

UNIVERSITI PUTRA MALAYSIA

EFFECTS OF THREE LISTENING MODES ON LISTENING COMPREHENSION OF ESL UNDERGRADUATES

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FBMK 2016 25



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Ву

HEERO RASHASOOR

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfillment of the Requirements for the Degree of Master of Arts

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the Degree of Master of Arts

EFFECTS OF THREE LISTENING MODES ON LISTENING COMPREHENSION OF ESL UNDERGRADUATES

By

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Listening is one of the four skills of English language which has been given less priority in most language classrooms. The educational approaches and techniques used for learning listening are often boring and ineffective. This study aimed to investigate the use of three listening modes (i.e. audio-only, audio-video, or audio-video-caption) to improve ESL undergraduates' listening comprehension, and to analyze which listening mode affects their listening comprehension the most. The study also sought to find out the participants' perception of these three listening modes delivered by Schoology, an online learning platform.

This study employs mixed-method research design because quantitative and qualitative methods were used for data collection and analysis. Participants were an intact class of 84 undergraduates. In the quantitative data collection, a quasi-experimental research design was adopted to gauge how the three listening modes affect the participants' listening comprehension. The participants sat for a pre-treatment test before the commencement of the experiment. Then a fish bowl technique was used to assign the participants into three equal experimental groups. The study employed a counter-balanced design to cross out individual differences and to control the practice effects by using different orders of the treatments for each group. The three groups were exposed to the three listening modes throughout the 12 weeks in three phases (each group received a different listening mode per phase of four weeks). Posttests were used to measure participants' listening comprehension after each phase of the treatment and to investigate the effect of the three modes of listening. Questionnaires were used to investigate participants' perception on using the three modes of listening through Schoology. Finally, the participants were interviewed to find out the challenges they encountered during the experiment and their opinions on using Schoology for the listening exercises.

Results from the quantitative data showed that the three listening modes (audioonly, audio-video, and audio-video-caption) had a significant effect on the ESL undergraduates' listening comprehension as the posttest means were significantly higher than the pre-test means. Although the effects of the three modes were not significantly different from each other, the audio-only listening mode was more effective compared to the other two modes. The questionnaires showed participants' positive perceptions toward the three modes of listening and the use of Schoology as an online platform for listening. The results revealed that delivering the three listening modes through Schoology did cause a significant increase in undergraduates' listening achievement that might have led to their improved listening comprehension. The triangulation of the quantitative and qualitative analyses further supported the finding that listening comprehension can be developed through different modes of listening on Schoology. If learners can acquire the listening skill, they can then apply it not only in their ESL learning, but also in every subject they take and every lecture or discussion they take part in.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan Ijazah Sarjana Sastera

KESAN TIGA MOD MENDENGAR BAGI KEFAHAMAN MENDENGAR PELAJAR BAHASA INGGERIS SEBAGAI BAHASA KEDUA (ESL) PERINGKAT PRASISWAZAH

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Mendengar merupakan satu daripada empat kemahiran bahasa Inggeris tetapi kemahiran ini kurang diberi keutamaan dalam kebanyakan kelas bahasa. Pendekatan dan teknik yang digunakan untuk pembelajaran mendengar selalunya membosankan dan tidak berkesan. Kajian ini bertujuan untuk menyelidik penggunaan tiga mod mendengar (iaitu audio sahaja, audio-video, atau audio-video-kapsyen) untuk meningkatkan kefahaman mendengar pelajar pascasiswazah ESL, dan menganalisis mod mendengar yang dapat memberikan kesan kefahaman paling baik. Kajian ini juga bertujuan untuk mengetahui persepsi para pelajar terhadap penggunaan ketiga-tiga mod mendengar melalui *Schoology*, iaitu satn platform pembelajaran dalam talian.

Kajian ini menggunakan reka bentuk kajian dengan kaedah campuran, iaitu kaedah kuantitatif dan kualitatif digunakan untuk pengumpulan data dan analisis. Responden terdiri daripada 84 orang pelajar prasiswazah daripada satu kelas. Bagi pengumpulan data kuantitatif, reka bentuk kajian kuasi-eksperimen telah diterima pakai untuk mengukur kesan ketiga-tiga mod mendengar terhadap kefahaman mendengar pelajar. Pelajar menduduki praujian sebelum ujikaji bermula. Kemudian teknik cerakin telah digunakan untuk membahagikan para peserta kepada tiga kumpulan ujikaji yang sama banyak. Kajian ini menggunakan reka bentuk timbal balas seimbang untuk mengelakkan perbezaan individu dan untuk mengawal kesan arahan pengendalian berbeza bagi setiap kumpulan. Tiga kumpulan berkenaan didedahkan dengan ketiga-tiga mod mendengar sepanjang 12 minggu dalam tiga fasa (setiap kumpulan menerima mod pendengaran yang berbeza bagi setiap fasa selama empat minggu). Pascaujian telah dilaksanakan untuk mengukur kefahaman mendengar pelajar selepas setiap fasa ujikaji di samping meneliti kesan ketigatiga mod mendengar ini. Borang soal selidik digunakan untuk mengkaji persepsi pelajar terhadap penggunaan ketiga-tiga mod mendengar melalui Schoology. Akhir sekali, para peserta telah ditemu bual untuk mengetahui cabaran yang dihadapi semasa ujikaji dan pendapat mereka tentang penggunaan *Schoology* untuk latihan mendengar.

Hasil daripada data kuantitatif menunjukkan bahawa tiga mod mendengar (audio sahaja, audio-video, dan audio-video-kapsyen) memberikan kesan yang signifikan terhadap kefahaman mendengar pelajar ESL apabila pascaujian didapati lebih tinggi daripada praujian. Walaupun kesan antara ketiga-tiga mod tidak jauh berbeza, namun mod mendengar audio sahaja adalah lebih berkesan berbanding dengan dua mod lain. Soal selidik menunjukkan bahawa persepsi pelajar terhadap ketiga-tiga mod mendengar dan penggunaan Schoology sebagai platform dalam talian untuk latihan mendengar adalah positif. Hasil kajian juga membuktikan bahawa penggunaan ketiga-tiga mod mendengar melalui *Schoology* dapat meningkatkan penguasaan mendengar pelajar dengan ketara dan mungkin membantu untuk meningkatkan kefahaman mendengar mereka. Analisis kuantitatif dan kualitatif tiga penjuru turut menyokong dapatan kajian bahawa kefahaman mendengar dapat ditingkatkan melalui mod mendengar yang berlainan melalui Schoology. Jika pembelaiar dapat menguasai kemahiran mendengar, mereka menerapkannya bukan sahaja dalam pembelajaran ESL, tetapi juga dalam setiap mata pelajaran yang diambil dan setiap ceramah atau perbincangan yang diikuti.

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

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LIST OF ABBREVIATIONS

ANLCT Audio News Listening Comprehension Test

DV Dependent Variables

EAP English for Academic Purposes

EFL English as a Foreign Language

ESL English as a Second Language

G1 Experimental Group 1

G2 Experimental Group 2

G3 Experimental Group 3

ICT Information and Communication Technology

IPT Information Processing System

IV Independent Variables

LPQ Listening Perception Questionnaire

PST Pedagogical, Social interaction, Technology

PCK Pedagogical Content Knowledge

RQ Research Question

SLA Second Language Acquisition

SOI Select, Organize, Integrate Model

SPQ Schoology Perception Questionnaire

TAM Technology Acceptance Model

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Listening is defined as an active and interactional activity during which a listener receives speech sounds and tries to associate meaning with the spoken words in an attempt to understand the intended message of a speaker so that he/she can respond appropriately and effectively (Muniandy, 2012). Listening plays a major role in the lives of people. It is the most basic of the four major components of language development and communication skills which are listening, speaking, reading, and writing. This can be seen in the way children listen and respond to language even before they have learned to talk (Tompkins, 2005). They listen to gain knowledge and to follow instructions when they learn a language. Language acquisition is based on what is heard and what is understood (e.g., decoding messages). In the process of language acquisition, the focus on the meaning of the message is used for communicative purposes. Listening is considered as the first language skill developed; it is also the skill most often used in the classroom and daily life. Researchers suggest that more than 40% of adults' communication time is spent on listening, 31.9% speaking, 15% reading, and 11% writing (Courts & Tucker, 2012).

Moreover, listening comprehension plays a significant role in the development of other language skills. Evidently, much of the educational progression is based on listening skills. When students initially learn a language, they usually need to listen to the words more than once before they can recognize and pronounce them. In the classroom, learners have to listen with full attention to lectures and in their class discussion to be able to understand and to retain the information for purposes of later recall. Listening comprehension can also assist students to expand their vocabulary, develop language proficiency, and enhance language usage (Bidabadi & Yamat, 2012).

In language curriculums, learning English as a Second Language (ESL) has retained an in-class-only learning approach, with rare opportunities to use the language beyond the limitations of the classroom. This suggests the necessity for practical integration of a student-centered approach to allow contextualized language learning (Al-Shehri, 2011; Al-Qasim & Al-Fadda, 2013). Similarly, as listening is an important medium of receiving input for ESL learners, finding optimum ways to learn the skill is a challenging task for ESL practitioners. A number of researchers think that ESL learners should pay more attention to self-learning as an effective technique, which makes them more active and dynamic in learning and improving the language acquisition skill (Dana et al., 2013; Deniz, E., 2014; Green, H., & Hannon, C., 2007; Pribesh, S., Dickinson, G. K., & Bucher, T., 2006; Zhang, 2009; Zheng et al., 2014).

Based on these needs, the invention of computer networks and later the Internet led to the emergence of an attractive learning environment for ESL/EFL learners. Recently, knowledge and information have been presented in a different way from the traditional learning style of instructors' illustrations and the words written on the blackboard. The texts and pictures, audio and video are now accompanying each other to arouse learners' interest in listening materials, as well as increasing their learning efficiency in class (Ma & Shi, 2014). In addition, with the existence of computer technology, English language learners are now able to learn and manage listening skill using the creation of their own video and audio-casting projects (Hasan & Tan, 2013).

To assess the listening preferences of learners, different listening styles and the proper instructional methods or media should be used for example, visual and verbal, as two learning styles. Visual learners remember best what they see, such as pictures, diagrams, flow charts, time lines, films, and demonstrations; while verbal learners remember more words, such as written and spoken explanations (Hsu et al., 2014). This feature of the visual/verbal aspects has a close relationship with the use of different listening modes, such as audio, video, and video-audio-caption in learning listening comprehension. Research has indicated that using different instructional methods and listening modes (audio-only, audio-video, and audio-video-caption) has an important role and a positive impact on listening comprehension (Danan, 2010; Markham & Peter, 2003).

Technology helps to enhance the effectiveness of information interchange through delivering information combined with texts, graphics, animation, and sound (Ghassemi, 2013). Besides, learning listening via the Internet and electronic media gives learners ample opportunities to learn at their own place, pace, and time (Farshi & Mohammadi, 2013). Online resources and technology-based applications also allow learners to serve their listening ability quickly and efficiently and in a manner in which the 21st century student is accustomed to. The inclusion of different modes of listening in various forms inside and outside of the classroom enables learners to enhance the learning process and improve their listening experience (Courts & Tucker, 2012). Additionally, to use the time properly, ESL learners can be assisted by controlling their workless moments in their day while waiting or traveling on public transport, since they are always connected by their mobile phones, mp3 players, iPods, laptops and other portable devices, so they can assume learning listening in combination with other tasks (Lee & Chan, 2007).

The Internet and the advent of technology have changed how information is gathered and shared, and it has brought a variety of new ways for instructors and trainers to connect with their learners (Ghassemi, 2013). With the increasing acceptance in online education and distance learning programs, Schoology was created in 2009. This classroom management system (such as Moodle), and social networking platform (such as Facebook) is a free online learning platform that improves learning through better communication. It is easy to use and has unlimited capacity to upload media related files for learners (Doe, 2012;

Schoology, 2015). This platform permits learners to choose how, where, and when to study (Schoology, 2015). The instructor might use different online modes as listening materials to train ESL learners in listening comprehension through Schoology. In addition, writing notes, social networking, and posting information on homework problems or challenging course material might be replaced with instant message chat times (Moran, 2010; Zakaria, 2015). In line with other researchers' efforts in using different types of technologies and listening modes to improve ESL students' listening skill, this study aims to investigate the effect of three listening modes (audio-only, audio-video, and audio-video-caption) on ESL undergraduates' listening comprehension through Schoology and their perception of the listening modes and Schoology.

1.2 Statement of the Problem

At all educational levels, and for generations, listening has been a neglected and forgotten language skill. Traditionally, many researchers have thought that listening is a natural skill that is acquired by individual children and that needs no teaching (Tompkins, 2005). According to these problematic notions and in spite of its importance, listening skill has received little attention in language teaching and learning and it is given less priority in most language classroom (Al Qasim & Al Fadda, 2013; Zhang, 2009; Hsu & Chiu, 2008). Moreover, not only has listening been neglected in the school instruction context, but it has also been bypassed as a research interest. A possible reason for the latter could be the lack of measuring instruments for the evaluation of listening, making it difficult to concretely measure and evaluate the skills in listening (Huang, 2005).

In addition, the educational approaches and techniques used for teaching of listening in language classrooms are often boring and ineffective (Harb et al., 2013). The instructions are ineffective as a result of the lack of authenticity in the listening tasks and materials adopted and the little use of Information Communication Technology (ICT)-assisted techniques, despite the findings indicating that the use of various forms of technology helps to develop learners' listening comprehension (Wong, 2010). Different forms of technology such as computer, Internet, mobile phones, and chat can be used to help students to improve their listening skill without depending on the traditional methods of listening for a better achievement of the skill (Bahrani, 2011). Consequently, this has called for a need to carry out the present study to use Schoology as a new form of technology and an online learning platform to acquire listening skill.

Furthermore, communicative and proficiency-oriented approaches to language learning have pointed to the increasing importance of listening comprehension. Many researchers in second language acquisition have also emphasized the necessity of listening comprehension and the importance of listening modes (Cross, 2009; Sotoudeh, 2013; Li, 2013; Shamsaddini et al., 2014; Sobouti & Amiri, 2014; Kaur, 2014; Hagiwara, 2015). However, to the best knowledge of this researcher, the literature offers little evidence of research on the effectiveness of the three modes of listening at the same time (audio-only,

audio-video, and audio-video-caption). Moreover, nowadays students are growing up with the Internet, and this fact impacts on how they can learn better through using the Internet and ICT. Hence, there is a need for research to investigate on the effect of the three modes of listening through online technology such as Schoology on ESL learners' listening comprehension.

1.3 Purpose and Research Questions of the Study

The purpose of the present study is to measure the effectiveness of the three different modes of listening (audio-only, audio-video, and audio-video-caption) on ESL undergraduates' listening comprehension. The research study also aims to examine the perception of ESL undergraduates on using the three modes of listening through Schoology in developing their listening comprehension. The research questions (RQ) of the study are as follows:

- 1. Is there any significant difference in ESL undergraduates' listening comprehension before and after their engagement with the three listening modes (audio-only, audio-video, and audio-video-caption)?
- 2. Which mode of listening affects the ESL undergraduates' listening comprehension the most: audio-only, audio-video, or audio-video-caption?
- 3. How do the ESL undergraduates perceive the three modes of listening after their engagement with the listening materials?
- 4. What are the challenges encountered by the ESL undergraduates in using the three different modes of listening (audio-only, audio-video, and audio-video-caption) to develop their listening competence?
- 5. How do the ESL undergraduates perceive Schoology as a learning platform in acquiring the listening skill?

The hypotheses for this research are as follows:

Ho1: There is no significant difference between the ESL undergraduates' listening comprehension before and after their engagement with the three listening modes (audio-only, audio-video, or audio-video-caption).

Ho2: There is no significant difference between the three listening modes: audio-only, audio-video, and audio-video-caption in affecting the ESL undergraduates' listening comprehension.

1.4 Theoretical Framework of the Study

This study was mainly guided by Information-Processing Theory, Cognitive Theory of Knowledge Construction, and Connectivist Learning Theory in investigating the research questions. The theories are elaborated in the following sections.

1.4.1 Information-Processing Theory

This theory was first developed by Bourne, Dominowski, and Coftus (1979) confining in (Flowerdew & Miller, 2005). It explains how information is acquired, retained, and retrieved (see Figure 1.1), and refers to how humans process information via their short-term memory and store the processed results in their long-term memory.

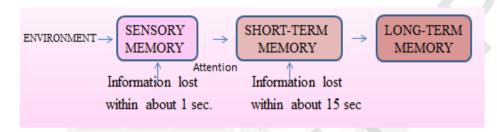


Figure 1.1: Human Information-Processing System (Flowerdew & Miller, 2005)

Basically, there are three kinds of memory stores: sensory memory, short-term memory, and long-term memory. The auditory message is first received by the sensory memory from the environment. The message is held in its exact form for not more than one second. Depending on a number of factors, such as the quality of the message, the urgency of the message, and the source of the message, it will pass to the short-term memory or will be lost (Flowerdew & Miller, 2005). Then, short-term memory matches new information with existing knowledge and makes "sense" of the message within 15 seconds, and then commits it to long-term memory to be fully assessed. Since long-term memory contains a huge amount of information, the special syntactic, semantic and phonological features of the new message will be categorized and held to later use.

Similarly, this assumption can be reflected in the listening comprehension process of the study, especially in using the three modes of listening. The message first received by the sensory memory from the environment is either via audio-only, audio-video, or audio-video-caption listening mode. Depending on the learners' preference of a particular listening mode (the source and the quality of the message - mode of listening), the message passes to the short-term memory or will be lost. As the three modes of listening appeal to different senses such as sense of hearing (for the three modes) and sense of viewing (for watching video and reading captions), thus, a specific type of a listening mode may be better processed by sensory memory to short-term memory and eventually it is going to be more effective for one learner to another.

1.4.2 Cognitive Theory of Knowledge Construction

American educational psychologist, Richard E. Mayer (1996) puts forward the SOI (Select, Organize, and Integrate) model of knowledge construction (Figure 1.2) to explain the three fundamental cognitive processes of meaningful learning: (1) Selection, that involves attention and selection of the relevant part of presented information and adding it to the short-term memory. When learners pay attention to information received with their eyes and ears, they are actually selecting at the same time information to be further processed. (2) Organization, which concerns the building of inner relations between the pieces of information in their short memories. When constructing the inner relations, learners need to organize the pieced information they selected into a whole. (3) Integration, which is to integrate the organized information in learners' short-term memory with the relevant knowledge, existing in their long-term memory. This process is to build the relations between newly-organized information with learners' familiar knowledge structure.

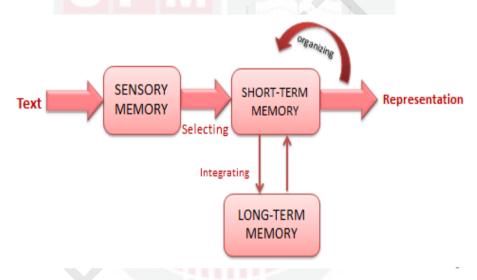


Figure 1. 2: Cognitive Theory of Knowledge Construction (Mayer, 1996)

Based on this theory, listening can be approached by learners through the SOI model. The first challenge for the listener is accurately identifying speech sounds and understanding and synthesizing these sounds as words. Listeners are constantly bombarded with auditory stimuli, so they have to select which of those stimuli are speech sounds and choose to pay attention to the appropriate sounds. Meaningful messages to the listeners can be presented (as sounds, pictures, and texts) as three sources of listening information (modes of listening: audio-only, audio-video, and audio-video-caption). The second step in the listening process is organizing. Using the information immediately after receiving it enhances information retention and lessens the forgetting. Finally, integration occurs, related to the connection between the prior-existing knowledge in the long-term memory and the newly-organized message received from the listening material.

1.4.3 Connectivist Learning Theory

The basic belief of connectivism is that information and knowledge not only exist in human brains, but also in electronic networks that are persistently moving and being organized (Siemens, 2015), It is based on the premise that individuals learn through contacts. This theory lends itself well to the new age of information, social networking, and technology. It implies that networking is essential for students to expand, grow, react, and adapt their personal learning through technology as well as their individual learning (Siemens, 2015). The principles of connectivism are identified by Siemens (2015) and summarized as follows:

- 1) Learning and knowledge exists in a diversity of ideas.
- 2) Learning is a process to connect particular information sources or nodes.
- 3) Learning could exist in non-human devices.
- 4) Capacity to know more is more vital than what is presently known.
- 5) Nurturing and maintaining connections are essential to smooth the progress of learning.
- 6) Ability to distinguish connections between fields, opinions, and notions is a major skill.
- 7) Precise and new knowledge is the goal of all connectivist learning activities.
- 8) Making a decision is a learning process itself. Selecting what to learn and the meaning of received information is perceived through a shifting reality. Therefore, a correct answer now may shift to a wrong one tomorrow as any changes in incoming information may affect the decision.

Connectivism presents a model of learning that acknowledges the tectonic shifts in society, where learning is no longer an internal, individualistic activity. How people work and function is altered when new tools are utilized. The field of education has been slow to recognize both the impact of new learning tools and the environmental changes in what it means to learn. Connectivism provides insight into learning skills and tasks needed for learners to flourish in a digital era.

This theory is applied in the present study because it addresses learning that happens outside of the individuals like learning through technology. Another rationale for applying this theory is that it encourages the incooperating of social network designing and effective online instructions, and this learning principle has not been quantified by any other theory. Besides, it emphasizes the fact that communication occurs in society through using the intenet-based social networking tools. Depending on this theory, the current study used "Schoology" as an intenet-based, social network, and learning platform to investigate the effectivness of three modes of listening on ESL listening comprehension.

1.5 Conceptual Framework of the Study

The conceptual framework of this study was constructed based on the principles derived from the theoretical perspective of the three theoretical approaches, namely Information Processing Theory, SOI Cognitive Process Model of Knowledge Construction, and Connectivist Learning Theory (see Figure 1.3).

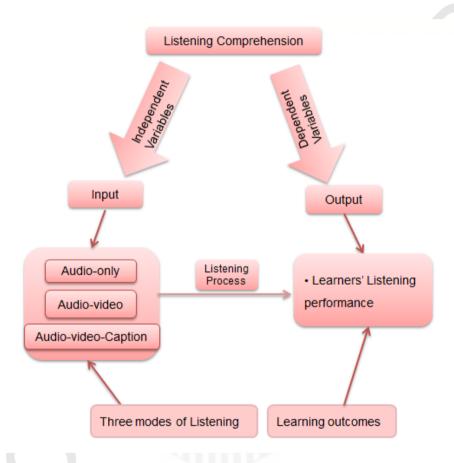


Figure 1.3: Conceptual Framework of the Study

The current study examined which learning input: audio-only (verbal), audio-video (verbal and non-verbal), or audio-video-caption (verbal and non-verbal), improves the undergraduates' listening comprehension the most. The three independent variables of this study were the three modes of listening (see 3.2 Research Design) which are the inputs for learning listening. Based on the SOI Model, everyone can think, everyone has cognitive ability to process information to construct meaning. Cognitive ability helps individuals to select, organize, and integrate information to construct meaningful learning. Information (content of listening) presented through multiple representations of the listening materials (modes of listening) may help individuals to organize the incoming information

during the listening process into a coherent representation and help learners to activate their prior knowledge, taking notes, and being motivated to understand the content better.

According to the SOI model, implications to instructional design include design of instructional message such as textbook passages, lectures and multimedia programs. Hence, according to the current study the three modes of listening are presented as the sounds (auditory stimuli only), sound-pictures (audio and visual movements) and sound-pictures-text (audio-video-caption).

Within the advances of technologies and increasing applications of these technologies, connectivist theory emerged to emphasize learning through technology. What makes the third theory relevant in the current conceptual framework of the study is the fact it highlights the process of learning. According to connectivist theory, learning can be achieved through connections among peoples, peoples and devices. Devices can be computer, smartphones, or software like: website, internet, learning platform such as Schoology.

Furthermore, following these theory the process of learning is not entirely controlled by the individual learners; it is a process connected by the individuals' external world. Thus, this theory implies that it is possible for learners to get some information from devices that are more efficient at performing tasks than humans, which are technologies such as Schoology. It was selected as a new online learning platform to ensure that networking is essential for students to expand, grow, react, and adapt their personal learning through technology. Therefore, Schoology (as a medium to deliver the listening materials to the participants) for the current study met the need to gain a better understanding of the advantages associated with the use of online learning in conjunction with the SOI model of Cognitive Theory of Knowledge Construction in ESL listening comprehension of the three modes of listening materials (audio-only, audio-video, or audio-video-caption). Moreover, the major outcome of the learning process (their listening performance after their engagements with the listening treatments) was considered as the dependent variable of the study.

1.6 Significance of the study

Technological innovations have always been presented to support learning processes. An increasing number of technology and online assisted studies have been focused on learning acquisition, and resulted in significant learning outcomes (Chang & Hsu, 2011; Chen & Chung, 2008; Lu, 2008). This study provides empirical evidence on the usefulness of multimedia learning, namely audio-only, audio-video, and audio-video-caption, in the ESL listening comprehension. This study adds to the literature on listening approaches in ESL and shows that different modes of listening can be used as a pedagogical tool to develop students' listening skills.

The results of this study would help both language learners and teachers to determine which mode of listening is more beneficial in enhancing listening. In addition, the study also provides instructors with more options to adopt appropriate modes of listening (audio-only, audio-video, and audio-video-caption) in order to help their students to listen more effectively. Furthermore, it enables the current digital learners to overcome the challenges of using different modes of listening for developing their listening competence, and helping learners to overcome their limitations in acquiring listening skill. Besides, learners become familiar with Schoology as a new online educational system. Finally, it is hoped that the findings of this study may also benefit policy makers and curriculum designers, institutions and universities because unlike previous studies that mainly perceived common technological tools such as computer, smartphones, podcast, blogs, and Facebook, this study adopted Schoology as a novel Learning Management System and educational platform for a better online learning environment.

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