

Investigating the Effectiveness of Using Virtual Reality to Improve Vocational Students Ability in English Descriptive Writing

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Abstract: English as a global language has shifted its teaching method to technological aid with virtual reality as an alternative to do so. Virtual reality (VR) has been long known as one of the method in teaching particularly for vocational students. It let the learners to undergo a computer-generated environment that seems to be real and interact with it immediately. However, only few studies have investigated the effectiveness of integrating virtual reality to improve vocational student's ability in writing descriptive text in English. Writing performance is one of the indicators whether the students mastering English or not. Based on that reason, teaching them descriptive writing will give useful knowledge as long as to train them to master technique in writing. One of the prominent genres in English writing is descriptive writing. Descriptive writing is used mostly to describe an object, person, place specifically. This current study aims to investigate how far virtual reality can be used to improve the ability of vocational students in writing descriptive text. The researchers would employ several objects in virtual world which provides sources for the participants to learn about descriptive text. The mixed-method approached was used combining with pre- and post-test surveys and semi-structured interviews. Participants are 22 English learners from the third semester majoring in Graphic Design who are studying English for Specific Purpose (ESP). The result demonstrated that albeit the majority of students took pleasure in using virtual reality, they intended to have various attitudes regarding the advantage of using it in the studying process. Moreover, the outcomes from a correlation analysis indicates that learners' attitudes towards the materials being learned (ESP writing) remarkably corresponding to students' attitudes towards using virtual reality (VR).

Keywords: Descriptive writing, Teaching English, English for Specific Purpose, Virtual reality.

Introduction

Technology has changed the way educators and students set their classroom activity. In fact, the use of it has improved all levels of academic with educators applying them in order to increase the learning experience of their students (McGovern et al, 2019). One of the technological developments which currently used by educators is virtual reality (VR). The use of it has been widely investigated in many fields such as sports (Viganais, et al, 2015), healthcare for the surgery process (BeyerBerjot et al., 2016) and indeed in education (Zhang et al., 2017). It means that VR is the growth of technology

that people can use to change their conventional method in working.

The effectiveness of using VR in education is also one of the studies that educators need to explore. It has been long known that the users can use this with either headset or non-headset-based experiences. In particular, Linden Labs' Second Life has been the attention of many academic articles on VR despite it being desktop pc software using a keyboard, mouse, and monitor (Chen, 2016; Paramaxi, 2020). Moreover, researchers in VR have examined whether it is possible to rise learning and enrich vocabulary in a new language. Tai, Chen, and Todd (2020) conducted a study comparing

student performance following content delivered by video to content experienced in VR.

As one of the skills in English, writing is acquired to describe something thoroughly to the readers. As part of 21st century skill, it is necessary for vocational students to master writing in English to support both their academic activities and daily life (Ratnaningsih, et al, 2019). Furthermore, this skill is productive which means that the learners should produce the work in such a way and it involves wide knowledge of the writers. The challenges are the complexities and limitations that result in barriers for the students to write. In fact, studying how to write has been proven to contribute benefits to the students in the terms of leveraging their language learning strategies which has currently become a main concern of many experts in the movement of combining reading-writing instructions (Sa'diyah, 2011).

Descriptive writing represents how things looked, smelt, heard and its main functions are to evoke moods, happiness, loneliness or fear (Nabhan, 2017). It also has its own format and generic structures which are composition of an identification stage (first paragraph), one or more feature descriptions (second paragraph) and the closing part (last paragraph) with discernment of what is described (Dolon & Todoli, 2008). Therefore, this genre in writing has its own difficulties to do especially for Non-English learners who have limitations in acquiring English as their second language.

Using Virtual Reality (VR) to Improve Vocational Students ability in Writing Descriptive Text

Investigating how VR has contributed to the teaching and learning of description text is useful to do for the researchers. Wang, Et al (2019) used meta-analysis of studies on 3D virtual worlds in language learning. Another study is done by Scavarelli, et al (2019) who stated that the biggest challenge in utilizing Vr is deciding how good to use this technology to improve students' learning in a way that is not solely recreating or displacing physical classroom. Several studies also suggested that VR can be used to encourage and to boost students' motivation in studying writing (Xu, 2011 ; Liu, 2013).

In connection to teaching descriptive writing, one of the VR products that useful is goggle earth. Some of researchers have investigated the impact of using Google Earth Virtual Reality into English learners writing. Chen (2019) found that the students in rural Midwestern Town exhibited significant rise in expository writing specially in using *descriptive, cause/effect, comparing and contrasting* and *repetition*. Another study was from Hagge (2020) which conducting the research in Arkansas and discovered the use of VR in distance learning. The result showed that the students had positive perceptions toward using VR. This study aims to find out how the google earth is employed to support the students' descriptive writing ability.

Materials and Methods

This study is done in State Polytechnic of Creative Media Kampus Medan. It involved 22 learners majoring in graphic design. Mixed-method technique is applied to this study in order to get better outcome from the research. This technique involves combining qualitative and quantitative approach (Schoonenboom, 2023). For the quantitative data, the participants' descriptive writing were collected both before and after the experiment. As for the qualitative data, interview was done to get the answers from the students. The pre-test score and post-test score were compared to see how the impact of using VR in supporting the descriptive writing. Thirty participants were asked to write a description from three options *my favorite holiday destination, my hometown, and one city I would like to visit*. The topic chosen in the pretest and post test should be the same. The students are also trained on how to prepare their writing before the pre-test and post- test. Method by Mclean (2012) is implemented. The steps involved are pre-writing, drafting, revising, editing and publishing.

Procedures

The participants are taught about the descriptive writing and how to create it in three meetings. Subsequently, they are told about the choices of the topic. After choosing the topic, all of them wrote in range 100-250 words. The first stage is doing the

pre-test. The researchers then collect the students' work and analyze each of it and give the score. The rubric used is Gottlieb (1999) which giving 5-point scale that examined the *language production, focus, support & elaboration* and *organization*. After the pre-test, the students then exposure with google earth to find the images related to the essay they have produced before and then re-write the same topic.

Data Analysis

The analysis involves three stages. The first is analyzing and marking the students' pretest. The second step is giving the score to the students post test and compare both to get the quantitative data. The last stage compares what have been changed in the final writing of the students (after exhibited to google earth vr).

Results and Discussions

The result for the quantitative data is the pre -test and post test score. Pairing these two scores show how the participants' writing changed.

Table 1. students score before and after the treatment using VR-Goggle.

No	Students' Initial	Pre test score	Post test score	Gap
1	ARK	10	15	5
2	DS	7	11	4
3	DASa	11	14	3
4	DASi	11	15	4
5	DHW	12	17	5
6	DPS	10	15	5
7	EDG	8	14	6
8	FD	8	13	5
9	HAZ	9	15	6
10	IRE	11	13	2
11	JAS	13	18	5
12	JYW	9	12	3
13	JPL	10	15	5
14	MFT	13	18	5
15	MAE	11	17	6
16	MMM	8	14	6
17	NPS	8	14	6
18	NA	7	13	6
19	RAR	10	15	5
20	SAP	10	16	6
21	SPSM	11	17	6
22	TS	9	16	7

As it can be seen from the table, all of the participants showed a rise in their post test score after given time to experience the google VR to see the places they write about. While seeing the objects, they are allowed to take notes. This note-taking activity permits them to have more resources to their writing. The researchers found that participants improved in several aspects such as *the structures of description, compare and contrast, cause and effects* and *the number of words written*.

As for the result from qualitative data is taken from the interviews. All the participants were asked about their opinion and perception on doing this activity. Here are some notes that the researchers obtained from the interview.

- Most of the participants exhibited positive attitudes on the usefulness of using Goggle Eart VR and they realized it improved their writing ability.
- Some participants claim that it is easy to use the Goggle Earth VR
- Majority of the students argue that it is a flexible way to learn through the Goggle Earth VR
- Some students realized that it will not avoid them from making mistakes in their writing, but they noticed that it benefitted them in providing ideas.
- Some students found it is fairly difficult to follow the trip in Goggle Earth VR while taking notes.
- All of the students agreed that seeing virtual objects give them new insights to write.
- Majority of the students wished to screen capture the objects while taking-notes so that they might see the objects later in time.
- All of the students agreed that this activity is engaging to improve their writing ability in description gender.

Discussions

The are several ways to improve students' writing ability in writing descriptive essay. This research investigated the effectiveness of using Vr to enhance writing. The Virtual reality that is being used is the goggle earth. This research found both higher scores and positive attitudes of the students

after studying with goggle earth VR. This study reveals that this easy-use-activity gave more enjoyable time for the students in studying writing and it improved by the possibility of taking notes. However, there are some limitations found during the study took place. Due to limited time as well as number of participants joined, this research does not really provide thorough details and requires more detailed analysis. This activity is students' centre which means that when seeing the VR goggle earth, the teacher did not around to guide them taking notes.

Conclusion

It should be realized that using VR actually helps students in enriching and improving the students' writing ability. Through virtually travel and see the objects, they can get inspiration, insight and input on what to write on their essay. The aspects of descriptive writing that examined are *language production, focus, support & elaboration* and *organization*. The qualitative data from this research shows that all of the students' score rise with qualitative data is the result from students' opinion about using VR goggle earth. It is shown that Vr especially goggle earth is effective in building up the students' ability in writing descriptive essay.

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