



Indonesian Journal of Educational Research and Technology



Journal homepage: <http://ejournal.upi.edu/index.php/IJERT/>

The Use of Virtual Reality as A Substitute for The Pre-School Students' Field Trip Activity During the Learning from Home Period

Farah Firdiarahma*

Indonesia University of Education, Indonesia

*Correspondence: E-mail: farah.firdia17@upi.edu

ABSTRACT

This study aims to examine the use of virtual reality as a substitute for the pre-school students' field trip activity during the learning from the home period. This research used a literature study as the research methodology. We conducted this study by observing and analyzing several journals on the use of Virtual Reality as a medium of learning. The various results of the journal analysis were used to determine whether virtual reality could be a substitute for the pre-school students' field trip learning activity in this learning from the home period. By using Virtual Reality, the students would still be able to participate in field trips while still pays attention to the steps of conducting a field trip, such as (1) planning and preparation period; (2) the execution of the event, and; (3) the return time. Besides being considered as an effective tool to increase students' learning interest and improve their learning outcomes, virtual reality can also be a substitute for the real field trips during this Covid-19 pandemic. Therefore, the students do not need to leave the house to participate in field trips. Hopefully, the result of this research would be able to provide the readers with new insights and knowledge on the utilization of virtual reality as a substitute for the pre-school students' real field trip activity especially in this learning from the home period.

ARTICLE INFO

Article History:

Submitted/Received 26 Mar 2021

First revised 08 Apr 2021

Accepted 11 Apr 2021

First available online 11 Apr 2021

Publication date 01 Sep 2021

Keyword:

COVID 19 pandemic,

Field trip,

Medium of learning,

Virtual reality.

1. INTRODUCTION

Field trip is a part of school learning activities which usually requires the students to travel outside their home and visit certain neighbourhoods or locations in search of learning information and knowledges. Through Virtual Reality (VR) students can still get the similar experience of taking the real field trip which unfortunately cannot be conducted during the Learning from Home period in this pandemic (Hu-Au & Lee, 2017).

According to several experts who conducted studies on Virtual Reality, Virtual Reality has great potential as an innovative medium of learning for pre-school students and its utilization helps to increase and improve students' learning outcomes. However, it is still need to be confirmed whether the Virtual Reality could really be a substitute for the pre-school students' real field trip activity in this Learning from Home period (Pham *et al.*, 2018; Bursztyn *et al.*, 2017; Petersen *et al.*, 2020).

The objective of this research was to identify and determine the utilization of Virtual Reality as a substitute for the pre-school students' real field trip activity especially in this Learning from Home period. In this study, the researcher used literature study as the research methodology by analyzing journals related to the use of Virtual Reality as a medium of learning. By using Virtual Reality, the students would still be able to participate in field trips while still pays attention toward the steps of conducting and organizing a field trip namely: (1) Planning and Preparation Period; (2) The execution of the event and; (3) The return time. Besides being considered as an effective tool to increase students' learning interest and improve their learning outcomes, Virtual Reality can also be a substitute for the real field trips during this Covid-19 pandemic.

2. METHOD

This research used literature study as the research methodology. The researcher read through and analyze several journals on the use of Virtual Reality as a medium of learning. The various results of the journals analysis were used by the researcher to determine whether the Virtual Reality could really be a substitute for the pre-school students' field trip learning activity in this Learning from Home period.

3. RESULTS AND DISCUSSION

3.1. Virtual Reality as a Medium of Learning

The Virtual Reality technology has been utilized and integrated in various educational fields and context for a long time, offering interactive learning environments that requires and generates the students' participation and has made it possible for the students to visualize and interact with virtual-world or digital-space simulated in various situation and condition by the Virtual Reality. This technology was introduced as an innovative resource to solve complex problems and generates practical and realistic solutions for the students in a unique way (Chao *et al.*, 2014).

Based on the result of the studies on the use of Virtual Reality as the medium of learning conducted by several experts, the Virtual Reality can be utilized as a medium of learning which will help to increase the students' learning interest and improve their learning outcomes. Moreover, the use of Virtual Reality improves the students' learning process which filled with needs to incorporate visualization into the lesson, a lot of practices, as well as the problem that is very commonly existed in the learning process which is the limited learning sources for the students. The use of Virtual Reality would also help the students to improve their comprehension toward the learning materials given by the teacher in the teaching and

learning process. **Figure 1** shows virtual reality uses to take virtual tour (Pham *et al.*, 2018; Liou *et al.*, 2017; Bursztyn *et al.*, 2017; Petersen *et al.*, 2020).



Figure 1. Using virtual reality device to take a virtual tour.

3.2. Taking Field Trip using Virtual Reality

Based on previous studies discovered that Virtual Reality makes field trip activity become more interesting and efficient. It also eliminates the students' bad impression on certain field trip destinations, for example museum field trip or other boring trip to historical places or heritage sites. The application of the Virtual Reality makes the trip to museum or any other visitation to historical places or heritage sites even more interesting, it is also helps saving time and money. Following the research findings above it can be said that Virtual Field Trips (VFT) using Virtual reality Technology, can be a substitute for the real field trips activities (Bradley, 2018; Liou *et al.*, 2017; Berki, 2020; Domingo & Bradley, 2018).

3.3. Implementing Virtual Reality as a Substitute for the Real Field Trip Activiy

The process of integrating and implementing Virtual Reality technology into the learning process as the substitute for the real field trip in the period of Learning from Home during this pandemic can be done effectively by following the steps of conducting and organizing a field trip proposed by Papanastasiou *et al.* (2019) as followed: Planning and Preparation Period; (a) Prepare the teaching materials; the lessons and learning materials that will be delivered and taught to the students, and explain the purposes of the lesson and the trip to the students; (b) The teacher needs to prepare and provide all the necessary Tools, learning supplies and technological support for each student. Considering this pandemic situation and how the Virtual Field Trip will be done from their home, the teacher can take turns to lend the necessary tools for the Virtual Reality to the students. To prevent the spread and the infection of Covid-19, the teacher must maintain the cleanliness of the Virtual Reality environment, make sure the sanitation and health protocol is followed by everyone; (c) To run the Virtual Reality, it requires Mobile phone to display the videos which are used as the teaching materials; (d) Select the content of the Virtual Reality video that is suitable with the lesson and teaching materials which will be taught to the students; (e) Connect the Mobile phone to the Virtual Reality device. The execution of the event; Mounted the Virtual Reality gear on the students' head. Let them explore by walking inside the Virtual Reality realm. Give them time or instructions to stay focus on the trip. (2) Help the students to understand the instructions in the video so that the objectives of this virtual field trip stays the same as the

objectives of the real field trips. The Return time; (1) Similar to the real field trip, students were guided to reflect and exchange their experience on the virtual trip and what they get from it through discussion.

4. CONCLUSION

By utilizing the technology, field trips can still be done through the medium of Virtual Reality. Virtual Reality generates and presents the users with virtual environments. Through the various results of previous studies, it was found that we can travel or take trips virtually using the Virtual Reality technology. Therefore, it can be concluded that Virtual Reality or it is known as Virtual Field Trips (VFT) which generated using Virtual reality Technology, can be a substitute for the real field trips activities especially during the Learning from Home period.

5. ACKNOWLEDGEMENT

I would like to express my gratitude to my dear parents, my colleagues who are always willing to have discussions, brainstorming new ideas and solving problems together which motivated me to give my best to finish this research.

6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

7. REFERENCES

- Berki, B. (2020). Experiencing the sense of presence within an educational desktop virtual reality. *Acta Polytechnica Hungarica*, 17(2), 255-265.
- Bursztyn, N., Walker, A., Shelton, B., and Pederson, J. (2017). Increasing undergraduate interest to learn geoscience with GPS-based augmented reality field trips on students' own smartphones. *GSA Today*, 27(5), 4-11.
- Chao, K. H., Lan, C. H., Chang, K. E., and Sung, Y. T. (2014). Implementation of a mobile peer assessment system with augmented reality in a fundamental design course. *Knowledge Management and E-Learning: An International Journal*, 6(2), 123-139.
- Domingo, J. R., and Bradley, E. G. (2018). Education student perceptions of virtual reality as a learning tool. *Journal of Educational Technology Systems*, 46(3), 329-342.
- Hu-Au, E., and Lee, J. J. (2017). Virtual reality in education: a tool for learning in the experience age. *International Journal of Innovation in Education*, 4(4), 215-226.
- Liou, H. H., Yang, S. J., Chen, S. Y., and Tarn, W. (2017). The influences of the 2D image-based augmented reality and virtual reality on student learning. *Journal of Educational Technology and Society*, 20(3), 110-121.
- Papanastasiou, G., Drigas, A., Skianis, C., Lytras, M., and Papanastasiou, E. (2019). Virtual and augmented reality effects on K-12, higher and tertiary education students' twenty-first century skills. *Virtual Reality*, 23(4), 425-436.
- Petersen, G. B., Klingenberg, S., Mayer, R. E., and Makransky, G. (2020). The virtual field trip: Investigating how to optimize immersive virtual learning in climate change education. *British Journal of Educational Technology*, 51(6), 2099-2115.
- Pham, H. C., Dao, N., Pedro, A., Le, Q. T., Hussain, R., Cho, S., and Park, C. S. I. K. (2018). Virtual field trip for mobile construction safety education using 360-degree panoramic virtual reality. *International Journal of Engineering Education*, 34(4), 1174-1191.