

Virtual Reality Involvement within Project-based Learning towards Student's Speaking Proficiency

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ABSTRACT

Popular technology that imitate real life environment called virtual world or virtual reality enables the users to interact with people around the world in many simulated places. Zepeto is one of popular virtual reality games. This research intends to describe the implementation of Zepeto in Intensive Course class, the impact on student's speaking skill, and the student's perception towards the use of Zepeto. Case study was used as research design. The data were gained through observation, questionnaire, rubric, and interview. The participants of this study were 15 students of IC class, first semester students of English Department in IAIN Kediri. The result of this research shows that Zepeto was well-implemented in IC class. Furthermore, the use of Zepeto gives positive impact on student's speaking proficiency. Additionally, the use of Zepeto gained positive response from students. By finishing this study, EFL teachers are suggested to try implementing virtual world game to facilitate students in mastering English speaking.

Keywords: Virtual World, Virtual Reality, Speaking, Project-based Learning

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INTRODUCTION

As we know, the development of technology is widely increased these days. Some developers always try to make innovation on their product. Appeared as an idea to facilitate people who want to create their dream world, virtual reality becomes famous in this era. Virtual reality is defined as simulated-world which enables the users to experience virtual society and environment (Mandal, 2013). In virtual reality, the users can do many activities like in real life, such as talking with friends, exercising, working, and even selling some stuff (Farsi et al, 2021). Now, people can find many kind of virtual reality application in the internet. In its first appearance, virtual reality or VR was mostly played in the leisure time to kill the time and mostly used for advertisement (Fakhrudin, Yamtinah, & Riyadi, 2019). However, some researchers from education field try to apply the virtual reality in the classroom as one of teaching media. Before implementing VR in the process of teaching and learning, some research were conducted to investigate the

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probability of success in applying VR for education. For example, a research accomplished by Lege and Bonner (2020) investigates the promise, the progress and the challenge of Virtual Reality (VR) implementation in education. Additionally, a research about some opportunities and challenges of VR implementation in education was also conducted (Gonzalez et al, 2013). Then, the further researchers attempt to implement VR technology in some subjects such as language learning, science, math, etc. (Lie et al, 2022). Some research that involves VR technology in teaching and learning process, especially in language learning, show positive impact on students results (Alshumaimeri, Gashan, & Bamanger, 2019).

Reflected to the possibility of VR involvement in education, this research aims to investigate the integration of VR and PBL (Project-based Learning) approach in language learning. Project-based Learning, according to Martanto et al (2022), is a learning model that enables students to learn independently by designing project, solving the problem, and increasing awareness of responsibility. Project-based Learning emphasizes on student-centered learning where students take more roles in learning process than the teacher (Agustina, 2016). Hence, PBL is considered as suitable model to be combined with VR technology implementation in teaching and learning process. It is approved in a research conducted in 2022 where the researcher of that study combine VR technology and PBL model in teaching language (Bukhori et al, 2022).

Since there are many types of VR technology, this research focused on Zepeto application. Based on its website, Zepeto has many features that are suitable for the subject learnt by students when this research was conducted. Zepeto is one of metaverse platforms from Korea and it serves a 3D avatar-based (Kye et al, 2021). There is an interesting feature in Zepeto that enables the user to create their 3D world, named 'Built It'. That feature was implemented by speaking teacher in IAIN Kediri as teaching media to improve student's speaking proficiency. This research, then, is intended to investigate the detail implementation process from instruction given to performance feedback delivery.

METHOD

This research used qualitative approach and case study design to obtain and enlighten the data. Case study is one of research design that enables the researcher to gain deep information and examination towards specific case (Yildirim et al, 2020). On case study, the researchers emphasize the research within limit phenomenon, relationship, or participant to investigate a case in detail. Case study was used by the researcher to investigate real-life situation and the impact of VR implementation at English Intensive Course class in IAIN Kediri.

In this study, 15 students who join English IC (Intensive Course) class are involved as participant. To know the procedure in applying VR technology in IC class and to find the impact of VR on student's speaking proficiency, the researcher used several instruments, as follow:

1. Observation Sheet

The observation sheet was used to find out the process of implementing VR as a project in IC class for speaking. The researcher would observe whether or not the assigned lecture applied virtual reality as project in speaking class elaborately.

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2. Questionnaire
The statements in questionnaire were adapted from Darwis (2016). The aim of utilizing observation was to gather student's perception towards virtual reality implementation. It will show whether or not the students interested on virtual reality application.
3. Interview Guideline
In order to avoid any bias on student's opinion, interview section was enforced. The researcher chose 5 students as sample participant. Based on Creswell (2012), there are several step that should be followed when conducting an interview. Those steps are identifying interviewees, recording the question and answer, and being professional during the interview.
4. Speaking Assessment Rubric
Rubric to assess speaking fluency in this research was adapted from Jaelani and Utami (2020). There are several competencies that include in the rubric, named vocabulary, basic grammar structure, speaking flow, and pronunciation.

Since this study used Project-based Learning as its approach, the researcher provides project rule applied in this study. When the researcher conducted this study, the topic that learnt by the students was describing thing and place. Hence, the project should contain an activity related with speaking to describe thing and place. Furthermore, the students will be given a project to build a dream world using Zepeto as one of virtual reality technology. In Zepeto, students are permitted to create imaginative world. Before starting the world building, students will be divided into several groups. When the project finished, students presented their project outcome in front of the class by describing some places and things in their dream world.

FINDING

Virtual Reality Implementation as Learning Project

The observation on Virtual Reality Implementation in English Intensive Course for speaking was done in several meetings. This is expected to obtain the details of VR implementation within Project-based Learning in IC class. The observation checklist consists of three stages of teaching, namely pre-teaching, whilst-teaching, and post-teaching. The following table shows the results of observation stage. There will be short but clear description under the table.

Table 4.1
Data of Observation

No.	Observation Item	Yes	No
Pre-teaching			
1	Greetings Students	✓	
2	Checking student's attendance		
Whilst-teaching			
1	Teacher introduce Virtual Reality to students	✓	
2	Teacher introduce Zepeto in details (how Zepeto works and its features)	✓	

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3	Teacher gives clear instructions to do the project using Zepeto	✓	
4	Teacher gives feedback towards student's speaking performance.	✓	
Post-teaching			
1	Teacher checks student's understanding	✓	
2	Closing remark	✓	

Overall, assigned teacher did all activities mentioned in observation checklist. In pre-teaching and post-teaching, teacher does not make any changes to the activities. Greetings and checking student's attendance are always existed in pre-teaching. While checking student's understanding and giving feedback are done in post-teaching. During the whilst-teaching, assigned teacher was required to introduce a) Virtual Reality: The introduction includes what VR is, how it works, in what platform it can be played, and how and where students can get VR, b) introduce Zepeto in details: Teacher explained how Zepeto can be related to VR, how Zepeto works, what features served in Zepeto, and an example to operate Zepeto, c) give clear instructions to do the project using Zepeto: Here, the assigned lecturer told students what they should do, then mentioned the rule, the steps that should be followed by students, and mentioned some items that will be scored, and d) give feedback towards student's speaking performance: The assigned lecturer mentioned the strength of student's presentation and mentioned what they should improve, if any, as well. All those activities were done in several meetings.

Student's Perception towards Virtual Reality Implementation

Regarding to the student's perception data of VR implementation, questionnaire and interview were applied. The questionnaire consists of 8 statements. The result of questionnaire, then, was analyzed. In order to provide clear analysis, the researcher served the result in percentage.

Table 4.2
Questionnaire Result

No	Statement	Yes	No	Unsure
1	I am familiar with Virtual Reality (VR) technology	60%	40%	
2	I am familiar with Zepeto application	27%	73%	
3	Zepeto is new for me	73%	27%	
4	I enjoy learning with Zepeto implementation	67%	20%	13%
5	Creating my dream world in Zepeto makes me easier to describe thing and place.	73%	20%	7%
6	Zepeto is too complicated for me.	13%	87%	
7	I want Virtual Reality technology to be implemented in the process of teaching and learning	80%	20%	
8	I don't recommend teacher to implement Virtual Reality in teaching and learning process.	20%	80%	

In the first statement, *"I am familiar with Virtual Reality (VR) technology"*, there are 60% students who choose yes and 50% choose no. The second statement, *"I am familiar with Zepeto application"*, gained 27% yes and 73% no responses. *"Zepeto is new for me"* statement got 73% yes and 27% no responses. In the fourth and fifth statements, 67% and 73% yes responses, 13% and 7% unsure responses, and 20% no responses for both statements. While in sixth statement, 87% students said that Zepeto is easy to be operated. The last two statements shows that students prefer to recommend the implementation of VR technology in the classroom. That is shown from the data that there are 80% students who agree that teacher implements VR technology.

Besides the questionnaire, the researcher took five students as sample to do interview section. The interview was done to ensure that the data from questionnaire are trusted. In the interview, some questions regarding to novelty, enjoyment, and expectation of VR in speaking class were asked.

Table 4.3
The result of interview session

Student's initial	Interview Item		
	Novelty	Enjoyment	Expectation
S1	I know about VR, but Zepeto sounds new for me.	I enjoy learning with Zepeto	I expect VR can improve my speaking
S2	I know VR technology. I don't know Zepeto before.	Zepeto is enjoyable for me	Maybe other teachers can use VR too.
S3	Ya, maybe I knew. I'm not sure	It's fun	I will be happy to do another project using VR.
S4	Yes. I know	It's fun, but little bit difficult	I hope I can learn more using VR
S5	I don't know Zepeto before this project	I think it's difficult if it's individual project.	I hope the next project will be a group project

Based on the table, it can be understood that students are familiar with VR technology, but Zepeto as one of VR technologies was not very popular among the students. Furthermore, students state that they enjoyed using Zepeto as VR technology to learn and improve their skill. However, students prefer to do group project during the project completion. Additionally, students expect more teachers use VR technology as learning media in the process of teaching and learning.

The Impact of Virtual Reality on Student's Proficiency

The implementation of VR technology, Zepeto, was expected to increase student's speaking proficiency. Hence, the researcher needs to examine student's speaking performance. The researchers examine student's speaking performance using documentation rubric. Vocabulary, grammatical structure, speaking flow, Pronunciation, and topic development were included in the assessment rubric.

Table 4.4

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Students' Speaking Performance

Student's Initial	V	G	SF	P	T	Total
S1	4	3	3	4	3	17
S2	3	3	3	4	4	17
S3	3	2	3	3	3	14
S4	4	3	3	4	4	18
S5	4	4	4	4	3	19
S6	4	4	3	4	3	18
S7	3	4	3	4	4	18
S8	3	3	2	3	3	14
S9	3	2	2	3	3	13
S10	4	4	4	4	4	20
S11	3	4	4	4	3	18
S12	3	3	3	3	3	15
S13	3	2	3	3	3	14
S14	4	3	3	4	3	17
S15	3	4	3	4	3	17
Total	51	48	40	55	49	229
Average	3.4	3.3	3.2	3.7	2.7	3.3

Note:

4: Excellent

3: Good

2: Fair

1: Bad

V: Vocabulary and expressions

TD: Topic development

G: Grammatical structure

SF: Speaking flow

PI: Pronunciation

Although the project was conducted as group project, the assessment was done individually. The speaking fluency that are assessed consists of five criteria, namely Vocabulary and expression, grammatical structure, speaking flow, topic development, and pronunciation. The maximum and minimum score of each criterion is 4 and 1 respectively. Based on the data the average score of each criterion is above 3, expect the topic development criterion. It can be conclude that student's speaking proficiency in this PBL approach showed positive impact.

DISCUSSION

Education is always enforced to follow the rapid development of technology. An up to date teacher can encourage the improvement of student's proficiency. This research aimed to investigate the implementation of Virtual Realty (VR) in IC class.

Observation becomes the first stage in conducting this research. Observation was done to know the detail process of VR implementation using Zepeto into Project-based Learning. From the observation, the researcher found that the assigned lecturer did three sections of teaching, pre-teaching, whilst-teaching, and post-teaching. In the core of teaching process, assigned lecturer gave several explanation. First, the assigned lecturer introduced Virtual Reality (VR) technology in the first meeting when this observation was conducted. Second, the assigned lecturer introduce Zepeto. Third, after students gained adequate information about VR and Zepeto, lecturer started to give instruction

for students in Zepeto project. Fourth, in the end of the project, the assigned lecturer was required to give feedback for students so they can be better in the next project.

After conducting an observation, the researcher share a questionnaire and did an interview section. Both questionnaire and interview were done to know student's perception towards VR implementation. The statement in questionnaire and the question in interview are related to the novelty, enjoyment, and expectation. More than half students state that they are familiar with VR technology but feel strange on Zepeto. However, students were enjoy conducting a project in Zepeto. It can be seen from the data that more than 50% gives response yes in enjoyment part.

To examine the effectiveness of VR implementation, the researcher used speaking assessment rubric. Part of speaking that were assessed in this study are vocabulary, grammar structure, speaking flow, pronunciation, and topic development. Overall, the average of student's speaking performance is good. It means that by describing their dream world, students can be easier in performing and improving their speaking skill.

CONCLUSION

Project-based Learning (PBL) has been approved by many researchers, including this research, as an effective approach to improve student's proficiency. By applying PBL, students are able to learn independently. In this research, the researchers investigate the implementation of Zepeto as one of VR technology in Project-based Learning in the term of improving student's speaking proficiency. The data showed that students are enjoy completing their project, creating a dream world, using Zepeto. Additionally, since they can create their own dream places, it is easier for them to describe it. It can be seen from the student's speaking outcome that was scored using a rubric. Furthermore, Virtual Reality (VR) can be used as one of alternative media to improve and increase student's speaking proficiency, especially in higher education.

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