VIRTUAL REALITY SPEAKING APPLICATION UTILISATION IN COMBATTING PRESENTATION APPREHENSION

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ABSTRACT

Virtual Reality (VR) application in the field of education has been an ongoing endeavour. It is believed that VR provides an opportunity for students to learn in a real situation through the exposure of artificially created reality and the use of visual which improves the learning by enhancing study focus (Piovesan, Passerion and Pereira, 2012). The accessibility to VR is made even easier with the invention of wireless VR. Incorporating this technology in language learning is a logical step, particularly in combatting students' apprehension to carry out presentations. Thus, the focus of this study is to investigate UiTM Faculty of Education TESL postgraduates' attitude in using virtual reality speaking application to ease their presentation apprehension. A mixed-method study is adopted by incorporating both quantitative (questionnaire) and qualitative (interviews) approaches. A purposive sampling of twenty-four TESL postgraduates is used to gather data which was then analysed using SPSS version 23 for the questionnaire and thematic analysis for the interview. Descriptive statistics is used to present the findings. The findings show that the participants have a limited knowledge of VR speaking application. Nonetheless, they are very interested and motivated to use the application as part of their presentation preparation especially in easing their apprehension. VR speaking application provides a crucial connection in improving oral presentations skills, but it is not the best approach for teachers to develop speaking skills. As this study is based on the respondents' perceptions, future work is necessary to statistically study the effectiveness of VR speaking technology in language learning as well as investing if any significant relationship is formed between VR speaking application and language learning and teaching variables.

1.0 INTRODUCTION

In the past few years, new forms of teaching have emerged alongside with the advancement in technology. The incorporation of technology in education has changed the traditional learning environments and education systems and it results in a number of schools

using technology at varying degrees to meet the needs of 21st century education (Groff, 2013). As technology advances, new technologies developed, and a new approach of teaching and learning are introduced. One of these technologies, virtual reality (VR) has recently become a central issue. Even though VR is not a new invention, but the development of the technology has been advanced over years.

There have been many studies done on the use of VR in the field of education (Shih, 2014; Chen, 2016; Chittaro et. al, 2018; Pulijala et. al, 2018) but studies on the use of wireless mobile VR with the use of HMDs are limited. Compared to other forms of VR, the literature on the application of mobile VR in education domain is lacking (Mustafa & Carl, 2015). Similarly, in Malaysia, most studies have only focused on augmented reality which is a variety of VR (Mahadzir & Phung, 2013; Radu, 2014; Saidin, Halim & Yahaya, 2016).

Thus, this study is to explore students' attitudes in using speaking virtual reality application to ease presentation apprehension among TESL postgraduates from the Faculty of Education, UiTM Puncak Alam, Selangor.

2.0 Literature

This section discusses related literature to the research objective of investigating Faculty of Education TESL postgraduates' attitudes in using speaking virtual reality application to ease presentation apprehension.

2.1 Technology and Second/Foreign Language Learning

The incorporation of technology in teaching and learning foreign language is not a new intervention in educational field especially in overcoming the problems in language learning. During 1960s and 1970s, English language learning laboratories were adopted through the use of cassettes, microphones and headphones in order to monitor students' communication in the target language (Nomass, 2013). Despite its flaws, it was considered as a positive step in incorporating technology and language learning. Since then, the development of technology has evolved and affected everyone in every way possible. Hence, it is crucial to take advantage of the modern current technology in supporting teaching and learning foreign language. It is also important to note that the incorporation of technology involves the improvements of all four language skills; reading, writing, speaking and listening. However, this study only focuses on technology involvements particularly in improving speaking skills.

It is similar with a study done by Buckingham and Alpaslan (2017) on the use of interactive video recordings, which have similar features as podcasts and vodcasts, as out-of-class speaking practice with the aim to improve speaking skills. The results revealed that the participants' oral performance has significantly increased over a four-month period. They were reported to respond more confidently with minimal pauses and hesitations. One of the factors that contributes to the achievement is the opportunities for task rehearsal which benefit the language oral production. Another significant factor that contributes to the success of the study is the presence of teacher feedback, which is absent in a previous study done by Sun (2013) and Hsu (2016) and it influences students' improvement. In the previous studies, the absence of the teacher feedback has negatively affected the improvement of students' oral production

despite the use of video blogs. Hence, it could be argued that the use of interactive video recordings with the inclusion of teacher feedback has positive effects in improving students' pronunciation, vocabulary and accuracy.

Recently, there has been a surge of popularity and interest in virtual and augmented reality applications. Historically, the technology is not new, and it has been used in various fields like military, aviation and therapists. However, the use of virtual and augmented reality applications in education is still novel but emerging. Thus, it is important to discuss in detail the applications of the VR technology in education generally and also in language learning particularly.

2.2 Virtual Reality Technology

Virtual Reality (VR) is a technological interface that allows users to get involved in computer-generated environments within a controlled setting (Maples-Keller, Bunnell, Kim & Rothbaum, 2017) but it is not restricted by hardware set-up or particular technology tools or devices. It involves a wide range of interaction devices, sensory display systems, and in the design of' settings presented in a computer-generated graphic world (Rizzo et. al, 2013).

However, the use of VR technology in language learning and teaching is still new and the literature is limited. The immersion and intense development of virtual online games like SimCity and World of Warcraft have gained educators' attention and VR tools are believed to have the potential to transform the conventional ways of language teaching and learning. In fact, VR tools may increase potentials in learning and hold pedagogical implications for education. Hence, educators and institutions have increasingly embraced the paradigm of virtual learning.

In a longitudinal study (Shih, 2014), VEC3D, a virtual environment created by the Computer Vision and Virtual Reality Laboratory, has been used to establish and develop communication between a native English-speaking instructor and non-native English-speaking students. It provides several communication mediums, including text-based, audio–visual-based, user-controlled avatars, and virtual objects. It allows users to interact simultaneously through avatars and they can see each other's facial expression and body language through computer screens. Participants participated in virtual events for approximately 50 to 120 minutes per week over the course for a year and their interaction, conversations and performances were videotaped. The virtual events involved two communicative tasks which are role-playing and open-ended discussion. In total, the participants took part in ten role-playing tasks and ten open-ended discussions. The results reveal that the use of VEC3D encouraged participants to employ multiple modes of communication including verbal and non-verbal. Besides, the participants used gambits and fillers effectively as their verbal communication strategy to ensure the smoothness of their conversation. Another communicative strategies developed by the participants are appealing for assistance, paraphrasing, borrowing and avoidance. It could be concluded that the multiple communicative modes provided by VEC3D met the participants' multimodal needs in communication.

In 2016, a study (Chen, 2016) has been done on the effectiveness of task-based instruction in Second Life, a 3D multi-user virtual online game, on English as a foreign language acquisition. Second Life involves online interactions through avatars, which can be personalized by users. It allows users to interact with each other using voice, chat, messages and nonverbal signs through the built-in cameras. Users can build and customize their own

virtual worlds that reflect the real world using their personal imagination. In fact, they are also allowed to carry out numerous real-life activities while teleporting to other worlds. In this study, the participants were asked to respond to online questionnaire and interview questions and also to keep journals. Their oral production and reflections on their learning experiences were observed and recorded. The findings reveal that the engaging, virtual, and creative nature of Second Life has developed and enriched the participants' language learning experience. The flexibility of the chat mode has provided participants multiple channels of communication and therefore language learning has become easier and more time-efficient. Also, the nature of teleporting in Second Life provides participants the opportunity to develop new vocabulary alongside with the discovery of new places. Moreover, the fun factor is another factor that has been highlighted by the participants. Participants viewed Second Life as a new and motivated way to learn language. However, the lack of paralinguistic features was also addressed in the study. Unfortunately, the paralinguistic features like laughing and screaming were not automatically displayed at appropriate moment and therefore, it resulted in the removal of nonverbal support. Hence, it could be concluded that virtual technology game, Second Life, has positive influence in developing vocabulary due to the virtual, fun and engaging nature despite its lack on paralinguistic features.

To conclude, this study highlights the need to explore the use of VR technology in improving speaking skills particularly oral presentation skills. It is important to note that the focus of this study is situational-specific anxiety in attaining speaking skill in second or foreign language learning environment. This study is conducted based on the respondents' perspectives on the use of the technology.

3.0 METHODOLOGY

This study is a mixed-method study to provide more in-depth insights on the research problem and topic. A questionnaire for the quantitative and interviews for qualitative. Explanatory design is adopted for the study's methodology.

3.1 Questionnaire

The followings studies are used as the basis in constructing a 30 Likert-scale item questionnaire to investigate students' attitude in using virtual reality applications to ease presentation apprehension. They are:

1. McCroskey's Personal Report of Public Speaking Anxiety (1970).
2. Analysis of student attitudes towards e-learning: The case of engineering students in Libya (2014) by Amal Rhema and Iwona Miliszewska from Victoria University, Melbourne, Victoria, Australia.
3. Student Engagement with an ePortfolio: A case study of pre-service education students (2011) by David Emmett from Queensland University of Technology.
4. Student Attitudes and Perceptions of Using Facebook for Language Learning (2014) by Craig Gamble and Micheal Wilkins.

The 30 items are grouped under four themes, namely - general knowledge about the technology, effectiveness of the technology, motivation and the use of technology in

educational institutions. The overall internal consistency value Cronbach's Alpha is .85. The items in the questionnaire are shown in Table 2.

3.2 Interview

The interview consisted of two related questions and the questions are:

1. Did you enjoy using the speaking VR application? Why?
2. Do you believe speaking virtual reality application will ease oral presentation apprehension/anxiety? Why?

4.0 FINDINGS

This section reveals the findings on students' attitude on the use of speaking virtual reality application in easing oral presentation apprehension. The findings of the questionnaire are presented first, followed by the findings of the interviews.

Table 1 Overall Mean on Students' Attitude

	N	Mean	Std. Deviation
Overall Mean	24	3.38	.712

Table 1 shows the overall mean of students' attitude on the use of speaking virtual reality application in easing oral presentation apprehension from the questionnaire which is neutral (mean= 3.38, SD= .712). A descriptive statistic on the 30 items is presented in Table 1 to show a more detailed finding for each of the item. The mean and standard deviation of the items are shown. The findings are based on the participants' rating of each item by using five-point Likert Scale which ranges from 1 (strongly disagree) to 5 (strongly agree).

Table 2 Descriptive Statistics showing TESL Postgraduates' attitude on the use of speaking virtual reality application in easing oral presentation apprehension

	N	Mean	Std. Deviation
1. I have knowledge on speaking virtual reality applications.	24	2.04	.690
2. I am familiar with speaking virtual reality applications.	24	2.21	.932
3. I have knowledge on how to use speaking virtual reality applications.	24	2.04	.751
4. I know how to use speaking virtual reality applications in order to improve my presentation skills.	24	2.12	.612
5. I believe speaking virtual reality application is the best method for language teachers to develop speaking skills	24	2.08	.830
6. I am interested to use speaking virtual reality applications in preparing for a presentation.	24	4.17	.702
7. I would use speaking virtual reality applications to develop my oral presentation skills in future.	24	4.04	.624
8. I believe speaking virtual reality applications provide me a valuable learning experience.	24	4.13	.612
9. I believe speaking virtual reality applications beneficial in preparing for a presentation.	24	4.04	.550
10. I believe the use of speaking virtual reality applications reduces my anxiety and tension that I feel while presenting.	24	3.88	.850
11. The use of speaking virtual reality applications reduces my fear of presenting.	24	3.83	.761
12. As I expose to the use of speaking virtual reality applications, I am looking forward to presentation.	24	2.96	1.042
13. The use of speaking virtual reality applications makes me more calm and relax while presenting.	24	3.83	.702
14. I enjoy preparing for a presentation with the use of speaking virtual reality applications.	24	3.96	.690
15. The use of speaking virtual reality application reduces my fear of unexpected questions from audience during presentation.	24	2.21	.833
16. The use of speaking virtual reality application increases my confidence in presenting.	24	4.00	.590
17. The use of speaking virtual reality application helps me control my anxious and tense feelings while presenting.	24	4.04	.624
18. The use of speaking virtual reality applications provides realistic situations of presenting.	24	4.04	.751
19. The use of speaking virtual reality applications in preparing for a presentation is more interesting than any other methods.	24	4.00	.722
20. The use of speaking virtual reality improves my fluency which is crucial for a presentation.	24	3.67	.868
21. The use of speaking virtual reality improves my pronunciation which is crucial for a presentation.	24	2.25	.847
22. The use of speaking virtual reality applications helps me convey my idea in a clearer and more organized manner.	24	4.04	.624
23. I agree that speaking virtual reality applications should be used in educational institutions in order to improve presentation skills.	24	4.25	.608
24. I am willing to spend money on speaking virtual reality applications.	24	3.00	.834

25.	I believe speaking virtual reality application is the best method for language teachers to develop speaking skills.	24	2.42	.830
26.	Generally, speaking virtual reality applications are a great tool to practice and improve fluency, pronunciation and interaction for a presentation.	24	4.13	.537
27.	Generally, speaking virtual reality applications are better than other methods in preparing for a presentation due to its experiential nature.	24	3.92	.584
28.	Generally, the use of speaking virtual reality applications helps me become a better presenter.	24	4.04	.550
29.	Generally, I believe speaking virtual reality applications ease my presentation apprehension.	24	4.00	.590
30.	Generally, the more I practice my presentation skills using speaking virtual reality applications, the better I will be at presenting.	24	4.08	.776
	Overall Mean	24	3.38	.712

Table 2 shows the mean scores of the 30 items ranged between 2 to 4 which is between disagree to agree.

5.0 DISCUSSION

This section discusses the findings on students' attitudes on the use of speaking VR application. The results of the study indicate that the respondents possess limited knowledge on speaking VR application. It is reported that more than half of the respondents is not familiar with the technology and majority of them do not have the knowledge on the technology and knowledge on the use to improve oral presentation skills. However, they are reported to be highly interested and motivated to use the technology in preparing for a presentation. This is reflected in the interview of the participants**.** One of the participants cited that "..it gives the almost true experience of giving out speech.. , it really felt like I am truly giving a presentation in front of strangers." (Madina, 25, female). This is further supported by Haila "I felt like I had been transported into another world. It was real and I could truly feel the presence of audience and my role as a presenter" (Line 7-8)

More than 80% of the respondents claim to enjoy preparing for a presentation with the use of speaking virtual reality applications. They also agree that the use of the technology in preparing for a presentation is more interesting than any other methods and they express their willingness to use the technology for that purpose in the future. Besides, findings from the interview reveal the association of their enjoyment on the use of the technology with the technology's innovative features. Nik (line 11-12) asserted that "It[VR] is something that I have never tried before and very futuristic. I like the fact that there is an application that I could use to practice rather than the traditional mirror practice". This is further agreed by Zakir "It is a new way of learning."

The use of head-mounted display has allowed the respondents to be immersed into the simulated virtual scene. This feature has resulted in amusement that encourages the use of technology in easing oral presentation apprehension. It seems possible that the respondents' motivation is due to the focus shift from practicing oral presentation to the technology use. Since they were so excited to use and explore the new technology, they subconsciously and

willingly approached the presentation task. Hence, it could be implied that the integration of technology provides crucial connection in improving oral presentation skills and technological literacies. These results reflect a study of Yin (2002) who also found that the use of technology has increased drastically students' motivation. In her study, the use of technology had driven students to be involved in the project due to their confidence on their ability to work with the technology. The focus of the task shifted from social studies content to technology use. This was contrary in the traditional classroom as they believed their poor skills could negatively affect their success in achieving the task. Hence, it could be argued that the use of technology could improve students' motivation to learn the learning content. It also improves student interest due to their familiarity and excitement with the integration of technology (Stockwell, 2013).

Furthermore, the findings also suggest that the respondents' believe on the use of technology in preparing for a presentation. The technology is believed to be beneficial in easing oral presentation apprehension by making them feel calmer and more relax and helping them convey their idea in a clearer and more organized manner. As well, it also could reduce their anxiety and tension while presenting and increase their confidence. The benefits also include improvement of fluency in presenting.

> "It gives the opportunity to the learner to lower presentation anxiety by practicing in real like situation for as many times as he/she wishes. It is a very good way to build and improve self-confidence. Through this app, I could get myself familiar with the possible situations, in this case, presenting. Once, I am familiar and comfortable or know what to expect in presenting, I believe my anxiety will reduce greatly." (Zakir, line 22-24)

These can be explained in part by the respondents' belief that the use of the technology in easing oral presentation apprehension provides a meaningful learning experience through the experiential learning feature which result in immersive learning. This is exemplified by Farah (line 19 - 21)

> "It is very meaningful learning experience. I believe the more we use it as a practice for a presentation, the more familiar we are with the act of presenting. Eventually we will believe the act of presenting is normal and hence reduce the anxiety".

It seems possible that these results are the effect of development from their interest on the use of technology to the interest in presentation task. As argued by Hidi and Renninger (2006), the development of interest could be influenced by one's knowledge, positive emotion and personal value. Positive affect is the result of one's increased knowledge as he/she feels more competent and skilled through task engagement. In this study, it is possible for the respondents to find personal meaning and relevance in the use of the technology as they spend more time to explore the technology itself. This is expressed by one of the interviewees when he said "I believe it does ease oral presentation apprehension due to its experiential nature. The replication of physical experience and the chance to take control in that situation are believed to be the factors" (line 9-10)

As the level of oral presentation apprehension is low, the VR users also could develop a personal performance goal on the task through the use of the technology rather than mastery goals. According to achievement goal researchers, performance goals focus on doing better than others in a situation which contradicts with mastery performance that focuses on developing and improving ones skills or knowledge (Ames, 1984; Dweck, 1986; Nicholls, 1984; Ames & Archer, 1988; Elliot, 2005). Hence, their individual's goals can also contribute

to the development of interest by leading them to become more engaged in the learning, develop competence, and to further explore the topic (Harackiewicz & Hulleman, 2010).

In addition, despite the respondents' belief on the positive effects of the technology, majority of them agree that speaking VR application is not the best method for language teachers to develop speaking skills. Farah (line 17-19) stated that

> "Yes as it is very unique compared to other traditional ways of improving speaking skills and no as I am very conscious of what other people think of my actions as I am using it. They might think my action is silly and disengaging with the real world. They might perceive my actions as 'silly'."

But it is highly recommended for educational institution to integrate the speaking VR application to improve presentation skills. This might relate to their belief that the technology generally could ease students' oral presentation apprehension and the more students practice their presentation using the technology, the better they will be at presenting. Hence, it can be concluded that the respondents' attitudes on the use of speaking VR application might be influenced by their motivation and interest on the use of the technology rather than the task itself.

6.0 CONCLUSIONS

To conclude, there is consensus among respondents on the enjoyment of the use of speaking VR application and also on the use of it in easing oral presentation apprehension. The realistic features of virtual scenes and its innovative and unique ideas compared to other traditional methods are identified as the main factors that contribute to the agreement. Thus, the factors have resulted in the immersive and engaging learning experience as well as meaningful learning which is beneficial to ease the oral presentation apprehension.

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