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STUDENTS' EXPERIENCES ON LEARNING LISTENING THROUGH TECHNOLOGY-BASED TOOL

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Abstract:
Using technology tools in the classroom can now be facilitated students' engagement and self-directed learning to support a learner-centred environment in educational contexts under varied perspectives. In language learning, evaluating a particular language skill focused on technology is crucial in students' experience. EFL students face several difficulties as noise, accent, vocabulary, and pronunciation while listening. Therefore, employing listening with technology is significantly necessary to enhance students' listening skills. However, rare research has provided the students' reflection under constructivist perspectives after studying with the technology-based listening tool. Thus, the current study narrows this empirical gap. Semi-structured interviews and observation were instruments employed to collect data. Using thematic analysis (Braun and Clarke, 2006), the results of this study indicated that five themes were individualised listening, collaborative learning, self-directed learning, consideration of errors, and pronunciation improvement. Students were more engaged when listening to tasks independently, considering their errors for further improvement, and self-directed learning in this study. Additionally, they mostly perceived themselves to improve their listening and pronunciation in the future. Teachers should pay close attention to speakers' voices, accents, and feedback when designing and implementing tasks to maximise learners' listening learning process. This study has implications on using BookWidgets as a potential pedagogical tool for English courses.

Keywords: technology-based tool, constructivist theory, learner-centered, listening learning

1. Introduction

The need to integrate digital tools, technology has been widely used in educational contexts. In recent years, many researchers have investigated language learning in specific skills. Many examined the different online or technological platforms or application to test its. Advances have enabled teachers to send materials in multiple

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ways. With technologies, students increased access to an educational audio, textbook or other educational mater. Typically, personal devices afford students' ownership of learning, leading to positive language learning experiences (Kukulska-Hulme, 2009).

In the EFL context, listening to English is one of the most challenging skills among the four ones since they had difficulties with noise, accent, pronunciation, and vocabulary. Besides, universities and schools pay more attention to writing, reading or speaking; therefore, most teachers do not help them overcome their listening obstacles and support them in engaging activities. Listening becomes the essential skill in the early stage of the learning process based on Second Language Acquisition theory as a comprehensible input (Krashen, 1982). Morley (2001) and Rost (2001) stated that listening is an important skill for language learning because it can be primarily used every day and led to other language skills development. Jafari and Hashim (2015) supported that listening is a channel for comprehensible input, and more than 50 percent of the time learners spend in learning a foreign language is devoted to listening. According to Rost (2009), listening helps us understand the world around us and is necessary for creating successful communication. Therefore, listening plays a crucial role in language learning classroom.

EFL students have crucial problems with listening engagement, and comprehension because universities pay attention to grammar, reading, and vocabulary (Hamouda, 2013). They find it challenging to understand listening text, and unfamiliar accents. More importantly, they are not able to remember and comprehend meanings and phrases within a short time. Many researchers investigated the effectiveness of technology to enhance listening ability; however, rare research employed to study students' experience after using technology-based learning listening in the classroom and what they can learn through those activities in technology-based environments. With varied learning theories in this context, constructivism is an appropriate one since it is the active construction of new knowledge by learner based on their reflection and experiences. Therefore, this study attempts to find out students' experience of the learning environment in technology classroom under constructivist theory to fill in the gap.

2. Literature Review

2.1 Constructivist Theory

Constructivist theory is that learners construct knowledge by making meaning from integrating their previous experience and testing the ideas of peers to make sense in concept construction (Jadallah, 2000; Luneburg, 1998). According to Kerka (1997), knowledge is constructed actively by new information integrated and previous experiences to understand, revise and reinterpret with the belief that personal knowledge made by learners rather than being conveyed by instructors or information itself. It emphasizes that knowledge constructed from the process of interaction between the individual and the environment. Thus, constructivism makes sense by active interaction among learners for meaning negotiation and knowledge construction (Fraser, 1998). In

this learning paradigm, students can control and manage their learning with instructors, and the instructors act as facilitators to assist student learning. Constructivism is a learning pattern in terms of active participation and process evolution (Garrison, 1993). This learning approach allows learners to participate in idea structure by integrating new information with previous experience.

2.2 Constructivist Teaching and Learning

A teacher's role is to facilitate and guide the knowledge construction process by engaging students in meaningful learning in a constructivist learning environment. The teacher should design and provide learning activities and experiences characterized by collaboration, cooperation, multiple perspectives, real-world examples, scaffolding, self-reflection, multiple representations of ideas, and social negotiation. Wilson (1996) stated that a constructivist learning environment is a place learners can work, study together by using multiple tools to solve activities.

Lunenburg (1998) indicated that learners individually and collectively construct their knowledge. Learners struggle with problems in the environment, and then, with the effort to share ideas, concepts reframed are constructed with previous experience. Therefore, cooperative learning groups are appropriate for their collective reflection. Constructivist learning is considered a student-centered model whereby students learned each other's content, technical skills, and social skills in collaborative group work (Yildirim, 2005). Vygotsky's (1978) supported the concept of learning in the community since they interacted to minimize their isolation.

Learning is an active process, and encouraging learners to engage the mind and hands-on activities is crucial for actively constructing meaning. Knowledge is not fed from limited materials but emerges from an active process where learners take responsibility to construct their individual, active involvement rather than being instructed on blackboard or teaching note (Garrison, 1993). Thus, this theory has shifted learners from note-takers to knowledgeable discoveries. Knowledge occurs when an individual makes sense cognitively from interacting with the environment. Dialogue is a way of processing information in that learners examine, analyze, and interpret personal experiences to gain knowledge.

Learning occurs in a social context. Since humans live socially, learning takes place within a community, which traditionally is referred to as the classroom, while it can also occur within non-traditional settings such as a discourse group in an online environment. Tobin (1998) stated that learning is accomplished when interacting with each other through discourse. With higher expectations by society for students to become more responsible and capable of self-learning, learning is not merely a transmission of limited ideas.

Learning takes place when learners encounter new phenomena. Learning is a rational activity encompassing a process of conceptual change. Whenever learning occurs, learners examine new phenomena based on their knowledge of previously existing concepts. The investigation results in intelligibly and rationally changing concepts when accommodation is obtained (Posner et al., 1982). Accommodation occurs

when the new information is made to "fit" into the learners' previously existing knowledge. From the perspective of conceptual change, learning is based on the sequential development of an individual's used knowledge schemes (Driver & Oldham, 1986). The construction should integrate the learner's previous experiences. Posner et al. (1982) purported that learning is a rational activity in which "*the student must make judgments based on based once*" (p. 212). During this process, conceptual change involves two distinguishable differentiation and accommodation. Since the learners' prior experience is inadequate, accommodation helps the learners reorganize their conceptual framework by regenerating knowledge (Posner et al., 1982).

Generally, new learning is brought forth into the learners' conceptual framework based on their dissatisfaction with previous knowledge. The dissatisfaction serves as a stimulus to force students to understand the current knowledge's limitation and restructure their ideas. When learners conflict with cognition or puzzlement, relevant information will be searched to resolve personal arguments. The puzzlement is the stimulus for learning (Savery and Duffy, 1995), and the lack of stimulus can be the source of a learning problem. According to Savery and Duffy, the reasons are (1) a fundamental problem can comprise all dimensions of information that learners are open to within the context of learning, (2) learners are more familiar with the context from a real problem that encourages them to engage in more than a made-up problem, and (3) the outcome of the problem is more attractive to learners.

Teslow et al. (1994) claimed that schools should equip students with authentic tools and realistic contexts to facilitate individual knowledge construction. Moreover, scholars of constructivism believe that learning in socially interactive groups and authentic settings enable students to become actively involved in practical knowledge construction.

2.3 Technology in Learning Foreign Language

Cognitive technology tools are created to develop constructivist learning environments that create engaging and content-relevant (Papert and Harel, 1991) and utilise scaffolding tools and resources to support learning goals and knowledge construction (Land, 2000). The ability to search for understanding is central to the development of a thriving constructivist environment.

Positive benefits of using technology in the foreign language classroom were reported and influenced language skills development. Sanaoi and Lapkin (1992) found that technology encouraged students' independent learning characteristics and helped increased responsibility. Warschauer (1996) identified three primary students' motivation factors provided by technology-enhanced settings: communication, empowerment, and learning. Glisan, Dudt, and Howe (1998) found that technology-aided Spanish listening comprehension skills and implied constructivist learning could enhance learner attitude and motivation in a technological environment.

3. Methods

3.1 Research Aims

The study aims to explore students' responses to technology-based listening learning underlying constructivist theory. This approach is expected to provide insight into how students perceive and experience learning listening. Research questions:

1) How do students experience learning to listen with the technology-based tool?
2) What are students' suggestions for learning listening with the technology-based tool?

3.2 Research Design

A qualitative method was employed in this study, including semi-structured interviews and the researcher's observation to understand students' experiences using BookWidgets as a technology tool to listen to English in an English course. A purposive sample was collected using hand-picked sampling (O'Leary, 2017). Purposeful sampling allowed us to identify and select groups of individuals that have experienced a phenomenon of interest (Cresswell and Plano Clark, 2011), in this case, the experience of the BookWidgets listening tasks.

3.3 Participant

Participants were 15 students who were studying English Preparation Course with Summit 1 textbook for two months.

3.4 Platforms Materials

BookWidgets is a Belgium-based platform for making interactive materials. Teachers can upload audio files with images from textbooks to maximize students' learning. This platform offers a shared link to Google Classroom. Students were required to join Google Classroom with a class code created at the beginning of the class. Then, teachers shared listening tasks that they added on BookWidgets on Google Classroom with students. They were asked to listen to two to three tasks a week for two months. The teacher checked their score to see whether or not students got correct or incorrect answers. Audio files were used in Summit 1 textbook with multiple choice and fill in the blank tasks. Images captured from the textbook were also attached. Students were viewed with audio files and images by a link shared on Google Classroom.

There were two listening tasks designed from each unit; therefore, 20 listening tasks were used on BookWidgets to complete. The researcher was a teacher to ensure listening tasks were completed.

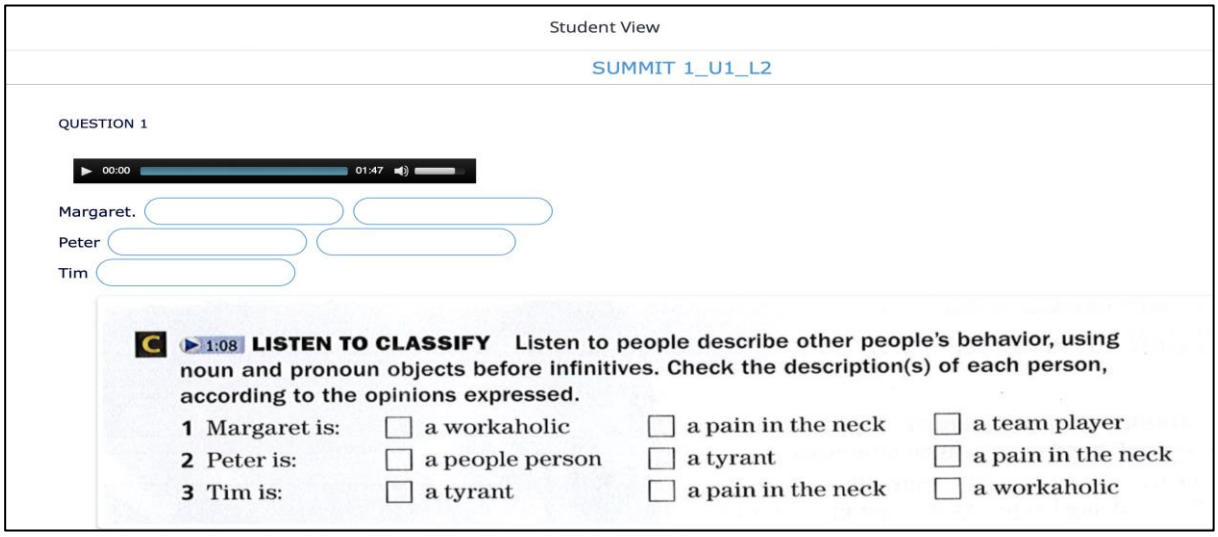

Figure 1: Listening through BookWidgets platform sent to students
(Image source from researcher's BookWidgets account)

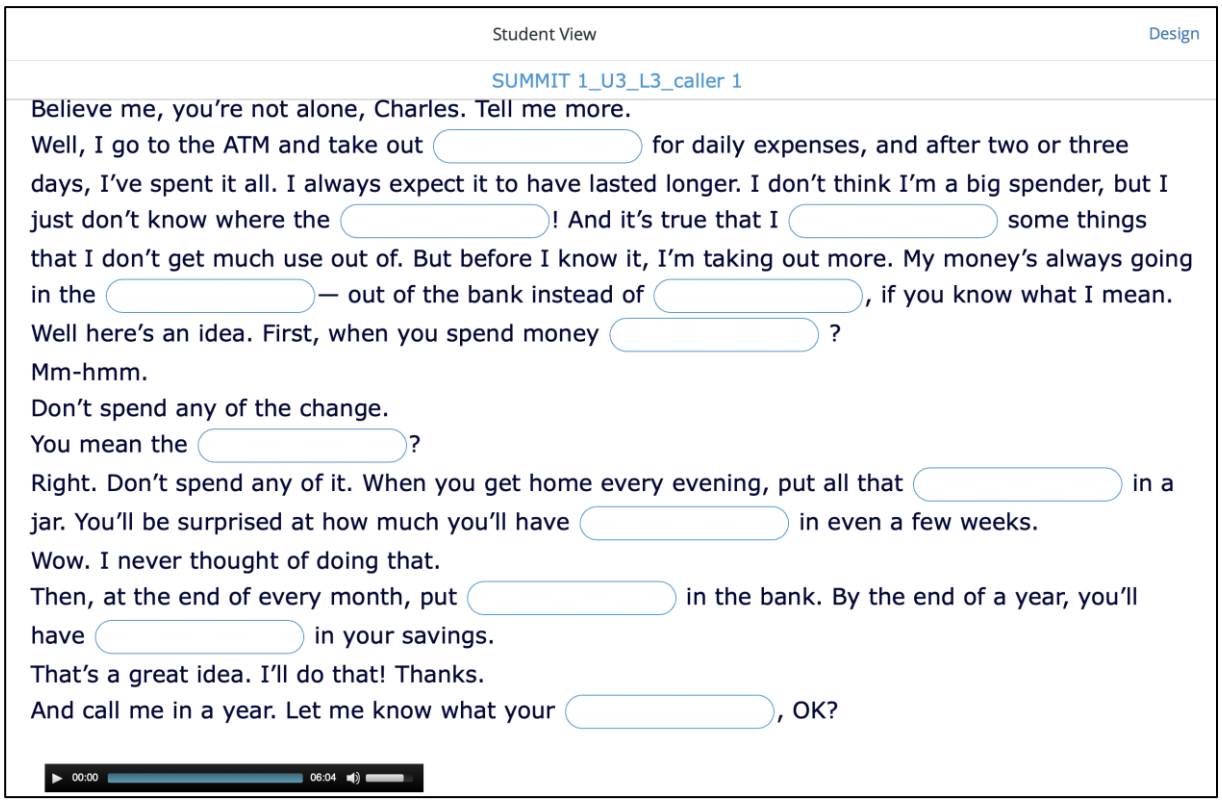

Figure 2: Listening through BookWidgets platform sent to students
(Image source from researcher's BookWidgets account)

Figure 3: Answers checked by teacher and students
(Image source from researcher's BookWidgets account)

3.5 Procedure

Students were first informed to use the technological tool Google Classroom joined to listen for the whole course and required to bring along earphones, mobile phones or laptops every single slot. The listening tasks were associated with ten units within the textbook. A constructivist perspective underpins the study. The methodology chosen utilised a qualitative research approach incorporating interviews and observational notes to capture how students experience listening to technological-based learning.

Fifteen students were purposefully invited to have in-person semi-structured interviews. This stage took around 15 minutes for each person.

3.6 Data analysis

Thematic analysis was used to analyze students' interviews where emergent themes and categories were identified and coded in the six phases as described by Braun and Clarke (2006): familiarizing yourself with the data, generating initial codes, searching for themes, reviewing the themes, defining and naming themes, producing a report.

4. Results

4.1 Research Question 1: Students' expererience

A total of 15 interview transcripts were analysed students' experiences within a technology-enabled learning listening by themes. The data were conceptualised into five shared overarching themes: individualised listening, collaborative learning, self-directed learning, consideration of errors, and pronunciation improvement.

A. Individualised Listening

Students expressed the preference for individual learning by using their headphones or earphones when they focused entirely on tasks and could replay many times when they could not listen to the keywords. Additionally, a student-centered environment aims to

help individuals become creative, independent, problem solving; lifelong learners trigger a change towards creating such learning environments (Fok and Watkins, 2007). By this point, a reflection of this understanding of virtual learning environments maintains its importance. All participants agreed on the benefits of using technology in studying language and listening in the classroom; they preferred listening with their earphones or headphones because they wanted to focus on tasks and limited noise factor outside with illustrations below:

> *"I like listening to tasks individually using headphones because I do not want to disturb people with their tasks, and I can focus on my tasks and listen to the sound more carefully."* (Student 1)

> *"Because using headphones helps to reduce noise to others in crowded places. On the other hand, the headphones also deliver good sound, preventing noise from outside. The headphone is also very compact so that we can go with it."* (Student 2)

> *"I like to use personal headphones because the sound will be more straightforward, not affected by the sound from outside, and especially not disturbing people around."* (Student 5)

B. Collaborative Learning

The facilitation of sharing was described as key to collaboration. Collaborative learning was attributed to the technological and physical learning environment. Students can search vocabulary and dictionaries online to find out the words listened to; they interacted with varied web pages to construct their knowledge. Additionally, they also worked with their partners or even talked to the master to ask and share ideas needed.

Based on the researcher's observation, students were more engaged when participating in this task showing on Google Classroom to check whether they did listening tasks. Moreover, they shared the results with their classmates and discussed the reasons for the answers. Through observation, the researcher recognized that most students were always excited when finishing tasks and compared their scores with others; sometimes, they believed that their level improved.

> *"From BookWidgets, I can learn English conveniently and effectively so that it is easy to understand. I also improve my skills (vocabulary, pronunciation, grammar, listening).* (Student 7)

> *"Listening on BookWidgets, I can listen to foreigners—realistic pattern; it helps increase my listening skills, I look at results, and I think results will be better."* (Student 10)

C. Self-directed Learning

Since technology has shifted contemporary learning toward a more information-orientated process, self-directed learning has become the effective way to acquire

knowledge (Siaw, 2000). Educators in higher education believe that self-directed learning enables students to learn actively and collaboratively at their own pace in a non-traditional structured environment (Ramsey and Couch, 1994).

Students managed their time studying at home to review. Illustrations are as follows:

They said, *"When I get home, I can assess them for homework."* Alternatively, *"I can listen to it over and over again"*. Another student expressed his motivation to pass and finish listening task, so he listened over and over until he could hear the word correctly by *"When I listen with tools as Book Widgets I feel easier to listen. If some are hard to hear, I can repeat it many times until I can hear it"*. The other student mentioned, *"I can listen many times, I can check my answers on my phone. Besides, it helps me improve reading skills like I can see many new vocabularies and I will check and remember"*. Another supported, *"It is a hard task designed, I will write down and search it. It supports my listening a lot because I may not hear that word and I listen many times to search for a vocabulary or while listening I can translate"*. Similarly, another student gave the same idea *"It is my terrible when listening, but using technology I replay it many times to find what the word is; I want to practice more and more listening. I always write something wrong, but it helps me my English skills. After two months, I can improve more words when we start this course"*.

D. Consideration of Errors

All students commented on the positive effect of the BookWidgets tool in listening when they could check the answer afterwards to see whether their level was improved. From the researcher's observation, students also described their interest when they could consider their errors. When they checked their answer, they realised mistakes and fixed them. They all agreed on the importance of checking the answer to improve their listening skills.

> *"I will know the answers by the time I finish listening and check if it is correct or not."* (Student 8)

> *"The answer will be available right after submitting the test to evaluate my ability."* (Student 11)

> *"It helped me improve in just two months; getting used to the post-submission answer system helped me realize what is wrong and what needs fixing is cool."* (Student 12)

> *"BookWidgets showed the answers after we finish and allowed the user to do it again, which helps me better."* (Student 2)

> *"BookWidgets is a good app that helped me a lot when studying English. Thanks to BookWidgets, I have improved the mistakes I made before."* (Student 15)

E. Pronunciation Improvement

Students could improve their learning process, vocabulary, and pronunciation. Students confirmed that they could pronounce words correctly and be able to hear English standards voice. By listening individually, they can learn many new words mentioning in the listening tasks to control and manage their listening time. Illustrations as below:

> *"After a long period of use, I can improve my vocabulary and pronunciation. I can learn pronunciation very quickly and much new vocabulary."* (Student 1)

> *"After two months of using it, I learned a lot of vocabulary and pronunciation. Listening skills have been improved much more than before.* (Student 9)

> *"I have learnt to make my pronunciation better, my listening improved."* (Student 3)

> *"After two months of using the online listening platform supported, I have learned many things about listening skill. Especially in my spelling, pronunciation because I can hear the standard voice of Westerners."* (Student 10)

> *"Using it helps me improve vocabulary, pronunciation."* (Student 12)

4.2 Reasearch Question 2: Students' Suggestion

Students suggested several tasks performed when listening. They desired to listen to music or movies instead of textbook audio files as "*I suggest learning vocabulary, watching films, listening to music in English without subs, and practising more often."* Or he expressed his previous experience which he thought would help him improve listening skills as illustrated *"I learned to listen through listening to music and watching movies with English subtitles. That is also how to improve my listening skills."* Or *"I suggest that we have practice listening every day to make our ear get used to the spelling in that way we can understand what they day; listen to music is also an excellent way to improve our listening."*

Besides, English speakers' accent influenced their preference when native speakers were not many and tasks should sometimes be designed to be practical instead of a lecture-based textbook as illustration "*interact with many types of English speakers" or "I think the limits of studying to listen are the speed of speech, vocabulary and a local accent."* Or *"I think the sound from the speakers make it hard for a student to hear. I think there should be much practical communication with native speakers."*

Furthermore, vocabulary should be paid close heed before asking students to complete. Finally, they prefer to have a chance to be resolved with curiosity about tasks as "*but one thing that I am pretty disappointed with is that it does not have explanation system, so every time I have a difficult question, I do not know how to explain it."*

5. Discussion

The results are consistent with some studies under constructivist perspectives when learning occurs. This is also confirmed with Garrison (1993), when students primarily were engaged in activities actively. They were more responsible for taking the tasks at home and replay until they realized those missing. Teachers did not require them to do tasks; however, they found extra materials to construct their knowledge. Besides, this study lends support to Fraser (1998) to show the interaction among students. When they finished listening tasks, they were more engaged in sharing results with others to see why their answers were incorrect and compared with others for meaning negotiation. From there, knowledge was constructed to make sense.

This is in good agreement with Posner et al. (1982)'s study when students can regenerate knowledge and reorganize their knowledge. At the very first beginning of the course, students made minor mistakes that they never experienced. They were dissatisfied with the current knowledge, so this forced students to understand the gap. Whenever checking the answer, they showed their excitement when those mistakes were not repeated. For many repeated mistakes that occurred, they never made the same again. This study shares a number of similarities with Wilson (1996) in a constructivist learning environment when students supported each other and used various tools to find the correct vocabulary to complete listening tasks.

This result correlates reasonably well with Sanaoi and Lapkin (1992) that technology encouraged students' independent learning since they can practice listening at home repeatedly until they can listen correctly to words or the contents. It boosts students' responsibilities for completing tasks in the classroom.

Students in this study can revise their mistakes and reconceptualise their learning progress through errors consideration. Listening errors have been recognised every single time with the effort of not making the same errors. More importantly, students understand the significance of pronunciation in the learning process; this contributes to learning vocabulary in class.

6. Conclusion

Learning with technology tools helps students gain experiences that are closely linked to constructivist theory. It assesses students' interest in a learning environment where many activities and exercises are related to the constructivist approach. Students express their love of interacting with technology-enabled devices to learn to listen; besides, students can improve their self-study abilities and enjoy listening skills and contribute to improving language acquisition.

Teachers are saved more time and effort in technology-based methods when students get better preferences. Students focused on pronunciation, tasks designed, lesson objectives rather than asking words meaning. Therefore, this study concludes that a constructivist learning environment is appropriate for students to enhance their listening cognition.

Using a technology-based tool to listen in this study enhances students' pronunciation, spelling, and vocabulary. Listening independently and well-structured and task design with relevant content will create a thriving constructivist learning environment where students are motivated and engaged in searching for information needed to fit their gap while listening. It possesses students' cognitive growth.

7. Implication and Suggestions

The evidence from this study implies to teachers for using the technology-enhanced tool, tasks design, and corrective feedback afterwards. From students' views of learning, teachers should use technology to maximize their listening learning process. Some weak students can join in listening without making mistakes and individualize their learning. Listening design is the focus of this study since students spend much time listening carefully, so teachers should design to meet students' needs from being easy to more challenging to enhance their motivation and improve their cognition. Additionally, speakers with different accents should be paid close attention to when sending students to increase their interests. Teachers should add extra audio, use video clips, music or movies to vary listening. Teachers should design platforms to support learners' correction. They want to check the correct answer afterwards. Teachers should redesign followed constructivist technology-based environment to promote students' listening cognition.

Besides, teachers should be facilitators or instructors to scaffold students' questions to construct their content knowledge. They should encourage students to practice more at home for rewards.

Students should be prepared with searching information skills to adapt to the technological learning environment.

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Conflict of Interest Statement
The author declares no conflicts of interests.

About the Author
Pham Kim Chi is currently an English lecturer in the Department of English at FPT University. Her research interests include English language teaching and learning with technology and interactions.

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