan mengkaji data secara menyeluruh.

2.0 FAKTOR

Pelbagai faktor boleh diklasifikasikan dalam mempengaruhi jenis-jenis makanan tradisional di Malaysia. Faktor-faktor ini membawa kepada perubahan dalam bentuk fizikal makanan, kualiti makanan, cara penyediaan dan jualannya hanya di sesetengah tempat sahaja. Walau bagaimanapun, paling penting adalah penerimaan makanan tersebut kepada masyarakat pelbagai bangsa. Antara faktor-faktor yang mempengaruhi makanan tradisional ialah faktor negeri, faktor perayaan, faktor usia, faktor agama, faktor resipi dan faktor sosio-ekonomi.

2.1 Faktor Negeri

Secara umumnya di Malaysia terdapat 13 buah negeri. Selain faktor kaum etnik yang berbeza, faktor perbezaan negeri juga mempengaruhi makanan tradisional. Misalnya, negeri Pulau Pinang sinonim dengan Nasi Kandar, negeri Kelantan terkenal dengan Nasi Kerabu, keunikan Kes Lapis Sarawak di negeri Sarawak manakala negeri Terengganu pula popular dengan Nasi Dagang. Makanan yang dinyatakan ini menjadi pilihan rakyat setempat tanpa mengira kaum dan agama di mana semua mampu menikmatinya tanpa was-was.

Menurut kajian yang dijalankan oleh Abdul Rais, A.R. dan rakan (2013) mendapati kawasan urban yang didiami oleh golongan India Muslim telah menjadikan Nasi Kandar sebagai makanan popular di negeri Pulau Pinang. Hampir segenap lapisan masyarakat menikmati juadah ini tanpa mengira bangsa dan telah menjadi makanan ruji rakyat setempat sejak mereka kecil lagi serta mudah didapati di pelbagai lokasi. Asal usul Nasi Kandar bermula sejak kurun ke-18, dengan kedatangan india muslim dari selatan India ke Pulau Pinang ketika pemerintahan british. Kemudian, Nasi Kandar telah terus menjadi makanan kegemaran tidak kira masa, pagi sehingga malam. Keistimewaan Nasi Kandar terletak pada rempah ratus dalam kuah kari.

Gambar 6: Nasi Kandar
Sumber: jotarofootsteps.com

Contoh seterusnya adalah Laksa. Beberapa buah negeri mempunyai perbezaan dalam menyediakan Laksa mengikut ramuan dan intipati. Antara negeri yang mempunyai identiti masakan Laksa tersendiri adalah Pulau Pinang (Laksa Asam), Sarawak, Johor, Kedah, Terengganu (Laksa Kuah Putih) dan Melaka (Laksa Kari). Persamaan adalah Laksa dibuat dengan beras dan berasaskan ikan. Penggunaan ikan mungkin berbeza mengikut citarasa dan kemahiran. Contoh perbezaan jenis laksa dapat dilihat pada gambar 7 (Sarawak), gambar 8 (Pulau Pinang) dan gambar 9 (Melaka).

Gambar 7: Laksa Sarawak
Sumber: miriapp.com

Gambar 8: Laksa Asam
Sumber: tripcanvas.com

Gambar 9: Laksa Kari
Sumber: shutterstock.com

Melaka ialah sebuah negeri yang penuh bersejarah, maka tidak hairanlah banyak makanan tradisional di Melaka dipengaruhi oleh komuniti Baba dan Nyonya yang telah menapak di Melaka sejak kurun ke-16. “Baba” atau “Peranakan” adalah kerana kebudayaan unik ini berasal daripada warisan tradisi kaum Cina. Menurut Zahari, M. S. M. dan rakan (2019) telah membuktikan bahawa budaya Baba dan

Nyonya telah mempengaruhi masakan tradisional masyarakat yang mana cara penyediaannya adalah mirip kombinasi masakan Melayu dan Cina. Contohnya ialah Ayam Masak Pongteh, Udang Lemak Nenas, Ayam Buah Keluak, Mi Siam Nyonya dan Cendol Gula Melaka.

Begitu juga dengan kajian oleh Ng, C. Y. dan rakan (2016) yang menyatakan masyarakat Baba dan Nyonya sememangnya popular di negeri Melaka dengan makanan tradisinya yang diperturunkan sejak dulu lagi. Kebanyakan makanan Baba dan Nyonya dipengaruhi oleh makanan melayu dan cina serta ternyata memiliki perbezaan serta keunikan yang tersendiri. Gambar 10 adalah koleksi makanan tradisional Baba dan Nyonya.

Gambar 10: Masakan Baba dan Nyonya
Sumber: pinterest.com

2.2 Faktor Perayaan

Secara umumnya, Malaysia mempunyai pelbagai kaum. Tidak hairanlah, terdapat banyak perayaan di Malaysia. Setiap perayaan mempunyai keunikan tersendiri terutamanya dalam penyediaan makanan tradisional sempena menyambutnya. Contohnya, Thosai, Idhili, Muruku, Kuih Jillebhi, Kuih Rawa Urundai, Kuih Nei Urundai, Kuih Athirasam, Kuih Maisur Pahku, Kuih Alva, Kuih Paal Guva dan Kuih Ladhu menjadi pilihan ketika menyambut perayaan Deepavali. Gambar 11, gambar 12 dan gambar 13 adalah contoh menu ketika kaum India menyambut musim Deepavali.

Gambar 11: Idhili
Sumber: zayan.my

Gambar 12: Maruku
Sumber:freemalaysiatoday.com

Gambar 13: Kuih Ladhu
Sumber: resepdanmasakan.com

Selain daripada perayaan Deepavali, makanan kegemaran untuk kaum Cina semasa menyambut Tahun Baru Cina yang popular dalam kalangan masyarakat Tiong Hwa ialah Kuih Bakul, Yee Sang, Bak Kut Teh, Bak Zhang, Tang Yuan dan Kuih Bulan. Seterusnya untuk juadah Hari Raya Puasa yang disambut oleh kaum Melayu biasanya ialah Ketupat Palas, Rendang Ayam atau Rendang Daging, Serunding, Lemang, Dodol, Nasi Impit, Semperit dan banyak lagi. Semua contoh makanan ini memberi impak kepada unsur budaya masyarakat sejak turun temurun dan masih diikuti oleh generasi baru.

Menurut kajian oleh Raji M. N. A. dan rakan (2017) sambutan Hari Raya Aidilfitri selain pakaian tradisional, makanan tradisional merupakan aspek penting dalam menyatukan hubungan silaturahim sesama ahli keluarga, sanak saudara dan sahabat. Semua menu seperti di atas akan disajikan ketika mengadakan rumah terbuka. Ketika ini jugalah masyarakat berbilang kaum mengadakan aktiviti melawat dan menghadiri rumah terbuka untuk menikmati pelbagai juadah. Gambar 14, gambar 15 dan gambar 16 ialah contoh juadah sempena sambutan Hari Raya Aidilfitri.

Gambar 14: Ketupat dan Lemang
Sumber: ohmedia.my

Gambar 15: Serunding
Sumber: vitdaily.com

Gambar 16: Dodol
Sumber: arezuera.blogspot

2.3 Faktor Usia

Menurut kajian yang dbuat oleh Humairah Hamzah dan rakan (2015) menegaskan tentang cabaran-cabaran untuk mengekalkan minat dan populariti makanan tradisional di kalangan remaja. Responden adalah dalam kalangan umur 18 tahun sehingga 25 tahun di 3 buah negeri pantai timur semenanjung Malaysia. Melalui pemerhatian dalam kajian tersebut juga menyatakan perspektif golongan muda terhadap kuih muih tradisional. Antara sebabnya ialah kurang kesedaran, kurang pengetahuan, tiada pendedahan oleh golongan yang lebih tua, pengaruh rakan sebaya yang lebih gemar kepada makanan barat dan isu diet. Ramai masyarakat kini lebih gemar membeli daripada menyediakannya sendiri. Mereka mengharapkan golongan tua membuat kuih muih tradisional. Akhirnya, kuih tradisional akan ditelan zaman kerana tiada lagi yang mampu menyediakannya dengan sempurna. Adalah menjadi tanggungjawab golongan muda untuk mempelajarinya dari mereka yang mahir. Gambar 17 menunjukkan kepelbagaian variasi kuih muih tradisional di Malaysia.

Gambar 17: Kuih-muih di Malaysia
Sumber: makanlena.com

Faktor usia mampu mempengaruhi pemilihan makanan. Misalnya kanak-kanak lebih suka pada makanan ringan dan tertarik pada makanan bewarna, kreatif dan popular di media masa. Mereka yang dalam usia pertengahan dan remaja pula terdorong pada makanan segera, makanan yang ada perisa, berlemak dan bergantung pada gaji individu, sekiranya bergaji lumayan maka mampu untuk membeli makanan yang lebih mahal.

2.4 Faktor Agama

Menurut kajian yang dijalankan oleh Radzi dan rakan (2010) menegaskan setiap agama mempunyai kepercayaan masing-masing. Untuk yang beragama Islam berpegang kepada kitab Al-Quran, mengekalkan konsep halal dan haram, makan apabila lapar, jangan makan sehingga terlalu kenyang dan beberapa kepercayaan lain.

Bagi kaum cina, mereka berasaskan kepada kitab Yinshih iaitu untuk makanan serta minuman dan Fan-ts'ai iaitu bijirin, daging dan sayur berteraskan 5 elemen iaitu *space, air, water, fire and earth* untuk memberi keharmonian dan keseimbangan dalam badan manusia. Kaum india pula dipegaruhi oleh Ayurveda iaitu ushna yang bermaksud makanan panas, tampu pula makanan sejuk, perlu dimakan 2 kali

sehari, juga mengekalkan konsep 5 elemen, masih ada unsur-unsur taboo dan ada yang "vegetarian" sepanjang hayatnya dengan memakan sayur-sayuran sahaja.

Di Malaysia, majoritinya adalah penganut agama islam maka sensitiviti kaum dan agama perlulah dijaga sebaiknya. Misalnya khinzir tidak boleh dihidangkan kepada umat islam kerana bertentangan dengan hukum syarak. Kaum india pula tidak boleh makan daging lembu sempena meraikan perayaan *'Mattu Ponggal'* iaitu perayaan mengucapkan rasa kesyukuran kepada air, bumi, matahari dan angin kerana kerjasama lembu menolong mereka dalam aktiviti bercucuk tanam.

2.5 Faktor Resipi

Berdasarkan kajian yang telah dijalankan oleh Zim dan rakan (2019) menunjukkan bahawa makanan tradisional mempunyai rahsia tersendiri dalam proses penyediaan dan pembuatan. Keropok Lekor yang asalnya daripada ikan dan popular di negeri Terengganu mengandungi herba dan rempah ratus rahsia yang mana hanya rakyat Terengganu sahaja yang mahir dan mengetahuinya. Keenakan, kelazatan dan kualiti dalam menghasilkan keropok lekor, dinilai melalui tekstur makanan tersebut setelah digoreng (Kilcast and Lewis, 1990). Gambar 17 ialah contoh masakan asal Terengganu iaitu Keropok Lekor.

Gambar 18: Keropok Lekor
Sumber: blog.traveloka.com

2.6 Faktor Sosio-Ekonomi

Berdasarkan kajian Tibère dan rakan (2019) menyatakan faktor perbezaan dari sosio-ekonomi di Malaysia mampu mempengaruhi pembelian dan pemilihan makanan tradisional. Namun begitu, Nasi Lemak menjadi pilihan semua peringkat bermula dari kelas bergaji rendah, pertengahan dan tinggi kerana semuanya mampu membelinya mengikut kemampuan masing-masing. Ada juga makanan tradisional yang agak mahal dan sukar untuk golangan bergaji rendah seperti Nasi Briyani, Nasi Tomato, Kurma Daging Kambing dan Masak Asam Pedas.

Seterusnya hasil kajian daripada Omar S.R dan rakan (2018) menyatakan bahawa makanan tradisional menyumbang kepada pelbagai pembangunan sosio-budaya setempat sebagai daya tarikan pelancong, penambahan peluang pekerjaan, kebanggaan masyarakat setempat dan penjenamaan. Sekiranya semua elemen ini disatukan maka penghasilan akan menjadi sangat menarik, mudah dan memberi impak yang tinggi kepada masyarakat setempat. Rajah 2 menunjukkan elemen-elemen yang terkandung dalam isu ini.

Rajah 3 Elemen yang menyumbang kepada pembangunan sosio budaya setempat
Sumber: DuRand et al., 2003

3.0 EVOLUSI MAKANAN TRADISIONAL

Malaysia kini sudah mula dijajah dengan pelbagai evolusi makanan tradisional yang berubah wajah, berubah resipi dan berubah identiti. Semua ini adalah kerana mengikut peredaran zaman yang semakin moden dan ramai yang sudah mula kreatif dalam penghasilan makanan. Contoh, Kuih Bahulu yang dahulunya satu rasa, kini telah mempunyai pelbagai rasa seperti pandan, coklat, strawberry dan vanilla. Malah kuih bahulu yang berintikan pelbagai rasa. Seterusnya Pisang Goreng yang kini telah berubah wajah dengan penambahan keju dan coklat. Dari sudut positif ialah ia boleh menarik perhatian golongan muda dan kanak-kanak untuk merasai dan menyukainya tetapi dari sudut negatif ialah keju, coklat dan lain-lain agak kurang menyihatkan sekiranya mengambil dengan kuantiti yang banyak. Selain itu, identiti asal untuk Kuih Bahulu dan Pisang Goreng telah hilang. Gambar 18 dan gambar 19 menunjukkan inovasi makanan tradisional yang telah berubah wajah.

Gambar 19: Kuih Bahulu moden
Sumber: bahuluberintinaz.blogspot

Gambar 20: Pisang Goreng Keju
Sumber: wanista.com

Walau bagaimanapun, dalam kepelbagaian inovasi makanan tradisional, syarikat Ikea Malaysia berjaya menghasilkan karipap bermutu tinggi, sedap dan menjadi pilihan masyarakat pelbagai kaum. Karipap Ikea masih mengekalkan bahan asal seperti ubi kari ayam dan menambah telur rebus ke dalamnya. Tekstur Karipap Ikea sangat lembut, rempah yang digunakan juga harum dan lazat sesuai untuk di makan pada setiap masa. Gambar 20 adalah contoh Karipap Ikea yang masih mengekalkan ciri-ciri tradisional. Harga pun berpatutan sesuai dengan saiz karipap yang dijual.

Gambar 21: Karipap Ikea
Sumber: bm.cari.com.my

4.0 CADANGAN DAN CABARAN

Cabaran utama adalah bagaimana untuk mempromosi makanan tradisional ke arah yang lebih tinggi supaya tidak hilang begitu sahaja. Menurut Jalis M.H dan rakan (2014) membuktikan produk seperti makanan tradisional berjaya dijadikan sebagai bahan daya penarik untuk menarik perhatian pelancong ke negara Malaysia. Kulinari Malaysia juga dilihat standing negara-negara luar. Untuk lebih menarik, jurnal itu turut mencadangkan agar gambar fotografi gerai, restoran, makanan, pasar, bazar dan sebagainya perlu diabadikan dalam risalah, buku panduan pelancong, laman sosial dan sebagainya.

Antara program-program yang telah dijalankan dalam mempromosikan makanan Malaysia ke luar negara ialah program *'Outreach'*, program masakan oleh chef celebriti terkenal, kempen Tahun Melawat Malaysia, papan iklan besar di pinggir jalan dan banyak lagi. Seterusnya bagi memastikan ianya

berjaya, ciri-ciri kaedah pemasaran yang perlu diberi perhatian ialah harga, produk, promosi, tempat, sasaran dan proses penghasilan produk. Ini bagi menjamin kualiti pemasaran itu mencapai sasaran. Antara produk makanan yang mendapat tempat di luar negara ialah kari rempah Baba's yang berjaya memasuki pasaran asia. Malaysia juga pernah mengadakan festival makanan di luar negara misalnya di Yokohama, Jepun di mana negara telah mempromosikan makanan pedas dan panas yang dianggap '*die food*' oleh rakyat Jepun seperti Mi Hokkien, Nasi Lemak, Nasi Ayam, Sambal Udang, Ayam Pedas Lada Hitam, Otak-Otak, Ais Kacang, Air Asam Boi, kuih muih, Teh Tarik Man murtabak. Sambutan amatlah mengalakkan.

Juadah makanan yang boleh dijadikan sebagai makanan kebangsaan untuk Malaysia ialah Nasi Lemak. Ia bukan sahaja menjadi kegemaran orang Melayu tetapi juga diminati oleh bangsa cina, india dan lain-lain. Nasi Lemak dahulunya dihidang untuk sarapan pagi tetapi kini telah dijadikan sebagai menu hidangan harian tengah hari, petang dan malam. Ia juga turut dijamu ketika mengadakan rumah terbuka atau dijadikan sebagai menu *"ala carte"* di hotel mahupun di restoran. Nasi Lemak turut dijamah dengan pelbagai lauk sampingan seperti kari ayam, rendang ayam dan daging, sambal sotong dan ikan bilis, ayam goreng, sambal kerang dan sebagainya. Timun, telur dan kacang melengkapkan kelazatan Nasi Lemak. Intipatinya sahaja telah membuktikan semua gabungan kaum bersatu menghasilkan satu juadah makanan yang menarik dan unik. Menurut Tibère L. dan rakan (2019) membuktikan Nasi Lemak (42%) telah berjaya terpilih sebagai makanan nasional dalam mempromosikan Tahun Melawat Malaysia menewaskan makanan tradisional yang lain seperti Roti Canai (22%), Nasi Ayam (22%) dan sate (9.5%). Gambar 21 menerangkan bahan-bahan yang terdapat dalam Nasi Lemak. Bahan-bahan ini adalah hasil gabungan beberapa elemen pelbagai kaum sehinggakan sesuai digelar makanan nasional negara.

Gambar 21: Bahan-bahan yang terdapat dalam Nasi Lemak
Sumber: butterkicap.com

Utamakan makanan tradisonal yang mempunyai ciri kesihatan yang tinggi yang menggunakan bahan-bahan asli. Kementerian Kesihatan Malaysia mempunyai Piramid Makanan Malaysia atau carta pemakanan sebagai garis panduan yang boleh diamalkan. Bagaimanapun tidak ramai yang mengikutinya. Merujuk pada Rajah 3 Piramid Makanan Malaysia terdiri daripada gabungan 5 kumpulan makanan yang diletakkan pada aras 4, tidak termasuk aras air. Selain dari jenis kumpulan makanan, piramid makanan juga mempamerkan kuantiti pengambilan dalam sehari seperti yang dicadangkan. Harus diingat, pada masa kini, pelbagai jenis penyakit dan masalah kesihatan seperti obesiti misalnya sering melanda masyarakat dan salah satu puncanya adalah pengambilan makanan yang tidak sihat dan tidak terkawal. Pengambilan gula dan garam yang tidak terkawal mengakibatkan penyakit kencing manis dan darah tinggi menyerang sekaligus penyakit-penyakit lain juga akan menjelma. Mereka yang mengamalkan gizi makanan tidak seimbang untuk jangkamasa lama akan mengalami malnutrisi iaitu masalah kekurangan nutrien.

Rajah 4 Piramid Makanan Malaysia
Sumber: usim.edu.my

Isu pengambilan nasi secara berlebihan dan keterlaluan menjadikan Malaysia kekal sebagai negara mempunyai bilangan penduduk obesiti paling tinggi di Asia sejak tahun 2015. Dikatakan antara punca pengambilan makanan misalannya makan makanan segera dan pengambilan nasi secara keterlaluan dan banyak mampu menyumbang faktor kepada obesiti. Merujuk kepada kajian jurnal oleh Radzi C.W.J dan rakan (2010) mendapati golongan muda lebih terdorong ke arah menikmati makanan yang kurang berkhasiat. Kesan yang mereka perolehi bukannya serta merta tetapi apabila mereka sudah menginjak ke umur 40an, ketika itu banyak penyakit yang akan menjelma. Langkah pencegahan haruslah bermula pada peringkat awal lagi. Rujuk rajah 4 untuk kajian yang membezakan antara kuantiti golongan muda ke restoran makanan segera dan pengambilan nasi dalam sehari.

Rajah 5: Perbandingan kekerapan responden ke restoran makanan segera dan makan nasi
Sumber: Radzi, C. W. J

Promosi seperti "outreach" perlu dijalankan secara berterusan terhadap makanan tradisional supaya tidak ditelan zaman. Misalnya, penerbangan tambang rendah *AirAsia* telah mengembalikan kegemilangan makanan tradisional dengan menjual Nasi Lemak Pak Nasser, Nasi Ayam Uncle Chin, Mi Goreng Mamak, Nasi Briyani Ayam, Nasi Goreng Asia bersama Sate Ayam dan banyak lagi. Melihat kepada laman web astro awani bertarikh Disember 26, 2018, mendapati juadah ini menjadi pilihan ramai, laris di pasaran dan menu paling popular pada tahun 2018. Nasi Lemak Pak Nasser dihidangkan bersama sambal cili istimewa, rendang ayam, ikan bilis, kacang tanah dan separuh telur rebus. Gambar 22 adalah contoh masakan dan bahan-bahan yang terdapat dalam Nasi Lemak Pak Nasser.

Gambar 22: Nasi Lemak Pak Nasser
Sumber: astroawani.com

Salah satu langkah terbaik ialah dengan mengembalikan era penggunaan alatan tradisional dalam penyediaan makanan tradisional. Pada masa kini, arus pemodenan semakin berkembang. Kebanyakkan peralatan tradisional seperti kukur kelapa, lesung batu, nyiru dan sebagainya telah digantikan dengan alatan mesin moden. Hal ini dilihat kurang berkesan kerana, dikhuatiri telah hilang akan ketulenan dan keaslian dalam penghasilan makanan tersebut. Penyediaan makanan tradisional yang terbaik adalah menggunakan hasil air tangan sendiri.

Majoriti rakyat Malaysia terdiri daripada muslim dan sudah pasti daging khinzir tidak boleh dimakan oleh orang islam. Sehubungan dengan itu, maka wujudlah makanan yang berkonsepkan halal tetapi masih mengekalkan ciri-ciri tradisional kaum tersebut. Dim Sum misalnya telah di dijadikan halal dan dapat dinikmati oleh segenap lapisan masyarakat tanpa was-was. Dim Sum adalah makanan tradisional yang popular dalam kalangan masyarakat cina. Gambar 23 adalah contoh Dim Sum yang terdapat dalam pelbagai bentuk, rasa dan jenis. Pada asalnya, Dim Sum disediakan dalam sebahagian kecil yang mempunyai inti daging khinzir, makanan laut, sayur-sayuran dan buah-buahan. Kini, daging khinzir telah ditukarkan kepada daging lembu, daging ayam dan sebagainya.

Gambar 23: Dim Sum
Sumber: dimsumcentral.com

Merujuk kepada kajian lepas oleh Henderson (2016) mendapati negara Malaysia kini telah mempunyai kesedaran yang tinggi tentang kepentingan makanan halal kerana ia mampu menarik minat pelancong ke Negara Malaysia. Kerajaan Malaysia telah memberi sokongan sepenuhnya, misalnya pihak Jakim telah memainkan peranan efektif dalam memastikan kualiti halal sesuatu produk itu terjamin sehinggalah negara Malaysia telah diiktiraf sebagai peneraju utama industri makanan halal seperti yang dikeluarkan oleh State of *Global Islamic Economy Report* pada tahun 2015.

Cabaran oleh makanan *western food* seperti *Chicken Chop, Lamb Chop, French Fries, Waffles Cake, Meatballs* dan sebagainya menjadi persaingan kepada makanan tradisional Malaysia. Ini dapat dilihat apabila banyak keluaran makanan segera dan makanan beku siap sedia laris di pasaran. Ia agak mudah disediakan berbanding makanan tradisional yang agak renyah. Cadangan terbaik ialah, makanan tradisional dibekukan dan dipasarkan seiring dengan jualan lain. Antara makanan tradisional yang telah dijadikan makanan beku siap sedia ialah seperti roti canai, karipap, pau, popiah, sate dan dim sum.

Persaingan makanan luar negara juga kini menjadi punca makanan tradisonal kurang popular di pasaran. Makanan dan minuman seperti *sushi, kimchi, takoyaki, bubble tea, banana split, burger, hot dog* dan sebagainya sedikit sebanyak mengugat kedudukan masakan tradisional. Tidak dinafikan ada makanan

yang sihat dan juga kurang sihat. Akan tetapi, disebabkan inilah makanan tradisional semakin dilupai terutamanya daripada golongan muda. Langkah untuk mengatasinya adalah dengan mempromosikan secara meluas makanan tradisional di peringkat negara dan juga luar negara sepertimana makanan dari luar yang berjaya memasuki pasaran Malaysia. Kementrian Kebudayaan, Kesenian dan Warisan misalnya boleh memainkan peranan dalam mempromosikan makanan tradisional ini ke peringkat yang lebih tinggi. Contohnya, Nasi Lemak dipromosikan di negara Thailand, Teh Tarik dijual di negara Taiwan ataupun Pisang Goreng di negara Australia. Nampak sukar tapi tidak mustahil. Ia akan mengambil masa untuk popular tapi sekiranya berjaya, pulangan adalah setimpal. Orang Malaysia sendiri sepatutnya menyokong usaha mempromosikan makanan tradisional ini.

5.0 IMPLIKASI

Sebagai seorang kaunselor yang berwibawa, kaunselor perlu mempelajari segala ilmu berkenaan dengan etnik dan budaya agar dapat membantu dalam menjalankan sesi kaunseling. Menurut Noria Ab Karim dan rakan (2019) kajian yang melibatkan pelbagai budaya dapat membantu kaunselor untuk lebih memahami tentang budaya, kaum dan etnik terutamanya ketika menjalankan sesi dengan klien supaya klien berasa selesa dan diterima tanpa syarat. Kaunselor perlu berdepan dengan pelbagai klien yang berbeza agama, kaum dan budaya. Melalui subjek kaunseling pelbagai budaya, penulis mempelajari banyak ilmu baru dan memilih untuk mengkaji hasil kajian lepas dalam makanan tradisional. Hasil kajian lepas ini membantu kaunselor untuk lebih menyelami tentang perkaitan antara salah satu identiti budaya iaitu makanan tradisional di Malaysia.

Dalam konteks masyarakat masa kini, dengan menambah ilmu pengetahuan tentang makanan tradisional di Malaysia, ia dapat membantu dalam menyatupadukan pelbagai kaum dan etnik. Selain itu, dengan mengetahui kepercayaan setiap kaum, pantang larang dan adat resam, ia dapat mengelakkan perselisihan faham dan mendidik masyarakat supaya mengamalkan nilai-nilai murni. Contohnya, memupuk sikap saling menghormati, amalan mengunjungi dan menghadiri rumah terbuka ketika musim perayaan. Walaupun berbeza kaum dan agama, ia dapat membantu rakyat Malaysia memahami budaya kaum lain sekaligus dapat mengeratkan hubungan perpaduan. Seterusnya dapat merapatkan lagi hubungan silaturahim dalam sesebuah keluarga.

6.0 KESIMPULAN

Sebagai sebuah negara kosmopolitan, Malaysia memiliki potpuri identiti budaya yang sangat unik. Kepelbagaian budaya dan kaum menjadikan Malaysia sebagai syurga makanan. Orang Malaysia boleh boleh mendapat apa jua makanan yang mereka mahu dengan mudah tapi haruslah bersederhana. Amalkan gaya hidup yang sihat dengan mengamalkan cara pemakanan yang seimbang dan berkhasiat. *'Celebrity Chef'* terkenal, Chef Wan pernah berkata, dari segi kesihatan, sajian makanan warisan mempunyai khasiat tersendiri. Terpulang kepada individu tersebut untuk memilih menu yang betul.

Secara keseluruhannya, dapat disimpulkan bahawa makanan tradisional secara umumnya dapat membentuk ikatan perpaduan dalam kalangan masyarakat majmuk di Malaysia. Kaum Melayu, India, Cina dan lain-lain masing-masing mempunyai keunikan tersendiri terutamanya dalam elemen makanan tradisional. Pelbagai variasi dihasilkan melalui identiti budaya dan sejarah. Kajian-kajian yang lepas jelas membuktikan bahawa Malaysia adalah negara yang kaya dengan pelbagai budaya. Jelas di sini, makanan tradisional dapat memainkan peranan dalam mencerminkan semangat perpaduan yang positif. Cabaran sentiasa ada. Oleh itu, peranan yang perlu digalas oleh masyarakat adalah sangat besar bagi mengekalkan makanan tradisional supaya tidak ditelan arus masa. Kajian ini juga dapat memberi sumbangan kepada bidang utama dan boleh diajukan kepada pihak tertentu bagi menjalankan kajian yang berkaitan.

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028 : A Conceptual Paper on Racial Integration of Multi-ethnic Students in Malaysia Higher Institutions

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ABSTRACT

Malaysia is created of several ethnic groups, every of that has its own distinctive culture and heritage like language, belief system, tradition and faith. Thus, Malaysians are aware of the importance of national unity and for this reason it has to be nurtured to be truly successful and one of them is through education. The importance of education in bridging the inter-ethnic relations have brought well results in the close relations between ethnic groups in Malaysia. The education system has a strong emphasis on the issue of unity among ethnic groups in Malaysia. The conceptual framework of the relationship between racial integration, democracy outcomes and the mediating factor which is social interactions is presented through four theories as core guidelines in conducting this research. The theories are Schlossberg's Theory of Transition (1984), contact theory by Allport (1954), Theory of Astin's Input Output Framework (I-E-O Model) (1991), and last but not least is Langer's concept of conscious mode of thought (1978). After all, this study aimed to contribute to multi-ethnic players, NGOs, schools and government agencies in planning and taking suitable actions for positive multi-ethnic development.

Keywords: Racial Integration, Democracy Outcomes, Social Interactions, Multi-Ethnic, Higher Institutions

1.0 INTRODUCTION

Malaysia is known as a multi-ethnic and multi-cultural democratic country. The main ethnic who live in the country are Malays, Chinese and Indians and diverse groups of indigenous people such as Iban, Bidayuh, Kadazan, Bajau, Melanau and others which are completely different in terms of their race, language, religion, history and lifestyle (Kanamaru, 2014). To date, the population of Malaysia is 32.6 million (Department of Statistics Malaysia, 2019), with the Malays are the largest ethnic group (69.3%). Based on law, all Malays are Muslims, and they along with the natives of Sabah and Sarawak and aboriginal tribes in Peninsular Malaysia, are officially classified as Bumiputra or sons of the soil and are granted a variety of constitutionally enshrined special rights and privileges (Mustapha, Azman, Karim, Ahmad, & Lubis, 2009). The Chinese, who came through British to Malaya in the early 20th century either voluntarily or through forced migration, form the second largest ethnic group (22.8%) are mainly Buddhists and have historically played an important role in trade and business even in present times. The Indians, mainly Hindu Tamils, from southern India, brought in as estate workers by the British, make up the third-largest ethnic group (6.9%). The other ethnic groups are classified as 'others' (1%).

The effectiveness of Malaysians from different ethnicities and backgrounds in terms of language, religion and culture to live together in a harmonious society is admittedly not an easy task. Thus, Malaysians are aware of the importance of national unity and for this reason it has to be nurtured to be truly successful and one of them is through education or specifically multicultural education. The fact that the effort in promoting unity through education has now reached higher education and not only concentrated on the school level, is a sign that the process of multiculturalism in the Malaysian education system is moving forward towards a new phase (Ibrahim, Muslim & Buang, 2011). In conjunction with that, Malaysia Ministry of Higher Education (MOHE) has made Ethnic Relations as a compulsory subject for every student in all Malaysia universities. The subject will be taught with the aid of a module in ethnic relations that has been constructed in such a way that will cater the needs of different ethnic in Malaysia.

1.1 Problem Statement

Malaysian citizens consist of three major ethnics which are Malay, Chinese and Indians. These three ethnic groups have different mother tongue language and school systems. For instance, national schools will use Malay language as the language of instruction. Thus, majority of Malay students will study in Malay schools, while Chinese and Indians students will prefer to study at their own national (type) school. These factors simultaneously causing the students to separate based on their native language and leads to very limited interaction among the students in different ethnic terribly since the early stages of schooling. Back then, the arrival of the Chinese to Malaya in 19th century, instead of to seek for wealth, the Chinese people will not forget their social responsibility of educating their children so that they will inherit the Chinese language and culture. Thus, the establishment of Chinese vernacular school becomes an important agenda to them. However, this education system will create a feeling of prejudice among the students towards different ethnic groups as (Zainal & Mohamad Salleh, 2010) stated with this feeling of prejudice, it is difficult for the students to interact with others especially when the others are using their own native language not understood by the students.

Undeniably, prejudice and stereotype are the result of different educational backgrounds of the early years of primary education**.** The vernacular system of education at primary school level has already divided the students in various environments of socialization. That means their six years of schooling did not give them any chance to mix together with different ethnic groups. They only have the chance to mix together when they are in the secondary school. At this stage, some of them face a culture shock, thus affecting their behavior. This created behavior such as gang fighting with different ethnic groups, shows disrespect toward other students and teachers of different ethnic groups (Zainal & Mohamad Salleh 2009). From there, it clearly shows the vernacular school has already built boundaries among the youth in their early schooling years. This is a bad effect of the vernacular system, whereas we wanted an education system that could bridge the gap between the different ethnic groups (Zainal, Abu & Mohamad, 2010).

Furthermore, previous studies had mentioned about the ethnic relation between ethnic groups in Malaysia is still at an average level (Mutang, Seok, Madlan, Lastar, Baharuddin & Joseph, 2014). The study on students who are classified as youth shows caution in relationships involving the various ethnic groups. The youth in the study still belonged in the educational environment and should have a better understanding of the importance of ethnic relations in Malaysia (Mutang et al., 2014). The education system has a strong emphasis on the issue of unity among ethnic groups in Malaysia. After evaluating previous studies, students who represented the youth had shown a certain degree of feelings of prejudice toward different ethnic groups. Ethnic prejudice occurs when a certain ethnic group has a negative view of the other ethnic groups. A study found that 80% of respondents agree that they still have negative prejudices against other ethnic groups. Although on the surface, the relationships between different ethnic looks good, students find it difficult to spend time together for social activities such as having meals together, learning as a group, and more significant is they do not willing to share accommodation as a roommate or housemate together with other ethnic groups (Mutang, 2014). A study conducted by Helen (2012) shows the serious situation of ethnic polarization among students in Malaysia. This statement was however supported by respondents from subsequent research studies where the results of the study revealed their reluctance to share hostel rooms with students of different ethnic backgrounds. Further, from Helen's own observation, she has come to the realization that this state of ethnic polarization has been around in the country even since the establishment of Malaysia's oldest university which is Universiti Malaya.

According to the theory outlined in this study, students who had the most experience with diversity during college would be more motivated and better able to participate in an increasingly heterogeneous democracy (Hamdan, Ghafar, & Che Ghani, 2010). To participate effectively, students need to understand and consider multiple perspectives that are likely to exist when people of different backgrounds interact, to appreciate the common values and integrative forces that incorporate differences in the pursuit of the broader common good, and to understand and accept cultural differences that arise in a racially/ethnically diverse society. Although several studies have been conducted in the past that extol the benefits of being educated in a diverse environment, it is a relatively new area of educational research and, subsequently, can still be strengthened in a number of ways (Denson, Pedersen, Friese, Hahm, & Roberts, 2011).

It is not too much to say that the nation's future depends upon leaders trained through wide exposure to the ideas and beautiful ideas do comes from friendship of diverse background and cultures (Gurin, Dey & Hurtado, 2002). The ability of each country to be independent and progress economically

depends on the social harmony and political stability which can only achieve through unity and integration among its citizens, (Aziz, Salleh & Ribu 2010). Thus, this is the perfect time to change. After 13th general election which took place on May 9, 2018 Malaysia has been led by the new government, better known as the new Malaysia. Therefore, also have to change citizen's thinking by always united and love one another regardless of race and religion. Prejudice must be erased and disposed within themselves. After all it's a goal of Malaysian education and schooling practice to enhance racial integration among these various ethnic groups beyond mere physical integration, and intends to eliminate social prejudices and discrimination (Mohd Yusof, 2006). The most important things are racial diversity creates, through social ties, richer and more complex social and learning environments. Furthermore, cross-race ties enable students to use group identities as resources for intercultural understanding and collaboration (Gurin & Nagda, 2006).

However, most of the studies concentrate on studying the retention of students and educational attainment and very few concern themselves with students' experiences and their perceptions regarding integration (Chang, 2005). Some of the earlier studies have focused on outcomes of practicing curriculum diversity which reveal positive intergroup attitudes; racial prejudice and intergroup understanding (Chang, 2005); attitudes toward campus diversity; critical thinking skills (Pascarella, Pierson, Wolniak, & Terenzini, 2004); cognitive and affective development (Astin, 1993a) but lack attention and discussion given to area of racial integration or racial/ethnical diversity towards democracy outcomes. Despite the substantive literature suggesting that students' experiences with diversity impact positively on their learning and educational outcomes, little is known about the effect of race-related diversity or their democracy outcomes on undergraduates in Malaysian universities (Tamam, 2012). Zainal et al., (2010) suggested a research should be done to identify whether students at the university level demonstrate a negative ethnic attitude among different ethnic in Malaysia since higher education was regarded as one of the most important ways towards restructuring Malaysian society (Ibrahim et al., 2011).

Thus in order to address this knowledge gap, a comprehensive research is needed. The purpose of the current study is to identify the relationship between racial integration among multi-ethnic students in Malaysia higher institutions with democracy outcomes and also to examine their viewpoints on "integration" concepts itself. Elements included in democracy outcomes such as perspective-taking, citizenship engagement, racial/cultural understanding and judgment of the compatibility among different groups in a democracy. In short, the researcher intends to investigate the gap between the ideal levels of racial integration among multi-ethnic students in Malaysia with the existing one and offers solutions towards bridging the gap as the relationships of these variables will give a huge impact on the country harmony, national security and further progress as well.

1.2 Research Objectives

1. To identify level of racial integration, democracy outcomes and social interactions among multi-ethnic students in Malaysia higher institutions.
2. To examine the students' views towards racial integration process from inside and outside the classroom
3. To examine the relationship of racial integration with democracy outcomes among undergraduate students in Malaysia higher institutions.
4. To examine the role of social interaction as mediator on the relationship between racial integration and democracy outcomes among multi-ethnic students in Malaysia higher institutions.

2.0 LITERATURE REVIEW

A considerable number of studies highlight the issues on racial integration or unity among multi-ethnic students in Malaysia. Tamam (2012), in his study regarding race-related diversity experiences in lifelong learning found that results of the cultural sensitivity and interracial bridging are also influenced by their level of involvement in community-related activities while on campus. Therefore, he proposes a policy on the involvement of all university students in a variety of racial-related activities and such policies should be implemented strictly to increase student engagement and thus bridge the gap between them. Furthermore, Dusi, Steinbach & Messetti, (2012) has come out with an article paper called "citizenship education in multicultural society: Teachers' practices" in order to verify if and how teachers and institutions engage in education for democratic citizenship from an intercultural perspective. Result of the

article found among teachers itself there is a perception of inadequacy with respect to the complexity of the task they are asked to perform.

However, recent study regarding social interaction among multiethnic pupils in Malaysian vision schools by Vellymalay & Murugaiah (2017), has found that effective communication between students of the same ethnic group is an important factor in providing emotional and social support to others as it empowers students to feel a sense of belonging within their own ethnicity. To strengthen this statement similar study by Vellymalay (2014) verified students are more comfortable interacting with peers of the same ethnic group as it enhances their understanding of each other and further strengthens intra-ethnic friendships than inter-ethnic friendships. On the other hand, Shamsuddin, Ong & Ridzuan (2015) mentioned in their study on ethnic-based politics is the cause of the separation between ethnic groups. Unscrupulous political leaders who become selfish leaders who do not care and think about feelings and impact on society have played and politicized sensitive issues in order to seek popularity indirectly can cause tension among multiracial people. Ethnic-based politics can lead to discomfort and even racism if it is not taken seriously by those responsible. Sensitive issues such as language, culture, education, religion, nationality and economy if used for political purposes, of course, it will not contribute to a cohesive society.

This study consists of three core variables which are racial integration (independent), democracy outcomes (dependent) and social interactions (mediator). Each of the variables has its own basis theory in order to deeply explain the relationship with each other. Allport's contact theory (1954) used for racial integration, Theory of Astin's Input Output Framework (I-E-O Model) (1991) used for democracy outcomes and Langer's concept of conscious mode of thought (1978) used for social interactions. However, as this study is intended to study multi-ethnic students in Malaysia higher institutions, then Schlossberg's Theory of Transition, (1984) is used to explain the transition or sequence of their relationship. Thus, Theory of Transition (1984) was selected by the researcher as the core theory for this study as it is able to explain ethnic relations between the students in the country before and after university life.

Figure 2.0: Conceptual Framework

3.0 RESEARCH METHODOLOGYA descriptive research analysis employing a quantitative approach through cross-sectional study (type of observational study that analyzes data from population or a representative's subset, at a particular point in time) is taken into consideration the most acceptable method to use. Descriptive study most frequently used by the researchers is using surveys. Surveys allow researchers to gauge their attitudes and opinions on issues and can also formulate conclusions about different groups' characteristics (Wiersma, 2000). In other words, the method of the survey allow researchers to collect information from a large number of samples, fast and does not result in high costs (Ary et al., 2002). The researchers then propose to use correlational design methods. Correlation leads to a level at which two variables change in the same route or a different route (Slavin, 1992). As Cohen and Manion (1980) assert, correlational techniques are often aimed at determining the relationship between two variables. The situation whereby two variables are connected is classified as a correlation coefficient (Cohen & Manion, 1980; Slavin, 1992). However, in the use of correlational studies it is quite difficult to identifying variables which will affect other variables. In such cases, regression analysis can help to overcome the deficiencies and shortcomings of the correlational design. Therefore, the use of correlational techniques is very appropriate because one of the objectives of this study is to determine the relationship as well as the correlation size between racial integration with democracy outcomes.

Data for this research will be collected using a questionnaire as it allows the researcher to collect large amount of data in a short amount of time (Gay, Mills & Airasian, 2009) and a questionnaire can collect data on respondents' opinion, perception and demographic information (Christensen, Johnson, Turner, 2011). However, in a process to enable the researcher to seek a more panoramic view of the research landscape, viewing phenomena from different viewpoints and through diverse research lenses, an open-ended question will be added as well into the instrument. From there, the result will be more meaningful and able to answer the research questions precisely. The target population for this study is among the multi-ethnic undergraduate students (Malay, Chinese and Indian) who are currently pursuing studies at higher institutions nevertheless Public Institution of Higher Institution (PuIHE) or Private Institutions of Higher Institution (PrIHE) located in Malaysia. While the accessible populations for this research are undergraduate students from the three main ethnic groups and they are in the second or third year of study. The three ethnic group students were chosen from year two (2) and three (3) to ensure that they had spent a sufficient amount of time in the university and have had the opportunity to interact with diverse racial groups during their period of study. Thus, the population for this study is all students of PuIHE and PrIHE in Malaysia but the sample will be gathered at the institutions located around Klang Valley.

3. CONCLUSION

This study would add another dimension and thus contribute towards the existing body of knowledge by providing valuable findings about multi-ethnic learning styles at higher education institutions. In term of practical aspect, this study aimed to contribute to multi-ethnic players, NGOs, schools and government agencies in planning and taking suitable actions for positive multi-ethnic development. In summary, it is the wish of the researcher that this study will make modest contribution in understanding racial diversity among multi-ethnic citizen in this country and lastly to achieve the desired democracy outcomes among them.

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STREAM 9 – SPORTS SCIENCE

006 : Exploring the Perception of Nutrition among Collegiate Sports Enthusiasts in a Public University in Selangor, Malaysia

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ABSTRACT

The sports nutrition field is an exponential increase in recent years. Especially, athletes use it to optimize the performance in competition and normal training, which recommendations can be adjusted by team dietitians. However, the population of collegiate sports enthusiasts is increasing. Usually, dietitians for them are unavailable. So, explore their overall perception of nutrition is important. The purpose of this study is to explore the collegiate sports enthusiasts' perception of nutrition on physical exercise. Semi-structure interviews were applied to the sample. Four University Putra Malaysia students who are sports enthusiasts involved in the study. Data Analysis: The grounded theory method was used to analyze data. Code and classify the data, some themes emerged gradually. Accessibility and knowledge are primary themes to show the perception of nutrition affect physical exercise. Some subthemes further evaluate the collegiate sports enthusiasts' perspectives and perceptions, which include utilization, understanding, resource, and cost related to knowledge and accessibility respectively. Collegiate sports enthusiasts believed nutrition plays a key role in their overall health. However, there was a significant gap between nutritional decisions and available conditions on campus, but also a gap in how they apply the knowledge to improve body health and performance in sports. Thus, extra nutritional education and professional guideline are necessary.

Keywords: *Perception, Nutrition, Sports enthusiasts, Physical exercise*

1.0 INTRODUCTION

With the proliferation of society and the economy, living standards have been greatly improved. More and more people realize the importance of physical exercise, causing an increase in sports participation. According to the research of Doyle, Filo, Lock, Funk, and McDonaldt (2016), sports participation is highly prevalent among university students and is associated with numerous positive health behaviors and psychological benefits. Meanwhile, some statistics show that there is an increasingly enthusiastic about participating in physical exercise. One-third of Chinese people have formed the habit of regular exercise, that is, 34% of Chinese people regularly participate in physical exercise. There is a significant increase compared with 28.2% seven years ago, and considering the economic development, this number will still increase (Wang, 2000). Moreover, the top-down decision also causes the increase. This is evident in the case that the United Kingdom (UK) focuses on 'Sporting Future' plan as the government strategy, for the promotion of sports participation impact on health, well being, personal and social development, and economic development (HM Government, 2015).

Concurrently, depend on the source from the U.S Bureau of Labor Statistics (Figure 1), we can see from 2005-2017, people in all age groups increased their participation in sports and exercise on an average day. Individuals aged 15-24 increased their participation almost by 4.5 percentage points. In all years, people aged 15 to 24 were more likely to exercise than those aged 25 and older.

Figure 1. Percentage of the Population engaged in Sports and Exercise on an Average Day, by Age, 2005-2017

In recent years, a considerable literature has grown up around the theme of sports nutrition, due to ensure appropriate development, avoid injuries, fast recovery after exercise and improve the physical and mental performance, especially in young people (Torres-McGehee et al., 2012). Additionally, for most of the last century, getting stronger just involved training harder. However, today' s elite athletes, weekend warriors and even recreational amateurs know that they have to consider not just their workouts, but the nutrition of their body, especially if they want to get stronger or faster. (Almeida, Souza, Cesar, Sousa & Izumi, 2016). Collegiate sports enthusiasts who like sports, spontaneously exercise at least once a week is the main group of college sports exercises population, but they lack the guidance of systematic training and nutrition knowledge, for they are a kind of recreational athletes, and they don't have coaches and condition trainers. Thus, they are more likely to be injured in sports (Kilic, Kemler, & Gouttebarge, 2018). Therefore, it is important to explore and understand the knowledge and attitude about sports nutrition in collegiate sports enthusiasts, which can effectively improve sports performance and avoid injury.

2.0 PROBLEM STATEMENT

Although there is a significant rise in collegiate sports enthusiasts, researches are a limited focus on nutrition among college athletes. Lots of institutions such as Dietitians of Canada, the Academy of Nutrition and Dietetics and the America College of Sports Medicine contribute to guide and research to improve and expand the area of health; however, there is still exist a gap for athletes to fully understand and implement these guidelines. Webber et al. (2015) claim that the collegiate athletes only scored a 51 out of a possible 100 on the Healthy Eating Index (HEI). The HEI is an indicator of diet quality, for it can assess individuals whether strict compliance with the dietary guidelines outlined or not. The score of 80 is represented "good" while 51-80 is represented "fair". So, from this research, we can find both the need for nutrition intervention and nutritional education for collegiate athletes. Besides, athletes are posed high risks in physical and mental health by disordered eating. Especially, the high rate of disordered eating exists among the specifics student-athlete population.

The National Collegiate Athletic Association (NCAA) as the largest collegiate athletes organization, indicated that 25% of female athletes and 20% of male athletes have disordered eating symptoms (Voelker, 2012). Collegiate sports enthusiasts belong to recreational sports participants, and they consider physical exercises and sports as a kind of recreation to relax and keep health. Frequently, they cannot obtain professional guidance, for they do not have coach and condition trainer. However, they participate in physical exercise or sports every week. Li (2016) argues that people who have a strong interest in sports and participate in sports activities one time a week are enthusiasts. The literature on youth sports participation has highlighted several advantages, which improved psychological and social health (e.g., higher social skills and self-esteem, lower anxiety), as well as physical health (higher fitness and lower risk of developing cardiovascular diseases) (Eime, Young, Harvey, Charity,& Payne, 2013). On the other hand, some disadvantages exist, not all participants can get benefit from sports. The previous study has found that sports participation may increase the exposure to risk factors such as disturbance of

intracellular calcium level in muscle cells, etc (Moore & Werch, 2005), which can be avoided by a scientific nutritional diet. Therefore, managing a healthy and well-balanced diet is important for collegiate sports enthusiasts. Reasonable Dietary Nutrition not only decreases the risk of disease but improve the performance in sports. So, it is significant that understand the perception of nutrition among collegiate sports enthusiasts, nutritional knowledge and the factors that influence these decisions. However, the resources to the collegiate sports enthusiasts are unavailable and a few types of research focus on the perception of sub-populations. Since they have various personalities and similar lifestyles, their perceptions may differ. Thus, this study aimed at identifying how and what collegiate sports enthusiasts perceive nutrition.

3.0 RESEARCH QUESTIONS

What is the perception of nutrition on physical exercise?

How do they improve their knowledge about nutrition?

4.0 LITERATURE REVIEW

4.1 Nutrition Influencing Factors

It is important to identify the specific influences and factors for nutritional decisions among collegiate sports participants. Some researches indicate that healthy eating can be confused with weight management (Buckton, Lean&Combet, 2015). The relation between healthy eating and weight management is the main problem for people, especially, may cause the risk of disordered eating for collegiate sports enthusiasts. The evidence shows that an individual almost makes 200 food choices every day. These choices are influenced by internal and external factors, which highlighted by physiological factors such as hunger, taste, and gastronomy (Birkenhead & Slater, 2015). More recent attention has focused on some specific food choices. One example of this is gluten now plays a role in athletes' dietary highlighted by endurance athletes. So there exists a likelihood of bias based on the self-report information that endurance athletes hold a gluten diet based on some factors.

psychologic factors also play an important role in evaluating the nutrition of sports participants, such as weight management and body image. The literature on nutrition evaluated has highlighted the concept of psychological factors. Adams et al. (2015) argue that gender differences impact nutritional decisions and food choices. Females pay more attention to body weight and shaping, while males show a positive perception of performance improvement, and even associating with supplements utilization. Furthermore, for college students, food choices are usually impacted on time, taste, convenience and spend rather than nutritional value. Qualitative research focusing on collegiate soccer players indicates that not only is time important, and meals are structured around, but establishing a routine (Kicklighter, Koonce, Rosenbloom, & Commander, 2010). The limitation in this research, likewise other pieces of literature found, is the narrow focus of the population on one specific sport.

4.2 Nutritional Knowledge

College students' personal habits of nutrition, internal and external factors impact key role in criterion nutritional knowledge. Torres-McGehee et al. (2012) find that only 8% of collegiate students have sufficient knowledge about nutrition. And other research pays more attention to triathletes to analyze the gap and limited studies on nutritional knowledge (Birkenhead, 2013). So, health and nutrition have different definitions for individuals and athletes. Finding further about collegiate sports enthusiasts' nutritional knowledge, from a more general perspective, how they feel the perceptions they have are essential for educating this sub-population.

4.3 Nutritional Behaviors

Understanding the factors of nutrition influence, motivators, and nutrition knowledge is important for collegiate sports enthusiasts, and it is also important to identify how each of these components impacts nutritional behavior. Karpinski and Milliner (2016) use the Theory of Planned Behavior (TPB) to help classify impediments to healthful eating. The TPB is a strong predictor of actual behavior. The three concepts impact behavior aims are attitude, subjective norms and perceived behavior management. The researchers tested this theory among some college athletes to analyze their aims of eating healthy and found that understanding these concepts is important for college athletes to make appropriate nutrition decisions.

5.0 RESEARCH METHODOLOGY

5.1 Research Design

This research conducted face to face in-depth interviews to explore the perception of collegiate sports enthusiasts about how nutrition impacts performance. An in-depth interview is a kind of qualitative research method, and it allowed the researcher to probe deeper in certain areas, generating a wide range of views that informants carry about the issues. Besides, this method allowed to identify a diverse range of themes.

Voluntary interviews were conducted between 6th and 30th May 2019, with participants who were sports enthusiasts (actively participate in sports, at least once a week) in Universiti Putra Malaysia (UPM), in Malaysia Selangor. Non-random purposive selection determined the sample population. Participants cannot provide new information is recognized data saturation. Data saturation was achieved after the fourth interview.

5.2 Participants

Four participants were recruited in this research, which includes 3 males and 2 females. All of them were sports enthusiasts; love different sports and join in sports at least once a week, and more than half an hour a time. Table 1 shows further information about participants.

Table 1 Participants Profile

Student	Gender	Age	Program	Country	sports
Informant A	male	31	PhD	Yemen	badminton
Informant B	male	24	master	Indonesia	basketball
Informant C	female	29	PhD	Chinese	swimming
Informant D	male	23	master	Algeria	football

5.3 Procedures

Each interview was guided by a semi-structured questioning route, which lasted about 20-30 minutes. The author as the interviewer used a guided process to establish consistency. Questions were shown in Table 2. All interviews were conducted in the UPM campus, and audio recorded was consented by all participants in each interview.

Table 2 Guided Interview Questions

Number	Question
1	Is nutrition that you think related to your health?
2	Do you feel nutrition is important? Why?
3	Do you think you eat a balanced diet? What does your diet on a normal day look like?
4	Do you know the difference between carbohydrates, proteins, and fats?
5	What influences your nutritional decision?
6	What do you normally eat before a game or exercise? After?

Number	Question
7	Where would you go if you needed nutrition information? Why?
8	Where do you typically eat your meals?

5.4 Data Analysis

An approach of grounded theory was used to determine themes from the data. Transcripts were analyzed by the researcher twice. The first time was to identify concepts related to the knowledge and perception of participants. The second time-coded with categories that were formed into more definitive themes. Further, the relationships, similarities, and trends among sports enthusiasts' responses can be analyzed clearly from these themes.

6.0 RESULT AND DISCUSSION

6.1 Result

With the deepening of interviews, the researcher did coding and category, and themes emerged in Figure 1. Include knowledge, accessibility and time, which associate with enthusiasts' perception of nutrition. Each theme will be illustrated in the following paragraph.

Figure 1 Themes of nutrition perception

6.1.1 Accessibility

Accessibility is the majority reason for enthusiasts' food choices. From the original transcriptions, the different ways of accessibility defined can be found.

Campus resources. Because all of them are students, the majority of the time they should have classes and study in the library, they do not have too much time and access to kitchens. All of them rely on university dining resources. In the interview, some of them stated that eating in the campus always having consistency for nutrition, and others have opposite opinions. Informant A said,

> *" has dinner on the campus, multiple types of food can be chosen such as chicken, vegetables, and salad.....". "But the fruit is unavailable, and the taste is not good, and the style of the meal remains unchanged", said Informant C, "we don't have many choices in the campus, so sometimes we have to choose something different to get a chance, though we know it is unhealthy".*

Cost. Spending is a considerable issue in food choice. As students, though 50% of them have a job in their own country, they cannot earn money in Malaysia. When asked where they ate meals, the majority

of them desire to eat healthier or eat in shopping malls, for tasty food, such as KLCC, IOI....., but were limited by cost. Informant D mentioned

> *"now, we don't live in hometown, we are living in the university which in another country, so we must consider the budget, which includes the meals and food. But we can try our best to choose healthy food with sufficient nutrition in the limited budget because if I have sufficient carbohydrates before the football competition, I will feel powerful."*

6.1.2 Knowledge

Knowledge about nutrition is another factor that enthusiasts influence their food choices, in other words, how they feel about nutrition. Some participants believed they have nutrition knowledge and trust the nutrition can benefit their performance in sports.

Understanding. The majority of participants inferred their knowledge by describing their daily diet to show if they feel it is balanced. One participant directly discussed nutrition knowledge. Informant B study in the faculty of Agricultural and Food Sciences, he had access to nutrition class, said that

> *"If I don't put enough nutrients into my body, I will lose weight, so it is important to know how much you need to maintain your health." While Informant D stated, "every day I should eat fruit, sometimes fruit is unavailable, so I must go to South City Plaza where it is a convenience to take a school bus to buy them."*

While some participants pointed out they lack nutrition knowledge and they did not know what food was proper for their body. *"When I needed nutrition knowledge, I searched online, there is ample knowledge",* from Informant C.

Utilization. The data showed that enthusiasts used nutrition knowledge. Informant A described

> *"Muslims people know a balanced diet improves blood cholesterol, reduces gastric acidity, prevents digestive problems, and in fasting month we reduce or eliminates excess hunger and rapid weight loss to keep health."*

While Informant B referred *"Fruit and vegetables are necessary for the plate since it contains sufficient carbohydrate to keep our energy when we do exercise."* On the other hand, some participants were confused about utilization. *"I know micronutrients are important, but I can't identify the effect of them, such as Vitamin C and Vitamin E, and I don't know what is the correct time to have nutrients."* described by Informant C.

6.2 Discussion

Collegiate sports enthusiasts strongly believed nutrition was important to shape their bodies, keep health and improve the performance in sports. However, they could not always have the appropriate resources to eat a balanced diet, and because they were students, they should consider the cost of getting sufficient nutrition.

6.2.1 Accessibility

Difficult to access to a balanced diet is the major issue on campus with the lack of kitchens used by them to cook for themselves, which means they only could depend on selling food. They could not always get what they needed, for the limitation and beyond their control. This kind of barrier included food options and lacked knowledge of nutrition. Therefore, providing enthusiasts some opportunities to learn nutrition knowledge on how to build healthier meals on campus and removing the barrier of perceived control could help them choose appropriate nutrition.

6.2.2 Knowledge

It was interesting to note that some enthusiasts had nutrition knowledge, and believed it can benefit their health and improve the performance in sports. But the difficulty was that it applied it to reality. On the other hand, some enthusiasts felt they lack nutrition knowledge, and could not identify the function of specific nutrition components, even some supplements. Moreover, they had different sources of information and utilization. All the enthusiasts could not get the customizing guidance on campus, especially the sports nutrition. The majority of them acquired nutritional knowledge from the internet, while only one enthusiast could be guided by his teacher.

7.0 CONCLUSION

In this investigation, the aim was to assess the perception of nutrition among collegiate sports enthusiasts, and the data showed that they believed nutrition plays a key role in their overall health. There were big challenges existed inaccessibility and knowledge for making appropriate nutritional decisions. The theme of accessibility and knowledge was most important in this research, and nutritional education was desired. Besides, the analysis revealed that there was a significant gap between nutritional decisions and available conditions on campus, but also a gap in how they apply the knowledge to improve body health and performance in sports. This project was the first investigation of such sub-population to explore the perception of nutrition. This would be a fruitful area for further work.

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STREAM 10 – TEACHING OF ENGLISH AS A SECOND LANGUAGE

008 : Vocabulary Learning Strategies Use Among ESL Malacca Matriculation College Students

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ABSTRACT

This study looks at the vocabulary learning strategies (VLS) use among students of Malacca Matriculation College. Using simple random sampling technique, data was collected through a questionnaire among pure science and accounting second semester students of one-year matriculation programme. Out of 995 students, only 140 students responded to the questionnaire. The findings of the study revealed there were significant differences between vocabulary learning strategies use of six categories with gender, programmes and proficiency level. In addition, it was found that students faced more problems with word meaning compared to word form. Among the implications of this study are it provides empirical data on vocabulary learning strategies use among ESL matriculation students and gives input to English language instructors to devise further strategies for vocabulary teaching in the post-secondary education institutions.

Keywords: Vocabulary Learning Strategies, ESL students, Post-secondary education, Matriculation

1.0 INTRODUCTION

The poor command of English as a Second Language (ESL) among Malaysian students is a great concern especially when the language continues to be the global "lingua franca". The question that arises is what really causes the poor proficiency in the English Language? One possible reason is low mastery of vocabulary which hinders language users from performing well in the four language skills (Subon, 2013). This is a concern because words are building blocks of a language (Lai, 2005).

Vocabulary is one of the most fundamental components in learning a language. As vocabulary is the dominant mechanism of meaning; "without vocabulary, nothing can be conveyed" (Gidey, 2008, p. 13). Thus, words are the key factor in any successful communication, whether it is verbal or written ones as communication is impaired if words are incorrectly used or simply because one has "run out of words". Yet, despite the continuous emphasis on the importance of vocabulary, many ESL learners are still struggling with mastering the large amount of vocabulary necessary to achieve fluency in the language (Gidey, 2008). This issue may not be apparent among first language learners compared to their second language counterparts as the first language is their "mother-tongue". In contrast, second language learners do not have the advantage of wide exposure to the language when they were young.

To address this issue, Vocabulary Learning Strategies (VLS) have been utilised by second language learners to expand their vocabulary competence. At first, they were only a sub-area under language learning strategies but gradually they have expanded into a domain area due to the increasing interest in vocabulary learning among language learners; upon realization that these strategies eventually helped them to acquire more vocabulary and improve their performance in language learning (Sarani & Kafipour, 2008). Various research on vocabulary learning strategies (VLS) have established various taxonomies of vocabulary learning strategies (VLS). Among the well-known ones are Schmitt (1997), Nation (2001), Fan (2003) and Gu (2003).

1.1 Background of Study

Generally, in Malaysia, Sijil Pelajaran Malaysia (SPM) leavers who intend to pursue undergraduate degrees in either public or private universities and colleges are required to attend matriculation or pre-university programme beforehand. The matriculation programme comprises two different types. The first type of matriculation programme is run by Ministry of Education. Meanwhile, the second type of matriculation programme is run by private universities and mostly based on international syllabus such as Canadian International Matriculation Programme (CIMP), Australian Matriculation Programme (AUSMAT) and South Australian Matriculation Programmae (SAM) (EDU SPIRAL Consultant Services, 2014).

For this research, the focus is on the matriculation programmes that are run by the Ministry of Education. The Ministry of Education Matriculation Programme or also known as *Kursus Matrikulasi Kementerian Pelajaran Malaysia* is a post-secondary educational program which offers three areas of study: Science Stream (Code M001) Accountancy Stream (Code M003) and Technical Stream (Code M007) (Ministry of Education Malaysia, 2012).

In terms of enrolment for this matriculation programme, the students are selected based on their results in Sijil Pelajaran Malaysia (SPM) before being assigned to either a one-year matriculation programme or a two-year matriculation programme. As the matriculation programme is a preparation programme prior to entering the public universities, the students are equipped with the necessary skills such as academic writing, computer literacy, communication competency and English language for their future university life. Other than learning the subjects within the areas of their specialisation, the following subjects such as English, Dynamic Skills, Islamic or Moral Education and Information Technology are compulsory for all matriculation students (Ministry of Education Malaysia, 2012).

Regarding the English subject that is being taught to the matriculation students every semester, the emphasis is on grammar and the four language skills which are reading, writing, listening and speaking. These five aspects are considered essential to train students to be better language users. However, one aspect which has not been given priority is the acquisition of vocabulary. Research has shown that as vocabulary affects one's language proficiency, lack of English vocabulary has been cited as a cause of poor English proficiency among both Malaysian university students and graduates (Cheang, Murugan, Wan, & Ch'ng, 2008).

The selected institution for this study is Malacca Matriculation College. It is the first Ministry of Education Matriculation College in Malaysia and it has been operating since 1998 (Kolej Matrikulasi Melaka, 2014). Although, there are three streams offered in Ministry of Education Matriculation Programme, this matriculation college only offers science and accountancy streams. It already has an established name and has an excellent academic record in English subject as it consistently has one hundred percent pass in the standardised Matriculation semester examinations (Khairina, 2008).

English Language is the medium of teaching and learning at this institution. Hence, the matriculation students are expected to have a good command of English and vast English vocabulary as reference books, lectures, tutorials, written assignments, presentations and examinations are in English. Nevertheless, not every matriculation student has these abilities. Some matriculation students only manage to get Band 2 (limited users) in the Malaysian University English Test (MUET). Thus, in an attempt to enhance these students' proficiency in English; their current use of Vocabulary Learning Strategies (VLS) which can assist them in their learning process not only with regard to English but also other subjects were looked into.

1.2 Problem Statement

According to Azadeh and Ghazali (2011), vocabulary learning generally is not given much emphasis in the Malaysian school system as English is taught in schools mainly for the purpose of examination. Nevertheless, to an extent, initiatives to improve students' vocabulary mastery still take place. For example, usage of word lists based on the topics covered in the English syllabus has been incorporated in both primary and secondary schools in Malaysia. The students are responsible to acquire all the words in the list by the end of each standard and form with guidance from their English teacher (Subon, 2013).

Logically, after 11 years of studying English formally in both primary and secondary schools, students should have quite a vast vocabulary considering the fact that they should have acquired all the words in the word lists but the real situation is contrary. Based on my experience in school, vocabulary learning in English classrooms is largely incidental. Incidental vocabulary learning means that when a particular word or phrase appears difficult for students, they are informed of its definitions without further explanation of its usage or limitation (Gidey, 2008). This approach to vocabulary learning may lead to inadequacy in vocabulary knowledge among students and the problem continues on when they move to matriculation after their secondary school years. Their inadequacy in lexical knowledge may ultimately affect not only their proficiency development, but academic performance as the instructional medium used in matriculation is English Language. Moreover, in post-secondary education, students learn mostly from reading textbooks and other academic sources. Thus, vocabulary knowledge is fundamental to their reading comprehension as one cannot understand texts without knowing what most of the words in a text mean (Gidey, 2008; Kapifour & Naveh, 2011). Such problems are also faced by the matriculation students in Malacca Matriculation college whereby there are students who only managed to get Band 2 (limited

users) in MUET. In the context of the matriculation programme, their limited English vocabulary could hamper their comprehension of the subjects taken and eventually, cause low academic performance as they are unable to write assignments, give presentations and answer examination questions properly. Meanwhile, in terms of English as Second Language Learning, they have problems in mastering various vocabulary aspects such as synonyms, antonyms, spelling, pronunciation, syntactic properties, words with multiple meanings and exact meaning of L2 words in L1.

In addition, although mastery of vocabulary is considered important for ESL learners, the number of research on application of vocabulary learning strategies (VLS) among Malaysian ESL learners in schools and in post-secondary education institution is still lacking. In relation to this research gap, this research aims to identify vocabulary learning strategies (VLS) usage by matriculation students in Malacca Matriculation College.

1.3 Research Questions

RQ1: Do the patterns of vocabulary learning strategies (VLS) use change across ESL matriculation students of different gender, programme and language proficiencies?

RQ2: What are the problems in learning English vocabulary faced by ESL matriculation students?

2.0 LITERATURE REVIEW

2.1 Schmitt's Taxonomy of Vocabulary Learning Strategies (VLS)

The taxonomy developed by Schmitt (1997) is used as the basis for this research. The rationale behind using Schmitt's taxonomy was due to the fact that currently it is the most extensive one available with six VLS categories that are clearly defined and easy to work with (Docqzi, 2011). Moreover, it is one of the most preferred VLS taxonomies among vocabulary teaching experts and it also has high reliability when applied in previous vocabulary-related research (Waldvogel, 2013; Mayuree, 2007). In this taxonomy, vocabulary learning strategies (VLS) consist of two main categories which are discovery strategies and consolidation strategies (Refer to Figure 2.1).

Table 1 Schmitt's taxonomy of vocabulary learning strategy (Schmitt, 1997)

Schmitt's Taxonomy of Vocabulary Learning Strategy	Discovery strategies	Determination-discovery strategies
		Social-discovery strategies
	Consolidation strategies	Memory-consolidation strategies
		Social-consolidation strategies
		Cognitive-consolidation strategies
		Metacognitive- consolidation strategies

Discovery strategies are strategies that are used by learners to find out the meaning of new words when they encounter them for the first time. They are further divided into two smaller categories which comprise determination-discovery strategies and social-discovery strategies. Determination-Discovery strategies are vocabulary learning strategies (VLS) that help learners to identify the meaning of new words without others' help (Waldvogel, 2013). Social-Discovery strategies are vocabulary learning strategies (VLS) that help learners to identify the meaning of new words through interaction with others.

Consolidation strategies are strategies that are used by learners to memorize, practice and retain the meaning of words that have been encountered. They are further divided into four smaller categories which consist of memory-consolidation strategies, social-consolidation strategies, cognitive-consolidation strategies and metacognitive-consolidation strategies (Gidey, 2008). Memory-Consolidation strategies are vocabulary learning strategies (VLS) whereby learners acquire new words by associating their existing experience or background knowledge with new words through mental images or groupings (Waldvogel,

2013). Social-Consolidation strategies are vocabulary learning strategies (VLS) used to retain information and meaning of new words through interaction with others (Azadeh & Ghazali, 2011). Cognitive-Consolidation strategies are vocabulary learning strategies (VLS) that do not engage learners in mental processing but instead use repetition and mechanical means such as word lists, flash cards, and vocabulary notebooks to study words. Metacognitive-Consolidation strategies are vocabulary learning strategies (VLS) related to processes involved in monitoring, decision-making, and evaluating one's progress.

2.2 Factors Affecting Vocabulary Learning Strategies (VLS) Use

It should be noted that vocabulary learning strategy use is affected by factors such as students' perception (Celik & Toptas, 2010), their learning achievement (Gidey, 2008) and their motivation (Wu, 2013; Marttinen, 2008) as indicated by past research.

Celik and Toptas (2010) conducted a study to examine vocabulary-learning strategies adopted by Turkish EFL students. Specifically, the focus was on the frequencies and helpfulness ratings of strategy use, strategy patterns, as well as their change for students across different language levels. The participants of this study were 95 Turkish EFL learners enrolled in Ankara University School of Foreign Languages. These learners were randomly selected and comprised those with different language levels: elementary, pre-intermediate and intermediate. The instrument that was implemented in this study was a questionnaire based on Schmitt's Taxonomy of Vocabulary Learning Strategies (VLS) (1997). The results indicated that the learners most frequently used determination-discovery strategies while the least frequently-used VLS category was the cognitive-consolidation strategies. In terms of usefulness of strategy categories, it was rated in accordance with the language levels of the learners. Intermediate language level learners regarded vocabulary learning strategies more helpful than the pre-intermediate and elementary learners. Another finding was that there was a gap between their use of strategies and related perceptions of strategy usefulness. For example, although they did not use the cognitive and metacognitive strategies, they believed that these strategies were still useful and effective.

As for Gidey (2008), he conducted a study to investigate vocabulary-learning strategies used by high and low achieving students. The focus was to see similarities and differences between high and low achieving students in using vocabulary-learning strategies. A questionnaire based on Schmitt's Taxonomy of Vocabulary Learning Strategies (VLS) (1997) model was administered to 30 students (15 high achievers and 15 low achievers) from Gondar College of Teacher Education in Ethiopia. The findings revealed that high achievers frequently used more vocabulary learning strategies while the low achievers rarely used them. Except in social-consolidation strategies, significant differences between high and low achiever students in the remaining five vocabulary learning strategies (VLS) categories were noted. This indicates that there is a relationship between language learning achievement and vocabulary-learning strategies; high achievers frequently or always use a wider range of vocabulary learning strategies than low achievers.

Wu (2013) conducted a study on factors that affect college students' use of ESL vocabulary learning strategies. The factors comprised language proficiency, motivation, effort, family background and their effect on college students' ESL vocabulary strategy use. The subjects in this study were around 450 first semester undergraduate students at Fooyin University. Results of the study showed that the variable that had greatest effect on learners' vocabulary strategy use was motivation. Another important factor affecting vocabulary strategy use was family background, including family involvement and years of study. Besides, the results suggested that teachers' encouragement to the students for adopting the most useful and effective vocabulary learning approaches definitely had a positive effect on students' learning motivation and language performance.

As for Marttinen (2008), she conducted a study about the role of vocabulary learning strategy use in second language learning among Finnish upper secondary school students. A questionnaire that consisted of five factors affecting the use of vocabulary learning strategies (VLS) and twenty items from Schmitt's Taxonomy of Vocabulary Learning Strategies (VLS) (1997) was used in this research. The five factors were attitudes towards vocabulary learning, time and effort taken to learn vocabulary, motivation to learn vocabulary, comprehension on vocabulary learning strategies concept, and sources of vocabulary knowledge. The questionnaire was administered to fifty participants in two upper secondary schools in Western Finland. The findings showed that most upper secondary school students acknowledged the importance of vocabulary in language proficiency and understood the concept of vocabulary learning strategies even though they might not utilize them frequently. This was actually related to their vocabulary learning habits in which many of them studied words actively only in order to pass the tests in school.

Hence, their motivation was extrinsic. The findings also indicated that students with better English proficiency were more motivated in using vocabulary learning strategies to enrich their vocabulary compared to their counterparts with lower English proficiency. As for the main sources of their vocabulary knowledge, they were highly dependent on their teachers and family members rather than discovering the knowledge on their own. Meanwhile, the two vocabulary learning strategies most frequently used by these students were guessing from textual context and using monolingual dictionary in determination-discovery category.

3.0 METHODOLOGY

3.1 Research Design

The research design is determined by research purposes and research questions (Mayuree, 2007). This research adopts quantitative research design using descriptive survey approach as it aims to survey the usage of Vocabulary Learning Strategies (VLS) according to students' gender, programme and English proficiency as well as inquire about their problems in learning vocabulary.

3.2 Population and Sample

The population of this study was the second semester students of Malacca Matriculation College students. The method of sampling used for this study was simple random sampling. The rationale for choosing second semester pure science and accounting students of one-year matriculation programme as respondents was due to the fact that they had eleven years of experience in learning English formally in primary and secondary schools. Furthermore, they also had completed an English subject, WB026: English Language 1 and sat for MUET examination in their first semester of matriculation. This would enable their vocabulary learning strategies use to be tested against their current English proficiency level which is MUET result. After two weeks of data collection process, out of 905 students, only 140 students responded to the questionnaires. Hence, 140 students is the sample size of this study.

3.3 Research Instrument

In this study, the instrument took the form of a questionnaire. This is because if the researcher has a specific set of questions to be answered and is looking for problematic areas to emerge, written questionnaire is a suitable step to test different hypotheses (Waldvogel, 2013). This questionnaire was divided into three sections: Sections A, B and C.

Section A focused on the demographic data of the ESL matriculation students. It consisted of four items regarding race, field of study, gender and MUET results. The students were required to tick the information related to them in the boxes provided.

Section B was mainly based on the Taxonomy of Vocabulary Learning Strategies (VLS) by Schmitt (1997). However, in the context of this research questionnaire, some statements were modified or omitted from this questionnaire due to cultural differences. For example, item C20 in the questionnaire was modified from "I interact with native speakers" to "I interact with fluent speakers" as there was little opportunity for matriculation students to meet and interact with a native speaker in their college. Thus, although the original taxonomy consists of fifty-eight strategies, the questionnaire used in this research consisted of thirty strategies only. This section focused on vocabulary learning strategies (VLS) used by ESL matriculation students. Overall, there were 30 5-point Likert scale items in this section.

Section C focuses on problems faced by ESL matriculation students in their learning of vocabulary in English language. It was based on Docqzi (2011). This section consisted of three items on word form and three items on word meaning. Word form items comprised pronunciation, spelling and syntactic properties while word meaning items consisted of establishing exact meaning, learning more synonyms and dealing with words with several meaning. Overall, there were six items.

The method of response for Section B and C was a 5-point Likert scale items with a scale of 1, 2, 3, 4 and 5, in which 1 indicated "strongly disagree", 2 indicated "disagree", 3 indicated "neutral", 4 indicated "agree" and 5 indicated "strongly agree". The respondents circled the scale that accurately described their response for each item.

Prior to distribution, the questionnaire has been validated by experts and its Cronbach coefficient alpha is .82 which indicates its reliability as very strong

3.4 Data Collection Procedure

The researcher distributed questionnaire via Google Form link to the gatekeepers which are two English lecturers to be distributed to the second semester students. Instructions to answer the questionnaire items as well as assurance for the confidentiality of the data gathered were attached to the questionnaire. The students were asked to answer the questionnaire within a period of two weeks. The rationale behind the two weeks dateline was to ensure that all respondents have plenty of time to answer the questionnaire. Out of 995 students, only 140 responses of the questionnaires were successfully received by the researcher at the end of the two weeks dateline (response rate = 14.07%).

3.5 Data Analysis Procedure

The completed VLS questionnaires were analysed using Statistical Package for the Social Sciences software (SPSS version 23). one-way analysis of variance (ANOVA) test and post-hoc multiple comparison (LSD) test were employed. One-way analysis of variance (ANOVA) test is a method of statistical analysis that is used to determine significant differences between means (Singh, Puzziawati & Teoh, 2009). It is a procedure for comparing sample means to see if there is sufficient evidence to infer that the means of the corresponding population distributions also differ (Singh, Puzziawati & Teoh, 2009). In the context of this study, it was conducted to find out whether there were significant differences between the use of the six Vocabulary Learning Strategies (VLS) categories among the respondents with their different language proficiencies.

Meanwhile, the post-hoc multiple-comparison (LSD) test is a statistical method used to determine the significant differences of the ANOVA results where the variables have more than two groups (Mayuree, 2007). If a researcher wants to know which pair has different means among the groups, the post-hoc test is used to indicate which pair of the groups under such a variable contributes to the overall differences (Mayuree, 2007). In the context of this study, the post-hoc multiple comparison was used to identify the significant differences among the respondents of different language proficiencies in their use of the six Vocabulary Learning Strategies (VLS) categories.

4.0 FINDINGS AND DISCUSSION

Findings of Vocabulary Learning Strategies (VLS) use among respondents in this study are presented based on gender, programme types and their English proficiency. Other than that, respondents' problems in learning vocabulary based on word form and word meaning categories are also presented.

4.1 VLS use across different Gender

Table 2 VLS use across Different Gender

	GENDER	N	Mean	SD	t	df	Sig.
Determination-Discovery strategies	Male	54	15.78	2.85	-6.139	138	.000
	Female	86	18.95	3.06			
Social- Discovery Strategies	Male	54	8.00	1.98	-4.917	138	.000
	Female	86	9.93	2.42			
Memorization-Consolidation Strategies	Male	54	28.15	5.20	-11.049	138	.000
	Female	86	37.12	4.32			
Social-Consolidation Strategies	Male	54	4.56	1.24	-9.566	138	.000
	Female	86	6.91	1.52			
Cognitive-Consolidation Strategies	Male	54	16.15	3.36	-7.329	138	.000
	Female	86	21.91	5.12			
Metacognitive-Consolidation Strategies	Male	54	12.67	2.44	-5.514	116.472	.000
	Female	86	15.07	2.55			

Table 2 shows that mean scores of vocabulary learning strategies use for all six VLS categories obtained by female students: determination-discovery strategies (M=18.95,SD =3.06), social discovery-strategies (M=9.93, SD=2.42), memory-consolidation strategies (M=37.12, SD=4.32), social-consolidation strategies (M=6.91, SD=1.52),cognitive-consolidation strategies (M=21.91, SD=5.12), and metacognitive-consolidation strategies (M=15.07, SD=2.55), were higher than male students: determination-discovery strategies (M=15.78, SD=2.85), social discovery-strategies (M=8.00, SD=1.98), memory-consolidation strategies (M=28.15, SD=5.20), social-consolidation strategies (M=4.56,

SD=1.24), cognitive-consolidation strategies (M=16.15, SD=3.36), and metacognitive-consolidation strategies (M=12.67, SD=2.44). This is in line with Askar's (2016) findings in which the use of vocabulary learning strategies among female students is slightly higher than male students

To determine whether the mean scores are significantly different, an independent sample t-test was conducted. The results revealed that there was significant difference in the mean scores of vocabulary learning strategies use for all six categories between female and male students: determination-discovery strategies [t(138)=-6.139, p=.000], social discovery-strategies [t(138)=-.4917, p=.000], memory-consolidation strategies [t(138)=-11.409, p=.000], social-consolidation strategies [t(138)=-9.566, p=.000], cognitive-consolidation strategies [t(138)=-7.329, p=.000], and metacognitive-consolidation strategies [t(138)=-5.514, p=.000]. This means that gender is a factor that could affect vocabulary learning strategies use. Thus, the null hypothesis was rejected. This finding is consistent with Yilmaz (2017) that revealed significant difference between male and female learners in terms of VLS use frequency.

4.2 VLS use across different Programme

Table 3 VLS use among across different Programme

	PROGRAMME	N	Mean	SD	t	df	Sig.
Determination-Discovery strategies	Pure Science	96	16.67	3.06	-6.254	138	.000
	Accountancy	44	20.05	2.75			
Social- Discovery Strategies	Pure Science	96	8.50	2.32	-5.377	138	.000
	Accountancy	44	10.68	2.01			
Memorization-Consolidation Strategies	Pure Science	96	31.02	5.31	-9.071	138	.000
	Accountancy	44	39.41	4.52			
Social-Consolidation Strategies	Pure Science	96	5.31	1.59	-7.945	138	.000
	Accountancy	44	7.50	1.32			
Cognitive-Consolidation Strategies	Pure Science	96	17.77	3.65	-7.422	138	.000
	Accountancy	44	23.86	5.99			
Metacognitive-Consolidation Strategies	Pure Science	96	13.15	2.38	-7.437	138	.000
	Accountancy	44	16.32	2.25			

Table 3 shows that mean scores of vocabulary learning strategies use for all six VLS categories obtained by accountancy students: determination-discovery strategies (M=20.05, SD=2,75), social discovery-strategies (M=10.68, SD=2.01), memory-consolidation strategies (M=37.12, SD=4.32), social-consolidation strategies (M=39.41, SD=4.52),cognitive-consolidation strategies (M=23.86, SD=5.00), and metacognitive-consolidation strategies (M=16.32, SD=2.25), were higher than pure science students: determination-discovery strategies (M=16.67, SD=3.06), social discovery-strategies (M=8.50, SD=2.32), memory-consolidation strategies (M=31.02, SD=5.31), social-consolidation strategies (M=5.31, SD=1.59), cognitive-consolidation strategies (M=17.77, SD=3.65), and metacognitive-consolidation strategies (M=13.15, SD=2.38). To determine whether the mean scores are significantly different, an independent sample t-test was conducted. The results revealed that there was significant difference in the mean scores of vocabulary learning strategies use for all six categories between female and male students: determination-discovery strategies [t(138)=-6.254, p=.000], social discovery-strategies [t(138)=-5.377, p=.000], memory-consolidation strategies [t(138)=-9.071, p=.000], social-consolidation strategies [t(138)=-7.945, p=.000], cognitive-consolidation strategies [t(138)=-7.422, p=.000], and metacognitive-consolidation strategies [t(138)=-7.437, p=.000]. This means that types of study programme is a factor that could affect vocabulary learning strategies use. Thus, the null hypothesis was rejected. This finding is contrasted with Yilmaz (2017) that revealed no significant difference between learners of two different programmes: science major, and arts and humanities major, in terms of VLS use frequency.

4.3 VLS use across different Language Proficiencies

Table 4 VLS use across different Language Proficiencies

VLS category	MUET results	N	Mean	SD
Determination-Discovery Strategies	Band 2	30	14.47	2.825
	Band 3	63	17.60	2.667
	Band 4	42	19.88	2.674
	Total	140	17.73	3.350
Social-Discovery Strategies	Band 2	30	7.47	1.889
	Band 3	63	8.94	2.409
	Band 4	42	10.62	1.962
	Total	140	9.19	2.442
Memorization-Consolidation Strategies	Band 2	30	25.00	4.954
	Band 3	63	33.43	2.333
	Band 4	42	39.49	4.383
	Total	140	33.66	6.394
Social-Consolidation Strategies	Band 2	30	4.40	1.329
	Band 3	63	5.75	1.555
	Band 4	42	7.36	1.405
	Total	140	6.00	1.819
Cognitive-Consolidation Strategies	Band 2	30	14.07	2.741
	Band 3	63	19.21	2.384
	Band 4	42	23.91	5.812
	Total	140	19.69	5.315
Metacognitive-Consolidation Strategies	Band 2	30	11.73	2.664
	Band 3	63	13.75	1.984
	Band 4	42	16.21	2.216
	Total	140	14.14	2.763

As seen in Table 4, there is a connection between VLS use and language proficiency of ESL matriculation students; in which the higher the VLS use, the better the language proficiencies are. This is clearly proven by Band 4 students (competent users) who applied more vocabulary learning strategies (VLS) for all six VLS categories in learning English vocabulary compared to their counterparts: Band 3 students (modest users) and Band 2 students (limited users) (Refer to Appendix 3).

First, for Determination-Discovery Strategies, Band 4 students used these strategies most frequently with a mean of 19.88 and standard deviation of 2.674. It was followed by Band 3 students (M=17.60, SD=2.667) and Band 2 students (M= 14.47, SD= 2.825). Meanwhile, the overall mean and standard deviation were 17.73 and 3.350 respectively.

Second, for Social-Discovery Strategies, Band 4 students used these strategies most frequently with a mean of 10.62 and standard deviation of 1.962. It was followed by Band 3 students (M=8.94, SD=2.409) and Band 2 students (M=7.47, SD=1.889). Meanwhile, the overall mean and standard deviation were 9.19 and 2.442 respectively.

Third, for Memory-Consolidation Strategies, Band 4 students used these strategies most frequently with a mean of 39.49 and standard deviation of 4.383. It was followed by Band 3 students (M=33.43, SD= 2.333) and Band 2 students (M=25.00, SD=4.594). Meanwhile, the overall mean and standard deviation were 33.66 and 6.394 respectively.

Next, for Social-Consolidation Strategies, Band 4 students used these strategies most frequently with a mean of 7.36 and standard deviation of 1.405. It was followed by Band 3 students (M=5.75, SD= 1.555) and Band 2 students (M=4.40, SD=1.329). Meanwhile, the overall mean and standard deviation were 6.00 and 1.819 respectively.

As for Cognitive-Consolidation Strategies, Band 4 students used these strategies most frequently with a mean of 23.91 and standard deviation of 5.812. It was followed by Band 3 students (M=19.21, SD=2.384) and Band 2 students (M=14.07, SD=2.741). Meanwhile, the overall mean and standard deviation were 19.69 and 5.315 respectively.

Last, for Metacognitive-Consolidation Strategies, Band 4 students used these strategies most frequently with a mean of 16.21 and standard deviation of 2.216. It was followed by Band 3 students

(M=13.75, SD= 1.984) and Band 2 students (M=11.73, SD=2.664.). Meanwhile, the overall mean and standard deviation were 14.14 and 2.763 respectively.

Table 5 ANOVA results of VLS use across different Language Proficiencies

		Sum of Squares	df	Mean Square	F	Sig.
Determination-Discovery Strategies	Between Groups	558.161	2	279.080	38.176	.000
	Within Groups	1001.525	137	7.310		
	Total	1559.686	139			
Social-Discovery Strategies	Between Groups	188.852	2	94.426	20.203	.000
	Within Groups	640.319	137	4.674		
	Total	829.171	139			
Memory-Consolidation Strategies	Between Groups	3850.370	2	1925.185	143.876	.000
	Within Groups	1833.173	137	13.381		
	Total	5683.543	139			
Social-Consolidation Strategies	Between Groups	168.012	2	84.006	39.416	.000
	Within Groups	291.988	137	2.131		
	Total	460.000	139			
Cognitive-Consolidation Strategies	Between Groups	1802.328	2	901.164	58.130	.000
	Within Groups	2123.844	137	15.503		
	Total	3926.171	139			
Metacognitive-Consolidation Strategies	Between Groups	385.467	2	192.734	39.079	.000
	Within Groups	675.676	137	4.932		
	Total	1061.143	139			

One-Way analysis of variance (ANOVA) test was conducted to find out whether there were significant differences for the use of the six Vocabulary Learning Strategies (VLS) categories among the respondents with their different language proficiencies. Table 5 shows that there were significant differences in vocabulary learning strategies (VLS) use among ESL matriculation students with different language proficiencies for all six VLS categories: determination-discovery strategies, social-discovery strategies, memory-consolidation strategies, social-consolidation strategies, cognitive-consolidation strategies and metacognitive-consolidation strategies ($p = .000, < .05$).

First, for determination-discovery strategies, $F = 38.176$, $p = .000, < .05$. Second, for social-discovery strategies, $F = 20.203$, $p = .000, < .05$. Third, for memory-consolidation strategies, $F = 143.876$, $p = .000, < .05$. Next, for social-consolidation strategies, $F = 39.416$, $p = .000, < .05$. As for cognitive-consolidation strategies, $F= 58.130$, $p = .000, < .05$. Last, for metacognitive-consolidation strategies, $F = 39.079$, $p = .000, < .05$.

Table 6 LSD Multiple Comparison of VLS use with different language proficiencies

Multiple comparison
LSD

Dependent Variable	(I) MUET	(J) MUET	Mean Difference (I-J)	Std. Error	Sig.
Determination-Discovery Strategies	Band 2	Band 3	-3.137*	.600	.000
		Band 4	-5.512*	.632	.000
	Band 3	Band 2	3.137*	.600	.000
		Band 4	-2.376*	.521	.000
	Band 4	Band 2	5.512*	.632	.000
		Band 3	2.376*	.521	.000
Social-Discovery Strategies	Band 2	Band 3	-1.470*	.480	.003
		Band 4	-3.150*	.505	.000

	Band 3	Band 2	1.470*	.480	.003
		Band 4	-1.681*	.417	.000
	Band 4	Band 2	3.150*	.505	.000
		Band 3	1.681*	.417	.000
Memorization-Consolidation Strategies	Band 2	Band 3	-8.429*	.811	.000
		Band 4	-14.489*	.855	.000
	Band 3	Band 2	8.429*	.811	.000
		Band 4	-6.061*	.705	.000
	Band 4	Band 2	14.489*	.855	.000
		Band 3	6.061*	.705	.000
Social-Consolidation Strategies	Band 2	Band 3	-1.346*	.324	.000
		Band 4	-2.962*	.341	.000
	Band 3	Band 2	1.346*	.324	.000
		Band 4	-1.616*	.281	.000
	Band 4	Band 2	2.962*	.341	.000
		Band 3	1.616*	.281	.000
Cognitive-Consolidation Strategies	Band 2	Band 3	-5.140*	.873	.000
		Band 4	-9.848*	.920	.000
	Band 3	Band 2	5.140*	.873	.000
		Band 4	-4.709*	.759	.000
	Band 4	Band 2	9.848*	.920	.000
		Band 3	4.709*	.759	.000
Metacognitive-Consolidation Strategies	Band 2	Band 3	-2.013*	.493	.000
		Band 4	-4.479*	.519	.000
	Band 3	Band 2	2.013*	.493	.000
		Band 4	-2.467*	.428	.000
	Band 4	Band 2	4.479*	.519	.000
		Band 3	2.467*	.428	.000

A post-hoc multiple comparison test (LSD) was conducted to identify the significant differences among the respondents of different language proficiencies in their use of the six Vocabulary Learning Strategies (VLS) categories. According to Table 6, LSD comparisons showed that all means for Band 2 students (limited users), Band 3 students (modest users) and Band 4 students (competent users) were significantly different from one another.

First, for determination-discovery strategies, the Band 4 students had a significantly higher mean (19.88) than the Band 3 students (17.60) and the Band 2 students (14.47). The Band 4 students received a significantly higher score than the Band 3 students and the Band 2 students.

Second, for social-discovery strategies, the Band 4 students had a significantly higher mean (10.62) than the Band 3 students (8.94) and the Band 2 students (7.47). The Band 4 students received a significantly higher score than the Band 3 students and the Band 2 students.

T hird, for memory-consolidation strategies, the Band 4 students had a significantly higher mean (39.49) than the Band 3 students (33.43) and the Band 2 students (25.00). The Band 4 students received a significantly higher score than the Band 3 students and the Band 2 students.

Next, for social-consolidation strategies, the Band 4 students had a significantly higher mean (7.36) than the Band 3 students (5.75) and the Band 2 students (4.40). The Band 4 students received a significantly higher score than the Band 3 students and the Band 2 students.

As for cognitive-consolidation strategies, the Band 4 students had a significantly higher mean (23.91) than the Band 3 students (19.21) and the Band 2 students (14.07). The Band 4 students received a significantly higher score than the Band 3 students and the Band 2 students.

Last, for metacognitive-consolidation strategies, the Band 4 students had a significantly higher mean (16.21) than the Band 3 students (13.75) and the Band 2 students (11.73). The Band 4 students received a significantly higher score than the Band 3 students and the Band 2 students.

The findings indicated that patterns of vocabulary learning strategies (VLS) use change across ESL matriculation students of different language proficiencies. Students with better language proficiency use more vocabulary learning strategies (VLS) than students with lower language proficiency. This is proven by ESL matriculation students in which those who achieve Band 4 (competent users) for MUET are more frequent users of all six VLS categories, followed by students with Band 3 and Band 2 respectively. This finding is in line with Schmitt's (2000) claim that there is some evidence that more advanced learners tend to use more complex and meaning-focused strategies than less advanced learners. Another research conducted by Kocaman, Yildiz and Kamaz (2018) also revealed the same finding in which high proficient students use more VLS strategies compared to low proficient students.

4.4 Problems in Learning Vocabulary

Table 7 Problems in learning English vocabulary faced by ESL matriculation students

Items	Category	N	Mean	SD	Rank Order
Establish exact meaning	Word meaning	140	3.54	.876	1
Deal with words with several meanings	Word meaning	140	3.53	1.028	2
Syntactic properties	Word form	140	3.41	.937	3
Spelling	Word form	140	3.31	.968	4
Learning more synonyms	Word meaning	140	3.31	.997	4
Pronunciation	Word form	140	3.21	1.111	5

As seen in Table 7, most students faced more problems with word meaning compared to problems with word form. The top two problems faced by the students in learning English vocabulary belonged to word meaning. The problems were establishing exact meaning of vocabulary (mean=3.54, SD= .876) and dealing with words with several meanings (mean=3.53, SD=1.028). The third common problem faced by the students in learning English vocabulary was dealing with syntactic properties (mean=3.41, SD= .937) which was under the category of word form. Meanwhile, spelling problem (mean=3.31, SD= .968) and problem in learning more synonyms (mean=3.31, SD= .997) were the fourth ranked problem whereas pronunciation (mean=3.21, SD=1.111) was the least problematic aspect in learning English vocabulary among the ESL matriculation students.

ESL matriculation students face more problems with word meaning than with word form (Refer to Table 4.5) possibly because word meaning is more abstract and difficult to grasp. Furthermore, students find it crucial to know the exact meaning of a word as this is the primary aim of vocabulary learning and this is how they have been educated (Docqzi, 2011). Besides, another challenge for ESL students in word meaning area is dealing with words with several meanings. This is because in the English language, a word may carry two, three or more different meanings. This implies that ESL students need guidance on word meaning in learning vocabulary. Yet, this does not mean that word form is less important. Thus, students also need to be exposed to the importance of word form that comprise pronunciation, spelling and syntactic properties in order to enable them to use vocabulary in the second language accurately. ESL matriculation students also face problems with word form as it is also not given much priority in English lessons in the classroom. Hence, there should be emphasis on both word meaning and word from to help students become better language users.

5.0 CONCLUSION

The findings of the study revealed vocabulary learning strategies (VLS) use change across ESL matriculation students of different gender, programme and language proficiencies. It was also found that ESL matriculation students face more problems with word meaning than with word.

Next, there are several implications that could arise from the findings of the study. Firstly, the findings of the study contributed to the existing corpus of knowledge in the area of vocabulary learning strategies application among ESL students in local context. Secondly, the findings also provide some

empirical data for the Ministry of Higher Education and matriculation colleges' English lecturers to devise initiatives in enhancing students' proficiency by using vocabulary learning strategies.

For further research, this kind of study should be conducted with a wider population and sample of ESL matriculation students to enable generalization of data. Moreover, other research instruments can be used for further research. Interview can be conducted to find out further why students frequently used certain vocabulary learning strategies over others. Other than that, it is likely that second language learners' preference for vocabulary learning strategies (VLS) may change from one population to another. Thus, a study that compares vocabulary learning strategies (VLS) of different types of population comprising upper secondary students, matriculation students and undergraduates can be conducted. Lastly, the direction of future study can be expanded. For example, this can be done by examining the relationship between the frequency of vocabulary learning strategies (VLS) use and vocabulary size or examining the relationship between frequency of vocabulary learning strategies (VLS) use on the mastery of the four language skills.

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STREAM 11 – TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING

004 : Tahap Kepuasan Kepemimpinan Penyeliaan Pensyarah dalam Penilaian Projek Tahun Akhir Pelajar di Kolej Vokasional Dato' Lela Maharaja, Rembau, Negeri Sembilan

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ABSTRAK

Kepemimpinan penyeliaan sangat penting dalam pembelajaran dan pengajaran terutamanya dalam aktiviti kerja berkumpulan mahupun secara individu di kalangan pelajar. Projek Tahun Akhir (PTA) yang dilaksanakan di Kolej Vokasional (KV) menggariskan panduan setiap pensyarah dalam bidang perlu menyelia aktiviti projek dari mula hingga akhir. Pensyarah akan dilantik dan dipertanggungjawabkan untuk menyelia pelajar-pelajar yang ditetapkan. Penyeliaan merupakan salah satu faktor dalam kepuasan kerja seseorang individu yang diselia bagi mencapai matlamat dan prestasi kumpulan yang ditetapkan. Kepemimpinan penyeliaan meliputi keupayaan dalam memberi arahan dengan jelas, sokongan untuk pembangunan kerjaya, kebolehan membuat keputusan, berkomunikasi mengenai matlamat dan strategi, berkepakaran, bersifat adil serta mempunyai akauntabiliti dan komitmen bersama digabungkan dengan persekitaran pimpinannya membangunkan motivasi kerja dalam perlaksanaan tugasan bersama. Kajian ini bertujuan untuk mengetahui tahap kepuasan kepemimpinan penyeliaan pensyarah dalam kalangan pelajar tahun akhir dan mengenal pasti perbezaan kepuasan berdasarkan jantina serta program. Kajian ini dilaksanakan secara deskriptif kuantitatif. Borang soal selidik yang terdiri daripada 13 soalan menggunakan skala lima mata Likert digunakan untuk mendapatkan data kajian. Responden kajian terdiri daripada 111 orang pelajar bidang pertanian Kolej Vokasional Dato' Lela Maharaja, Rembau, Negeri Sembilan yang sedang menjalani Projek Tahun Akhir di KV. Data dianalisis menggunakan Statistical Package for the Social Sciences atau SPSS 24. Keputusan kajian diperolehi dengan mengukur skor min setiap item dan skor min keseluruhan untuk mengukur tahap kepuasan kepemimpinan penyeliaan pensyarah. Dapatan kajian mendapati pelajar memberi respon yang positif bahawa kepemimpinan penyeliaan yang diberikan oleh pensyarah dilakukan dengan baik sewaktu proses PTA dijalankan. Hasil analisis menunjukkan bahawa kepuasan kepemimpinan penyeliaan pensyarah adalah pada tahap tinggi dengan jumlah nilai min 4.19. Seterusnya data analisis menunjukkan tiada perbezaan signifikan antara jantina dan program dengan kepuasan kepemimpinan penyeliaan. Kajian ini menunjukkan tindakan kepemimpinan serta keterlibatan para pensyarah dalam tugas penyeliaannya memberikan tahap kepuasan yang tinggi oleh pelajar. Pendedahan amalan profesional para pensyarah dalam kepemimpinan penyeliaan PTA diperlukan dalam memastikan penghasilan projek yang berkualiti dan graduan berketerampilan sebelum bergraduat. Selain daripada kepuasan kepemimpinan penyeliaan, skop kajian boleh diperluaskan bagi memberi gambaran yang lebih jelas mengenai perlaksanaan PTA di KV.

Kata Kunci: kepemimpinan, penyeliaan,kepuasan kerja, projek tahun akhir.

1.0 PENGENALAN

Projek Tahun Akhir (PTA) merupakan kursus dalam program Diploma Vokasional Malaysia (DVM) yang perlu dilaksanakan pada tahun akhir bertujuan untuk menguji dan menilai kemahiran pelajar dalam mengaplikasikan kemahiran yang telah dipelajari kemahiran yang telah dipelajari sepanjang tempoh pengajian 4 tahun 3 bulan yang dibahagikan kepada 2 tahun peringkat SVM dan 2 tahun 3 bulan peringkat Diploma. Sepanjang perlaksanaan, pelajar dibimbing oleh pensyarah yang berperanan sebagai Penyelia Projek (PP) untuk menyelia, memantau dan membantu perlaksanaan PTA tersebut. Pensyarah dan pelajar akan diberikan Buku Panduan PTA sebagai rujukan proses PTA dijalankan termasuk rubrik penilaian PTA. Secara umumnya, pelajar diberikan seorang penyelia di kalangan pensyarah dalam bidang dan

setiap PTA boleh dilaksanakan secara individu atau berkumpulan (tidak melebihi 3 orang)(Buku Garis Panduan PTA, 2018). Seorang pensyarah pula kebiasaannya mempunyai lebih daripada satu pelajar atau kumpulan di bawah penyeliaannya dan perlu bertanggungjawab dengan pelajar seliaannya dua semester pada tahun terakhir. Penyeliaan boleh dimaksudkan sebagai proses memantau, membantu dan memotivasikan pelajar di bawah seliaan penyelia dalam memperoleh pengalaman pembelajaran yang bermakna (Norhasni Zainal Abidin, 2006). Asiana Baharuddin (2014) menyatakan bahawa penyelia perlu memiliki amalan-amalan penyeliaan yang lebih menjurus kepada pembentukan pengetahuan, kemahiran dan sikap yang diperlukan oleh pelajar semasa bagi melengkapkan keperluan pelajar untuk menghadapi alam pekerjaan.

Kepemimpinan penyeliaan merupakan salah satu faktor kepuasan kerja pelajar dalam menjalani projek tahun akhir dan pelajar sentiasa mengharapkan penyelia untuk sentiasa memberikan dorongan dan galakan serta melaksanakan amalan penyeliaan yang berkualiti bagi memperoleh hasil projek yang baik (Mohd. Daud, Mohd. Anizam & Ali, Dayana Farzeeha, 2014). Oleh yang demikian, objektif kajian ini dilaksanakan adalah untuk mengenalpasti tahap kepuasan kepemimpinan penyeliaan pengajar di kalangan pelajar Kolej Vokasional Dato' Lela Maharaja.

2.0 PENYATAAN MASALAH

Kajian ini adalah untuk mengenal pasti persepsi pelajar terhadap tahap kepemimpinan penyeliaan pensyarah di Kolej Vokasional Dato' Lela Maharaja di mana secara keseluruhannya pensyarah vokasional dilantik menjadi penyelia projek tahun akhir mengikut bidang masing-masing. Dari masa ke semasa, pelajar sentiasa bergantung harap bimbingan penyelia memandangkan projek yang dilaksanakan perlu mengikuti garis panduan dalam memastikan penghasilan projek berjaya serta mendapat markah penilaian yang baik. Laporan Jemaah Nazir dan Aminan Kualiti terhadap pencerapan guru Teknikal dan Vokasional mendapati keseluruhan pengajaran PTV belum mempelbagaikan strategi pengajaran mengikut tahap keupayaan pelajar (JNJK 2012). Kajian-kajian lepas yang dijalankan terhadap Pembelajaran Berasaskan Projek (PBP) menunjukkan guru masih belum mempunyai keyakinan mantap dari segi kemahiran, teknik dan sumber untuk melaksanakannya secara berkesan (Yang, Abdullah & Ab Rahim, 2015; Mispuah, 2015; Wan Nasriha, 2014; Mohd Azli, 2012). Malahan dapatan kajian Lailatul Hazzlina (2017), para guru Teknik Vokasional masih di tahap sederhana berkaitan kefahaman perlaksanaan dalam pembelajaran berasaskan projek. Ini perlu diberi perhatian apabila pembelajaran berasaskan projek ini adalah satu kaedah yang sesuai diaplikasikan dalam PTV bagi merealisasikan PPPM (2013-2025). Justeru itu, pengkaji ingin melihat sejauh mana tahap kepuasan pelajar KV terhadap bimbingan pensyarah yang dipertanggungjawabkan sebagai penyelia projek PTA mereka sepanjang perlaksanaannya selama 2 semester.

2.1 Objektif kajian

i. Mengenal pasti tahap kepuasan kepemimpinan penyeliaan pensyarah dalam kalangan pelajar tahun akhir bidang pertanian Kolej Vokasional Dato' Lela Maharaja.
ii. Mengenal pasti tahap kepuasan kepemimpinan penyeliaan pensyarah dalam kalangan pelajar lelaki dan perempuan tahun akhir bidang pertanian Kolej Vokasional Dato' Lela Maharaja.
iii. Mengenal pasti tahap kepuasan kepemimpinan penyeliaan pensyarah dalam kalangan pelajar tahun akhir bidang pertanian mengikut program di Kolej Vokasional Dato' Lela Maharaja.

2.2 Persoalan kajian

Persoalan kajian dalam kajian ini adalah:

i. Apakah tahap kepuasan kepemimpinan penyeliaan pensyarah dalam kalangan pelajar tahun akhir bidang pertanian Kolej Vokasional Dato' Lela Maharaja?
ii. Adakah terdapat perbezaan tahap kepuasan kepemimpinan penyeliaan pensyarah dalam kalangan pelajar tahun akhir lelaki dan perempuan bidang pertanian Kolej Vokasional Dato' Lela Maharaja?
iii. Adakah terdapat perbezaan tahap kepuasan kepemimpinan penyeliaan pensyarah dalam kalangan pelajar tahun akhir bidang pertanian mengikut program di Kolej Vokasional Dato' Lela Maharaja?

2.2 Hipotesis

$Ho_{1:}$ Tidak terdapat perbezaan signifikan tahap kepuasan kepimpinan penyeliaan pensyarah dari persepsi pelajar lelaki dan perempuan tahun akhir.

$Ho_{2:}$ Tidak terdapat perbezaan signifikan tahap kepuasan kepimpinan penyeliaan pensyarah dari persepsi pelajar mengikut program.

2.4 Skop kajian

Kajian ini melibatkan 111 orang pelajar tahun akhir Kolej Vokasional Dato' Lela Maharaja yang mengikuti program dalam bidang pertanian. Terdapat 8 program bidang pertanian di KV ini di iaitu program Landskap, Agroindustri Tanaman, Agroindustri Poultri, Agroindustri Ruminan, Akuakultur, Pemprosesan Makanan, Mekanisasi Agro dan Hortikultur. Bagi kajian ini program Hortikultur tidak terlibat disebabkan ketiadaan pelajar tahun akhir. Data yang diperolehi adalah berdasarkan hasil jawapan borang soal selidik yang dijawab oleh responden dari Kolej Vokasional Dato' Lela Maharaja. Oleh itu hasil kajian hanya dikhususkan kepada populasi sasaran kajian sahaja dan tidak dapat digeneralisasikan kepada kolej vokasional lain di Malaysia. Pemilihan sampel kajian ini adalah mengambil kira bahawa pelajar kolej vokasional ini telah menjalani Projek Tahun Akhir pada tahun keempat mereka belajar di kolej vokasional.

3.0 SOROTAN KAJIAN

3.1 Kepuasan Kerja

Menurut Nurul Nadia (2013) yang mendefinisikan kepuasan kerja sebagai pengalaman perasaan positif yang melebihi daripada perasaan negatif pada satu tempoh tertentu. Dalam erti kata lain kepuasan kerja merujuk kepada satu keadaan emosi yang positif seperti memperoleh kegembiraan, keselesaan dan keseronokan dalam melaksanakan sesuatu tugasan. Apabila seseorang individu menyukai dan menyenangi akan tugasannya, maka sudah cukup jelas menggambarkan tentang kepuasan yang dialami dalam dirinya terhadap tugasan tersebut. Pernyataan ini turut disokong oleh Araythamby dan Kiew (2015) yang mengatakan bahawa kepuasan kerja adalah sikap dan perasaan positif yang menguasai dalam diri seseorang terhadap kerja yang dilakukan. Kepuasan kerja merupakan tindak balas yang boleh mempengaruhi seseorang individu itu terhadap kerjayanya. Prestasi kerja yang dipamerkan khususnya dilihat sebagai refleksi terhadap kepuasan kerja yang dimiliki (Fleishment & Bass, 1974). Menurut Zedda, Bernardelli, dan Maran (2017) dan Sulaji et al (2017), kepuasan pelajar merupakan satu penanda aras kualiti pengajar sekali gus dapat merancang pengajaran dan pembelajaran yang lebih baik. Kepuasan pelajar terhadap bimbingan oleh pengajar dapat membantu dalam meningkatkan strategi dan kemahiran pelajar (Ho, & Lee, S. S.,2017). Apabila seseorang individu mencapai kepuasan kerjanya, maka individu tersebut akan berubah menjadi lebih bersemangat dan mempamerkan prestasi kerja yang baik (Tamrin, H., & Raop, N. A., 2015).

3.2 Kepemimpinan

Frooman, Mendelson dan Murph (2012) menyatakan kepemimpinan adalah pengaruh individu dalam menyuarakan matlamat secara kolektif di samping meningkatkan semangat serta usaha membangunkan moral dan nilai dalam perhubungan bekerja. Penglibatan kepemimpinan pensyarah dalam merangka dan melaksanakan perancangan adalah kunci utama yang dapat mengembangkan potensi kepada pelajar (Ismail, Don, Husin, & Khalid, 2018). Ciri kepemimpinan pada pensyarah adalah berkaitan dengan berkebolehan merangsang dan membangkitkan semangat pelajar dalam sesuatu perkara, mengenal pasti kemahiran dan kebolehan yang dimiliki oleh orang lain, mudah berinteraksi dengan orang lain, menunjukkan kemahiran sosial yang tinggi, berkebolehan mengenal pasti matlamat sesuatu perkara dan menyatakannya dengan jelas, berkebolehan menerangkan idea dengan jelas kepada pendengar, sangat empati terhadap perasaan orang lain, berkebolehan memberi arahan dengan jelas dan berkesan, mengamalkan kepemimpinan yang telus dan bertanggungjawab serta boleh mengkoordinasi tugasan daripada beberapa orang individu, berkebolehan menjana perasaan positif sesuatu kumpulan dan sangat memahami perasaan orang lain, orang yang boleh membuat keputusan serta boleh memberi pandangan dan cadangan (Anuar, 2007).

3.3 Penyeliaan

Penyeliaan boleh diterjemahkan sebagai individu yang dapat memberi tunjuk ajar, membetulkan kesilapan di samping membuat pengawasan prestasi, memiliki kemahiran komunikasi yang berkesan, memiliki kemahiran membimbing dan sentiasa peka terhadap perubahan pelajar. Penyelia sering

dikaitkan dengan keupayaan untuk membina hubungan kemanusiaan, berkomunikasi secara jelas dan spesifik, memberi ruang untuk perbincangan, mendengar masalah dan menyelesaikan masalah secara kolektif. Para pelajar faham dan setuju bahawa keberkesanan dan kepuasan kerja mereka banyak bergantung kepada kecekapan penyelia (Hockey, 1996). Menurut Boardman, Douglas dan Bent (1953) penyeliaan ialah satu usaha untuk mendorong, menyelaras dan membimbing pelajar dalam hal-hal latihan supaya pelajar lebih berupaya melakukan semua fungsi berkaitan latihan. Manakala menurut Alfonso (1980) mengatakan bahawa penyeliaan adalah satu tingkah laku yang dipertanggungjawabkan secara rasmi kepada seseorang untuk mendatangkan kesan dan mempertingkatkan lagi kemahiran pelajar dan seterusnya mencapai sesuatu matlamat yang ditentukan.

3.4 Teori Kepemimpinan *'House – Mitchell Path – Goal'* (teori lorong matlamat)

Teori kepemimpinan *'House – Mitchell Path – Goal'* (teori lorong matlamat) oleh House dan Mitchell. Model ini memperlihatkan hubungan antara pengarahan kepemimpinan ('directive leadership') dan kepuasan orang bawahan ('subordinate relationship') dengan struktur tugas ('task structure') sebagai faktor kontigensi. Pemilihan gaya kepemimpinan dibuat dengan menentukan sama ada tugas yang diamanahkan itu mempunyai struktur yang jelas atau sebaliknya. Struktur yang jelas adalah matlamat yang jelas dan diketahui oleh semua individu bawahannya. Robert House mencadangkan bahawa tingkah laku pemimpin seharusnya dilihat sebagai suatu tindakan yang boleh memotivasikan pekerja. Oleh itu, boleh dirumuskan bahawa penyelia, sebagai seorang pemimpin perlu peka dan mengambil kira keadaan semasa, keperluan dan persekitaran individu di bawah seliaannya dalam menentukan apakah bentuk stail penyeliaan yang digunakan agar kesan daripada penyeliaan itu menghasilkan manfaat kepada kedua-dua belah pihak. Dengan itu pelajar akan mencapai kepuasan yang lebih tinggi.

4.0 METODOLOGI

Reka bentuk kajian yang dilaksanakan ini adalah melalui pendekatan secara kuantitatif dengan menggunakan kaedah tinjauan. Kaedah tinjauan dalam kajian ini adalah dengan menggunakan instrumen soal selidik. Kajian ini memfokuskan kepada kepuasan kepemimpinan penyeliaan pensyarah dalam Projek Tahun Akhir (PTA) yang telah melibatkan 111 orang responden sebagai sampel di mana responden ini meliputi keseluruhan pelajar tahun akhir bidang pertanian di Kolej Vokasional Dato' Lela Maharaja. Semua responden sedang menjalani Projek Tahun Akhir yang terdiri daripada 7 bidang pertanian di bawah 2 jabatan yang terdapat di KV tersebut. Item-item soal selidik dalam kajian ini diukur menggunakan skala Likert lima tahap iaitu "sangat tidak memuaskan" (1), "tidak memuaskan" (2), "tidak pasti" (3), "memuaskan" (4), "sangat memuaskan" (5) seperti dalam Jadual 1. Interpretasi nilai min adalah seperti yang ditunjukkan dalam Jadual 2.

Jadual 1 Skala Likert Lima Mata

Penjelasan	Nilai
Sangat Tidak Memuaskan (**STM**)	1
Tidak Memuaskan (**TM**)	2
Tidak Pasti (**M**)	3
Memuaskan (**SM**)	4
Sangat Memuaskan (**SM**)	5

Jadual 2 Interpretasi Nilai Min

Nilai min	Tahap
1.01 – 2.00	Rendah
2.01 – 3.00	Sederhana Rendah
3.10 – 4.00	Sederhana Tinggi
4.01 – 5.00	Tinggi

Sumber: (Prakas, 2014)

Data diperoleh dalam kajian ini melalui soal selidik yang diedarkan kepada pelajar-pelajar tahun akhir bidang pertanian yang terlibat dalam kajian ini. Borang-borang soal selidik diedarkan pada setiap responden dengan menggunakan teknik *handdelivery.* Pengkaji sendiri mengedarkan borang soal selidik di setiap pelajar mengikut program dengan memastikan responden memahami arahan soal selidik dan disusuli dengan edaran untuk diisi oleh responden.

Instrumen yang digunakan dalam kajian ini adalah satu set soal selidik yang mengandungi 2 bahagian iaitu bahagian A dan B. Bahagian A adalah untuk mengenal pasti maklumat responden yang mengandungi dua item iaitu jantina dan program. Bahagian B terdiri daripada 11 item yang diubahsuai daripada instrumen asal *The Satisfaction With My Supervisor Scale,* dibina oleh Scarpello, Vida & Vandenberg, Robert. (1987). Instrumen ini mengukur berkaitan kepuasan penyeliaan terhadap persekitaran dan cara kerja.

5.0 DAPATAN KAJIAN

5.1 Demografi Kajian

Jadual 2 menunjukkan bilangan responden bagi setiap program di KV Dato' Lela Maharaja mengikut jantina serta jumlah dan peratus keseluruhan bagi lelaki dan perempuan. Kesemua 7 program pertanian terlibat dengan seramai 111 responden daripada program Landskap, Poultri, Ruminan, Tanaman, Akuakultur, Mekanisasi dan Pemprosesan makanan. Daripada 111 responden, 56 responden atau sebanyak 53.2% adalah terdiri daripada lelaki, manakala 52 responden atau sebanyak 46.8% adalah perempuan.

Jadul 2 Jadual Taburan Mengikut Jantina

Program / Jantina	Lelaki	Perempuan	Jumlah
Landskap	7	13	20
Poultri	9	5	14
Ruminan	8	5	13
Tanaman	10	12	22
Akuakultur	7	6	13
Mekanisasi	10	0	10
Pemprosesan Makanan	8	11	19
Jumlah Keseluruhan	59	52	111
Peratus (%)	53.2	46.8	100.0

5.2 Apakah tahap kepuasan kepemimpinan penyeliaan pensyarah dalam kalangan pelajar tahun akhir bidang pertanian Kolej Vokasional Dato' Lela Maharaja?

Jadual 3 menunjukkan dapatan skor min mengikut item kepemimpinan penyeliaan. Didapati bahawa min keseluruhan kepemimpinan adalah berada pada tahap tinggi (M=4.19, SP=.598). Penyataan hubungan saya dengan penyelia baik memperoleh min yang paling tinggi antara item-item yang lain (M=4.34, SP=.745), ini menunjukkan responden membina hubungan yang baik dengan penyelia. Penyataan yang menyatakan responden suka kepada penyelianya juga pada min yang tinggi (M=4.31, SP=.807). Diikuti dengan penyataan penyelia mereka memberi maklum balas mengenai yang diberikan pada responden (M=4.28, SP=.728). Manakala diikuti dengan (M=4.24, SP=.741) penyataan penyelia memberi sokongan untuk pembangunan kerjaya saya. Responden sangat menghargai apabila penyelia menerima cadangan dan pendapat yang diberikan (M=4.23, SP=.759). Seterusnya diikuti dengan (M=4.16, SP=.745) penyataan Penyelia berkomunikasi mengenai matlamat dan strategi jabatan secara berkesan. Seterusnya dengan (M=4.17, SP=.808) penyataan penyelia saya memberi arahan yang jelas dan mudah difahami oleh responden. Responden menyatakan penyelia mereka mahir dan berkebolehan dalam membuat keputusan (M=4.15, SP=.800). Seterusnya penyataan penyelia memberi galakan dan pujian terhadap saya (M= 4.11, SP=.908). Manakala penyataan yang menunjukkan penyelia mengambil berat terhadap saya dan penyelia membuat pembahagian tugas secara adil memperoleh min sebanyak 4.06 dan 4.05 dengan sisihan piawai .887 dan .851.

Jadual 3 Tahap Min dan Sisihan Piawai Bagi setiap Item Kepuasan Kepemimpinan Penyeliaan

Item	Penyataan	Min	SP	Tahap
C1	Saya suka penyelia saya	4.31	.807	Tinggi
C2	Penyelia saya memberi arahan yang jelas dan mudah difahami	4.17	.808	Tinggi
C3	Penyelia memberi maklum balas mengenai tugas saya	4.28	.728	Tinggi
C4	Penyelia memberi sokongan untuk pembangunan kerjaya saya	4.24	.741	Tinggi
C5	Penyelia mahir dan berkebolehan dalam membuat keputusan	4.15	.800	Tinggi
C6	Penyelia berkomunikasi mengenai matlamat dan strategi jabatan secara berkesan	4.16	.745	Tinggi
C7	Penyelia bersedia menerima cadangan/pendapat	4.23	.759	Tinggi
C8	Penyelia membuat pembahagian tugas secara adil	4.05	.851	Tinggi
C9	Hubungan saya dengan penyelia baik	4.34	.745	Tinggi
C10	Penyelia mengambil berat terhadap saya	4.06	.887	Tinggi
C11	Penyelia memberi galakan dan pujian terhadap saya	4.11	.908	Tinggi
	Jumlah keseluruhan	4.19	.598	Tinggi

Jadual 3 menunjukkan dapatan data nilai min bagi menentukan tahap min bagi setiap penyataan bagi kepemimpinan penyeliaan. Secara keseluruhannya nilai min bagi setiap pernyataan adalah berada pada tahap yang tinggi.

5.3 Adakah terdapat perbezaan tahap kepuasan kepemimpinan penyeliaan pensyarah dalam kalangan pelajar tahun akhir lelaki dan perempuan bidang pertanian Kolej Vokasional Dato' Lela Maharaja?

Dapatan kajian menunjukkan tidak terdapat perbezaan signifikan dalam kepemimpinan penyeliaan bagi kumpulan pelajar lelaki (M=4.1772, SP= .60218) dan pelajar perempuan (M= 4.2080, SP = .5997 ; t(109)= - . 270, p = .435 > .05). Dapatan ini menunjukkan hipotesis gagal ditolak dan menunjukkan bahawa pelajar lelaki dan perempuan ini tidak berbeza dari aspek hubungan dan keserasian bersama penyelia.

Jadual 4 Dapatan Perbandingan Min Kepuasan Penyeliaan Pensyarah antara Jantina

Kumpulan	Bilangan Pelajar	Min	Sisihan Piawai	Nilai t	Darjah Kebebasan	Signifikan
Lelaki	59	4.1772	.60218	-.270	109	.435
Perempuan	52	4.2080	.5997			

5.4 Adakah terdapat perbezaan tahap kepuasan kepemimpinan penyeliaan pensyarah dalam kalangan pelajar tahun akhir bidang pertanian mengikut program di Kolej Vokasional Dato' Lela Maharaja?

Analisis ANOVA satu hala menunjukkan **tidak terdapat perbezaan yang signifikan** antara program yang diikuti oleh pelajar [F(6,110) = 1.337, p = .247 > .05] iaitu program Poultri, Ruminan, Tanaman, Akukultur, Mekanisma, Pemprosesan Makanan dan Landskap bagi amalan kepemimpinan penyeliaan yang berkesan. Oleh itu hipotesis tidak dapat ditolak.

Jadual 5 Dapatan Perbandingan Min Kepuasan Penyeliaan Pensyarah antara Kumpulan

	Jumlah kuasa dua	Darjah kebebasan	Min kuasa dua	F	signifikan
Antara Kumpulan	2.819	6	.470	1.337	.247
Dalam Kumpulan	36.542	104	.351		
Jumlah	39.361	110			

6.0 PERBINCANGAN

Hasil dapatan menunjukkan kepemimpinan penyeliaan mencapai tahap yang tinggi dengan jumlah nilai min 4.19. Menurut Prakas (2014) tafsiran skala min tahap tinggi adalah berada pada julat 4.01 – 5.00. Keadaan ini menunjukkan kepuasan pelajar berada pada tahap tinggi terhadap penyelia yang telah mencipta keselesaan pada diri pelajar (Ahmadi dan Alireza, 2007). Seterusnya dapatan kajian juga menjelaskan tiada perbezaan signifikan antara pelajar lelaki dan perempuan dalam aspek amalan kepemimpinan penyeliaan yang diamalkan oleh penyelia masing-masing. Hockey, J., (1996) menyatakan penyelia yang baik mampu mencetuskan hubungan persahabatan berasaskan aspek akademik dengan semua pelajar di bawah penyeliaannya selain merangsang pelajar berfikir secara kreatif untuk kemajuan pelajar. Didapati juga tidak terdapat perbezaan yang signifikan antara program yang diikuti oleh pelajar dengan kepuasan kepemimpinan penyeliaan. Ini disebabkan di KV, penyelia dipilih mengikut bidang dan kepakaran yang dimiliki oleh setiap pensyarah yang dilantik sebagai penyelia projek PTA pelajar tahun akhir tersebut (BPTV, 2018). Adalah diharapkan hasil dapatan kajian ini dapat membantu tenaga pengajar di KV untuk meningkatkan mutu penyeliaan sewaktu menyelia pelajar menyiapkan projek tahun akhir.

7.0 KESIMPULAN

Kepimpinan penyeliaan daripada pensyarah di Kolei Vokasional Dato' Lela Maharaja di kalangan pelajar dalam Projek Tahun Akhir bidang pertanian memberikan gambaran yang baik. Amalan profesional sebagai penyelia projek dilihat memberi kesan kepuasan pada pelajar berada pada tahap tinggi. Ini bermaksud para pensyarah yang dilantik sebagai penyelia mempunyai hubungan yang baik dengan pelajar, berkeupayaan dalam memberi arahan dengan jelas serta mudah difahami oleh pelajar, memberi sokongan untuk pembangunan kerjaya pelajar dan mahir dan berkebolehan membuat keputusan. Pensyarah juga berkomunikasi mengenai matlamat dan strategi secara berkesan, bersifat adil dan terbuka serta mempunyai akauntabiliti terhadap pelajar di bawah seliaannya. Kepemimpinan penyeliaan ini harus menjadi prioriti dalam setiap pensyarah terutamanya di awal perancangan projek bagi memastikan kelancaran sesuatu projek dapat berakhir dengan hasil yang baik. Ini juga menjadi keutamaan tugas di waktu penyeliaan PTA dilaksanakan adalah untuk pelajar mengaitkan pengetahuan, kemahiran dan kebolehan sepanjang mereka berada di KV oleh yang demikian pensyarah bukan sahaja memberikan pengajaran dan pembelajaran malah bertanggungjawab mengembangkan minat, kebolehan dan bakat pelajar (Siraj & Ibrahim, 2012). Dalam mempersiapkan diri mereka mendepani situasi yang semakin mencabar dan kompleks ini, selain kepuasan kepemimpinan penyeliaan para pensyarah pada setiap pelajar, penguasaan kemahiran dan pengetahuan dalam menghasilkan projek yang berkualiti perlu dipantau dari masa ke semasa untuk menjadikan graduan KV berketerampilan bagi memenuhi pasaran industri.

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ABSTRAK

Kemahiran kebolehkerjaan merupakan elemen penting kepada pelajar untuk menjadikan mereka berketerampilan dan boleh melaksanakan pelbagai pekerjaan. Ini adalah faktor penting yang membolehkan mereka ditempatkan dalam pasaran industri pekerjaan. Kajian ini dijalankan adalah untuk mengenal pasti hubungan di antara konsep kendiri dan kemahiran kebolehkerjaan dalam kalangan pelajar kejuruteraan. Populasi kajian melibatkan pelajar-pelajar daripada 6 Kolej Vokasional di Selangor. Sampel Kajian telah dipilih di kalangan pelajar diploma kolej vokasional (DVM) tahun 1 dan tahun 2. Sampel kajian adalah seramai 303 orang. Sampel yang dipilih adalah pensampelan secara rawak berkadaran. Reka bentuk kajian ini merupakan kajian korelasi kerana ingin melihat hubungan di antara konsep kendiri dengan kemahiran kebolehkerjaan. Kajian ini berbentuk deskriptif dan dengan menggunakan instrumen konsep kendiri dan kemahiran kebolehkerjaan skala lima. Nilai pekali Alpha Cronbach untuk konstruk konsep kendiri adalah α = 0.816 manakala konstruk bagi kemahiran kebolehkerjaan ialah α = 0.822. Didapati terdapat hubungan yang positif di antara konsep kendiri dengan kemahiran kebolehkerjaan dalam kalangan pelajar kejuruteraan Kolej Vokasional. Semakin tinggi konsep kendiri pelajar semakin meningkat kemahiran kebolehkerjaan pelajar. Pentingnya kemahiran kebolehkerjaan dapat di tingkatkan agar pelajar boleh menepatkan diri dalam pasaran pekerjaan mengikut keperluan masa kini. Disamping kajian ini dijalankan dengan tujuan untuk mengenal pasti tahap konsep kendiri pelajar kolej Vokasional di Selangor.

Kata Kunci: Konsep Kendiri, Kemahiran Kebolehkerjaan, Kolej Vokasional

1.0 PENGENALAN

Kolej Vokasional (KV) di Malaysia merupakan sebuah institusi pendidikan yang memberikan peluang kepada pelajar untuk melanjutkan pengajian selepas peperiksaan Pentaksiran Tingkatan Tiga (PT3) dengan menawarkan keseimbangan pengalaman pembelajaran dari segi teoritikal dan praktikal. Penubuhan kolej vokasional pada asalnya bertujuan menyediakan pihak industri dengan tenaga kerja mahir dan separuh mahir dan keperluan ini seiring peredaran masa dalam menghadapi Revolusi Industri 4.0 (Kementerian Pendidikan Malaysia, 2019). KV juga berhasrat melahirkan pelajar berkompeten aras tinggi dalam bidang pekerjaan dan menepati kehendak industri serta memupuk watak profesional yang menyumbang kepada pertumbuhan ekonomi negara. KV pada asalnya ialah Sekolah Menengah Teknik (SMT) dan telah ditukarkan kepada Kolej Vokasional (KV) dengan tujuan untuk memperkasa sistem pendidikan vokasional khususnya serta mengubah pandangan masyarakat bahawa pengajian vokasional adalah untuk pelajar yang ingin meningkat kemahiran dalam bidang vokasional. Bahagian Pendidikan Teknik Vokasional (BPTV) membuat Perubahan Transformasi Pendidikan Vokasional (TPV) pada tahun 2012, Program Transformasi Vokasional dan Teknikal (PTVT) yang melibatkan sekolah menengah teknik dan vokasional rintis yang di naik taraf menjadi KV (Laporan Ekonomi, 2018). Berdasarkan kepada Pelan Pembangunan Pendidikan Malaysia 2015-2025, PPPM (2013) perubahan transformasi SMT kepada KV bertujuan meningkatkan mutu serta kualiti sistem pendidikan di Malaysia bagi menghadapi cabaran dan masa depan yang berubah-ubah serta mencabar.

Sejajar dengan hasrat KPM dalam PPPM (2013) transformasi PTVT dilaksanakan dengan matlamat menjadikan Malaysia sebagai negara maju yang berpendapatan tinggi. Transformasi PTVT menyasarkan sekurang-kurangnya 46 peratus pekerjaan berkelayakan dalam bidang teknik dan vokasional. Justeru, kementerian meningkatkan akses pendidikan dengan memperluaskan bidang pendidikan teknikal dan vokasional khususnya kepada pelajar yang cenderung kepada bidang kemahiran. Transformasi ini melibatkan 15 buah sekolah menengah vokasional (SMV) yang terpilih untuk menjadi

KV rintis pada tahun 2012 terdiri daripada SMV Arau, SMV Sungai Petani 1, SMV Balik Pulau, SMV Seri Manjung, SMV Shah Alam, SMV (ERT) Setapak, SMV Datuk Seri Mohd Zin, SMV Dato' Lela Maharaja, SMV Kluang, SMV Muadzam Shah, SMV Pengkalan Chepa, SMV Kuala Terengganu, SMV Labuan, SMV Beaufort dan SMV Kuching.

Seterusnya pada tahun 2013 perubahan Sekolah Menengah Teknik (SMT) di seluruh Malaysia di naik taraf menjadi KV. Semakan semula kurikulum vokasional serta kaedah penilaian dan penaksiran baru yang akan diperkenalkan, memperkasa kemahiran guru dan mengukuhkan jaringan kerjasama industri menjadi keutamaan dalam Pelan Pembangunan Pendidikan Malaysia (PPPM, Gelombang 1 (2013- 2015)). Pindaan akta pendidikan serta rombakan dalam kurikulum dilaksanakan dengan harapan dapat melahirkan pelajar diploma lepasan KV sama taraf dengan diploma dari institusi lain (PPPM, Gelombang 2 (2016-2020). Bahagian Perancangan dan Penyelidikan Dasar Pendidikan menyatakan TPV dilaksanakan bagi mencapai matlamat negara maju dalam menyediakan pelajar yang mempunyai modal insan tinggi, mempunyai nilai kebolehpasaran dan kebolehkerjaan yang baik dan sentiasa relevan dengan keperluan dalam pembangunan ekonomi negara (Bahagian Perancangan dan Penyelidikan Dasar Pendidikan, 2012) berikutan Malaysia menunjukkan jumlah enrolmen pelajar lebih rendah berbanding negara Asia lain seperti Indonesia, Thailand, Korea dan Singapura dalam bidang kemahiran teknikal dan vokasional.

Sehubungan itu, pada tahun 2013 sebanyak 65 buah SMV telah dinaiktarafkan menjadi KV. Kini terdapat 81 buah KV beroperasi di seluruh Malaysia termasuk penambahan enam buah KV baharu (Kementerian Pendidikan Malaysia, 2014). Dari keseluruhan KV yang beroperasi terdapat lebih dari 20 program ditawarkan dan pelaksanaan pengajaran dan pembelajaran di KV seluruh Malaysia adalah berdasarkan kepada standard kurikulum KV. Program-program ini terdiri daripada kosmetologi, pengajian awal kanak-kanak, seni kulinari, seni reka fesyen, bakeri dan pastri, teknologi automotif, teknologi elektrik, teknologi elektronik, teknologi kimpalan, teknologi pembinaan, teknologi pemesinan industri, teknologi penyejukan dan penyaman udara, teknologi sistem komputer dan rangkaian, teknologi sistem pengurusan pangkalan data dan aplikasi, multimedia kreatif animasi, insurans, kesetiausahaan pentadbiran, pemasaran, pengurusan peruncitan, perakaunan, agroindustri tanaman, agroindustri ternakan ruminan, agroindustri ternakan poultri, teknologi mekanisasi agro, bioteknologi, akuakultur, hortikultur, seni bina landskap dan pemprosesan makanan (Kementerian Pendidikan Malaysia, 2019).

Kurikulum Standard Kolej Vokasional (KSKV) ialah kurikulum pendidikan khusus untuk pelajar yang mengikuti pendidikan dan latihan vokasional pasca menengah di KV. Peringkat pengajian pasca menengah ini adalah selama dua tahun. Pelajar yang berjaya akan di anugerahkan Sijil Vokasional Malaysia (SVM) dan meneruskan pengajian ke peringkat diploma selama dua tahun dalam bidang yang sama. KSKV digubal mengikut standard kompeten bekerja yang ditetapkan oleh organisasi standard pekerjaan dan aras pembelajarannya menepati keperluan Kerangka Kelayakan Malaysia (KKM) tahap 1 hingga tahap 4 (Kementerian Pendidikan Malaysia, 2014). Kandungan KSKV adalah berorientasikan kepada pekerjaan supaya pelajar dapat mendepani cabaran industri untuk menempatkan diri di dalam alam pekerjaan.

Mengikut statistik jabatan perangkaan terdapat seramai 255,099 graduan lepasan pelbagai institusi pendidikan awam, swasta dan institut latihan *Technical and Vocational Education and Training* (TVET) di seluruh Malaysia pada tahun 2017. Berdasarkan kepada jumlah tersebut hanya 0.7 peratus kenaikan jumlah penyertaan tenaga buruh bagi tahun 2018 berbanding tahun sebelumnya (Jabatan Perangkaan Malaysia,2018). Peratusan tersebut menunjukkan masih ramai graduan belum mendapatkan pekerjaan selepas tamat pengajian. Mengikut statistik pengajian tinggi pula bagi tahun 2017, peratus graduan lepasan TVET berada dalam pasaran industri hanya 0.3 peratus berbanding keseluruhan pelajar yang berada di Kementerian Pengajian Tinggi (KPT). Manakala bagi tahun 2018, hanya 3.4 peratus pelajar telah mendapat pekerjaan daripada keseluruhan 32.4 juta rakyat Malaysia (Jabatan Perangkaan Malaysia, 2018). Ini menunjukkan dalam mencapai sasaran 900,000 tenaga kerja dari kalangan pelajar lepasan TVET adalah masih jauh belum mencukupi. Ini memberi gambaran bahawa graduan lepasan pelbagai institusi pendidikan awam, swasta dan institut latihan TVET di seluruh Malaysia masih belum mencukupi dalam melahirkan graduan untuk memenuhi kehendak industri masa kini. Sejajar dengan hasrat KPM menjadikan TVET sebagai landasan kepada negara maju menjelang 2020 (Kementerian Pelajaran Malaysia, 2014) yang akan menjana pertumbuhan ekonomi negara, graduan yang berketerampilan, mempunyai modal insan, berkemahiran kebolehkerjaan yang tinggi perlu dilahirkan bagi mencapai tujuan dan hasrat tersebut.

Sejak penubuhan KV, seramai 2,273 graduan daripada 15 KV rintis telah dilahirkan (Bahagian Penerbitan Dasar Negara, 2017). Bagi kohort rintis seramai 72.3 peratus iaitu seramai 1,643 graduan yang dikeluarkan oleh KV telah mendapat tempat di alam pekerjaan setelah menamatkan pengajian (Haradian Hamdan, 2016). Manakala bagi kohort 2014 seramai 7,231 graduan daripada 12,997 telah mendapat pekerjaan sebelum mereka bergelar graduan. Walaupun pelajar ini mudah mendapatkan pekerjaan, namun bilangan tenaga mahir dan separa mahir yang diperlukan oleh pasaran industri masih belum mencukupi. Oleh itu, bagi melahirkan lebih ramai graduan dalam bidang vokasional untuk berada di pasaran industri, elemen utama yang diperlukan adalah memiliki kemahiran kebolehkerjaan yang baik. Menurut Norzaina & Mohd Mokhtar (2017) kemahiran kebolehkerjaan adalah kemahiran selain dari pengetahuan akademik yang diperlukan oleh majikan pada masa kini. Nik, Azmi, Rusyda, Arena & Khairani (2012) juga menyatakan bahawa majikan memerlukan pekerja yang lebih mudah dalam menjalankan kerja serta memiliki kemahiran kebolehkerjaan yang tinggi. Oleh itu, kemahiran kebolehkerjaan pelajar perlu dikaji agar dapat membantu TVET melahirkan graduan yang berkemahiran kebolehkerjaan di samping memiliki nilai modal insan yang baik. Kemahiran kebolehkerjaan ini amat penting bagi setiap graduan bagi memastikan tahap kebolehpasaran mereka tinggi di pasaran kerja terbuka masa kini. Ia bertujuan untuk memberikan input dan kemahiran yang perlu ada pada graduan lepasan kolej vokasional dengan kemahiran terkini yang diaplikasikan oleh industri. Kekurangan hebahan dan kepekaan graduan itu sendiri yang menyukarkan pelbagai program peningkatan ilmu berkenaan kerjaya yang dianjurkan oleh kerajaan. Justeru, perkara ini amatlah membimbangkan kerana sesuatu perancangan itu tidak akan berjalan lancar tanpa penglibatan dan usaha keras semua pihak semada graduan, ibu bapa, pensyarah, kolej mahupun pihak kementerian sendiri. Pemantauan secara berkala juga amatlah penting kepada struktur dan dapatan program peningkatan kemahiran kebolehkerjaan ini bagi memastikan perancangan berjalan dengan lancar dan berjaya. Objektif kajian ini ialah untuk:

1. mengenalpasti tahap konsep kendiri dengan kemahiran kebolehkerjaan pelajar program kejuruteraan kolej vokasional di Selangor.
2. menentukan hubungan konsep kendiri dengan kemahiran kebolehkerjaan pelajar program kejuruteraan kolej vokasional di Selangor.
3. mengenal pasti faktor peramal kemahiran kebolehkerjaan pelajar kejuruteraan kolej vokasional di Selangor.

2.0 PENDIDIKAN DAN LATIHAN TEKNIKAL DAN VOKASIONAL (PLTV)

Laporan dalam Pelan Pembangunan Pendidikan Malaysia (PPPM, 2013-2025), Sistem Pendidikan dan Latihan Teknikal dan Vokasional (PLTV) atau terminologi yang disebarluas secara global iaitu *Technical and Vocational Education and Training (TVET)* ditakrifkan seperti berikut:

"pendidikan vokasional membantu pelajar membuat persediaan kerjaya yang memerlukan kepakaran dalam bidang teknik tertentu. Kerjaya ini merangkumi kemahiran teknikal atau vokasional seperti pertukangan kayu sehingga kepada jawatan dalam bidang kejuruteraan dan pekerjaan lain".

Banyak kajian telah dijalankan berkaitan tahap kemahiran kebolehkerjaan (Ahmad Lutfi Kandar, 2014; Kahirol, Wan, Nor lisa, Badarudin, dan Mohamad, 2008; Kazilan et al. 2009; Rasul et al., 2009; Madar, Aziz dan Mustafa, 2009; Suria Sindhi Shariati dan Ahmad, 2011; Halim, Bakar, Hamzah dan Rashid, 2013). Dapatan kajian mendapati bahawa tahap kemahiran kebolehkerjaan pelajar TVET berada pada tahap sederhana (Ahmad Lutfi Kandar, 2014; Kahirol, Wan, Nor lisa, Badarudin, dan Mohamad, 2008; Kazilan et al. 2009). Elemen belajar adalah elemen yang berada pada tahap tinggi berbanding dengan elemen kemahiran kebolehkerjaan yang lain (Ahmad Lutfi Kandar, 2014).

Kemahiran kebolehkerjaan adalah kemahiran yang penting diperlukan dalam dunia pekerjaan terutama pada pandangan majikan yang menjadikan kemahiran kebolehkerjaan sebagai elemen penting dalam membuat pemilihan pekerja (Suria Sindhi Shariati dan Ahmad, 2011; Rasul et al., 2009; Madar, Aziz dan Mustafa, 2009). Penerapan elemen-elemen kemahiran kebolehkerjaan yang diperlukan oleh pelajar dan peranan institusi dalam menerapkan elemen kemahiran ini adalah penting sebagai keperluan yang diperlukan oleh majikan. Halim, Bakar, Hamzah dan Rashid (2013) dalam penulisan mereka berkaitan kemahiran kebolehkerjaan mengkaji dari perspektif majikan dan keperluan mereka terhadap pelajar dalam mendapatkan pekerjaan dan hasil kajian mendapati kemahiran kebolehkerjaan adalah elemen yang penting yang perlu ada dalam diri individu bagi menempatkan diri dalam industri mengikut keperluan bidang masing–masing.

Kekosongan jawatan dalam bidang yang berkaitan yang diperlukan oleh industri amatlah ketara kerana kekurangan calon yang berkelayakan (Kahirol et al., 2008). Calon gagal untuk terampil dengan kemahiran kebolehkerjaan yang diperlukan oleh industri. Latihan yang diberikan kepada pelajar dalam sistem pendidikan latihan teknikal dan vokasional masih belum mampu mengejar keperluan industri yang sentiasa berubah setiap tahun (Yahya, 2004). Ahmad Rizal et al., (2008) dalam penulisan mereka menyatakan kadar pengangguran negara masih tinggi. Menurut Laporan Penyiasatan Tenaga Buruh kadar pengangguran pada Julai 2017 adalah 3.5 peratus, naik 0.1 mata peratus berbanding bulan sebelumnya. Manakala perbandingan tahun ke tahun, kadar pengangguran tidak menunjukkan perubahan. Bagi mengurangkan kadar ini elemen-elemen kemahiran kebolehkerjaan perlu ada pada setiap calon yang akan memasuki alam pekerjaan kerana ini adalah keperluan selain kemahiran teknikal yang diperlukan oleh industri.

3.0 KEMAHIRAN KEBOLEHKERJAAN DAN KONSEP KENDIRI

Kemahiran kebolehkerjaan dikenali dengan pelbagai nama. Kemahiran insaniah digunakan oleh Kementerian Pengajian Tinggi. Ada juga yang menggunakan istilah *core abilities, employability skill* tetapi tetap membawa maksud yang sama di mana ia adalah kemahiran generik yang diperlukan oleh pekerja. Kemahiran ini adalah kemahiran yang bukan teknikal. Sikap,tabiat, tingkah laku, personaliti, tingkah laku, cara komunikasi, cara menyelesaikan masalah, membuat keputusan, berkaitan dengan kemahiran kebolehkerjaan. Gainer (1988) menyatakan kemahiran yang terampil ada dalam diri individu dikira sebagai kemahiran kebolehkerjaan. Kemahiran berkaitan "personaliti", kemahiran "interpersonal" di nyatakan oleh Lankard (1990). Manakala Saterfiel dan Mc Larty (1995) kemahiran yang diperlukan untuk memenuhi keperluan dalam bidang pekerjaan. Buck and Barrick (1987), "kemahiran pekerjaan adalah ciri-ciri pekerja, selain daripada kecekapan teknikal, yang menjadikannya aset kepada majikan "(ms 29) melaporkan, kemahiran pekerjaan termasuk membaca, aritmetik asas dan kemahiran asas lain; penyelesaian masalah, membuat keputusan, dan kemahiran berfikir yang lebih tinggi; dan kebolehpercayaan,sikap positif, kerjasama dan kemahiran dan sifat afektif yang lain.

Konsep kendiri boleh dikatakan pemahaman tentang diri sendiri atau keupayaan diri serta pemahaman orang lain terhadap diri individu yang menjadi pemangkin kepada pembentukan diri individu. Menurut Carls Rogers (1950) dalam Teori-Teori Sifat dan Behavioristik (Hall & Lindzey, 1993) definisi konsep kendiri adalah suatu kepercayaan, persepsi serta konsisten mengenai diri individu. Suatu gambaran tentang diri sendiri dalam keadaan sedar. Diri sendiri yang boleh menentukan sama ada menerima sesuatu perkara dengan baik atau sebaliknya. Jika sebaliknya yang berlaku ketegangan boleh wujud dalam diri individu. Oleh itu, konsep kendiri boleh dikatakan gabungan daripada penilaian sendiri, penilaian orang lain serta penilaian sendiri mengenai pandangan orang lain terhadap dirinya. Mengikut Cohen (1959) dalam (Ary,Jacob, Soresson & Razavieh, 2010) konsep kendiri individu mempunyai tahap tinggi dan tahap rendah. Bagi konsep kendiri tahap tinggi individu lebih menghargai diri sendiri, bercita-cita tinggi serta mempunyai minat dalam sesuatu bidang. Manakala konsep kendiri tahap rendah pula adalah individu yang mudah berputus asa, tidak bersemangat dan mudah berasa rendah diri. Steward et al. (1988) berpendapat konsep kendiri adalah perasaan individu sejak dari kecil sehingga dewasa yang membentuk identiti. Identiti ini terbentuk apabila individu mula mengenal bahagian-bahagian dalam diri mereka dan setiap individu adalah berbeza. Steward dan Friedman (1987) pula menyatakan konsep kendiri adalah tanggapan individu mengenai dirinya. Setiap individu adalah berbeza sejak dari bayi lagi. Setiap individu yang lahir adalah berbeza dan mempunyai tanggapan yang berbeza mengenai diri individu. Perkin (1974) menyatakan dalam buku "*Human Development and Learning*", konsep kendiri terdiri daripada nilai, persepsi, kepercayaan, perasaan dan sikap individu itu sendiri. Setiap konsep kendiri meliputi nilai-nilai yang dipegang oleh individu tentang diri mereka. Konsep kendiri adalah perasan dan andaian kepada proses mental. Wujud suatu gambaran dan pandangan manusia mengenai diri sendiri. Gambaran ini merupakan aspek luaran yang dilihat oleh orang lain seperti rupa paras, kekuatan fizikal, kelemahan dan tingkah laku. Konsep kendiri juga didefinisikan sebagai penilaian diri sendiri secara positif atau secara negatif (Azizi & Jamaludin, 2009).

Oleh itu, dapat disimpulkan bahawa konsep kendiri adalah tanggapan individu terhadap diri mereka. Tanggapan ini meliputi nilai, sikap, tingkah laku, pemahaman, reaksi, tabiat dan sebagainya terhadap diri individu. Penerimaan yang baik akan membentuk konsep kendiri yang positif dan sebaliknya penerimaan yang bersifat negatif akan menjadikan konsep kendiri individu negatif. Ia juga termasuk penerimaan diri terhadap pandangan orang lain terhadap individu sendiri. Pandangan seseorang mengenai diri individu juga membentuk konsep kendiri individu. Konsep kendiri juga berubah berdasarkan kepada

pengalaman dan kematangan individu. Ini dapat digambarkan melalui Rajah 1 Konsep Kendiri yang mana konsep kendiri terbentuk gabungan daripada tanggapan diri sendiri dan tanggapan dari orang lain terhadap diri sendiri.

Rajah 1 Konsep Kendiri

Konsep kendiri terbahagi kepada konsep kendiri positif dan konsep kendiri negatif. Konsep kendiri positif terbentuk apabila seseorang individu membesar dalam suasana yang aman dan harmoni. Individu ini bukan sahaja mempunyai ibu bapa yang baik, malah keluarga, rakan, jiran, serta orang yang berada di sekelilingnya memberikan sokongan moral dan menunjukkan contoh teladan yang baik. Individu ini lebih optimistik, mudah berinteraksi, bercita-cita tinggi, menerima pandangan orang lain dengan terbuka, dan lebih bersikap tenang dalam menghadapi situasi yang bermasalah. Konsep kendiri negatif adalah bertentangan dengan konsep kendiri positif. Kelompok individu yang memiliki konsep kendiri negatif lebih mudah untuk berputus asa, tidak berpuas hati dengan orang lain, cepat tersinggung dengan perkara yang remeh, mudah marah dengan situasi yang mengganggu emosi dan sukar untuk menerima pandangan orang lain. Individu ini sering dimarahi dan kurang mendapat kasih sayang daripada ibu bapa. Kelompok ini juga kurang mendapat perhatian dari guru dan rakan sebaya. Sering dikritik juga akan menyebabkan individu ini kurang berkeyakinan dan akan membentuk rasa rendah diri dengan diri sendiri. Akibatnya mereka akan menjadi lebih pendiam dan pasif. Sukar berinteraksi dengan orang lain dan tidak bersosial dengan masyarakat. Kerangka kajian seperti Rajah 2 di bawah.

Rajah 2 Kerangka Kajian

4.0 METODOLOGI KAJIAN

Kajian ini menggunakan statistik deskriptif untuk menghuraikan ciri-ciri pemboleh ubah untuk memberi petunjuk seperti min, sisihan piawai, medium, mod dan taburan normal. Kajian ini juga merupakan kajian korelasi yang mengkaji hubungan pemboleh ubah dengan suatu pemboleh ubah yang lain. Kajian korelasi akan menggambarkan hubungan linear antara dua atau lebih pemboleh ubah tanpa menyebabkan wujudnya sesuatu kesan antara satu pemboleh ubah ke atas satu pemboleh ubah yang lain (Salkind, 2010; Ary et al.2013). Pembolehubah bersandar dalam kajian ini terdiri konsep kendiri manakala pemboleh ubah tidak bersandar pula adalah kemahiran kebolehkerjaan.

Data dalam kajian ini diperoleh melalui soal selidik yang mengandungi 3 bahagian iaitu bahagian A,B dan C dalam Bahasa Melayu. Bahagian A adalah berkaitan Kemahiran Kebolehkerjaan. Bahagian B adalah berkaitan Konsep Kendiri dan Bahagian C adalah Demografi Responden.

Jenis pensampelan yang dipilih adalah pensampelan rawak berstrata *(Stratified random sampling*) dan berkadaran. Pemilihan ini dibuat apabila populasi yang dipilih tidak homogen dan terdapat subkumpulan dalam populasi. Setiap ahli di kelompokkan terlebih dahulu sebelum pensampelan diambil. Penentuan saiz sampel kajian dibuat berdasarkan kepada Saiz sampel Krejie & Morgan (1970).

Krejie & Morgan (1970) :

$$n = \frac{x^2 Np(1-p)}{d^2(N-1) + x^2 p(1-p)}$$

Di mana :
x^2 = nilai khi kuasa dua daripada jadual darjah kebebasan 1, iaitu 3.841
p = perkadaran populasi maksimum, iaitu 0.5
d = darjah ketepatan, iaitu 0.05
N = Populasi = 1427

5.0 HASIL DAPATAN KAJIAN DAN PERBINCANGAN

Data yang telah dikumpulkan dianalisis oleh pengkaji dengan menggunakan perisian *Statistical Package for Social Sciences* (SPSS) versi 22. Seramai 303 orang pelajar terlibat dalam kajian ini dan didapati seramai 263 orang (86.8%) adalah responden lelaki manakala 40 orang (13.2%) adalah responden perempuan. Bilangan pelajar lelaki dan pelajar perempuan tidak dapat dibahagi sama rata kerana bilangan pelajar perempuan adalah sedikit bagi bidang teknologi kejuruteraan berbanding dengan pelajar lelaki.

Jadual 1 Konsep Kendiri

No	Item	Min (*M*)	Sisihan
1	Saya memiliki badan yang sihat / sempurna.	4.25	.699
2	Saya seorang yang cantik / kacak.	4.17	.825
3	Saya menjaga dengan baik keadaan fizikal saya.	4.18	.637
4	Saya sepatutnya mempunyai daya penarik fizikal.	3.98	.702
5	Saya suka dilihat kemas dan menarik sepanjang masa.	4.28	.648
6	Saya suka akan diri saya seadanya.	4.35	.623
7	Saya yakin akan kebolehan akademik saya.	4.05	.647
8	Saya antara pelajar terbaik dalam akademik.	3.54	.800
9	Kebolehan akademik saya sama seperti pelajar lain.	3.72	.740
10	Saya yakin boleh berjaya dalam apa jua bidang yang saya ceburi.	3.95	.749
11	Saya suka belajar mengenai ilmu baharu berkaitan kursus saya di	4.17	.736
12	Saya suka membeli buku yang berkaitan akademik.	3.34	.949
13	Saya gembira berada dalam persekitaran akademik kolej.	3.92	.768
14	Saya mudah bercampur gaul dengan sesiapa sahaja.	4.08	.757
15	Saya mudah bercampur gaul dengan pelajar berlainan jantina.	3.94	.891
16	Saya mudah berbual mesra dengan orang yang tidak saya kenali.	3.74	.793
17	Saya boleh bergaul baik dengan orang yang tidak saya kenali.	3.82	.819
18	Saya tidak pandai bersosial.	2.55	1.200
	Keseluruhan	**3.89**	**0.777**

Jadual 2 Korelasi Pearson bagi Konsep Kendiri dengan Kemahiran Kebolehkerjaan

	Konsep Kendiri (Pekali Korelasi, *r*)	Interpretasi Hubungan
Kemahiran komunikasi	0.498**	Positif yang Sederhana
Kemahiran kerja berpasukan	0.456**	Positif yang Sederhana
Pembelajaran Sepanjang Hayat	0.426**	Positif yang Sederhana
Profesionalisme	0.431**	Positif yang Sederhana
Kemahiran menyelesaikan masalah dan membuat keputusan	0.465**	Positif yang Sederhana
Kompeten dalam aplikasi dan amalan	0.474**	Positif yang Sederhana
Pengetahuan prinsip sains dan kejuruteraan	0.509**	Positif yang Sederhana
Pengetahuan mengenai isu kontemporari	0.407**	Positif yang Sederhana
Pendekatan sistem kejuruteraan	0.413**	Positif yang Sederhana
Kompeten dalam disiplin kejuruteraan tertentu	0.462**	Positif yang Sederhana

Analisis korelasi Pearson dalam Jadual 2 menunjukkan terdapat hubungan signifikan yang positif antara min Kemahiran Komunikasi dengan min Konsep Kendiri [$r(301) = .498^{**}$, p=.001] dan hubungan ini adalah sederhana (Conolly & Sluckin, 1971; Cohen, 1988). Ini menunjukkan bahawa Konsep Kendiri pelajar mempunyai hubungan positif sederhana dengan Kemahiran Komunikasi. Terdapat hubungan signifikan yang positif antara min Kemahiran Kerja Berpasukan dengan min Konsep Kendiri [$r(301) = .456^{**}$, p=.001] dan hubungan ini adalah sederhana. Ini menunjukkan bahawa Konsep Kendiri pelajar mempunyai hubungan positif sederhana dengan Kemahiran Kemahiran Kerja Berpasukan. Analisis korelasi Pearson menunjukkan terdapat hubungan signifikan yang positif antara min Pembelajaran Sepanjang Hayat dengan min Konsep Kendiri [$r(301) = .426^{**}$, p=.001] dan hubungan ini adalah sederhana. Ini menunjukkan bahawa Konsep Kendiri pelajar mempunyai hubungan positif yang sederhana dengan Kemahiran Pembelajaran Sepanjang Hayat.

Terdapat hubungan signifikan yang positif antara min Profesionalisme dengan min Konsep Kendiri [$r(301) = .431$, p=.001] dan hubungan ini adalah sederhana. Ini menunjukkan bahawa Konsep Kendiri pelajar mempunyai hubungan positif yang sederhana dengan Profesionalisme. Analisis korelasi Pearson menunjukkan terdapat hubungan signifikan yang positif antara min Kemahiran Menyelesaikan Masalah Dan Membuat Keputusan dengan min Konsep Kendiri [$r(301) = .465^{**}$, p=.001] dan hubungan ini adalah sederhana. Ini menunjukkan bahawa Konsep Kendiri pelajar mempunyai hubungan positif sederhana dengan Kemahiran Menyelesaikan Masalah Dan Membuat Keputusan. Seterusnya jadual juga menunjukkan terdapat hubungan signifikan yang positif antara min Kompeten Dalam Aplikasi Dan Amalan dengan min Konsep Kendiri [$r(301) = .474^{**}$, p=.001] dan hubungan ini adalah sederhana. Ini menunjukkan bahawa Konsep Kendiri pelajar mempunyai hubungan positif yang sederhana dengan Kompeten Dalam Aplikasi Dan Amalan.

Analisis korelasi Pearson seterusnya menunjukkan terdapat hubungan signifikan yang positif antara min Pengetahuan Prinsip Sains Dan Kejuruteraan dengan min Konsep Kendiri [$r(301) = .509^{**}$, p=.001] dan hubungan ini adalah sederhana. Ini menunjukkan bahawa Konsep Kendiri pelajar mempunyai hubungan positif yang sederhana dengan Pengetahuan Prinsip Sains Dan Kejuruteraan. Analisis juga menunjukkan terdapat hubungan signifikan yang positif antara min Pengetahuan Mengenai Isu Kontemporari dengan min Konsep Kendiri [$r(301) = .407^{**}$, p=.001] dan hubungan ini adalah sederhana. Ini menunjukkan bahawa Konsep Kendiri pelajar mempunyai hubungan positif yang sederhana dengan Pengetahuan Mengenai Isu Kontemporari. Seterusnya terdapat hubungan signifikan yang positif antara min Pendekatan Sistem Kejuruteraan dengan min Konsep Kendiri [$r(301) = .413^{**}$, p=.001] dan hubungan ini adalah sederhana. Ini menunjukkan bahawa Konsep Kendiri pelajar mempunyai hubungan positif yang sederhana dengan Pendekatan Sistem Kejuruteraan. Analisis korelasi bagi item terakhir menunjukkan terdapat hubungan signifikan yang positif antara min Kompeten Dalam Disiplin Kejuruteraan Tertentu dengan min Konsep Kendiri [$r(301) = .462^{**}$, p=.001] dan hubungan ini adalah sederhana. Ini menunjukkan bahawa Konsep Kendiri pelajar mempunyai hubungan positif yang sederhana dengan Kompeten Dalam Disiplin Kejuruteraan Tertentu.

Merujuk kepada Jadual 2 dapatan kajian menunjukkan terdapat hubungan positif bagi konsep kendiri dengan kemahiran kebolehkerjaan (r = 0.601, p < 0.01) dan hubungan ini adalah sederhana

(Connolly & Sluckin,1971). Begitu juga dengan konsep kendiri terdapat hubungan yang positif dengan kemahiran kebolehkerjaan (r = 0.527, p < 0.01) dan hubungan ini adalah sederhana (Connolly & Sluckin,1971). Terdapat hubungan positif antara kepastian kerjaya dengan kemahiran kebolehkerjaan (r = 0.084, p < 0.01) namun begitu hubungan ini amat lemah (Connolly & Sluckin,1971).

6.0 KESIMPULAN DAN CADANGAN

Hasil kajian mendapati terdapat hubungan yang positif di antara kemahiran kebolehkerjaan dengan konsep kendiri pelajar diploma kolej vokasional. Konsep kendiri sangat penting dalam mempengaruhi kemahiran kebolehkerjaan. Kemahiran kebolehkerjaan ini adalah penting dilaksanakan bagi menyokong hasrat Transformasi Pendidikan Vokasional dalam menghasilkan modal insan berkemahiran tinggi dan seimbang serta menyeluruh dari aspek jasmani, rohani, sahsiah dan emosi. Hasil dapatan ini menunjukkan konsep kendiri mempengaruhi secara sederhana terhadap kemahiran kebolehkerjaan setiap pelajar. Hasil dapatan juga turut mendapati bahawa konsep kendiri mempengaruhi kemahiran komunikasi, kemahiran kerja berpasukan serta kemahiran menyelesaikan masalah dan membuat keputusan secara sederhana

Secara keseluruhan, konsep kendiri adalah berbeza bagi setiap kemahiran kebolehkerjaan pelajar. Kemahiran kebolehkerjaan yang terbahagi kepada Kemahiran komunikasi, Kemahiran kerja berpasukan, Profesionalisme, Pembelajaran Sepanjang Hayat,.Kemahiran menyelesaikan masalah dan membuat keputusan,Kompeten dalam aplikasi dan amalan, Pengetahuan prinsip sains dan kejuruteraan, pengetahuan mengenai isu kontemporari, Pendekatan sistem kejuruteraan dan Kompeten dalam disiplin kejuruteraan tertentu adalah sederhana.

Bagi meningkatkan kemahiran kebolehkerjaan pelajar, pelbagai faktor lain yang boleh di ambil kira selain daripada konsep kendiri. Faktor – faktor lain seperti keluarga, rakan sebaya, pendedahan industri, kepentingan kerjaya, pendedahan kerjaya dan kesediaan pelajar.

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054 : Kesediaan Guru Reka Bentuk dan Teknologi dari Aspek Pengetahuan Menaakul dan Kemahiran Pentaksiran Berasaskan Sekolah (PBS): Satu Tinjauan Deskriptif

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ABSTRAK

Kesediaan guru merupakan satu komponen penting dalam sesuatu perubahan. Kesediaan menghadapi perubahan pula perlu diukur dari pandangan individu yang melaksanakan perubahan tersebut. Oleh yang demikian, kajian ini dijalankan bertujuan mengenal pasti kesediaan guru melaksanakan pengajaran Reka Bentuk dan Teknologi (RBT) tahun empat Kurikulum Standard Sekolah Rendah (KSSR) dari segi pengetahuan menaakul dan kemahiran Pentaksiran Berasaskan Sekolah (PBS). Kajian kuantitatif tinjauan deskriptif ini melibatkan 368 orang guru mata pelajaran RBT tahun empat KSSR di Semenanjung Malaysia. Persampelan rawak berstrata (stratified sampling) bernisbah dan rawak mudah (random sampling) digunakan bagi memilih sampel kajian ini. Instrumen kajian terdiri daripada satu set soal selidik mengandungi 21 item untuk mengukur pengetahuan menaakul dan kemahiran PBS. Kajian rintis telah dijalankan dengan nilai Alpha Cronbach 0.95. Data kajian telah dianalisis menggunakan Statistical Package for the Social Sciences (SPSS) versi 20. Dapatan kajian menunjukkan min keseluruhan bagi aspek pengetahuan menaakul adalah 3.81(SP= .47). Ini memberi gambaran bahawa responden mempunyai pengetahuan menaakul yang sederhana tinggi. Manakala nilai min keseluruhan dari aspek kemahiran PBS pula adalah 3.91(SP= .48). Nilai ini juga menunjukkan bahawa responden mempunyai kemahiran PBS yang sederhana tinggi. Hasil kajian juga menunjukkan kesediaan guru dari aspek kemahiran PBS lebih tinggi berbanding pengetahuan menaakul. Ini memberi gambaran guru lebih bersedia dari segi kemahiran PBS dalam melaksanakan pengajaran RBT KSSR. Oleh itu, kajian ini diharap dapat memberi panduan kepada penggubal dasar dan perancang kurikulum Kementerian Pelajaran Malaysia (KPM) supaya memberi perhatian dari aspek kesediaan guru apabila memperkenalkan mata pelajaran baharu.

Kata kunci: Perubahan kurikulum, kesediaan guru, Reka Bentuk dan Teknologi

1.0 PENGENALAN

Sistem pendidikan di Malaysia telah melalui beberapa fasa perubahan seiring dengan perkembangan dan pembangunan Malaysia ke arah mencapai Wawasan Kemakmuran Bersama 2030. Kementerian Pendidikan Malaysia (KPM) sentiasa memantau sebarang keperluan untuk penambahbaikkan bagi sesebuah kurikulum. Perkembangan kurikulum tidak berlaku dengan sendiri tanpa faktor yang mempengaruhinya. Hal ini berlaku seiring dengan perkembangan dan kemajuan ekonomi negara dan dianggap sebagai suatu proses yang dinamik dan seimbang.

Sejak kebelakangan ini, sistem pendidikan negara telah menjadi perkara yang semakin menarik perhatian dan menjadi perbahasan orang ramai. Ibu bapa meletakkan harapan tinggi dan majikan menyuarakan kebimbangan akan keupayaan sistem pendidikan melengkapkan generasi muda dengan persediaan secukupnya bagi menghadapi cabaran abad ke-21. Menyedari hakikat bahawa sistem pendidikan adalah kompleks dan rencam, tempoh yang panjang diperlukan untuk melihat impak transformasi yang dilaksanakan, kementerian perlu mengambil tindakan yang berani dan pantas kerana perubahan yang dihasratkan adalah penting dan mesti dilaksanakan dengan segera.

2.0 PERUBAHAN KURIKULUM

Kurikulum di Malaysia diaplikasikan secara standard di semua sekolah dan diharapkan perubahan yang signifikan serta sistematik terjadi. Perubahan yang dibuat ke atas kurikulum turut memberi impak positif kepada semua pihak yang terlibat di dalam sistem pendidikan.

Menurut Wedell (2009), perubahan adalah satu proses berterusan. Perubahan merupakan satu proses dan bukannya acara. Untuk mendapatkan perubahan pendidikan berskala besar, semua individu terlibat memerlukan peningkatan kefahaman tentang perubahan yang dilakukan. Setiap perubahan yang berlaku dalam sistem pendidikan memerlukan sokongan politik berekonomi kerana dari sumber kewangan yang dibelanjakan mampu memberi hasil yang diingini. Namun begitu, pihak kerajaan seharusnya mementingkan pelaburan dalam pendidikan lebih daripada keperluan lain kerana melalui pendidikan akan terhasilnya bakal pemimpin negara yang berilmu, mampu bersaing di peringkat global dan boleh menghadapi cabaran pada masa hadapan.

Sehubungan itu, Kementerian Pendidikan Malaysia telah mengambil langkah awal dengan memperkenalkan Kurikulum Standard Sekolah Rendah (KSSR) yang lebih holistik dan sentiasa releven bagi melahirkan modal insan seimbang yang dapat menangani cabaran semasa dan masa hadapan menggantikan kurikulum lama iaitu Kurikulum Bersepadu Sekolah Rendah (KBSR) (Bahagian Perkembangan Kurikulum, 2011). Sejajar dengan perubahan daripada KBSR kepada KSSR, maka satu mata pelajaran baharu turut diperkenalkan iaitu Reka Bentuk dan Teknologi (RBT) menggantikan mata pelajaran sedia ada Kemahiran Hidup Sekolah Rendah (KHSR). Apabila RBT diperkenalkan kepada murid, sudah pastilah guru harus menyediakan diri dengan bentuk perubahan yang berlaku secara drastik ini. Perubahan dalam RBT ini bukan sahaja meliputi 3M (membaca, menulis dan mengira) malah menambah satu lagi pendekatan iaitu menaakul yang menjadi fokus utama dalam transformasi kurikulum KSSR menjadi 4M (menulis, membaca, mengira dan menaakul).

Menurut Fullan (2007), komponen penting dalam sesuatu perubahan bermula dengan kesediaan dalam kalangan pelaksana iaitu guru. Neves (2009), menyatakan kesediaan merupakan kunci kepada perubahan yang cepat dan berjaya. Namun begitu, faktor kesediaan ini sering terlepas pandang. Matlamat sesuatu perubahan pendidikan berjaya dicapai sekiranya guru benar-benar bersedia melaksanakan perubahan tersebut. Timbul persoalan sama ada guru RBT tahun 4 KSSR bersedia melalui transformasi kurikulum atau sebaliknya.

2.1 Kesediaan Guru

Kajian tentang kesediaan guru dalam pelbagai bidang pendidikan telah dilaksanakan di negara ini antaranya oleh Maizura (2010), Nor Wati (2012), Norazilawati, Noraini, Mahizer, Nik Azmah & Rumaizah (2014) dan Norazlin (2018). Namun begitu didapati kurang kajian tentang guru dan proses pengajaran dan pembelajaran dalam mata pelajaran RBT KSSR. Kajian tentang kesediaan guru dari aspek yang berbeza telah dijalankan oleh Maizura (2010) yang mengkaji tentang tahap kesediaan guru tingkatan satu terhadap pengetahuan kandungan pedagogi Pendidikan Sivik dan Kewarganegaraan (PSK). Dapatan kajian menunjukkan majoriti responden berada pada tahap kesediaan rendah terhadap pengetahuan kandungan dan tahap sederhana terhadap pengetahuan khusus PSK dan pengetahuan karakteristik murid. Dapatan juga menunjukkan terdapat perbezaan yang signifikan bagi tahap kesediaan guru yang telah mengikuti latihan dan tanpa latihan.

Nor Wati (2012) pula, telah menjalankan kajian tahap kesediaan kognitif dan afektif guru terhadap pelaksanaan KSSR di sekolah sekitar Skudai, Johor. Keputusan kajian menunjukkan tahap kesediaan kognitif dari aspek pengetahuan, kefahaman dan aplikasi guru terhadap pelaksanaan KSSR berada pada tahap sederhana tinggi dan tinggi. Dapatan kajian juga menunjukkan tidak terdapat perbezaan yang signifikan skor min antara guru lelaki dan guru perempuan.

Kajian yang sama melibatkan KSSR turut dijalankan oleh Norazilawati et. al (2014). Dapatan kajian menunjukkan tahap kesediaan dari segi pengetahuan dan kemahiran berada pada tahap sederhana. Selain dari itu, dapatan kajian oleh Norazlin (2018) menunjukkan kesedian guru mengaplikasikan pengajaran abad 21 adalah tinggi. Kajian lain tentang kesediaan guru turut dijalankan di Arab Saudi oleh Joza (2014). Dapatan kajian menunjukkan kebanyakan guru *English as a Foreign Language* (EFL) tidak sepenuhnya bersedia untuk mengajar murid-murid pada tahap ini kerana lebih separuh daripada mereka tidak menerima latihan secukupnya untuk mengajar murid-murid sekolah rendah.

Berdasarkan dapatan kajian tentang kesediaan yang telah dijalankan dalam dan luar negara didapati kajian dijalankan dalam bidang dan aspek yang berbeza. Namun begitu, dapat dirumuskan kebanyakan guru berada pada tahap kesediaan yang sederhana dengan kata lain tidak bersedia sepenuhnya

untuk melaksanakan pengajaran apabila berlaku perubahan atau transformasi dalam kurikulum yang diajar. Oleh itu, kajian tentang kesediaan guru perlu dilaksanakan agar hasil kajian dapat membantu guru meningkatkan tahap kesediaan yang lebih tinggi dan lebih bersedia apabila sesuatu perubahan atau transformasi kurikulum dilaksanakan.

3.0 METODOLOGI KAJIAN

Kajian ini dijalankan secara tinjauan deskriptif dengan menggunakan soal selidik bagi mengukur kesediaan guru dari segi pengetahuan menaakul dan kemahiran PBS dalam pelaksanaan pengajaran RBT tahun empat KSSR. Persampelan rawak berstrata (*stratified sampling*) bernisbah dan rawak mudah (*random sampling*) digunakan bagi memilih sampel kajian ini. Instrumen bagi mengukur tahap kesediaan guru terdiri daripada 21 item yang dibahagikan kepada pengetahuan menaakul (10 item) dan kemahiran PBS (11 item). Skala Likert-5 mata telah digunakan iaitu sangat tidak setuju (1), tidak setuju(2), tidak pasti (3), setuju(4) dan sangat setuju(5). Dapatan kajian rintis menunjukkan nilai *Alpha Cronbach* yang diperolehi adalah 0.95 bagi keseluruhan instrumen. Justeru itu, set soal selidik telah diedarkan kepada 450 orang guru RBT tahun empat yang mengajar di Semenanjung Malaysia. Setelah melalui proses analisis penerokaan data (APD) hanya 368 sampel sahaja yang dianalisis.

Jadual 1 Bilangan Sampel Kajian berdasarkan Jenis Sekolah

Populasi keseluruhan	Populasi jenis sekolah	Pengiraan sampel kajian mengikut jenis sekolah	Bil. sampel diperlukan
7089	SK 4286 (60%)	(4286 / 7089) x 450	272
	SJK (C) 1767 (25%)	(1767 / 7089) x 450	112
	SJK (T) 515 (7%)	(515 / 7089) x 450	33
	SK(Asli) 72 (1%)	(72 / 7089) x 450	4
	SRK 420 (6%)	(420 / 7089) x 450	27
	SABK 29 (1%)	(29 / 7089) x 450	2
	Jumlah sampel		450

3.0 DAPATAN KAJIAN

Dapatan dalam Jadual 2 menunjukkan sebahagian besar responden adalah terdiri daripada guru perempuan 191 (51.9%) diikuti dengan 177 (48.1%) guru lelaki. Kebanyakan responden berumur dalam lingkungan 30 hingga 39 tahun iaitu seramai 173 (47.0%) orang. Kelompok kedua terbesar adalah dalam kalangan responden yang berumur lebih dari 49 tahun iaitu seramai 140 (38%) orang. Manakala responden yang berumur kurang dari 39 tahun pula adalah seramai 55 (15%) orang. Dari segi pengalaman mengajar didapati sebahagian besar responden mempunyai pengalaman mengajar RBT kurang daripada 5 tahun iaitu seramai 334 (90.8%) orang dan pengalaman mengajar KHSR kurang dari 5 tahun pula seramai 230 (62.5%) orang. Dapatan dalam Jadual 2 juga menunjukkan seramai 202 (54.9%) responden mempunyai pengalaman mengajar keseluruhan antara 5 hingga 10 tahun. Data ini memberi maksud bahawa responden kajian turut mengajar mata pelajaran lain selain dari RBT dan KHSR.

Jadual 2 Faktor Demografi Responden

	Kumpulan	Kekerapan	Peratus
Jantina	Lelaki	177	48.1
	Perempuan	191	51.9
	Jumlah	*368*	*100*
Umur	Kurang 29	55	15.0
	30 - 39 tahun	173	47.0
	40 - 49 tahun	94	25.5
	50 tahun ke atas	46	12.5
	Jumlah	*368*	*100*
Pengalaman mengajar RBT	< 5 tahun	334	90.8
	5 – 10 tahun	27	7.3
	> 10 tahun	7	1.9
	Jumlah	*368*	*100*
Pengalaman Mengajar KHSR	< 5 tahun	230	62.5
	5 – 10 tahun	79	21.5
	> 10 tahun	59	16.0
	Jumlah	*368*	*100*
Pengalaman mengajar keseluruhan	< 5 tahun	76	20.6
	5 – 10 tahun	202	54.9
	> 10 tahun	90	24.5
	Jumlah	368	*100*

Berdasarkan Jadual 3, dapatan kajian menunjukkan min keseluruhan bagi aspek pengetahuan menaakul adalah 3.81(SP= .47). Dapatan ini memberi gambaran bahawa responden mempunyai pengetahuan menaakul yang sederhana tinggi. Ini bermakna, responden bersedia untuk melaksanakan pengajaran RBT tahun empat KSSR dari aspek pengetahuan menaakul. Item yang mempunyai nilai min tertinggi menunjukkan bahawa responden faham dengan jelas tentang matlamat mata pelajaran RBT (M= 4.13, SP=.53). Seterusnya responden juga dilihat dapat menguasai topik-topik dalam mata pelajaran RBT(M=3.85, SP=.64) dan berkebolehan membimbing murid semasa mengajar mata pelajaran RBT agar mereka mempunyai kemahiran menaakul (M=3.82, SP=.61). Dalam pada itu, min terendah merujuk kepada persetujuan responden mengenai pengetahuan mereka tentang jenis-jenis kemahiran menaakul untuk digunakan semasa mengajar RBT (M=3.67, SP=.63). Dapatan ini membawa maksud kesediaan responden dari segi pengetahuan tentang jenis-jenis kemahiran menaakul untuk digunakan semasa mengajar RBT masih lagi lemah.

Jadual 3 Kesediaan Guru dari segi Pengetahuan Menaakul

ITEM		MIN	SISIHAN PIAWAI
B1	Saya faham dengan jelas tentang matlamat mata pelajaran RBT	4.13	.53
B2	Saya telah menguasai topik-topik dalam mata pelajaran RBT	3.85	.64
B3	Saya faham dengan jelas tentang maksud menaakul sebagai elemen tambahan semasa mengajar RBT	3.80	.58
B4	Saya berpengetahuan tentang asas kemahiran menaakul untuk digunakan semasa mengajar RBT	3.78	.57
B5	Saya berpengetahuan tentang jenis-jenis kemahiran menaakul untuk digunakan semasa mengajar RBT	3.67	.63
B6	Saya berpengetahuan tentang menggunakan kemahiran menaakul dalam menyelesaikan masalah semasa mengajar RBT	3.72	.63
B7	Saya berpengetahuan tentang menggunakan kemahiran menaakul dalam membuat keputusan semasa mengajar RBT	3.75	.57
B8	Saya berpengetahuan tentang menggunakan teknik pengajaran yang menggalakkan kemahiran menaakul murid semasa mengajar RBT	3.74	.58
B9	Saya berpengetahuan merancang aktiviti pengajaran yang melibatkan kemahiran menaakul semasa mengajar RBT	3.80	.58

ITEM		MIN	SISIHAN PIAWAI
B10	Saya berkebolehan membimbing murid supaya mempunyai kemahiran menaakul semasa mengajar RBT	3.82	.61
	Min keseluruhan	3.81	.47

Jadual 4 pula memaparkan nilai min bagi aspek kemahiran PBS. Nilai min keseluruhan dari aspek kemahiran PBS adalah 3.91 (SP= .48). Nilai ini menunjukkan bahawa responden mempunyai kemahiran PBS yang sederhana tinggi. Item yang mempunyai nilai min paling tinggi (M=4.05, SP=.53) ialah responden berkemahiran memberi arahan kepada murid melaksanakan tugasan dengan betul. Seterusnya responden juga didapati berkemahiran menerangkan kriteria tugasan (M=4.00, SP=.56) dan juga berkemahiran memantau murid melaksanakan kerja kursus (M=4.00, SP=.57). Namun begitu, dapatan yang diperolehi menunjukkan responden masih tidak mahir tentang setiap elemen-elemen yang perlu ada dalam kerja kursus RBT (M=3.73, SP=.62). Hasil kajian juga menunjukkan kesediaan guru dari aspek kemahiran PBS adalah lebih tinggi berbanding pengetahuan menaakul. Ini memberi gambaran responden lebih bersedia dari segi kemahiran PBS dalam melaksanakan pengajaran RBT tahun empat KSSR berbanding pengetahuan menaakul.

Jadual 4 Kesediaan Guru dari segi kemahiran PBS

ITEM		MIN	SISIHAN PIAWAI
B11	Saya mahir tentang tafsiran tahap penguasaan (TP) mata pelajaran RBT	3.90	.59
B12	Saya mahir tentang setiap elemen yang perlu ada dalam kerja kursus RBT	3.73	.62
B13	Saya berkemahiran mentaksir kerja kursus murid mengikut tahap penguasaan (TP) yang ditetapkan dalam mata pelajaran RBT	3.87	.59
B14	Saya berkemahiran menerangkan kriteria tugasan kerja kursus RBT sebelum diberikan kepada murid	4.00	.56
B15	Saya berkemahiran memantau murid melaksanakan kerja kursus RBT mengikut kriteria yang ditetapkan	4.00	.57
B16	Saya berkemahiran memberi arahan kepada murid tugasan kerja kursus RBT mengikut prosedur yang betul	4.05	.53
B17	Saya berkemahiran membimbing murid mendapat tahap penguasaan (TP) tertinggi dalam kerja kursus RBT	3.84	.65
B18	Saya berkemahiran menentukan tahap penguasaan tertinggi yang boleh dicapai oleh murid dalam kerja kursus RBT	3.81	.63
B19	Saya berkemahiran menilai setiap murid semasa mereka melakukan proses dalam kerja kursus RBT	3.94	.61
B20	Saya berkemahiran menilai aspek yang perlu dinilai dalam kerja kursus RBT	3.93	.60
B21	Saya berkemahiran menilai semua hasil kerja kursus RBT murid	3.94	.60
	Min keseluruhan	3.91	.48

4.0 PERBINCANGAN

Kesediaan guru dalam melaksanakan pengajaran mata pelajaran RBT tahun empat KSSR dikaji dari dua aspek iaitu pengetahuan dan kemahiran. Analisis dapatan kajian menunjukkan responden mempunyai pengetahuan menaakul sederhana tinggi dalam melaksanakan pengajaran mata pelajaran RBT tahun empat KSSR. Dapatan ini sejajar dengan Nor Wati (2012) melaporkan kesediaan kognitif dari aspek pengetahuan, kefahaman dan aplikasi guru pada tahap sederhana tinggi dan tinggi. Ini mungkin disebabkan apabila semakin meningkat umur guru maka mereka menjadi lebih matang. Oleh itu, sudah pasti mereka mempunyai pengetahuan menaakul yang baik. Selain itu, sebilangan besar guru yang mengajar RBT pernah mengajar mata pelajaran KHSR. Oleh yang demikian, walaupun mereka diminta untuk mengajar mata pelajaran baharu, ini tidak menjadi sukar untuk dilaksanakan. Namun begitu, berbeza dengan hasil kajian Maizura (2010) yang mendapati tahap kesediaan rendah terhadap pengetahuan kandungan. Ini berkemungkinan terdapat guru yang tidak menghadiri latihan untuk mendapat pendedahan yang secukupnya tentang mata pelajaran baharu yang diperkenalkan.

Hasil kajian dari aspek kemahiran PBS pula memaparkan bahawa kesediaan guru juga sederhana tinggi sejajar dengan kajian lepas oleh Norsyuhadah (2013). Aniza dan Zamri (2015) dalam kajiannya

mendapati bahawa guru bersedia melaksanakan PBS di sekolah kerana mempunyai kemahiran PBS yang tinggi. Ini memberi gambaran bahawa PBS boleh dilaksanakan dengan baik di sekolah. Ini berkemungkinan guru telah menerima latihan sokongan secukupnya tentang PBS. Oleh yang demikian, mereka dapat melaksanakan PBS dengan baik sejajar dengan dapatan kajian Mertler (2009) menyatakan bahawa perubahan yang ketara ditunjukkan oleh guru ketika menjalankan pentaksiran di sekolah selepas diberi kursus intensif berkaitan pelaksanaan pentaksiran.

5.0 KESIMPULAN

Kesimpulannya, min kesediaan guru yang sederhana tinggi dalam kedua-dua aspek pengetahuan menaakul dan kemahiran PBS dalam kajian ini menunjukkan guru-guru memiliki kesediaan untuk melaksanakan pengajaran mata pelajaran RBT. Kajian oleh Nor Wati (2012), Nursyuhadah (2013), Aniza dan Zamri (2015) menunjukkan min kesediaan yang tinggi akan membantu pelaksanaan pengajaran sesuatu mata pelajaran dengan lebih berkesan. Guru dilihat dapat memahami dan mempunyai pengetahuan serta kemahiran dalam melaksanakan pengajaran RBT dengan merancang dan menetapkan objektif bersesuaian dengan aras kemahiran pelajar. Hal yang demikian seterusnya dapat meningkatkan pencapaian pelajar serta menambahbaik pengajaran guru supaya menjadi lebih bermakna. Oleh itu, aspek kesediaan guru perlu diberi perhatian oleh penggubal dasar dan perancang kurikulum apabila memperkenalkan mata pelajaran baharu.

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058 : Kesan Penggunaan Video Pembelajaran terhadap Pencapaian Murid Sains Rumah Tangga bagi Topik Pencernaan dan Penyerapan Makanan

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ABSTRAK

Video pembelajaran merupakan salah satu media pembelajaran berbantukan teknologi dalam Pembelajaran Abad Ke-21 (PAK21). PAK21 dilihat banyak memberi impak positif terhadap penguasaaan murid dalam memahami sesuatu topik pembelajaran. Berdasarkan tinjauan awal yang dibuat, didapati topik pencernaan dan penyerapan makanan merupakan topik yang paling sukar dikuasai oleh murid Sains Rumah Tangga (SnRT). Oleh yang demikian strategi pengajaran berasaskan video telah dibangunkan. Tujuan kajian ini dijalankan adalah untuk menguji keberkesanan penggunaan video pembelajaran terhadap pencapaian murid dalam mata pelajaran SnRT. Kajian ini melibatkan seramai 60 orang murid Tingkatan Empat dari dua buah sekolah di Seremban, Negeri Sembilan. Murid dibahagikan kepada dua kumpulan iaitu kumpulan eksperimen dengan kaedah video pembelajaran (n=30) dan kumpulan kawalan dengan kaedah pembelajaran konvensional (n=30). Pemilihan responden kajian adalah berdasarkan teknik persampelan bertujuan. Teknik ini dipilih kerana bilangan responden yang terlibat dalam kajian memenuhi syarat kajian kuasi-eksperimen. Sebanyak lapan sesi pembelajaran dijalankan bagi topik pencernaan dan penyerapan makanan. Hasil ujian pra menunjukkan tidak terdapat perbezaan yang signifikan dalam skor pencapaian murid bagi kedua-dua kumpulan. Kedua-dua kumpulan memperolehi skor pencapaian yang hampir sama iaitu min skor 38.93 (SP:8.24) bagi kumpulan eksperimen dan 42.60 (SP:9.16) bagi kumpulan kawalan. Dapatan ujian pasca pula menunjukkan min skor pencapaian murid kumpulan eksperimen dengan kumpulan kawalan berbeza iaitu 70.27 (SP:9.76) dan 58.63 (SP:9.51). Keputusan kajian menunjukkan murid yang didedahkan kepada penggunaan video pembelajaran mendapat min skor yang lebih tinggi secara signifikan dalam ujian pasca berbanding murid yang mengikuti pembelajaran konvensional dengan nilai $t (58) = 4.675, p < .01$. Perbezaan ini membuktikan bahawa penggunaan video dalam pembelajaran mampu meningkatkan pencapaian murid dalam memahami sesuatu konsep pembelajaran dengan lebih mudah. Adalah diharap penggunaan video pendidikan dapat diperluaskan penggunaannya dalam sesi Pengajaran dan Pemudahcaraan (PdPc) bagi meningkatkan tahap pemahaman dan pencapaian murid.

Kata Kunci: Kuasi-Eksperimen, Pencernaan dan Penyerapan Makanan, Video, Pencapaian, Sains Rumah Tangga

1.0 LATAR BELAKANG KAJIAN

Dalam dunia pendidikan kini, penggunaan video dalam PdPc telah mula bertapak seiring dengan ledakan maklumat di hujung jari. Video mampu membantu mengukuhkan daya ingatan murid dalam memahami sesuatu konsep yang sukar kepada mudah serta dapat mempengaruhi tingkahlaku manusia. Murid lebih gemar melayari media-media sosial yang berunsurkan pembelajaran dalam memantapkan dan menguasai ilmu yang dipelajari. Siti Zulaidah, Mohamed Nor Azhari dan Hendri (2018) bersetuju kepelbagaian yang terdapat dalam video pendidikan merangkumi audio, penceritaan dan muzik mampu meningkatkan kemahiran dan kefahaman murid dalam sesuatu topik pembelajaran. Hal ini kerana murid generasi Y lebih berminat terhadap pengajaran yang berkonsepkan interaktif dengan menggabungkan kepelbagaian kaedah dalam pembelajaran.

Dalam konteks pendidikan Sains Rumah Tangga (SnRT), pendekatan pengajaran sedia ada lebih berfokus kepada pengajaran berpusatkan guru. Kaedah seumpama ini menjadikan murid pasif dan kurang berinteraksi di dalam kelas dan ini secara tidak langsung mempengaruhi pencapaian murid. Murid hanya bertindak sebagai pendengar dan guru terlibat secara langsung dalam kaedah penyampaian maklumat. Proses penjanaan maklumat oleh murid tidak dapat diaplikasikan sepenuhnya kerana interaksi pengajaran dan pemudahcaraan (PdPc) lebih kepada hubungan sehala (Abdul Said & Normiati, 2018). Ini diperkukuhkan dengan laporan pencapaian yang dikeluarkan oleh Unit Peperiksaan dan Penilaian, JPNS yang mana Gred Purata Mata Pelajaran bagi mata pelajaran SnRT masih berada dalam kelompok 5.00 dan semakin menurun daripada 5.16 (2017) kepada 5.39 pada tahun 2018 dan belum mencapai GPMP yang memberangsangkan. Berdasarkan kepada analisis mata pelajaran ini, antara punca kelemahan murid yang dikenalpasti adalah kaedah pengajaran yang digunakan di dalam kelas (Panitia Sains Rumah Tangga, 2018).

Permasalahan murid lemah menguasai topik yang terkandung dalam silibus SnRT juga dilihat antara punca pencapaian SnRT di bawah Gred Purata Mata Pelajaran (GPMP) 5.00. yang mana pemilihan murid yang memasuki aliran ini merupakan murid yang mempunyai pencapaian sederhana ke lemah dalam ujian Pentaksiran Tingkatan 3 (PT3) (Panitia Sains Rumah Tangga, 2018). Kelemahan daya ingatan ini turut dinyatakan dalam Teori Kon Pengalaman Dale yang menyatakan keupayaan mengingati semula pembelajaran berubah mengikut aktiviti murid iaitu pendengaran hanya 20%, penglihatan 30% manakala gabungan pendengaran dan penglihatan sebanyak 50%. Beberapa kajian berkaitan pengaruh kecerdasan intelek terhadap pencapaian murid turut dilihat memberi sumbangan positif kepada prestasi pencapaian akademik (I Cenik, Lerbin, & Elizabeth, 2013; Mohd Nasir, Abdul Said, & Mohd Yusof, 2018).

Pengaruh strategi pembelajaran dengan tahap pencapaian akademik dilihat berkait rapat dan memberi kesan terhadap seseorang murid. Teknik dan penyampaian guru yang bersifat sehala dan konvensional tanpa menyelitkan unsur kepelbagaian kaedah mengajar turut menyebabkan peratus pencapaian akademik rendah. Guru juga tampil dengan keadaan kekurangan tenaga opsyen pengajaran, kekangan masa, kurang mahir dalam penyediaan bahan bantu mengajar berbantukan teknologi serta mengambil sikap sambal lewa menyebabkan pencapaian murid terbatas (Abdul Said & Normiati, 2018; Panitia Sains Rumah Tangga, 2018). Kebanyakan pengkaji yang menjalankan kajian berkaitan kaedah pembelajaran menggunakan Teknologi Maklumat dan Komunikasi (TMK) dengan tahap pencapaian akademik mengakui bahawa strategi pembelajaran yang interaktif mampu menarik minat murid dan memudahkan pemahaman murid dalam sesuatu topik pembelajaran (Nor Tutiani, 2019; Nur Syafiqah & Nurul Nazirah, 2018; Salmi & Noor Shuhada, 2017; Siti Zulaidah et al. 2018). Oleh yang demikian kajian ini dijalankan bagi mengkaji pencapaian murid Sains Rumah Tangga sebelum dan selepas mengikuti kaedah pembelajaran menggunakan video dan seterusnya mengkaji perbezaan pencapaian antara murid yang mengikuti pembelajaran secara konvensional dengan murid yang mengikuti pembelajaran menggunakan video pembelajaran.

2.0 SOROTAN LITERATUR

2.1 Penggunaan Video Pembelajaran

Pengaplikasian kaedah mengajar berbantukan multimedia mampu menangani pelbagai kesulitan dalam memahami pengetahuan teori dan kemahiran amali. Pengaplikasian multimedia merupakan salah satu penggunaan teknologi dalam pendidikan yang digunakan guru bagi memastikan pengajaran dan pembelajaran berkesan berlaku antara guru dan murid. Perubahan teknik belajar tradisional kepada moden dengan penggunaan pelbagai jenis media mampu mewujudkan suasana PdPc yang lebih menarik dan berkesan (Rafidah & Mimi Mohaffyza, 2017).

Kajian Siti Zaharah et al. (2018) menyatakan penggunaan video sebagai bahan bantu mengajar dapat memberikan keyakinan dan keseronokan menjalankan proses PdPc oleh guru. Pengalaman menonton video semasa sesi PdPc akan meningkatkan pemahaman murid, penerokaan melalui panca indera penglihatan dan generalisasi idea yang kreatif dan kritis mungkin akan dihasilkan oleh murid itu sendiri (Abdul Rashid, Norhashimah & Shamsudin, 2012; Habibah & Arumugam, 2015). Penggunaan video boleh disesuaikan dengan tahap penerimaan dan kefahaman seseorang murid selari dengan Teori Pengalaman Dale. Video juga mampu menggalakan komunikasi dan interaksi positif seseorang anak di mana mereka cuba melakukan aktiviti berdasar video yang ditonton bersama ibu bapa di rumah (Vartiainen & Aksela, 2019).

Penggunaan video pembelajaran memberi murid kebebasan untuk mengulang tayang mengikut kesesuaian agar pemahaman dan pemantapan ilmu lebih berkesan (Widyasari, Nugroho, & Permanasari, 2019) terutama bagi murid lemah mereka berpeluang mengakses video berulang kali (Siti Hajar & Suguneswary, 2016). Selain itu, gabungan pelbagai media yang terdapat dalam video mampu menarik minat belajar murid. Keistimewaan dan kemudahan yang disediakan dalam video interaktif dapat mempertingkatkan pencapaian murid dalam pembelajaran di bilik darjah (Mohamed Nor Azhari et al. 2014). Penggunaan video dalam pengajaran bukan sahaja menarik minat murid malah golongan guru juga mampu mengasah kemahiran sedia ada di samping menyediakan suasana baru dalam pembelajaran pada abad ke-21 (Bonk, 2009). Ini dibuktikan dalam pembelajaran akidah di mana murid memberikan sepenuh perhatian kepada bahan tontonan (Wan Hassan, Sulaiman Shakib, Zulkiflee & Mohd Nasir, 2013).

2.2 Strategi Pengajaran Guru

Teknik pengajaran yang digunakan juga harus sesuai mengikut usia dan situasi pembelajaran. Mohd Ismail et al. (2012) berpendapat strategi mengajar yang pelbagai mampu menarik perhatian, menimbulkan rasa keterujaan dalam pembelajaran dan mengekalkan perhatian murid dalam pembelajaran.. Selain itu, kajian oleh Noridahayu, Norhayati & Dalilah (2015) menyatakan bahawa murid mempunyai sikap yang positif sewaktu sesi amali masakan dan disokong dengan pengajaran guru yang berkesan. Noridahayu et al. (2015) telah menjalankan kajian terhadap murid sekolah menengah yang mengendalikan sesi pembelajaran di makmal masakan. Dapatan menunjukkan 78% sampel kajian bersikap positif terhadap pengajaran guru yang mempelbagaikan kaedah pengajaran seperti penggunanaan video masakan bahan-bahan yang diperlukan serta teknik demonstrasi memasak untuk memberi kefahaman kepada mereka sebelum menjalani amali masakan. Bagi murid, pengajaran guru yang berkesan dapat membantu murid untuk mengendalikan amali masakan dengan baik. Malahan, faktor pengajaran guru yang baik telah mendorong dan memotivasikan murid untuk melakukan amali dengan baik.

Dari sudut pandangan Kamarul Azmi, Osmawadi, & Mohd Faeez, (2012) pula menyimpulkan bahawa keberkesanan pengajaran seseorang guru dapat dilihat dalam kemahiran berinteraksi dengan murid dari aspek psikologi, kasih sayang dan kelangsungan usaha mendidik yang berterusan. Kemampuan guru dalam menangani kepelbagaian karenah murid bagi melaksanakan pengajaran yang berkesan juga berbeza mengikut persepsi dan keadaan seseorang murid. (Kamarul Azmi & Noor Fadhlina, 2012).

Manakala menurut Mohd Ismail, Kamarul Azmi, Azhar, & Rahmah, (2012) tidak semua guru mampu menghasilkan suasana pembelajaran berkesan disebabkan kurangnya penekanan terhadap pemilihan kaedah atau keupayaan murid dari aspek kognitif, personal, sosial dan psikomotor. Namun sikap keterbukaan seseorang guru dalam mempelajari sesuatu ilmu untuk menghasilkan pembelajaran bermakna serta kemahiran dan keyakinan diri dalam menggunakan keupayaan teknologi ini mampu mengatasi semua kekurangan. Dengan perkembangan yang pesat ke arah penggunaan video sebagai alat pembelajaran, guru perlu pandai memilih video yang sesuai yang memberi kesan positif terhadap hasil pembelajaran (Siti Zaharah et al. 2018).

2.3 Teori Kajian

Menurut Teori Kon Pengalaman Dale yang dikemukakan oleh Edgar Dale (1964), impak penggunaan bahan bantu mengajar dan kaedah pengajaran yang berbeza mempengaruhi kefahaman pembelajaran seseorang akan mempengaruhi seseorang individu. Konsep Dale ini disokong oleh Heinich, Molenda dan Russel (1989) yang menyatakan penguasaan maksimum pengalaman pembelajaran seseorang dipengaruhi oleh penggunaan teknologi moden dalam pembelajaran. Dalam teori ini, tiga peringkat pengalaman seseorang dikategorikan kepada peringkat persimbolan, pemerhatian dan penglibatan. Berdasarkan Kon Pengalaman Dale, guru perlu bijak bertindak dalam mempelbagaikan stategi pengajaran agar ia memberi makna kepda semua ahli dalam kelas yang mempunyai kadar kecerdasan berbeza.

Manakala dalam Teori pembelajaran konstruktivisme pula, pengalaman sedia ada yang terbentuk secara informal dan disturkturkan semula secara formal melalui pembelajaran untuk membantu murid membentuk pemahaman konsep. *Vygotsky* yang merupakan pendokong teori ini percaya bahawa interaksi sosial secara kolaboratif mampu mencipta proses pembentukan pemikiran yang tinggi dan bermakna. Pengalaman dan masalah yang berlaku dalam persekitaran harian seseorang boleh dibentuk dalam pembelajaran. Keadaan ini sangat digalakkan supaya pembelajaran menjadi lebih bermakna kerana murid membina sendiri pengetahuan atau konsep secara aktif berdasarkan pengalaman dalam kehidupan seharian.

3.0 METODOLOGI KAJIAN

3.1 Reka Bentuk Kajian

Bagi menguji keberkesanan penggunaan video pembelajaran, satu kajian kuasi eksperimen telah dijalankan selama 8 minggu. Kajian ini menggunakan reka bentuk kuantitatif yang melibatkan ujian pra dan pasca kepada murid yang menerima rawatan melalui pembelajaran berbantukan video dan juga kepada murid dari kumpulan kawalan yang melalui pengajaran secara konvensional. Seramai 60 orang responden yang terdiri dari murid tingkatan empat yang mengambil mata pelajaran SnRT terlibat dalam kajian ini. Kajian ini telah melibatkan dua buah sekolah di Negeri Sembilan. Responden yang terlibat dipilih berdasarkan teknik pensampelan bertujuan (*purposive sampling*) yang mana ke semua responden berada dalam kelas yang sama yang telah ditetapkan oleh pihak sekolah (Campbell & Stanley, 2015).

3.2 Instrumen Kajian

Modul Pembelajaran Berbantu telah dibina oleh pengkaji bagi tujuan membantu sesi PdPc dan instrumen kajian yang dibina terbahagi kepada soalan ujian pra dan pasca yang mengandungi tiga bahagian iaitu Bahagian A berkaitan demografi responden, Bahagian B soalan berbentuk objektif dan Bahagian C soalan struktur pendek yang menjurus kepada topik pencernaan dan penyerapan makanan bagi menguji tahap pemahaman responden berkaitan topik ini. Modul pembelajaran dan instrumen kajian telah disemak dan dinilai oleh dua orang guru pakar dalam bidang SnRT. Kajian rintis telah dilaksanakan bagi menguji kebolehpercayaan setiap item dan soalan ujian yang dibina. Maklum balas yang diterima melalui kajian rintis dijadikan panduan dalam membina modul ini. Kesahan muka dan kesahan kandungan telah dibuat bagi memastikan soalan ujian, soal selidik dan modul yang dibina mantap dan sesuai digunakan pada murid SnRT. Dapatan yang diperoleh dianalisis menggunakan perisian IBMSPSS versi 23.0.

4.0 DAPATAN KAJIAN

4.1 Pencapaian Murid Bagi Ujian Pra dan Pasca bagi Kumpulan Eksperimen

Jadual 1 menunjukkan pencapaian murid berdasarkan Ujian Pra dan Ujian Pasca yang telah dijalankan kepada responden yang mengikuti kaedah pembelajaran menggunakan video pembelajaran. Berdasarkan analisa, min markah bagi ujian pra ialah 38.93 (SP : 8.24) manakala bagi min ujian pasca ialah 70.27 (SP : 9.76). Hasil kajian mendapati bahawa nilai $t(29) = -12.606$, $p < .01$. Oleh itu, keputusan kajian ini gagal menerima hipotesis $H0_1$ iaitu terdapat perbezaan signifikan di antara min skor yang membuktikan bahawa penggunaan video pembelajaran sebagai kaedah rawatan sangat membantu meningkatkan pencapaian murid.

Jadual 1 Pencapaian Murid dalam Ujian Pra dan Ujian Pasca bagi Kumpulan Eksperimen

Kumpulan	n	Min	SP	df	t	Sig. (2-tailed)
Ujian Pra	30	38.93	8.24	29	-12.606	.000
Ujian Pasca	30	70.27	9.76			

4.2 Pencapaian Murid bagi Ujian Pra bagi Kumpulan Eksperimen dengan Kumpulan Kawalan

Jadual 2 menunjukkan pencapaian murid berdasarkan Ujian Pra yang telah dijalankan kepada responden yang mengikuti kaedah pembelajaran menggunakan video pembelajaran (kumpulan eksperimen) dan kaedah pembelajaran konvensional (kumpulan kawalan). Berdasarkan analisa, min skor ujian pra kumpulan eksperimen ialah 38.93 (SP = 8.24) manakala kumpulan kawalan menunjukkan min skor ujian pra 42.60 (SP=9.16). Dengan melaksanakan ujian-t, keputusan mendapati bahawa tidak terdapat perbezaan yang signifikan terhadap min skor ujian pra bagi kumpulan eksperimen dengan kumpulan kawalan berpandukan min skor ujian pra, iaitu $t(58) = -1.629$, $p > .05$. Hasil kajian ini telah menerima hipotesis $H0_2$. Ini bermakna responden bagi kedua-dua kumpulan mempunyai kematangan yang sama yang tidak memberi kesan ancaman terhadap kajian.

Jadual 2 Pencapaian Murid dalam Ujian Pra Bagi Kumpulan Eksperimen dengan Kumpulan Kawalan

Kumpulan	n	Min	SP	dk	t	Sig. (2-tailed)
Eksperimen	30	38.93	8.24	58	-1.629	.109
Kawalan	30	42.60	9.16			

4.3 Pencapaian Murid bagi Ujian Pasca bagi Kumpulan Eksperimen dengan Kumpulan Kawalan

Dapatan dalam Jadual 3 menunjukkan pencapaian murid berdasarkan Ujian Pasca yang telah dijalankan kepada responden yang mengikuti kaedah pembelajaran menggunakan video pembelajaran dan kaedah pembelajaran konvensional. Berdasarkan analisa, dapatan min skor ujian pasca kumpulan eksperimen ialah 70.27 (SP=9.76), manakala min skor ujian pasca bagi kumpulan kawalan ialah 58.63 (SP=9.51). Hasil kajian memaparkan $t (58) = 4.675$, $p < .01$. Keputusan menunjukkan bahawa terdapat perbezaan yang signifikan skor pencapaian murid dalam mata pelajaran SnRT bagi kumpulan eksperimen berbanding kumpulan kawalan. Oleh itu, hipotesis $H0_3$ dalam kajian ini gagal diterima yang membuktikan bahawa penggunaan video pembelajaran dapat meningkatkan pencapaian murid berbanding kaedah konvensional.

Jadual 3 Pencapaian Murid dalam Ujian Pasca bagi Kumpulan Eksperimen dengan Kumpulan Kawalan

Kumpulan	n	Min	SP	df	t	Sig. (2-tailed)
Eksperimen	30	70.27	9.76	58	4.675	.000
Kawalan	30	58.63	9.51			

5.0 RUMUSAN DAN PERBINCANGAN

Peningkatan skor markah dalam ujian pasca bagi kedua-dua kumpulan menunjukkan adanya kesan dan akibat daripada rawatan yang diberikan namun peningkatan lebih baik ditunjukkan oleh kumpulan eksperimen di mana 30 responden mendapat tahap kepujian dan cemerlang berpandukan gred pencapaian yang dikeluarkan oleh Lembaga Peperiksaan Malaysia. Ini membuktikan bahawa penggunaan video pembelajaran sebagai bahan bantu mengajar mampu meningkatkan pencapaian murid. Seterusnya, peningkatan pencapaian murid turut dipengaruhi oleh kaedah pengajaran guru. Menurut PAK21, pembelajaran yang menggunakan teknologi mampu menarik minat murid dalam memahami sesuatu konsep pembelajaran. Penggunaan video pembelajaran dilihat mampu meningkatkan pencapaian murid berdasarkan dapatan yang diperolehi dalam kajian yang telah dijalankan. Video pembelajaran juga mampu menggantikan tempat guru jika berlaku ketidakhadiran murid ataupun guru bertugas di luar sekolah yang mana penggunaan video pembelajaran boleh dilaksanakan di luar ruang lingkup sekolah.

Dapatan kajian ini disokong oleh kajian Hill (2018); Siramaneerat & Thabthong (2017); Siti Zulaidah et al. (2018); Tokac, Novak & Thompson (2019) yang mengakui penggunaan multimedia seperti video lebih efektif dalam meningkatkan pencapaian murid berbanding kaedah konvensional. Dapatan ini juga selari dengan dapatan kajian Nor Tutiani, (2019) dan Afizal, (2014) yang menunjukkan murid yang didedahkan dengan penggunaan video mendapat min skor yang lebih tinggi berbanding murid bagi kaedah konvensional.

Selari dengan pencapaian murid dan penggunaan video pembelajaran, peningkatan dalam pencapaian murid juga berkait rapat dengan pengaruh kecerdasan dan tahap ingatan seseorang murid. Pencapaian akademik ini didokong oleh Teori Kon Pengalaman Dale dan Teori Kecerdasan Pelbagai yang menyatakan setiap murid mempunyai tahap penguasaan yang berbeza bergantung kepada penguasaan pengalaman dan kecenderungan personaliti seseorang individu.

Dapatan yang diperolehi juga membawa maksud saranan kerajaan dalam mengintegrasikan teknologi dan maklumat dalam pengajaran dan pemudahcaraan berdasarkan Surat Pekeliling Ikhtisas Bil

6/2003 merupakan satu usaha yang mantap dalam meningkatkan mutu pendidikan negara dan usaha ini patut diteruskan demi pendidikan minda kelas pertama. Oleh yang demikian, kepelbagaian kaedah pengajaran dalam menarik minat murid akan memberi kesan ke atas pencapaian murid SnRT sangat disarankan terutama sekali dalam penggunaan video pembelajaran yang terbukti mampu mengubah persepsi pembelajaran murid yang mempunyai tahap pengalaman pembelajaran yang berbeza.

6.0 CADANGAN

Usaha untuk menyebarluaskan penggunaan teknologi di sekolah perlu dititikberatkan. Kepakaran dan tanggungjawab guru diperlukan untuk membimbing murid dalam penggunaan video dan mata pelajaran yang diajar agar selari dengan kehendak pendidikan. Bagi mengatasi masalah ini, pihak KPM perlu memberi ruang dan peluang kepada guru dalam meningkatkan profesionalisme di bidang komputer dan teknologi maklumat menerusi kursus-kursus intensif selain berupaya membangunkan alat bantu mengajar berasaskan teknologi terkini dan sedia ada yang bersesuaian dengan strategi pembelajaran. Langkah ini dapat mewujudkan variasi dalam pembelajaran supaya murid terus berminat untuk belajar sehingga memperoleh pencapaian cemerlang.

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