

CHAPTER I

INTRODUCTION

1.1 Background of Study

In the 21st century, the growth of technology is really fast. This era made the improvement of the integrating Internet of Things and Services (IoTS) on industrial works is more valuable and more integrated. This new term of this integrating, digitized, and industrialized connection is called Industrial Revolution 4.0 (Müller, Kiel, & Voigt, 2018). This revolution makes anything real time for internet-connected of people, machines and object, exchanging information and communication technologies more instant and changed traditional factories into smart and autonomous production (Bauer, Hämmerle, Schlund, & Vocke, 2015).

Noting on living in this digital era, human resource also should move forward in order to survive. Every human resource should prepare themselves in order to compete with others in this digitalized era. In this Industrial Revolution 4.0, self-improving, being creative and well-known to IT is needed in this digital era. According to Lee, Yun, Pyka, Won, Kodama, Schiuma, Park, Jeon, Park, Jung, Yan, Lee and Zhao (2018), human labor is one of the keys to a successful life because they are needed to manage a clear understanding of other members' strengths interests and knowledge. Furthermore, in Revolution Industry 4.0, human resource will face new techs and products. Thus, Human resource needs education and the education itself should be reformed in order to enhance

sensitivity, creativity and education (Park, 2017). New method should be formed in education especially in teaching and learning process.

The future human labor will take that challenges in Revolution Industry 4.0 easily. This generation is called Z generation or GenZ. This generation involves kids that were born between 1995 and later (Töröcsik, Szűcs, & Kehl, 2014). This generation can meet the requirement to compete in Revolution Industry 4.0 because they were born with technology surrounds them (Santosa, 2017). They are already familiar with technologies and getting used to digital aspect. It helps them to reach rich information from different perspective and issues with very quick access.

This generation is special because some aspects. First is they spent most of their time watching video online on their laptop or computer especially smartphone. Second is this generation also always stays online. It makes them stays online and preferred to connect each other online rather that meet up. By those facts, Gen Z would be able to receive the material or knowledge from internet easier due the fact that they access online internet most of their time (Lane, 2014). This generation is already familiar in IoTS from their early age. By those facts, the teachers should take advantages on this phenomenon to attract the students' interest on learning especially in learning English.

In order to gain the students' interest on learning, especially in this era, the teachers should find a new way and method in order to get the students' interest in learning. The process of learning and teaching activities should be something new, innovative, enjoyable, fun and attractive in the classroom. One of the ways to reach that kind of learning and teaching activities strategy is by using innovative

teaching media or instructional media. Teaching media can help the teachers' to deliver the material and help the students to in comprehend the material (Anggraini, 2015).

The teaching media in education also changed nowadays. The growth of technology affects the teaching media to new, emerging, innovative and attractive ways. This emerging teaching media still new to the students and this teaching takes the evolution on traditional teaching media in teaching process. One of them, Virtual Reality is one form of the evolution in teaching media (Piovesan, Passerino, & Pereira, 2012).

The purpose of using teaching or instructional media is to help the students understand about the material and to reach the expectation of the teacher about the point of material that the student will get from the material. In further, in order to know about the progress of the students in learning both practice and theory, the teacher needs to assess them as learning achievement. Learning achievement is the result of the hard work of the student in mastering the material of the lesson (Madini & Alshaikhi, 2017; Mandal, 2013). In order to increase the students' learning achievement, the teacher should use an innovative teaching strategy by using emerging and innovative instructional media. Because of that reason, the researcher tries to experiment of using Virtual Reality as instructional media in form of Virtual Reality-based activities especially in learning English. One of the possible ways with low budget version in conduction Virtual Reality-based English learning activities in school is by teaching English writing skill in form of descriptive text.

The used of immersive Virtual reality is already proved by many studies especially in education. Research that conducted by Lok, Ferdig, Rajj, Stevens, & Lind(2006) conducted a research of the effect of using Virtual Reality in medical communication and investigating the potential and learning benefits on using virtual patient showed that Virtual reality helps the medical student. The students also noted that the Virtual Reality aids them in preparation for standardized interaction with real patients. The other finding that revealed by Abeer &Alshaikhi (2017) that using Virtual Reality for teaching ESP vocabulary. The result of the study is VR videos are really help the post graduates student to keep the memory of ESP vocabularies and also develop the level of their competence in learning English.

By looking in on that phenomenon, Virtual Reality is perceived able to develop the process of on learning English in education especially in school. Since this case is quite new, there are still a few cases that related to the effect of using VR in learning especially in learning English. Based on preliminary study, there is no school that ever used Virtual Reality in teaching and learning process especially in teaching English in Buleleng, Bali. It is because the less knowledge of VR and also less equipment. Regarding to that cases, it is important to investigate how the Virtual Reality affect in teaching and learning process especially in teaching and learning English. It is to prove if this study gives any effect like the previous study.

Depending on the previous phenomena, the study is aimed at finding out any effect of Virtual Reality-based English learning activities toward 10th grade students' English Learning achievement in SMA Negeri 4 Singaraja. Based on the

preliminary observation which is conducted by the researcher in SMA Negeri4 Singaraja, this school already has adequate facilities in integrating technology. This school has Wi-Fi facility that already reached entire school area. E-learning system is already conducted by this school. All students are allowed to bring their own smartphone to the school to help them to get involved into ICT-based learning which is conducted by SMA N 4 Singaraja. The teachers especially English teachers in SMA Negeri 4 Singaraja is ready to use technology as the teaching media to teach English such as Edmodo and Schoology. Also, this school has never used Virtual Reality teaching and learning activities. The supportive facilities are already exist. Based on the case above, it is important to conduct an experiment of using VR in form of VR-based English learning activities towards the 10th grade students' learning achievement and to find out how VR activities affects the 10th grade students' learning achievement in form of writing skills.

1.2 Problem Identification

Based on the background of study above, the problems are identified as:

1. Virtual Reality is beneficial for the students and introduces them to the future learning method.
2. Based on preliminary study, there is no school in Buleleng, Bali that ever used Virtual Reality in teaching and learning process especially in teaching and learning English in the classroom.

Therefore, based on identification of problems above, it is needed to investigate effect of Virtual Reality-based English learning activities towards the 10th grade students' English learning achievement in SMA N 4 Singaraja.

1.3 Statement of the Problem

Based on the background, the statement of problem of this research is:

1. Is there any effect of Virtual Reality-based English learning activities towards 10th grade students' English learning achievement in SMA N 4 Singaraja?
2. How Virtual Reality affects the students' learning achievement especially in writing skill?

1.4 Purpose of the Study

Based on the statement of problem above, the aim of this study is to investigate if there is an effect of Virtual Reality-based English learning activities towards 10th grade students' English learning achievement and the way of VR affects affects the students' learning achievement especially in writing skill

1.5 Significance of the Study

In this part, the researcher will elaborate the theoretical and practical significances of this study.

1.5.1 Theoretical significance

The result of this study is expected to provide contribution and help for English teaching and learning strategy especially in using virtual reality as learning activities in the classroom. This research can be used by the next research that conducted by other researchers as reference with similar with this topic.

1.5.2 Practical Significance

In this part contains the practical significance for the teachers, schools and other researchers with same topic or topic-related.

1.5.2.1 For Researcher

The result of this study is to know the effect of using virtual reality as innovative teaching media in SMA Negeri 4 Singaraja and the researcher believe that the result of the effect of using virtual reality is found by managing experiment in the classroom.

1.5.2.2 For Teachers

The result of this study is expected to be a reference for teaching variation and also to give more knowledge in using virtual reality as teaching media.

1.5.2.3 For School

The result of this study is expected to be a new variation, emerged, creative and innovative in teaching every possible subject that can be supported with Virtual Reality such as science and history class.

1.6 Scope of the study

The limitation of this study is to investigate the effect of Virtual Reality-based English learning activities toward 10th grade students' English learning achievement in SMA Negeri 4 Singaraja and also how Virtual Reality-based English learning activities affects students' writing skill.

1.7 Definition of Key Term

In this part, the researcher may describe the conceptual and operational definition key terms.

1.7.1 Conceptual Definition

This part consist of conceptual definition of instructional media and virtual reality key term

1.7.1.1 Virtual Reality

Virtual Reality is a term for describing a VR user's state in interacting with virtual environment world that generated by computer and may be manipulated by the VR user in real time (Mandal, 2013).

1.7.1.2 Instructional Media

Teaching media is tools to help the teacher to deliver the material in order to reach a specific goal (Angraini, 2015).

1.7.1.3 Learning Achievement

Students' learning achievement can be called as a result of the quality and quality of the students' performance through various activities that occur in learning process and it can be assessed by using achievement test (Munawaroh, 2017).

1.7.2 Operational Definition

This part consists of operational definition of instructional media and virtual reality key term

1.7.2.1 Virtual Reality

Virtual reality is a three-dimensional environment that is generated by a computer or system and acts like a real-time environment that allows the VR user to interact in it.

1.7.2.2 Instructional Media

Teaching media has a lot of benefits. In the learning and teaching process, teaching media has an important role in helping the teacher to deliver the material deeply to the student. It helps the student to understand more about the material. It also helps the teacher to clarify the material, to check if the student has a misunderstanding about the material, and to make the students give their attention to the material.

1.7.1.3 English Learning Achievement

English achievement is the result of the students in learning English that is assessed with an achievement test.