

*Damietta University*  
*Faculty of Education*  
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## **A Proposed EFL Electronic Program Based on a Ubiquitous Learning Environment for Developing Secondary Stage Students' Listening Skills**

برنامج إلكتروني مقترح في اللغة الإنجليزية قائم على بيئة التعلم المنتشر لتنمية مهارات الاستماع لدي طالبات المرحلة الثانوية

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## Abstract

### **A Proposed EFL Electronic Program Based on a Ubiquitous Learning Environment for Developing Al-Azhar Secondary Stage Students' Listening Skills**

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The purpose of this study was to examine the effect of using a proposed EFL electronic program based on ubiquitous learning environment to improve students' listening. The participants of the study consisted of sixty (60) female students enrolled in the second year secondary stage; of Desouk AL-Azhar Institute for Girls in Kafer El-Sheikh. The study adopted the quasi-experimental research design. So, there were two groups: an experimental group (N=30) and a control one (N=30). To collect the data, the researcher used multiple instruments: a listening sub-skills checklist, a computer and internet skills questionnaire to choose the sample, and a pre post test of listening. The researcher taught both groups: the experimental group was taught through the proposed EFL electronic program based on ubiquitous learning environment designed by the researcher while the control group was taught through the traditional way of teaching. The results revealed that the proposed EFL electronic program based on a ubiquitous learning environment (ULE) had a

positive effect on the development the students' listening skills. This was proved through the higher mean scores that the experimental group obtained in the post- listening skills test. The effect size of the proposed EFL electronic was found to be high. The study recommends using the ubiquitous learning environment (ULE) as a technique in teaching EFL skills.

**Key Words:**

Ubiquitous learning environment, listening skills

**Introduction:**

Listening is considered one of the most essential skills for both communication and language learning. It facilitates the other language skills: speaking, reading, and writing and provides the basis for developing them. Thus, developing the students' listening skills is directly related to putting forward the factors that take a part in the listening process. As a result, there are three approaches to teach listening skills, top-down, bottom-up, and interactive models. In the top-down processing, listeners get the gist and main ideas of the listening passage. In bottom-up processing, listeners focus on individual words and phrases, and achieve understanding by combining the details together to build up the whole content. Therefore, listening is considered as interaction between the top-down and bottom-up processing(Al-Yami, 2008).

**El-Koumy (2000)** clarified that though listening to English as a foreign language has recently become an important communication activity, it is still largely neglected in Egyptian schools and universities. This neglect is largely due to the fact that no agreement exists regarding what listening entails, and how it can be taught. Also, **Ali (2010)** clarified that language learners faced several problems in listening such as the lack of control over the speed at which speakers speak, the listeners' limited vocabulary, inability to concentrate and problems of interpretation. **Rezaei and Hashim (2013)** indicated that teachers, especially in EFL contexts, often are not aware about the process of listening and learners' problems in listening comprehension. As a result, the common practice in the class is that teachers focus on the outcome of the listening rather than listening itself i.e. the process listening.

The world has become digitalized in information transfer, storage, and communication, facilitating important changes in many areas of life. Learning is one area that has been affected by changes and benefits from a new learning environment that meets a wide variety of learners' needs and learning styles. That " Ubiquitous Learning Environment" (ULE) has evolved as a result of advancements in and the widespread availability of computing technologies that meet learners' needs.

In addition, there has been an increase in the demand for both traditional and alternative learning systems as well as lifelong education because of the establishment of knowledge and information based society. This situation is also reflected in the fields of general education, which has induced many individuals to search for new learning environments and content, including u-learning. In particular, educational environments have shifted from traditional teacher-oriented learning to individual self-directed learning, reflecting the constructivism paradigm which requires new learning methods such as u-learning (**Song, Kim & Jung, 2009**).

The convergence of electronic learning, mobile learning, mobile devices, and wireless technologies has made mobile learning possible for learners anytime, anywhere. A big difference between m-learning and u-learning is that u-learning provides the right learning materials according to learners' situation by getting information from learning contexts. U-learning also makes use of mobile technologies such as smart phones (e.g., Galaxy, iPhone, and Blackberry) to provide learners with self-directed learning opportunities without imposing time and location constraints (**Joiner, Nethercott, Hull & Reid ,2006**). In fact, u-learning facilitates innovation by incorporating unique characteristics such as ubiquity, self-directed learning, mobility, interactivity,

personalization (context customization), accessibility, portability into web - based learning environments( **Shotsberger&Vetter,2000**).

The Internet /Web is one of the main components of the Ubiquitous Learning Environment. In the last decade, the use of the Internet has developed and evolved into a new system that incorporates a holistic approach to learning. **Sotillo (1997)** showed that the development of websites and internet in the area of ESL/EFL education expanded the access to knowledge and allowed English Language learners to access ESL/EFL materials from almost any places in the world. Sotillo (1997) also stated that including Internet-based tasks into the curriculum increased student's collaboration, decreased teacher dominance, and expanded the opportunities for students to lead their own learning process. This would help ESL/EFL learners improve their English language proficiency. All of these aspects affect ESL/EFL learning process positively.

The Ubiquitous learning Environment (ULE) provides different interaction methods. Learners do not need to interact face - to - face with their peers or teachers in order to learn. They can use many communication methods to ask questions or present new ideas. This provides learners with a stress – free environment to interact within and helps them to participate in the community of practice

with less fear. Learners can use different representational modes available in the Ubiquitous learning Environment to suit their personalities and learning preferences. They can interact with each other via chat rooms, SMS messages, video conferencing, and other kinds of communication methods, In addition, in the learning Environment, learners can read, listen, or watch ESL/EFL materials without actual participation and gradually become involved in related peripheral tasks until they become full participants in the community of practice (Ogata & Yano, 2004).

### **Ubiquitous Learning Characteristics**

**Liu (2009)** displayed the following main Characteristics of ubiquitous learning:

**1-Permanence:** learning processes can be recorded in the learning system and stored permanently.

**2-Accessibility:** learners can easily access audio and video learning materials anywhere.

**3-Immediately:** learners can immediately access audio and video learning materials at any time and can get an immediate response from the test tool.



**4-Situation:** learners practice listening and speaking in real situations.

**5-Seamlessness:** the learning process is not interrupted when the location of the learners changes.

**6-Immersion:** learners can talk with virtual teachers in the real world.

**7-Contex awareness:** learners can hear context-aware audio language materials in specific zones.

**8-Social interactivity:** learners not only interact with teachers, peers, learning devices, and real environment but also collaboratively complete a common task and share their experiences with each other.

**9-Individuality:** learners can select proper learning materials according to personal ability, interest requirement, objective and schedule.

## **Ubiquitous Learning Environment and Learning Theories**

Ubiquitous Learning Environment works within a community consisting of the totality of collaborators, content, and services. Learners form interactive relationships with the educational

technological devices and relationships with each other, and in concert form an educational environment.

The literature cited in this section provides an understanding of the relationship between Ubiquitous Learning Environment and selected learning theories and how a ubiquitous learning environment consists of these theories to build a supportive learning environment. These learning theories were selected based on their relevance to Ubiquitous Learning Environment on one hand, and their relevance to learning languages on the other hand.

#### ➤ **Situated learning theory**

**Collins (1988:2)** defined situated learning as the notion of learning knowledge and skills in contexts that reflect the ways in which knowledge will be used in real life. **Billett (1994:112-130)** noted that the whole nature of the interaction changes and understanding becomes more complex when the learning is without appropriate context and it is only based on description .Thus, situated learning immerses students in an environment that approximates realistic context in which their new ideas and behaviors will be applied and tested.

Situated learning puts emphasis on knowledge as a tool that is produced by students when interacting with their environment.

Students are able to acquire knowledge, promote reflection, and arouse creativity when immersed in a social and cultural context.

### ➤ **Collaborative learning Theory**

The concept of learning as social interaction within communities of practice can be seen as a form of collaborative learning. **Cao (2006)** described collaborative learning scenarios in which student gather in small groups to accomplish a common goal. “Collaborative learning is a situation in which two or more people learn or attempt to learn something together”. As a result, learning is no longer an isolated activity, but it implies mutual trust, shared interests, Common goals, commitments, obligations, exchange of services and genuinely proactive, motivated behavior (**Allison, Cerri & Gaeta, 2005: 861**).

Ubiquitous learning not only provides learning material at the right time and in the right place to students, but also improves the interaction with others such as teachers, peers, or experts. Therefore, introducing collaborative learning into the curriculum can open new perspectives and ideas and can help to cultivate interpersonal and team skills. Nguyen, **Guggisberg and Burkhart (2006)** proposed a multimedia forum called CoMobile, which allowed the students to work collaboratively using heterogeneous devices, at any time and from anywhere. This research attempts to build a system that

combines context-awareness with collaborative learning, which brings effective learning to students.

### ➤ **Context-aware Learning Theory**

**Dey and Abowd (1999)** stated that “Context is any information that can be used to characterize the situation of an entity. An entity is a person, place, or object that is considered relevant to the interaction between a user and an application, including the user and applications themselves.”

Knowledge is acquired through interaction between individuals and the environment. In order to foster effective learning, we have to provide students with a learning situation that is similar to the real world and offers authentic learning activities. **Chen and Li (2007)** proposed a personalized context-aware ubiquitous English vocabulary learning system that can exploit appropriate context based on the student’s location, leisure learning time, and individual abilities to adapt learning contents toward students for promoting the learning interests and performance.

**Moushir et al.(2007:122)** provided a learning system, called PERKAM, helps in accordance with the detected objects and the current location utilizing the RFID technology. In addition, PERKAM allows the students to share knowledge, to interact and

collaborate, and to exchange individual experiences. Context aware ubiquitous learning defines a new stage of e-learning and mobile learning, moving from learning at anytime anywhere to learning at the right time and in the right place with the most appropriate learning resources and peers (Wang, Ci, Zhan & Xu, 2007).

### **Context of the Problem**

The researcher recognized that there is a difficulty in students' English listening during her experience in teaching at the secondary stage. To document the problem, the researcher conducted a pilot study on thirty students from second-year secondary stage at Desouk AL-Azhar Institute for Girls. The pilot study consisted of an EFL listening comprehension skills test. The results revealed that students have difficulties in listening comprehension because they are trying to understand every word, they do not recognize the words that they know and they have problems with different accents. The students are accustomed to the traditional methods of teaching listening in which they simply listen to a spoken message in order to answer some comprehension questions at the end. The interview with some teachers who teach at the same stage revealed that there were many reasons behind second year students' poor listening comprehension skills at the secondary stage:

- 1- Teaching listening is one of the most challenging tasks for any EFL teacher .This is because successful listening skills are acquired over time with lots of practice. In addition, teaching listening is not given enough importance especially in the Egyptian schools, this means that teachers neglect it in spite of its great significance in learning English as a foreign language. Moreover, students may encounter some problems in the comprehension process; this may occur because of low abilities in listening and lack of effective listening strategies.
  
- 2- The low ability in listening skills is one of the largest inhibitors for students, who are non-native speakers. While listening, a student suddenly discovers that he or she does not understand what is being said. Therefore, many students just tune out in an internal dialogue trying to translate each word. Other students are convinced that they are unable to understand spoken English well and then become demotivated .The latter concerns the way teachers focus on teaching this skill based on traditional methods that have become somehow boring and very old fashioned. This makes learners unable to concentrate on what they listen to.

3- The teachers hardly focus on teaching pronunciation. Pronunciation is neglected and teachers think that learning /teaching pronunciation should be left at higher levels, and this is a wrong decision made by the teachers; pronunciation should be taught from basic levels so that the learners get used to it and practice it from an early stage.

Because of the aforementioned reasons, the researcher decided to use a proposed ubiquitous learning environment to be implemented in second year secondary stage students, to find out its effect on the students` listening comprehension skill. This proposed learning environment will include students and teacher "meeting" online. The teacher is able to present lessons through videos, power point, or chatting .The students are able to talk with other students and the teacher, as well as collaborate with each other, answer questions, or pose questions.

### **Purpose of the Study**

The purpose of this study was to investigate the effectiveness of using a proposed EFL program based on a ubiquitous learning environment ( ULE) for developing students' listening skills in Desouk AL-Azhar Institute for Girls. This study had some specific objectives which are:

- 1- To identify the listening comprehension skills required to be developed for the second year secondary stage students.
- 2- To determine if there is a positive impact of using a proposed ubiquitous learning environment on the students` listening skills.

### **Participants of the Study**

The researcher adopted the Quasi- experimental design in order to meet the nature of the study which attempted to explore the effect of using a proposed EFL electronic program based on ubiquitous learning environment to improve students' listening skills. To achieve the purpose of this study, two groups were assigned as the participants of the study: an experimental group and a control group. Each group consisted of thirty students. The experimental group was taught through the use of a proposed EFL electronic program based on ubiquitous learning environment as a teaching and learning virtual class to improve students' listening skills while the control group was taught through the regular method, which focused on giving students usual activities included in the textbooks. The experimental design involves using a pretest and a posttest for two selected groups.



## **Instruments of the study**

The researcher used the following three instruments:

- A checklist of listening comprehension skills required for Al-Azhar EFL second-year secondary stage students.
- A pre-posttest of listening skills (prepared by the researcher). The purpose of this test was to assess second year students' listening skills.
- The Computer Literacies Questionnaire (CLQ) to measure the students' knowledge about computers and their ability to use the internet. This questionnaire was prepared by the researcher to select participants of the study.

## **Results and Analysis of Data**

The current study problem was previously summed up in the question: **What is the impact of a proposed EFL electronic program based on a ubiquitous learning environment (ULE) for developing Al-Azhar second-year secondary stage students' listening skills?** Hence, two hypotheses were formulated. In order to test these hypotheses, a pre-posttest of listening skills was administrated.

The researcher used different statistic techniques using the Statistical Package for Social Sciences program (SPSS) to show the final collected data results. In addition, the effect size through ( $\eta^2$ ) was used to measure a proposed ubiquitous learning environment (ULE) on developing Al-Azhar EFL second-year secondary stage students' listening skills.

## **Analysis of the Study Hypotheses Results**

### **1- Analysis of the First Hypothesis Results**

The First Hypothesis stated that:

There is a statistically significant difference between the mean scores of the experimental group and those of the control group on the post test of overall listening skills favoring the experimental group.

In order to verify the validity of this hypothesis, an independent samples t-test was used to compare the mean scores of the two groups on the post-test. See table(4.3).

**Table( 4.3 ): T- Test results of the post-test comparing the control and the experimental groups in overall listening skills.**

Listening Skills	Groups	M	SD	df	T
Total Score	Control	11.43	0.37	58	*13.91
	Experimental	101.37	8.37		

**\*: Significant at  $p < 0.05$**

Results in Table (4.3) reveal that There is a statistically significant difference between the mean scores of the experimental group and those of the control group on the post test of overall listening skills favoring the experimental group, where " t-value" is (13.91) which is significant at the level of (0 .05). Thus the first hypothesis is verified.

## **2- Analysis of the Second Hypothesis Results:**

The Second Hypothesis stated that:

There is a statistically significant difference between the mean scores of the experimental group and those of the control group on the post test in each listening sub-skill favoring the experimental group.

In order to verify the validity of this hypothesis, an independent samples t-test was used to compare the mean scores of the two groups on the post-test in each listening sub-skill. See table (4.4).

**Table( 4.4):T- Test results of the post-test comparing the control and the experimental groups in overall listening skills and its sub skills.**

<b>Listening Skills</b>	<b>Groups</b>	<b>M</b>	<b>SD</b>	<b>df</b>	<b>T</b>
<b>Guessing the meaning of unknown words from the text</b>	<b>Control</b>	12.60	1.27	<b>58</b>	<b>9.58</b>
	<b>Experimental</b>	13.67	3.24		
<b>Listening for the main idea</b>	<b>Control</b>	13.13	0.32		<b>8.78</b>
	<b>Experimental</b>	13.33	3.40		
<b>Discriminating among distinctive phonemes</b>	<b>Control</b>	0.17	0.87		<b>7.59</b>
	<b>Experimental</b>	4.47	1.11		
<b>Listening for specific information</b>	<b>Control</b>	5.73	0.43		<b>9.58</b>
	<b>Experimental</b>	19.30	1.86		
<b>Identifying words in stressed and un stressed positions</b>	<b>Control</b>	3.47	1.41	<b>8.78</b>	
	<b>Experimental</b>	14.20	3.27		
<b>Distinguishing formal versus informal speech</b>	<b>Control</b>	3.47	0.25	<b>7.59</b>	
	<b>Experimental</b>	15.27	3.10		
<b>Understanding wether speech is polite or</b>	<b>Control</b>	0.23	0.77	<b>9.58</b>	
	<b>Experimental</b>	4.83	0.65		

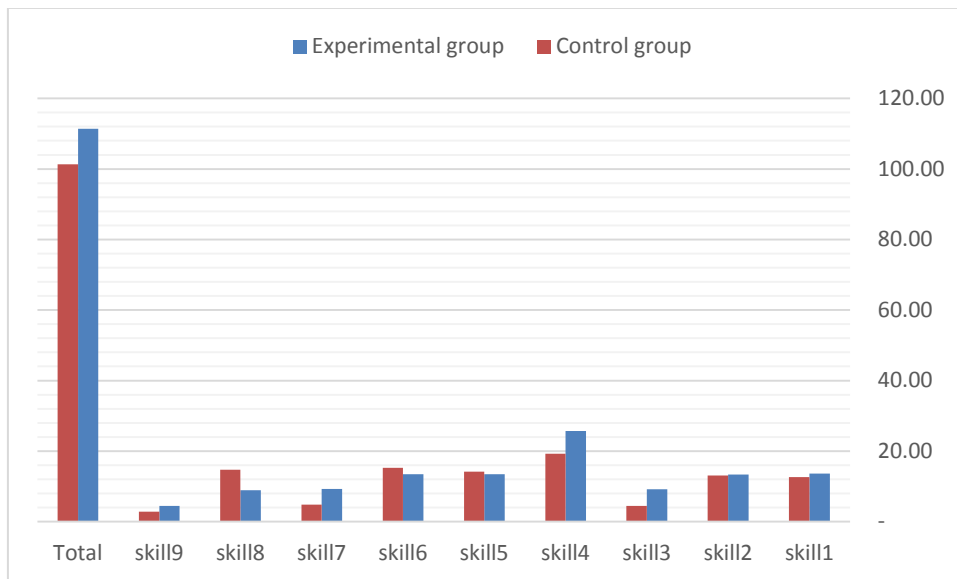
<b>rude</b>					
<b>Making inference</b>	<b>Control</b>	.90	0.99		<b>8.78</b>
	<b>Experimental</b>	14.77	3.38		
<b>Following instructions and oral directions</b>	<b>Control</b>	0.47	0.78		<b>7.59</b>
	<b>Experimental</b>	2.80	0.81		
<b>Total Score</b>	<b>Control</b>	11.43	0.37		<b>*13.91</b>
	<b>Experimental</b>	101.37	8.37		

**\*: Significant at  $p < 0.05$**

**Results in Table (4.4) reveal the followings:**

- There is a statistically significant difference between the mean scores of the experimental group and those of the control group on the post test in each listening sub-skill favoring the experimental group. The experimental group(  $M=101.3$ ,  $SD =8.37$ ,  $T =13.91$ ) scored significantly higher than the control group (  $M=11.43$ ,  $SD =0.37$ ).Thus, There is a statistically significant difference at the level of (0 .05) between the mean scores of the experimental group and those of the control group on the post test in each listening sub-skill favoring the experimental group. This means that the proposed ubiquitous learning environment (ULE) has a positive effect on improving the students' listening skills. Consequently, the second hypothesis is accepted.

- A closer look at Table (4.4) shows that (listening for the main idea,  $M=19.3$ , discriminating among distinctive phonemes,  $M=19.3$ , making inference,  $M=14.77$ , identifying words in stressed and un stressed positions,  $M=14.20$ , guessing the meaning of unknown words from the text,  $M=13.67$ , listening for the main idea,  $M=13.33$ ) are the most improved sub skills. On the other hand, (understanding wether speech is polite or rude,  $M=4.83$ , discriminating among distinctive phonemes,  $M=4.47$ , and following instructions and oral directions,  $M=2.80$ ) are the least improved sub skills.
- The experimental group students' significance progress in each listening sub-skill compared to the control group students' performance on the post-test can be illustrated in the following figure (4.1 ).



**Figure (4.1). Comparison of the post-test mean scores of the control and experimental groups in overall listening skills and its sub skills**

## The effect strength of the treatment

- **EFL listening comprehension skills**

In order to make sure that the results obtained from the t-test were reliable and to measure the effectiveness of the proposed program on students' listening skills, its effect size on students' listening skills was calculated. See table (4.8).

**Table(4.8): The effect strength of the treatment ( $\eta^2$  value) for overall listening skills and its sub-skills**

Listening sub skills	df	F	Eta square ( $\eta^2$ )	d
1-Guessing the meaning of unknown words from the text	59	91.903*	0.56	3.25** Large
2-Listening for the main idea	59	77.111*	0.52	2.08** Large
3-Discriminating among distinctive phonemes	59	57.614*	0.44	1.77** Large
4-Listening for specific information	59	91.903*	0.56	3.25** Large
5-Identifying words in stressed and un stressed positions	59	77.111*	0.52	2.08** Large
6-Distinguishing formal versus informal speech	59	91.903*	0.56	3.25** Large
7- Understanding wether speech is polite or rude	59	77.111*	0.52	2.08** Large
8- Making inference	59	57.614*	0.44	1.77** Large



9- Following instructions and oral directions	59	57.614*	0.44	1.77** Large
<b>Total score</b>	59	193.688*	0.73	3.28** Large

\*: Significant at  $p < 0.05$

\*\* : Large at ( 0.8)

As shown in table (4.8), there is a large effect size for each listening skill and the total score of the listening skills. The calculated effect size value of the proposed program on the experimental group students' overall listening skills is ( $d = 3.28$ ). This value indicates that the effect size of the independent variable (using a proposed EFL electronic program based on (ULE)) on the dependent variable (listening skills) is great. Therefore, it can be said that proposed electronic program has a large effect on the experimental group students' overall listening skills on the post-test as compared to that of the control group students receiving regular instruction.

To sum up, in accordance with the results of this study, the use of the ULE as a teaching and learning virtual class can be a promising and productive solution to enhance their listening skills.

## **Pedagogical Implications:**

**In light of the study results, the researcher suggests the following:**

- 1- Teachers should be aware of the importance of the ubiquitous learning environment (ULE) as a teaching and learning virtual environment to develop students' listening performance as the traditional method in teaching listening is less effective.
- 2- Using the ubiquitous learning environment (ULE) makes students motivated and encouraged most of the time.
- 3- Using the ubiquitous learning environment (ULE) allows for a social constructivist learning experience.
- 4- ULE provides a rich learning environment in which students have opportunity to monitor/assess their learning progress and this increases their motivation to actively stay engaged in the task.
- 5- Using the ubiquitous learning environment (ULE) allows students to receive and submit assignments online.
- 6- Both teachers and students should be persuaded with the significance of listening as it is a skill for all aspects of life. In addition, they should be persuaded with any changes in the learning process to be highly engaged in any new learning environment.

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