UNIVERSITI PUTRA MALAYSIA

USE OF TWITTER, ONLINE FORUM AND BLOG FOR COLLABORATIVE LEARNING AMONG ESL UNDERGRADUATES LEARNERS

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By

AQILAH BINTI ARSHAD

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Chairman: Afida Binti Mohamad Ali, PhD
Faculty: Modern Languages and Communication

Social Media sites can be used by learners, as a platform for information gathering and interaction during collaborative learning activities. However, there is little research on the tertiary learners' experiences and language analysis in the use of social media for collaborative learning. Positive experiences while using social media applications may contribute to better learning outcomes. Thus, this study aims to investigate ESL learners' perception, experiences, preference and functional moves of Twitter, Online Forum and Blog for collaborative learning.The study employs quantitative and qualitative data collection methods involving seventy-seven ESL learners from an intact class enrolled for an English course at a public university in Malaysia. The learners had to complete nine learning tasks designed for the different social media platforms. An online questionnaire survey was used to gather quantitative data. It referred to the Technology Acceptance Model (TAM) regarding its perceived usefulness and perceived ease of use. Meanwhile, focused groups interviews were conducted to examine the learners' positive and negative aspects of their collaborative learning experience and their preferred social media platforms. The Computer-Mediated Discourse Analysis (CMDA) approach was used in analyzing the functional moves on the three social media platforms. Overall, the results of the learners' perceived usefulness and ease of use were different for each social media. Twitter was considered the preferred social media platform by learners in completing the learning tasks. The learners perceived Twitter as a highly interactive social media platform that helped them in their learning and social purposes. The analysis of functional moves revealed that there is evidence of the learners interacting collaboratively in accomplishing the task. More insights and information for the implementation of collaborative learning while using the social media can promote active learning that fits the current generation in live with demand for the Industrial Revolution 4.0.

Abstrak tesis yang dikemukakan kepada senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk Ijazah Master Sastera

PENGGUNAAN TWITTER, FORUM DAN BLOG UNTUK PEMBELAJARAN SECARA KOLABORATIF DI KALANGAN PELAJAR-PELAJAR SARJANA MUDA (BAHASA INGGERIS)

Oleh

AQILAH BINTI ARSHAD

Mac 2018

Pengerusi: Afida binti Mohamad Ali, PhD
Fakulti : Bahasa Moden dan Komunikasi

Laman media sosial boleh digunakan oleh pelajar untuk mendapatkan maklumat dan berinteraksi untuk proses pembelajaran secara kolaboratif. Namun, terdapat kurang penyelidikan tentang pengalaman pembelajaran secara kolaboratif menggunakan aplikasi media sosial. Pengalaman positif semasa menggunakan aplikasi media sosial boleh menyumbang kepada hasil proses pembelajaran yang lebih baik. Justeru, tujuan kajian ini dijalankan adalah untuk mengkaji pengalaman, kandungan, pilihan dan gaya bahasa pelajar sarjana muda dalam bidang pengkhususan Bahasa Inggeris yang berinteraksi menggunakan Twitter, blog dan forum secara kolaboratif. Kajian ini menggunakan kaedah pengumpulan data kualitatif dan kuantitatif.Tujuh puluh tujuh pelajar telah berdaftar untuk subjek Bahasa Inggeris di sebuah universiti awam di Malaysia. Pengumpulan data soal selidik secara talian merujuk kepada model penerimaan teknologi iaitu "Technology Acceptance Model" (TAM) dari segi tahap penggunaan dan kemudahan menggunakan teknologi tersebut dinilai. Sementara itu, kumpulan wawancara tertumpu dijalankan untuk mengenalpasti pengalaman positif, negatif dan media sosial yang paling digemari oleh pelajar. Teori komputer pengantara analisis wacana iaitu "Computer Mediated Discourse Analysis" (CMDA) dirujuk dalam menganalisis *"functional moves"* yang digunakan. Secara keseluruhan, analisis menunjukkan bahawa, pelajar mengalami pengalaman yang berbeza dari segi tahap penggunaan dan kemudahan dalam menggunakan ketiga-tiga media sosial. Pelajar mengalami pengalaman yang positif dan negatif semasa menggunakan ketiga tiga media sosial tersebut.Analisa *"functional moves*" mendapati pelajar berinteraksi secara kolaboratif dalam menyiapkan tugasan pembelajaran yang diberikan. Pembelajaran kolaboratif dan media sosial boleh digalakkan untuk membina dan menambah pengetahuan baru untuk disesuaikan dengan generasi Internet pada masa kini agar proses pembelajaran dapat ditambah baik selaras dengan keperluan semasa dan revolusi industri 4.0.

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APPROVAL (REPLACE WITH SGS COPY)

I certify that a Thesis Examination Committee has met 26th March 2018 to conduct the final examination of Aqilah Binti Arshad on her thesis entitled "The Use of Twitter, Online Forum and Blog for Collaborative Learning Among ESL Undergraduates Learners" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Arts.

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This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Master of Arts. The members of the Supervisory Committee were as follows:

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Declaration by graduate student

I hereby confirm that:

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- this thesis has not been submitted previously or concurrently for any other degree at any other institutions;
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- the research conducted and the writing of this thesis was under our supervision;
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CHAPTER 1

INTRODUCTION

1.1 Background to the Study

The Industrial Revolution 4.0 (IR 4.0) refers to the digitalisation of industries that would create new job opportunities for future graduates. IR 4.0 has given a new impetus to the educational transformation that is Education 4.0 which could affect all the domains of the pedagogical theory of the Bloom's model (e.g. Cognitive, Affective and Psychomotor) in terms of major change on the content, delivery, pedagogy, structure and management of education. Changes in the human resources produced by the era of Education 4.0 are more likely to be highly creative, data literate and critical thinkers (Haseeb, 2018). To ensure that the human resources remain relevant in the era of IR 4.0, education planning should focus on better self-learning, communication and collaborative skills (Johnson *et al*., 2014; Haseeb, 2018). Pedagogy innovations may involve mobile computing, social networking, exploring the use of big data analytics and personalisizing the learning experience. Learners can collaborate by learning anywhere or whenever they want. Hence, the use of social media applications for collaborative learning activities might help in the implementation of IR 4.0 and Education 4.0 that have been mentioned earlier (Haseeb, 2018).

The development of social media has made interaction more open in the Internet age. Social media websites are used by users from diverse domains such as business, academia, entertainment, and politics. The broad use of social media sites is due to the convenience of creating and sharing information. Also, the interaction among users can be done efficiently without the constraints of time and space. However, the efficiency of social media sites depended very much on collaboration among users which is affected by both the experience and interaction of the users with the application itself (Bukvova, 2010; Lizzio & Wilson, 2005).

Besides, social media such as Facebook, Twitter, Online Forum, Blog, and Friendster is useful in education because it offers online interaction and enables the social constructivist learning approach to be applied effectively (Bonk & Cunnigham, 1998; Hamid *et al*., 2015). Social media sites are collaborative platforms that apply the theory of social constructivism, collaborative learning models and *e*-learning which can be carried out for educational purposes. In addition, social media is fast becoming a principal instrument in their ability to facilitate collaborative learning and interaction among learners in or outside the academic settings (Collins & Hide, 2010; Rowlands *et al*., 2011). Despite the educational benefits of the social media applications, the learning process can be affected as educators feel it causes plagiarism and privacy controversies among learners (Moran *et al*., 2011).

The term "collaborative learning" refers to an instruction method in which persons with diverse efficiency levels work in smaller groups to complete a common task (Gokhale,

1995). Each person is responsible for one another's learning task as well as their own. Thus, the achievement of a learner in return, helps other learners to be successful. The most important premise of collaborative learning is that it is a social process, where learners learn through discussion and negotiation (Romney, 1996). However, Roschelle and Teasley (1995) pointed that, since collaboration is emphasising on improving the learning and creating awareness through learner's thinking processes in multiple perspectives within a group, the contribution of a student will not result in an efficient collaboration. Therefore, meaningful and sustained discussions within the group that learner shared is more important because it relates to conceptual learning. Conceptual learning focuses on the bigger picture rather than, the smaller details when learners learn how to organise and categorise information. These discussions are the keys to collaborative learning (Arvaja *et al*., 2007).

In collaborative learning, learners are given equal chances to contribute their knowledge to learning activities. The instructor plays the role of facilitator, organiser, and controller. Besides that, collaborative learning helps to enriched experiences in most online courses. Learners work together, share ideas, and discuss with one another to achieve a learning objective. The critical aspect of collaborative learning is asking questions, getting a loud voice, and getting over curiosity within an open public format (Kirkup, 2010). Additionally, collaborative learning enables students with different learning styles to practice communication and critical thinking skills (Dillenbourg & Schneider, 1995; Kear, 2011; Ross *et al*., 2011). However, the success of collaborative learning is dependent upon the instructor following specific rules, such as an ideal number of group members (usually between four to six, regardless of learners' gender, ethnicity, social origin, personality, and language proficiency). It ensures that the learners compliment and help each other during the learning sessions (Romney, 1996).

Another crucial component of collaborative learning is the discussion that occurs during the process of task completion, where the interaction exchanges among the group members are focused. These online discussions increase the cognitive development of the learners (Pressley & McCormick, 1995). Besides increasing interest among the learners, online discussions promote the active sharing of ideas among small groups as well. Also, it allows learners to engage in discussion, to take responsibility for their learning and thus, become critical thinkers (Johnson & Johnson, 1986; Totten *et al*., 1991). In particular, the interaction or discussion that was obtained during the learning activity can motivate the learners to understand, to be more conscious, and to participate in exchanging ideas among peers. Hence, the interaction occurred during the collaborative learning process provides learning benefits to produce better learning outcomes (Ahmadian & Tajabadi, 2017; Blasco-Arcas *et al*., 2013; Al-Rahmi & Othman, 2013).

Several terms can be considered similar to collaborative learning such as cooperative learning, collective learning, learning communities, peer teaching, peer learning, and team learning. All these have group work activities are a form of active learning that is commonly used to engage learners in their learning processes. However, Dooly (2008) stated that collaboration is more than cooperation which involves the wholesome process of learning which may include the instructor and learner teaching, learner and

learner education, and the course itself. The scholar argued that, during collaborative learning, learners are responsible for one another and their learning. The goal is to help each other to understand and learn (Dooly, 2008). Collaborative learning is different from cooperative learning, although both approaches utilise teamwork in the learning process. Figure 1.1 highlights the differences between the two learning approaches.

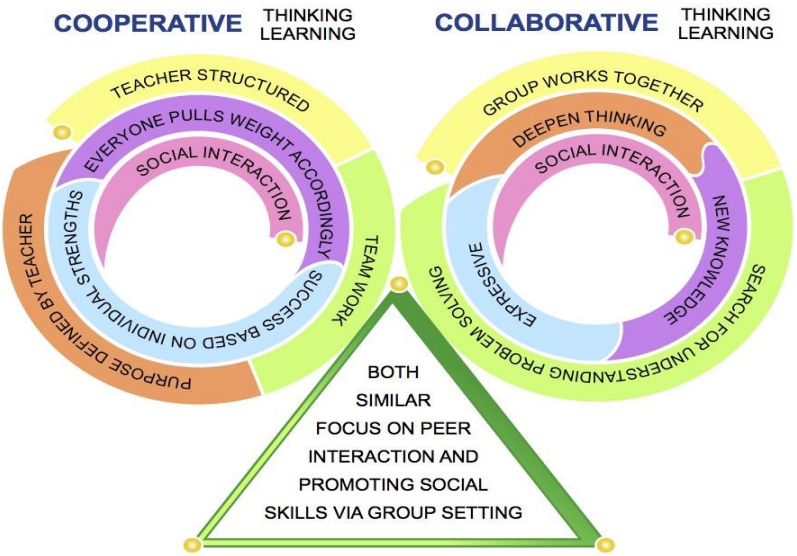

Figure 1.1: Collaborative and Cooperative Learning: A Comparison (Clare, 2015)

Cooperative learning is more about combining goals, tasks and resources independently with having a teacher structuring the learning process. It has received considerable attention by scholars over time. The success of the cooperative learning process depends on each strength and responsibility of the group members. (Johnson *et al*.,1991; Millis, 2010). Some examples of cooperative learning strategies that were proposed include **"**Think-Pair-Share" (Lyman, 1992), "Timed Pair Share", Three-Step Interview (Kagan & Kagan, 1992) and others. Lyman (1992) explained that by using the "Think-Pair-Share" strategy, students working in pair were required to discuss with their peer the answer to the question given by the instructor. The pair- group discussion will be shared with the rest of the class **(**refer to subsection 2.2 for collaborative learning vs. cooperative learning discussion).

The online interaction in the collaborative learning process is sophisticated. Examining the online collaborative learning interaction is complicated because of the various factors involved in the way group members come together to collaborate in achieving a learning objective (Daradoumis *et al*., 2006). Henri (1992) considered online collaborative learning discourse as "a goldmine of information", which describes how the learners work together, what learning strategies are used and the manner in which

knowledge and skill are required (p.118). Educational researchers have conducted studies to assess participation by counting the number of contributions done by the learners to understand the various qualities of the interaction (De Wever *et al*., 2004; Pena-Shaff & Nicholls, 2004; Dooly & Davitova, 2018). Analyzing online interaction is time-consuming, and much effort is needed. However, with automated analyses systems such as *Nvivo*, the task of analysis is less stressful. This endeavour provides information for improved online instruction through providing reports to the teachers and the facilitators about the groups they are moderating (McLaren *et al*., 2007), as well as by triggering context-sensitive collaborative learning support (Wang *et al*., 2007).

Some research has reported that social media sites are more efficient than the traditional way of learning (Junco, 2012; Moretti & Tuan, 2013; Abdulahi *et al*., 2014; Ahn, 2011). Furthermore, it saves time, money, and effort. It also provides immediate feedback on the learning process itself (Shihab, 2008). Social media applications give the users an opportunity to be a part of the highly interactive community (Anzai, 2009). Authenticity also exists because learners use their real personal identities in their interactions. They upload their photos and update their daily routines.

Moreover, social media applications provide a learning environment that is integrated with technology to help learners to explore the essential concepts of a course. Also, they provide students with self-discovery experience. Students do not have to rely on their teachers or textbook when using the social applications (Arsham, 2005). In the past, theories of collaborative learning have focused on how individuals work in a group. The initial goal of the previous research related to collaborative learning was to establish the factors that can affect the efficiency of collaborative learning as compared to learning alone (Dillenbourg, 1999). Recently the focus has been moved towards the group itself as the unit of analysis. Based on the brief background on the three social media in this research, it explored the ways on how ESL learners' perceptions and interaction when using Twitter, online forum and blog are used for collaborative learning.

1.2 Statement of the Problem

Over the past century, the characteristics of the current generation have changed according to the Internet and technology advancement. This current generation has produced a digital gap or division between the immigrants (educators) and digital natives (learners). In other words, there is a division between individuals who are technologically savvy and non-technology-savvy (Prensky, 2001). Even with this division, educators still have a preference for traditional teaching methods, which may not be adequate to prepare the learners for the real world (Darling-Hammond, 2006; Blueprint, 2013). Collaboration and social skills according to Ahonen and Kinnunen (2015) are essential in preparing these digital natives. Social skills pertain to the socially acceptable pattern of behaviour that enables learners to gain greater learning retention and a higher rate of employability (Johnson & Johnson, 1989; Merrell & Gimpel, 2014). A meta-analysis by Johnson *et al*. (2000), found both educators and the public believe, that learning collaboratively with others is better than learning alone.

Together, these past studies provide valuable insights that collaborative learning encourages collaboration, social interaction, communication through discussion, feedback, and sharing of information. It shows significant indication to facilitate the teaching and learning of the digital natives as discussed earlier above (Malita *et al.*, 2010; McCarthy, 2010; Ntlabathi *et al*., 2014; Martin-Gutierrez *et al*., 2015; Shadier *et al*., 2015).

Collaborative learning has been recognised to improve critical thinking, to decrease workload, enhance positive attitude towards learning the subject matter as well as to increase retention and specifically increase greater employability (Felder & Brent, 1994; Johnson & Johnson, 1986). There were many studies since the year 2006 to 2016 that highlighting collaboration and teamwork are the top skills that employers expect from their employees (Gibbson, 2006; Robles, 2012; Atkinson & Storey, 2016). Almost every paper written on collaborative learning showed an increased emphasis on teamwork in the working environments. It showed that organisations had taken collaboration as an essential aspect to career success (McDonald & Gibson, 1998; Scarnati, 2001), especially when workers need to perform multi-tasks, to think creatively, to solve problems, and to make decisions as part of a team.

Apart from that, Ting (2012) suggested that collaborative learning can strengthen learners' interaction and gather positive learning outcomes. Furthermore, learners seem to perform at higher intellectual levels in constructing knowledge if they learn collaboratively (Vygotsky, 1978). Collaborative learning involves group diversity that forces the learners to face different interpretations, explanations or answers about their courses. At the same time, it induces the learners to rethink their viewpoints. Conversely, Smith *et al*. (2011) reported that some learners tend to have a negative attitude towards online than face-to-face group work learning settings. Despite the negative impressions towards it, some researchers focus on the effectiveness of collaborative learning mainly among undergraduates (Ajjan & Hartshorne, 2008; Liccardi *et al*., 2007; Maesin et al., 2009; Yang *et al*., 2012) but there is still a dearth of an investigation conducted on learners majoring in English Language (Hiltz *et al*., 2000).

Social media platforms for collaborative learning are commonly used in the field of humanities (Davidson *et al*., 2014). Studies on collaborative learning and the social media platforms have been referred to Vygotsky's Social Cultural theory and the Zone of Proximal Development (ZPD) (Fernández *et al*., 2015, Harrington, 2016; Sinclair *et al*., 2017). ZPD is the "gap between the actual developmental level as determined by the problem solved independently and the level of potential development as determined by problems solved by instructors or in collaboration with more capable peers" (Vygotsky, 1978, p.90). Thus, using social media as a tool for learning in the collaborative learning environment gives the learners an opportunity to interact, regulate learning and get feedback from learners who may play the role of the more capable peers" (Cuhadar & Kuzu, 2010; Peppler & Solomou, 2011).

Perrin (2015) stated that 90% of the young American adults age between 18-29 use social media excessively in 2015, as compared to 12% in the year 2005. It has shown a 78% point percentage increase in social media users for work, communication, health and sharing information around the globe. Social media were viewed as part of the social aspect of networking, mingling with new community members. Although a majority of students never used social media for their learning purposes, past studies were not apparent in providing evidence about the effectiveness of incorporating social media use into the process of collaborative learning in the aspect of gaining knowledge and experience (Bruner, 1985; Lackovic *et al*., 2017). There are several views on how learners can benefit from the use of these social media platforms if they were not exposed to the possible uses in collaborative learning (Hamid *et al*., 2015; Nezakati *et al*., 2015; Lackovic *et al*., 2017). Twitter, online forum and blog discussed in this study offer potential use of computer-supported collaborative learning (CSCL) (refer to subsection 2.3 – 2.3.3 for further discussion). Thus, the society should pay more attention and awareness towards these social media applications particularly in education (Ali, 2004; Lackovic *et al*., 2017). This study hopes to explore the preferred social media by the learners for collaborative learning processes.

So far little attention was paid towards the use of social media applications for collaborative learning and how the learners perceived it (Dasgupta *et al*., 2002; Sanchez-Franco, 2010). There are less positive findings of the use of social media applications and collaborative learning because learners at times feel discussions are confusing (Thompson & Coovert, 2003), less productive (Straus 1997; Straus & McGrath 1994), and time-consuming (Fjermestad, 2004) than face-to-face collaborative learning environments, especially on the positive and negative perception of online collaborative learning in the classroom (Coughlin & Kajder, 2009). Moreover, there are gaps in the literature regarding ESL undergraduates' positive and negative perception in using Twitter, online forums as well as blogs for their collaborative learning activities (Hiltz *et al*., 2000). Overall, there is some evidence of the importance of measuring how the learners perceived social media platforms for collaborative learning (So & Brush, 2008; Zhu *et al*., 2009; Roszkwoski & Soven, 2010) to prepare the learners' career success for the revolution industry 4.0 wave (Schuster *et al*., 2016).

Some studies on social media research have issues on how to label the online interaction performed by a group of students. The distinction needed to identify engagement activities such as cooperative, collaborative, or active learning is often not very clear (Herring, 2002; Herring, 2009; Maesin *et al.*, 2009). Through the years, many ways of identifying and describing these online interactions into meaningful categories mentioned earlier can be complicated (Loes, 2009; Goodman, 2011). Therefore, there have been challenges in finding the best method to analyse online interaction and scholars should be mindful not to handle them from a conventional linguistic point of view. For example, ignoring language semiotic aspects of online interaction may damage the accountability and reliability of a study (Dehghan & Afida, 2015).

Furthermore, there is a general assumption that any use of social media, collaboration tools or platform for a learning process is considered collaborative learning (Roschelle & Pea, 1999). However, it is also often difficult to judge whether learners are indeed collaborating or learning from a collaborative engagement (Dillenbourg, 1999; Littleton & Häkkinen, 1999; Davidson *et al*., 2014). Therefore, this study will examine the functional moves in the engaged social media or collaboration tool to provide more insights into this problem. A functional move serves as a particular message or speech act that can be used to claim, inform, clarify, suggest or socialise (Herring, 2004, McLaughlin, 1984). Thus, the existing research recognises the critical need of analysing the functional moves on the three social media of this study, mainly on how learners accomplish the learning task for collaborative learning processes.

As a conclusion, social media application offers an environment for collaborative learning to learners. However, there is lack of research conducted in exploring the use of social media in collaborative learning environments for education, particularly in the local context of Malaysian higher education (Hamid *et al.*, 2015). Thus, it is timely to conduct this research to reduce these research gaps.

1.3 Objectives and Research Questions of the Study

This study aims to explore the use of social media applications to interact online through collaborative learning in the classroom. There are two main objectives formulated as below:

1. To investigate the ESL undergraduates' perception of the usefulness, ease of use and experience in using Twitter, online forum, and blog during collaborative learning.
2. To analyse the content and language of interaction on Twitter, online forum, and blog that indicate signals or evidence of collaborative learning.

Based on the discussions in section 1.2 and research objectives in section 1.3, the following research questions are formulated for this study:

1. What are the learners' perceptions towards the usefulness and ease of use of social media applications for collaborative learning?
2. What are the perceptions and experiences in using Twitter, online forum, and blog for collaborative learning?
3. Which social media application do the learners prefer for collaborative learning?
4. What are the functional moves that the learners use in accomplishing the learning tasks?

Research questions (1), (2) and (3) were derived from the first objective, while research question (4) covered the research objective two (2), as summarised in Table 1.1 (see page 13).

1.4 Theoretical Framework of the Study

In this sub-section 1.4, initially, a brief explanation was discussed on several theories which formed the basis of the theoretical framework; namely Technology Acceptance Model (TAM), Social Constructivism Learning Theory, and Computer-Mediated Discourse Analysis (CMDA). These three theories have guided the study in answering the research questions and formulating the theoretical framework (see Figure 1.2). Next, an exploration, analysis, and critical review on how each theory relates to the outcomes of this study are further elaborated as well as are summarised in three sub-section 1.4.1 to sub-section 1.4.3.

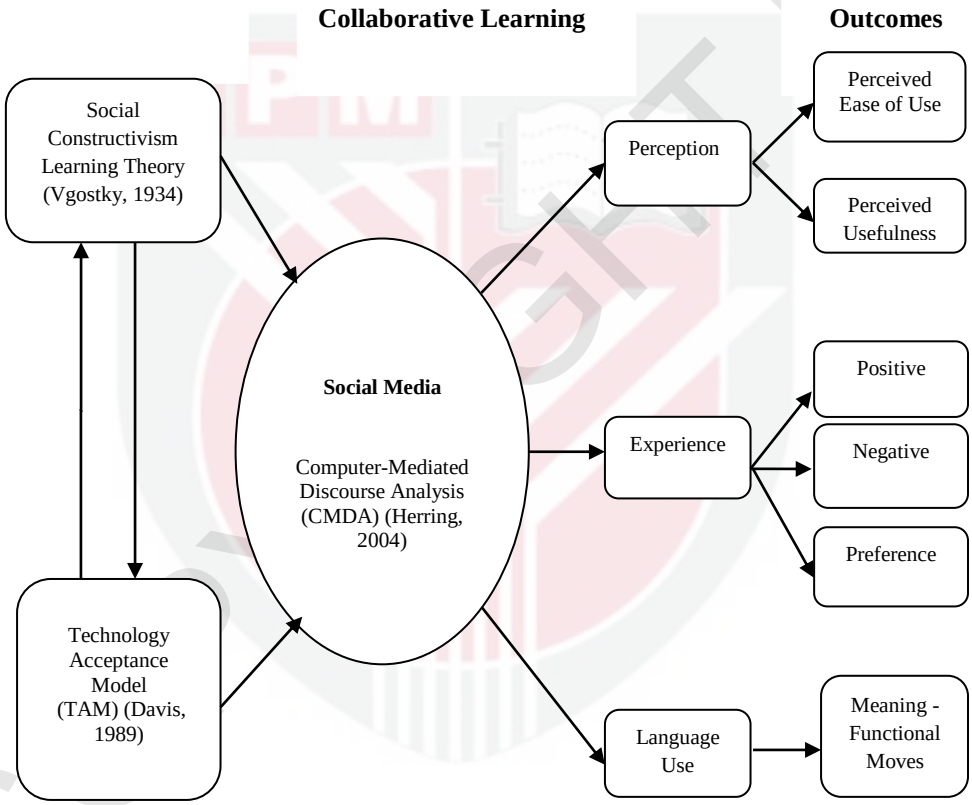

Figure 1.2: Theoretical Framework Diagram of the Study

1.4.1 Technology Acceptance Model (TAM)

The first theory that is referred in this study is Technology Acceptance Model (TAM) because it is related to the perception of an individual on accepting a specific technology. Hence, Twitter, online forum and blog were evaluated among the learners in this study to find out what they think about such technology.

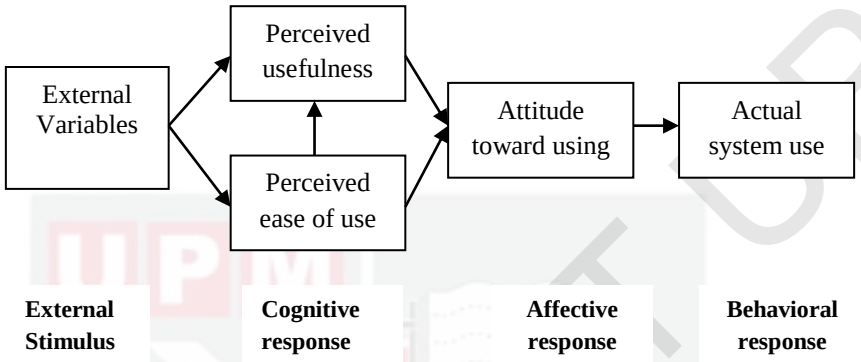

Figure 1.3: Original Technology Acceptance Model (Source: Davis, 1989)

As proposed originally by Davis in 1986, TAM helps to explain and predict user's behaviour in accepting as well as adopting information technology (Davis, 1989), which is an extension of the theory of reasoned action (TRA) (Ajzen & Fishbein, 1980). TRA is a widely accepted theory in the field of psychology, but it is not commonly used in communication discourse. It is the combination of three classic models of persuasion too constructed in 1975 by Martin Fishbein and Icek Ajzen. It was then further developed and extended by researchers as the theory of attitude. The primary aim of this theory is to explain the relationship between attitudes and behaviours among the human. Moreover, it predicts the outcome or how individuals will behave based on their pre-existing attitudes and behavioural intentions to engage in a particular behaviour (Gilmore *et al*., 2002). Thus, to explain why a user accepts or rejects information technology Davis (1989) as well as Davis, Bagozzi, and Warshaw (1989) proposed TAM.

Later, Venkatesh and Davis (2000) proposed the TAM 2. TAM2 is on how the users' mental assessment match the vital goals at work, and the consequences of performing job tasks using the system serve as a basis for forming perceptions regarding the usefulness of the system (Venkatesh & Davis, 2000). Venkatesh and Bala (2008) combined TAM2 (Venkatesh & Davis, 2000) and the model of the determinants of perceived ease of use (Venkatesh, 2000), and developed an integrated model of technology acceptance known as TAM3. TAM3 using the four different types including the individual differences, system characteristics, social influence, and facilitating conditions which are determinants of perceived usefulness and perceived ease of use. In TAM3 research model, the perceived ease of use to perceived

usefulness, computer anxiety to perceived ease of use and perceived ease of use to behavioural intention were moderated by experiences (Venkatesh & Bala, 2008).

TAM provides a basis for one to understand how external variables influence the belief, attitude, and intention to use a person. It involves one's actual use of a technology system. These external variables influence the belief, attitude, and intention to use of a person directly or indirectly influenced the user's behavioural intentions, attitude, perceived usefulness of the system, and perceived ease of the scheme. Perceived usefulness is the extent to which the user believes that when using the technology, it will enhance one's work performance, while perceived ease of use refers to how effortless he or she perceived when using the technology (Davis, 1989). The perception of usefulness influences the user's acceptance of a system and positively associated with network usage (Venkatesh & Davis, 2000). In particular, Anderson and Adams (1992) proposed that perceived usefulness and perceived ease of use are important determinants of system usage. The perception of ease of use is hypothesised to influence perceived usefulness as well as attitude towards using the technology. On the other hand, behavioural intention is the motivational factor for a person to take a specific action (Ajzen, 1991). It is the most crucial factor in predicting a person's intention to take a specific action. The actual system usage is affected by the perceived ease of use and perceived usefulness that is indicated by attitude variable measured by the degree to which an individual favours the behaviour (Ajzen, 1991).

External variables affected the intention and actual use of mediated effects on perceived usefulness and perceived ease of use. Also, these external variables include organisational, social, individual, and technological in using the technology (Park, 2009). Aligned with Monzavi *et al*. (2013), the scholars suggested that from the four external factors, individual factor was the most significant in predicting both perceived usefulness and ease of use in using technology. The individual factor can be defined as the confidence in overcoming any difficulties and obstacles which can lead to a better judgment while using new technology (Monzavi *et al*., 2013). Thus, this study focuses on only two aspects of this model, that is, perceived usefulness and perceived ease of use. As exemplified in Figure 1.3, both variables are the major contributors for learners' positive attitude towards technology, which eventually lead to the actual use of the technology (Davis, 1993).

This study concentrates on the original version of TAM and not other extended versions of the TAM (e.g. TAM2, TAM3) as shown in Figure 1.3[1]. Several reasons have prompted the researcher to focus only on the original version of TAM. Firstly, in keeping the research in focus to the research objectives, TAM2 and TAM3 were considered not relevant to the study. This is because the study focuses on only two aspects of the TAM model, that is, perceived usefulness and perceived ease of use. As exemplified in Figure 1.3, both variables are the major contributors for learners' positive attitude towards technology, which eventually lead to the actual use of the technology (Davis, 1993). Secondly, factors such as mental assessment and the

[1] Refer to Rauniar et al. (2014) to access information of the original Technology Acceptance Model (TAM) and social media use.

characteristics of the social media as mentioned in TAM2 and TAM3 were not conducted, and only significant variables (e.g. External variables, perceived usefulness, perceived ease of use, attitude and actual system use) to the present research were highlighted[2].

1.4.2 Social Constructivism Learning Theory

Next, besides Technology Acceptance Model (TAM), this sub-section examines Social Constructivism Learning Theory. The first well-known theory is Constructivism Learning Theory, and Social constructivism is the sub-theory of knowledge acquisition. Earlier it started out with constructivism learning theory which focuses on teaching and learning based on the premise that cognition (learning) is the result of "mental construction." In other words, students learn by fitting new information together with what they already know (Bada & Olusegun, 2015). In collaborative learning, the learners undergo learning processes that are active and contextualised. It helps them in the knowledge construction process. Social Constructivism Learning Theory deals with knowledge which is constructed based on personal experiences and hypotheses of the environment. Learners continuously test these hypotheses through social negotiation. Each learner would have different interpretation and construction of knowledge process. Nevertheless, the learner is not in a clueless condition, but past experiences and cultural factors in a situation are brought (Bruner, 1990). Bruner (1990) specifically argued that learning be is an active process in which learners can construct new ideas or concepts via their current and past knowledge. The central principle of the constructivist approach is that instructors are expected to apply active, self-regulating, and reflective learning strategies in the learning process. In practice of this study, learners actively regulate and reflect their thinking for collaborative learning purposes while using the social media platforms. In addition to that, motivation is a required element in constructivism as learners learn to motivate themselves in their ways.

In short, the constructivist learning environment provides multiple representations of reality, which supports the collaborative construction of knowledge through social negotiation, and noncompetition for recognition among learners (McDonald & Gibson, 1998). For this reason, this study intends to find out how Twitter, online forum, and blog fulfil the features of constructivism.

1.4.3 Computer-Mediated Discourse Analysis (CMDA)

Finally, this sub-section explores Computer-Mediated Discourse Analysis (CMDA) that is used as an anchor in this study as proposed by Herring (2004). Language and the way learners use the language are the focus of CMDA approach while analysing online discourse. The approach includes online multimodal discourse and any communication that is mediated by technology. Herring claimed that the CMDA approach is different

[2] Refer to Lai (2017) to review the literature of Technology Adoption Models and Theories for the Novelty Technology.

from other forms of discourse analysis. It is descriptive and interpretive which consider technological affordances of the CMC systems (Souza, 2015).

Furthermore, CMDA was found to be more of an approach rather than a theory or as a single method. It allows various discourse and computer-mediated communication theories. It helps researchers in exploring online behaviour where observations and interpretations can be measured qualitatively by using empirical analysis. CMDA exhibits three basic assumptions. The first is that discourse produces repetitive patterns. This assumption states that these repetitive patterns may be generated consciously or subconsciously (Goffman, 1959). For example, a speaker may not realise what she is doing. Thus, direct observation may contribute reliable generalisation. The second assumption is that discourse is the speakers' choice. These options are not only reflecting linguistic features but regarding the cognitive and social perspective of the speaker (Chafe, 1994). The first two assumptions are about discourse, but the third assumption of CDMA assumes the features of a certain technology or system can be shaped computer-mediated discourse (Herring, 2004). These assumptions triggered this study to find out how CMDA illustrates in the learners' interactions on Twitter, online forum, and blog which is further explained in depth in Chapter 2.

1.5 Conceptual Framework

This sub-section presents a brief explanation of the concepts in a conceptual diagram (see Figure 1.4) which forms the basis of this study. The statement of the problem triggers the use of related theories in this study. The theories are Technology Acceptance Model (TAM), Social Constructivism Learning Theory, and Computer-Mediated Discourse Analysis (CMDA).

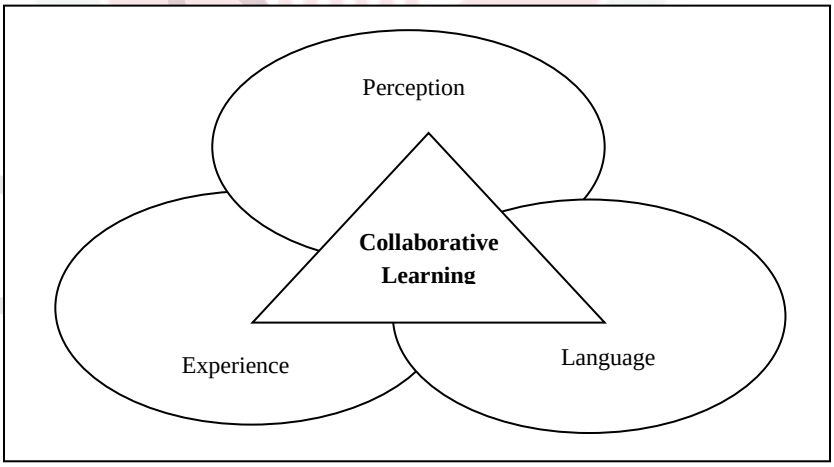

Figure 1.4: The Conceptual Framework of this Study

The collaborative learning process makes use of three primary social media applications. During the collaborative learning process, learners' perception,

experience, preferred social media and online interaction through the use of the three social media which were twitter, online forum, and blog for one semester were explored. The perception was measured and analysed based on the Technology Acceptance Model (TAM) and Computer-Mediated Discourse Analysis (CMDA) (refer to subsection 2.5 for further discussion). Hence, Table 1.1 summarized each research objectives, research question and the relevant theory.

Table 1.1: Summary of Research Objectives and Questions

	Research Objectives		Research Questions	Theory
1.	To investigate the ESL undergraduates' perceptions of usefulness, ease of use and experiences in using Twitter, online forum and blog during collaborative learning.	**a.**	What are the learners' perceptions towards the usefulness and ease of use of social media application for collaborative learning?	Technology Acceptance Model (TAM)
		b.	What are perceptions and experiences in using Twitter, online forum and blog for collaborative learning?	
		c.	Which social media application do the learners prefer for collaborative learning?	Social Constructivism Learning Theory
2.	To analyse the content and language of interaction on Twitter, online forum and blog that indicate signals or evidence for collaborative learning.	**a.**	What are the functional moves that the learners use in accomplishing the learning tasks?	Computer-Mediated Discourse Analysis (CMDA)

1.6 The Scope of the Study

This study integrated three main social media in the classroom, which are Twitter, online forum, and blog. Some of the basis of choosing the three social media for this study is because of the positive views by some researchers that claim social media as an impetus to help students and educators communicate actively with each other for educational activities (Menkhoff *et al*., 2015; Ebner *et al*., 2010). Moreover, the time and space limitation in traditional face to face learning can be supplemented by the use of these social media platforms in the learning process. This is in fact because social media can be accessed anywhere, 24/7 and not limited to Mondays to Fridays (Dzvapatsva *et al*., 2014). Some of the common ground of the usefulness of social media is that it creates a positive learning environment that fits the pedagogical objectives of education. Besides, social media cultivates collaborative learning and motivates learners to post comments and questions about their subject matter on it too (De Wever *et al.*, 2015; Terrell *et al.*, 2011; Waycott *et al.*, 2010).

Furthermore, Twitter is chosen for this study as it is a social media platform that has acquired the considerable attention of educational practitioners and researchers (Grosseck, 2008; Junco *et al.*, 2011; Junco, 2012). It is a popular microblogging tool that enables users to post brief messages to communicate with other users. As

compared to other microblogging sites, such as Jaiku, Pownce, Plurk, and Tumblr, Twitter has been recognised worldwide as it has the most users. According to ComScore (2007), Twitter has about 94,000 users within eight months of its launch. Its coverage ranges from daily life to current events, as well as news stories (Stevens, 2008). The posts on the Twitter are called "Tweets" where users can decide whether the tweets should be set public or private. If the user sets the profile to public, the updates will appear in a public timeline of recent updates. The public timeline is the place where each post (tweets) will appear, other followers and users can view the tweets from the timeline (Java *et al*., 2007).

Also, Twitter can help to promote the formation of a learning community. The users who have the same interest can form a community, such as a language, music, entertainment, education, politics, and others. Formally, Twitter is designed to answer questions on "What are you currently doing?", Which let the users update their status daily (Java *et al*., 2007). Twitter has several educational characteristics regarding easy access, easy to use and fast (e.g. immediate feedback and flexible). Moreover, Twitter plays a decisive role in improving and encouraging the learners to have an active collaborative learning process at the level of higher education (Junco *et al*., 2011, Novak *et al*., 2012). As a whole, tweeting on Twitter is considered as a more interactive and fun way of learning compared to traditional learning classrooms (Menkhoff *et al*. ,2014).

Meanwhile, the online forum acts as an essential ingredient of any effective online course, where asynchronous communication and instructional interaction can take place easily. More often than not, jargon appears in forums in which a new discussion is considered a new thread. The talks in a forum are hierarchical, where each discussion may have sub-forums for several topics (Anderson & Kanuka, 1997). Online forums help students to be more interactive in classroom activities, and it is used widely among students (Biasutti, 2017; Tan, 2017). Nevertheless, as compared to Twitter, the success of an online forum is much dependent on the role that is played by the instructor or moderator if it is used for a learning activity (Berge, 2006). The instructor or moderator can "weave" (contribution towards another post), "thread" (trend a topic/discussion) and "respond" regularly in posting new material, online learning, and interaction (Salmon, 2004). Hence, instructors need to plan more activities and discourse carefully for the learners to respond and participate in using it for educational activities (Harasim *et al*., 1995; Koskey & Benson, 2017).

On the other hand, a blog or weblog is a web publishing tool that allows learners to quickly and easily self-publish text and images, with links to other blogs or websites. Blogs are set up like popular websites, with navigation links, and other standard website features. Blogs have one standard characteristic, which is, posting (Hill, 2006; Richardson, 2010). Blog postings are text entries, similar to a diary or journal, posting date, including views of other bloggers, photos, links, or other digital media. Postings are often short and are frequently updated which will appear in reversed chronological order. Posts can also include an archived entry. Even though blogs have been existing for years, they have recently gained popularity and consequently have received more

media coverage (Blood, 2000). Therefore; these are the justification for why Twitter, online forum and blog were the three social media platforms selected for this study.

1.7 Significance of the Study

Research on social media experiences in higher education has triggered the need for conducting more studies, as society is moving towards an era of the Internet. Many have thought that technology would negatively affect the learning development of a learner. Issues were raised by educators where educators think that technology and media may have a bad influence towards the learners' language proficiency as well as their learning process (Kasapoğlu-Akyol, 2010). The Net generation uses technology and social media in daily life (Prensky, 2001). The use of social media can be seen everywhere, such as shopping malls or bus stop. However, the lack of awareness in seeing social media as a tool in helping the learning process is something that should be taken seriously (Lakovic *et al*., 2017). These social media sites have developed tremendously over the years. Users should use and comprehensively comprehend these applications. These applications provide an environment of learning in a portable way as they help the users to make time and space for learning at anywhere and at any time of the day (Shihab, 2008).

Furthermore, today's Net generation is exposed to the fast development of highly technological devices such as iPhones, tablets, and notebooks on the market. Users of these smart devices can access to social media sites easily when they have linked to an internet connection. The usage of these social media has been done every day, and instructors can integrate this social happening to improve the learning process and to be in line with the current teaching methodologies. Thus, this study aims to investigate the ESL undergraduates' experience towards Twitter, online forum, and blog for collaborative learning. The study has implications for the administrators, program developers, educators, and those who seek informing language learners through technological developments like social media sites, which can facilitate teaching and learning activities.

1.8 Definitions of Key Terms

Active learning is defined as any instructional strategies that involve students in the learning process. It requires learners to make meaningful learning contribution and think about what they are doing. Active learning is also often contrasted to the traditional lecture where students passively receive information from the instructor (Michael, 2014).

Collaborative Learning is defined as an educational approach to teaching and learning which involves groups of learners working together to solve, complete, or create a task. The collaboration process may occur when the learner teaches another, learner teaches the teacher, and when a teacher teaches the student (Dooly, 2008).

Online Interaction is referred to any communication which may happen between two or more people talking to each other, groups, organisations, nations or states through online (Trentin, 2000).

Perception is the procedure by which people translate sensory impression into a coherent and unified view of the world around them. Even with incomplete and unverified details, perception is equated with reality for most analytical purposes and guides the human behaviour in general (Atkinson, 1990).

Experience is defined to the nature of a particular event that a particular individual has undergone in the present or past. Present experience indicated the nature of a person's current existence and considered as the accumulated product of previous experiences gained after hours of use of thing or event (Dewey, 2007).

Twitter is one form of Microblogging which was created in March 2006 by Jack Dorsey and was launched later in July. It allows the users to write brief text updates that can be viewed by friends and interested viewers via mobile or the Web, which are not more than 140 characters about their personal life (Java *et al*., 2007).

Online Forum is an online discussion where people can have conversations that are posted on a bulletin board. It is comparatively different from chat rooms as the messages are archived and can be viewed any time after an extended period (Java *et al*., 2007).

The blog (sometimes referred to as a weblog) is a web publishing tool that allows authors to quickly and easily self-publish text, images, links to other blogs or websites, and a whole lot of other contents (Bonni *et al*., 2004). It also keeps previous and latest post which may link to other websites (Du & Wagner, 2005).

1.9 Organization of the Thesis

The organisation of this thesis consists of 5 chapters. Each chapter is focusing on different aspects. Chapter 1 contains the brief background of the three social media in this research, discussion of how do ESL learners' experiences and interaction when using Twitter, online forum and blog in collaborative learning, statement of research problems, objectives, and questions. Additionally, a brief explanation of several theories which formed the basis of the theoretical framework; guided the study in answering the research questions formulated in a theoretical framework. Finally, the chapter concludes with a brief explanation on the concepts and conceptual diagram, and presentation of the significance of the study, as well as the definitions of key terms.

Chapter 2 focuses on literature reviews of the Net generation, the meaning of collaborative learning including its definition, benefits, issues, past researches on

collaborative learning, and also interaction pattern analysis in collaborative learning, solutions in conducting a successful collaborative learning classroom are discussed. A brief review of collaborative learning via Twitter, online forum and blog related to this study was included.

Chapter 3 describes the research design of this study, which is related to the approach of the location of data collection and participants were selected. For this study, three social media platforms were created by the researcher for the learners to use to complete the learning task. The study combines a triangulation of quantitative and qualitative approaches in answering research questions 1 to 4. The research procedure, the methods of data collections, and data analysis of collaborative learning via pilot studies, Twitter, online forum, and blog related to this study are presented in this chapter.

Chapters 4 and 5 analyse the specific objectives of this thesis as previously mentioned. In Chapter 4, the overall findings and some discussions based on those findings are summarized. Finally, in Chapter 5, the main result of the research is presented, including suggestions for future study.

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