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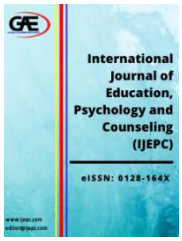

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IMPLEMENTING AUGMENTED REALITY TO PROMOTE ENGLISH ORAL PRODUCTION, INTERACTION, AND ENGAGEMENT OF THAI EFL: A CASE OF TERTIARY THAI DANCE CLASSROOM

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Abstract:

The development of technology makes AR learning activities in the classroom more significant. Due to the Covid 19 pandemic, AR learning activities are considered to adapt in the online classroom. This paper aims to validate the idea of learning activities to enhance speaking production by using augmented reality techniques in teaching the English language at the university level in Thailand. The English learning lesson plan with an AR application was designed and employed in the English classroom to examine students' performance using an AR application in English classes. Fifty students were selected to participate by purposive sampling. The data were obtained from observation, pre-test/post-test, and questionnaires. The finding of this study showed that the Augmented Reality learning activities combined with the Task-based learning approach encourage students to participate in activities and improve student motivation in language learning. Thus, a higher motivation increases language achievement.

Keywords:

Augmented Reality, Motivation, Thai Dance, Task-Based Learning

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Introduction

Technology is one of the essential tools that enhance education in several ways. For instance, the technology allows the learner to collaborate in the distancing or bring a real environment into the classroom. Also, implementing technology into the classroom can improve students' language proficiency, and teachers generally appreciate educational technologies' benefits. Hence, It is time for teachers to start harnessing their technological potential to improve classroom teaching and learning activities. The students of this era prefer to explore while learning. Moreover, Augmented Reality permanently influences education, integrating the Technology approach. Nowadays, Augmented Reality (AR) has been adopted as a tool that allows learners to visualize the real AR experience in a way that allows it to be modified and adapted to fit local instructional and curricular needs (Mitchell, 2011). Augmented Reality (AR) is the projection of virtual reality elements on a screen, such as images, texts, videos, and sounds, to enhance the visual experience. Real objects dominate, and virtual objects add additional information (Milgram and Kishino, 1994). This implies overlapping virtual information on digital devices to promote real-world experiences (Lo et al., 2021). However, Augmented Reality Technology permanently influences education, which integrates the Technology approach. This paper reports on the study that examine the AR learning activities integrated with a Task-based learning approach to enhance oral production in the English classroom for university students in Thailand.

Literature Review

There are three points will be discussed in Literature Review.

Augmented Reality

Augmented Reality (AR) is defined as a real-time direct or indirect view of physical, real-world experiences that have been enhanced by adding virtual computer-generated information. The users can simulate the actual situation by visual, sound, or other senses, such as standing in front of a picture and watching 3D models explain the image or 3D models in front of a shop presenting the latest fashions. A surge in interest in AR emerged with the release of the mobile game Pokemon Go (Hawkinson, 2018). This technology is necessary for the visualization of objects or visual supplement of printed products – newspapers, booklets, magazines, maps, etc. The information can be in the form of text, images, videos, sound, three-dimensional objects which are scanned using tablets or smartphones for browsing, and then the content is added". Some research reported that this technology is already actively used in various fields of human activities (trade, advertising, games, entertainment, military development, tourism, etc. (Kahtanova, Ju. F and Bestybaeva, K. I, 2016). Consequently, Augmented Reality has been increasing the popular media over the last few years; the concepts of using Augmented Reality are to implement the technology of 3D to real vision products or actual environments. Thus, AR technology it cannot be denied that Augmented Reality technology is a potential application for all fields.

Integration of AR in English Language Teaching

Augmented reality has been applied to several fields, including teaching the English language field. While teaching approach has adopted technology into the classroom for several reasons. Rogers (2003) indicates that perceived compatibility positively affects the adoption rate when

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considering using AR in terms of its adoption as an innovation. Godwin-Jones (2016) introduced AR as an emerging technology in language learning and explored different ways to be used in this area from a practical point of view. AR technology has the potential to be employed in the classroom as AR can strengthen students' motivation and enhance their educational realism-based practices (Lee, 2012). In addition, AR can support the student-centered learning environment, and technology enhances students' possibility to the individual in the learning lessons. Similarly, Liu et al. (2009) report that AR improves the ability to explore and absorb new knowledge and solve problems. Some studies found that enhancing students' potential and allowing them to learn more independently from teachers. Yuen et al. (2011) claim that AR applications are more likely to lead to certain benefits, such as increased motivation and higher student engagement in learning. Also, Marc et al. (2016) believe that AR leads the learners to better retention of words and improves students' attention and satisfaction. However, AR technology creates a stimulating student learning environment and brings real classroom experience, enhancing the learners' positive interest in learning the English language.

Task-Based Learning

Task-based learning was the activity that established and implemented the Augmented Reality material. The definition of a task identifies two focal points, real-world or target tasks, which are non-linguistic tasks learners could use to function beyond the walls of the classroom, and pedagogical tasks, that are conducted within the classroom with a particular linguistic goal in mind (Long, 1985; Ellis, 2003; Willis and Willis, 2001; Nunan, 2013). As Task-based learning emphasizes language use through the task that the learner collaborates in activities. Similarly, Nunan (2013) highlights that a task is a stand-alone structured activity in which learners are focused on "comprehending, manipulating, producing, or interacting in the target language" to communicate meaning rather than grammatical forms. Moreover, a task refers to a language learning endeavor that requires learners to comprehend, manipulate and produce the target language as they perform the set task involving real-world language (Richards, 1986).

AR technology is digital information that contains text or images that apply to the physical world, and this is the way to convey the information which has the potential to the learners. AR may enhance a learner's experience through the implementation of kinesthetic learning (Radu and MacIntyre, 2012), raise awareness of group dynamics (Wu et al., 2013; Xu et al., 2008), and potentially change the way learners perceive the world with which they interact (Gonzalez-Lloret & Ortega, 2014). Hence, task-based language teaching with the newer technologies has the potential to "minimize students' fear of failure, embarrassment, or losing face; they can raise students' motivation to take risks and be creative while using language to make meaning" (Gonzalez-Lloret & Ortega, 2014, p4).

Research Question

1. What AR learning activities can be implemented in the EFL Thai dance classroom?
2. What is the effect of the implementation of AR learning activities in the EFL Thai dance classroom?

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3. What are students' opinions toward the implementation of AR activities in the English classroom?

Research Methodology

This study employed to use a concurrent mixed method to collect the information to respond to the research questions. The researcher employed the mixed-method design in the study, combining the qualitative and quantitative approaches to collect and analyze data (Creswell & Tashakkori, 2007). Hense, the mixed-method design can provide detailed and extensive data to accomplish the research objectives and answer the research questions. Moreover, integrating qualitative and quantitative methods has become common in research (Bryman, 2006).

Population and Sampling

The population in this study was the students of Majoring in Dance Education at a university in Bangkok. They were selected by purposive sampling to participate from the students who enrolled in the English for Thai dance teacher course. The sampling consisted of male and female students. The total population was 268 people.

Data Collection

This study was collected using observation during the AR learning activities. The instrument was used to observe students' interaction and engagement while implementing the Augmented Reality application in the English classroom. Also, advisors and three experts validated this instrument and also edited it according to their suggestions. The pre-test and post-test were designed to validate learning achievement after using AR learning activities in the English classroom. In the Quantitative approach, the researcher adopted questionnaires, requesting students' comments and opinions about the AR learning activities in the classroom. Also, their contents to attend the research were obtained as a part of ethical consideration.

Data Analysis

This research aims to examine students' engagement with AR learning activities to improve students speaking production. In order to analyze the study result, dependent samples t-test was conducted to validate learning achievement in terms of using AR learning activities to enhance oral production in the English classroom. The other objective was to explore the student's opinion of improving English speaking abilities after using Augmented Reality technology. After finishing the English course, the student's opinion was collected in terms of questionnaires.

Findings

This finding presents enhanced student oral production speaking after implementing Augmented Reality Technology in the English classroom on the research questions. Before giving treatments, the class was given a pre-test. The students selected the speaking topics, and the scoring rubric was provided for the speaking pre-test

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Table 1. *t*-test Results of the Pretest and Posttest (*N*=50)

	N	*Mean*	*SD*
Pretest	50	1.88	1.118
Posttest	50	5.18	1.155

The results showed that the participants were engaged in every activity using the Augmented Reality application and could communicate in the English language after using AR technology. The data was collected from speaking Pretest and Posttest to descriptive statistics and the dependent sample t-test. The results and descriptive statistics are presented in Table 1. The result of the Pretest and Posttest, as shown below, the participants' Pre-test mean score was 1.88 (SD=1.118), and the Posttest mean score was 5.18 (SD=1.155). The Posttest mean score is higher than the Pretest mean score. The result of the study showed that the students' scores increased after using Augmented Reality learning activities in the English classes.

Table 2. The Mean Of The Students' Opinion Survey Questions

	Items	*Mean*	*S.D.*
1.	The teacher explains the objective of the lesson clearly at the start of each period	4.78	.545
2.	The learning process emphasizes students'participation in the activities and allows students to express ideas.	4.82	.523
3.	Using media and technology or innovation in teaching can promote language learning.	4.78	.545
4.	Learning activities to enhance speaking skills and listening skills	4.78	.582
5.	The teacher uses various teaching approaches that are suitable for the content of the subjects studied.	4.76	.517
6.	Teaching activities encourage students to develop their thinking skills, analyze, and have group discussions.	4.80	.495
7.	There are teaching activities that enhance self-learning.	4.74	.487
8.	There are teaching activities that allow students to search for knowledge from various sources	4.74	.527
9.	Teachers encourage students to collaborate as a group.	4.88	.385
10.	The teacher accepts the opinion and perspectives of students.	4.82	.560

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11.	Using Augmented Reality may help students improve their English language skills.	4.66	.626
12.	Using Augmented Reality may increase students' interest in learning English language.	4.78	.582
13.	Using Augmented Reality helps the student remember more vocabulary.	4.76	.517
14.	Using AR technology is able to improve English in speaking and listening skills.	4.68	.587
15.	Using AR in learning the English language can be fun.	4.78	.582
16.	Using AR may help the student understand Grammar.	4.52	.580
17.	Using AR may help the student increase more new words.	4.74	.565
18.	Using AR applications to teach English may improve students' effective communication.	4.72	.573
19.	Using AR technology can support activities that facilitate higher-order thinking and solve the student's problem.	4.78	.507
20.	I am not confident about my ability to use AR for learning the English language.	2.74	1.601
21.	I feel nervous about using AR for learning the English language.	2.10	1.165
22.	I am confident about my speaking ability after using AR application learning in the English language.	4.72	.536
	All item	4.91	.412

Based on table 2, it can be seen that the data analysis from this questionnaire indicates the result of analysis item no, 9 show the result, " Teachers encourage students to collaborate as a group." gained the highest level (Mean= 4.88, SD=.385), while the lowest level is the item no, 21 "I feel nervous about using AR for learning the English language.." (Mean=2.10, SD=1.165) The overall mean perceived value was 4.91, which indicates the students' opinion about implementing Augmented Reality Technology to enhance speaking production in the English classroom obtains a 'Strongly Agree' level.

Students' interaction and engagement while using AR learning activities.

1. It is very easy to scan the code, and I can do it everywhere at any time. (Participant 3)

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2. I can listen to the sentences when I select the pictures; It is very easy to use this application. (Participant 6)
3. I found that using AR really helped me to understand the meanings of words, and I thought it was incredibly exciting and useful. (Participant 7)

Students participate in Augmented Reality Technology.
1. It feels like playing the game. I scan it and can select any topics that I like to learn. (Participant 7)
2. I used Augmented Reality Technology to design Mask for Hanuman. It was fun to add the picture into the application and let the people scan and see it. (Participant 6)
3. It feels like playing the game. I scan it and can select any topics that I like to learn. (Participant 10)

Students' behavior change throughout the activities in the classes.
1. I don't feel boring when I learn the English language anymore, and I like to watch the AR picture and when I press the sound. I can speak after it. (Participant 11)
2. I feel more confident when I speak English because I learn many new words. (Participant 13)
3. I had never learned English with the application before; It motivated me to learn English. (Participant 14)

Using Augmented Reality Technology helps students improve their speaking of English
1. My knowledge of English has increased after watching an AR video about Thai Khon Dance. I knew the words to descript Thai costumes. (Participant 16)
2. The AR pictures showed me a clear picture of how to explain the Thai Dance posture. (Participant 17)
3. After participating in AR activities, I learned many words that improved my English language, and I can also use the words I learned from AR activities to write my own thesis abstract. (Participant 18)

In summary, from the student's observation after implementing Augmented Reality Technology in the English classroom, they were able to interact in the English language to communicate and express their opinion about the AR pictures that they saw from the application. Most of the students were engaged, and interaction improved their speaking ability by using Augmented Reality technology. Moreover, it is also found that most students are more confident and less anxious when they are learning English.

Conclusion and Discussion

The research findings above indicated that the students obtained a better score in the post-test than in the pre-test. Implementing Augmented Reality learning activities is very effective for the learners and motivates students to participate in learning activities. According to Ramya and Madhumathi (2017) stated that when students interact with the learning tool, they actively participate in these simulations, which give them some control over what they are learning. All

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of the various learning activities affect students' improvement, making them more active while using technology, and AR activities reflect the impact on their learning behavior by being excited and paying attention in all activities. AR can be used in an application that is familiar with discovery-based learning (Yeun et al., 2011). A user is given information about a physical setting while also considering the object of interest. Augmented Reality (AR) can be described as one of the possible steps between real-world and fully virtual reality (Milgram et al., 1994). Also, the real-world technology offered the opportunity to communicate actively in the English language using Augmented Reality Technology, and students could discuss and express their opinions in classes. In addition, implementing technology in English class enhances the learner's produce speaking and assists students in learning English based on the student's interaction and engagement in using Augmented Reality technology in the English classroom. Based on this (Chang, Morreale & Medicherla,2010), using Augmented Reality could improve student motivation in language learning, especially in English. The application of integration with the real experience encourages the learners to have a positive interest in learning the subject. Tsai, Yu, and Hsiao (2012) put forward the educational concept of "edutainment," incorporating the meaning of education in the game, and pointed out that digital game learning could bring positive learning effects.

Especially today, online learning classes were employed due to the Covid pandemic without learning motivation. Thai dance posture, costumes, or Thai music instruments in digital characteristics is different from learning from the textbook; it can be said that learning integrates with multi-technology and experience IT tools assist in learning activities more effectively. However, when the students learn in English, they often lack focus on the lesson and consider English learning to be strictly a serious subject for reading and reciting. If technological innovation is effectively integrated into English learning concepts, Augmented Reality and Virtual Reality technologies can be used to combine the real and virtual worlds, providing English learners with both entertainment and high efficiency. From the experience of implementing AR learning activities in the English classroom for Thai dance students, the researcher got some benefits for the learners while using AR activities. It has the potential to improve the learning effect. Also, the AR application develops the English subject to become more creative and exploratory. Some studies have mentioned that AR could help students to absorb new knowledge and solve problems (Liu, 2019). It promotes an effective environment for conducting collaborative inquiry learning activities (Wang et al., 2012).

Based on the findings, the learners' concentration and interest in learning English can be improved so that students will no longer ignore learning English when their interest in and motivation to learn English speaking production can be increased. According to the qualitative results, while AR technology may increase learners' motivation and interest, we also understand the advantages and disadvantages of using AR learning activities and the traditional learning approach. Clearly, the learners interact and engage in the AR learning activities gathered with a Task-based learning approach. There is a setting for AR in the language classroom, but to see further advancement with newer technologies, such as AR, more widespread implementation in various educational environments is required. More research on

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AR classroom tasks is needed even though this project was limited by a small number of participants at a language-focused university.

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