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Learning *Bahasa* through Immersene Virtual Reality Technology

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Abstract – As information technology is evolving, so does learning. There are plenty of technologies designed to help learning. One technology that is introduced in teaching and learning process is Virtual Reality (VR). This article mainly discusses about the writer experience in using VR technology in teaching Indonesia as other Language (BIPA) using Immerseme online application. The qualitative research is in form of a case study with narrative inquiry as the major research design and observation as the method of collecting the data. In the finding and discussion, the writer gives general information about the Immerseme app and how it looks like. Further, the discussion underlines how the app helps the learner and what problem that might occur during the process of learning through VR technology. The writer would also like to give some inputs on how Immerseme with the VR technology could improve what has already been well developed.

Keywords: VR, Bahasa, Language learning

1. Introduction

The emerge of Virtual Reality (VR) as learning tools have been researched long ago. An article written by Helsel in 1992 sees the impact of virtual reality upon education. She believed that VR has the potential to shift the reliance of textbook to experiential learning in naturalistic setting. In almost three decades from the year of that article, technology advancement has rapidly improved. From a simple virtual environment like using a screen and a joystick, to a more immersive virtual environment where the user gets the feeling of actually in it, and now not only one user can be within the virtual environment but multi players known as collaborative virtual environment (Bailenson, et. al., 2008). VR now commonly used in learning or gamification of learning, simulation and so on. Particularly in language learning, Virtual Reality Assisted Language Learning (VRALL) has widely been developed for variety of languages. While plenty of articles discussed its uses in more common language, there is only a few particularly talking about less commonly taught language like Bahasa.

BIPA or Bahasa Indonesia for speaker of other languages is usually categorized as less commonly taught language. This distinctively separate Bahasa from other popular language such as Chinese Mandarin, Spanish, Deutsch, French, Japanese, and Russian. Therefore, when it is offered as language subject, the enthusiast can be counted with both hands. Apart from being less popular, the existence of Bahasa in one of language offered by ImmerseMe platform should be appreciated. This article elaborates further the use of ImmerseMe VR technology in learning Bahasa Indonesia. The discussion will be written in the perspective of a language teacher or instructor.

2. Method

This is descriptive qualitative research with an active participatory approach. The researcher directly experienced the VR technology being discussed and was involved in a VR task force to maximize the learning experience through virtual reality environment. The method of this research is descriptive exploratory method where the main focus is to answer the question of 'what is' or 'what are' (Bickman & Rog, 1998).

2.1 Research design

The design of this research is narrative inquiry. Narrative inquiry is seen as the record of individual or group, revealing the lived experience or particular perspective of that individual. Mainly the data is gathered through interview, field note, and observation. The personal narrative of the researcher is the key point of this design.

Quoting what O'Grady et al. (2018) believe about narrative inquiry research shows that this type of research is yet to evolve and offers a whole new perspective of understanding a phenomenon.

Narrative Inquiry, in challenging inherited dominant understandings of subjectivity and research methodologies as well as proposing emancipatory alternatives has the potential to give voice to often silenced knowledge. (O'Grady, 2018)

Ford (2020) states that narrative inquiry is a phenomenological qualitative research method that examines individual human experiences. By accounting the detail of researcher's experience written chronologically, another perspective is revealed.

2.2 Participants

As a narrative inquiry research, the researcher is the sole participant in this research. The data is all the accounted experience of the researcher. Observation, field note and focus group discussion were done as a way of triangulate the data.

The project of Virtual Reality through ImmerseMe is considered newly implemented. So, before the students (other users) were asked to contribute in research, the researcher who acted as the instructor did a thorough review first.

2.3 Data Collection

The data collection method in this research includes observation and library research. The source of the data was the researcher's own experience, literature review and focus group discussion with the ImmerseMe task force.

2.4 Data Analysis

All the result of data collection was then analyzed through triangulation method. The information gathered from observation was then cross checked with other data from documentation, and focus group discussion.

3. Results and Discussion

This research seeks for further elaboration of ImmerseMe as one of VR technologies in language learning particularly in Bahasa Indonesia. As one of language instructor at Colorado University Boulder, the researcher got the chance to experience ImmerseMe platform which was also integrated to the class she taught.

Before the semester was started, there was one meeting with the whole member included in the ImmerseMe task force. The first meeting was discussing about the platform and the tools to support the learning experience. To extend the VR experience, all students and instructors were provided with cardboard VR glasses. The cardboard VR glasses can be used with a cellphone, so that the whole experience of virtual reality can be achieved.

First impression of opening the platform the researcher was excited beyond compared. Because not only that she could teach using the platform but she could also learn other languages provided in the platform. In ImmerseMe platform there are 9 (nine) languages namely: English, French, Japanese, German, Spanish, Italian, Indonesian, Greek and Mandarin Chinese.

There are two options that the language learners can choose whether they want to have all subjects based on different topics or whether they want to refer to Common European Framework of References (CEFR) for language. The CEFR for Indonesian in 2021 fall under 8 (eight) categories.

Level	A1. 1	A1.2	37 topics
Level	A2.1	A2.2	39 topics
Level	B1.1	B1.2	30-37 topics
Level	B2.1	B2.2	10-20 topics

Meanwhile all subjects of Indonesian comprise 283 topics under 3 levels. The topics varies from the simplest ABC, number, dates, to birthday celebration, social media, sports and travel. Also, there are commenting on a piece of arts, jokes and tongue twisters.

Beginner	148 topics
Intermediate	100 topics
Advance	35 topics

In each subject, there are around 5 lessons for students to do. The lessons include pronunciation practice, typing practice, spelling practice, translation practice, and Immersion practice. The exercises mostly in form of conversation. There are also scripts for the conversation that students can look at while practicing.

All the students progress are recorded and reported to the instructor. There is also overall leader board for each and everyone connected to the ImmerseMe platform in one institution despite the language that they are taking. So,

everybody can see who is making progress and who is actively doing the lesson individually. The instructors have their own access to manage their own classes, to see the progress of the students taking their course, as well as assigning some assignments.

After experiencing the ImmerseMe platform for both teaching and learning, the researcher found some weaknesses and strengths regarding to the use of it in language learning. In this discussion, the researcher tries to analyze it based on Strengths, Weaknesses, Challenges, and Opportunity.

The strengths of this platform come from the VR technology that it has. Not only the three dimensional visual but also the voice recognition technology. Together these features give the real sense of communicating with real person in a real situation. The platform is quite easy to navigate. The 360-degree visual, let the learners see the environment around the speaker. Berns et al (2021) argue that the added value of using VR360 videos compared to the traditional one, was on the sense of immersion that the students get while doing the task. Students were provided with detailed authentic environment that the students could look at. During the conversation practice, the learners also provided with options for responses. So, the learners can focus more on pronunciation. The topics are well chosen and varied across levels.

However, some weaknesses that the writer notice is that all the practice closely related to those in Audiolingual method. Where the learners mostly repeat what has been heard before. That would be okay for beginner level and introduction of new vocabulary. The higher level of proficiency should be emphasizing more on meaningful communication and not just merely repetition. Despite the options that has been provided for the learners, huge accentuation was given on replication rather than comprehension. On the immerseme preview part, the learners are being led to a conversation similar to those previously being exercised. The learners are guided to use the responses that has been introduced earlier. Pinto et al (2021) believes that interaction between native and non-native speakers are crucial for second language learners. Therefore, a cooperative gameplay where learners are provided with vocabulary in context and immediate feedback would be very helpful for the learners.

Some challenges occur due to the constant repetition. By the time a learner reach lesson 3 or 4 the pattern was started to be recognized. The learner can easily lose interest due to monotonous activity. With the voice recognition technology, the higher level of conversation is hoped to be able to identify different acceptable responses. Though this might need some more time for development of complex language pattern. One research as mentioned by Berns et al (2021) has developed VR app where interaction takes place by means of voice command uttered by the learners in response to the question given. It is said that the apps implement a chatbot or software program to stimulate human conversation with the learners by employing natural language.

The VR technology in language learning provides opportunity for language learner to explore more on the target language. This kind of technology trims any barrier that a language learner has. While a skillful teacher is still needed to teach, a technology such as Immerseme could help enhanced and strengthen the process of learning. With the advancement of technology real interaction within VR technology should be made possible. Where students and teachers can interact at any time anywhere and the conversation happen a bit more natural.

4. Conclusion

The use of virtual reality in language learning has offered different learning experience to the learners. ImmerseMe virtual reality provided extensive exercise for BIPA learners which they can do by themselves at anytime and anywhere they want. The overall leaderboard that the platform provides for the learners taking language lesson from the same institution could possibly give sense of motivation and competitiveness. This would lead to further research regarding to its impact on learners' achievement.

Given the voice recognition technology, ImmerseMe app can evolve to a more sophisticated system employing a more natural like human conversation. This research might not reveal any significant impact on the use of ImmerseMe app in language learning. However, in the near future as VR technology become more and more accessible, more research on the impact of VR in language learning and BIPA in particular could be done.

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