AUGMENTED REALITY: ENHANCE STUDENT MOTIVATION LEARNING

Alek Ritonga[1], Soetarno Joyoatmojo[2] and Tri Murwaningsih[3]

[1,2,3]Sebelas Maret University, Faculty of Teacher Training and Education, Central Java, Indonesia

Correspondence: Alek Ritonga, Sebelas Maret University, Indonesia.

ABSTRACT

Media and technology are alternative alternatives for presenting and transferring knowledge to students. The development of media and technology has triggered new efforts to find out the potential of augmented reality as a medium and learning technology in 21st century. This research is oriented and aims at how the role of media and AR technology to increase learning motivation. The results of the study show that augmented reality can increase active student participation, student creativity, eliminate boredom in learning, make learning atmosphere more enjoyable in learning so that these things lead to an increase in student motivation.

KEYWORDS: Augmented Reality, Learning Motivation, Learning

1. INTRODUCTION

Schrivner, Madewell, Buckley, & Perez (2016) say that augmented reality can improve problem-solving skills, critical thinking, and collaboration, students having authentic learning experiences also increase learning motivation and better learning abilities. Augmented reality really helps students in understanding difficult concepts in science learning (Sungkur, Panchoo, &Bhyoroo, 2016). Akcayir, Akcayir, Pektas, &Ocak (2016) stated that augmented reality can improve abilities and help build positive attitudes of students.

Oakley (2017) augmented reality can be easily used in learning activities to add an additional dimension to learning which can increase student involvement and provide additional information comprehensively. Augmented reality can facilitate students in the process of finding learning information that requires visual observation so that the making of learning works is more productive (Wang, 2017; Massis, 2015). Lin, Cai, Wang, Chen, and Liu (2016) stated that augmented reality can increase learning motivation and reduce student frustration in learning. El Sayed, Zayed, &Sharawy (2011) stated that augmented reality helps students to improve students' knowledge and abilities as well as augmented reality as well as technology that is more effective and simple compared to other technologies.

2. LITERATURE REVIEW

Augmented reality is a combination of technology that allows real-time combined with computer technology to produce real video content directly (Azuma, Bailot, Behringer, Feiner, Julier and Macintyre, 2001). Augmented reality can be described as a view of the physical environment whose elements are coupled with the help of programs that can display video, sound, images, text, and graphics (Sungkur, Panchoo, and Bhoyroo, 2016). AR is multimedia of learning in the 21st century.

Clark and Mayer (2008) revealed that multimedia presentations can increase student involvement in learning more actively in the learning process, mentally present material in words and pictures, and mentally also make connections between images and representations of words. Clark and Mayer (2008) suggest that the use of instructional media can arouse desire and interest in learning, arousing motivation.

The benefits of multimedia both in daily life and in learning vary greatly, including: (1) Displaying objects that cannot be seen directly; (2) Showing rare phenomena through images; (3) Showing demonstrations that can be witnessed by many people; (4) Showing objects in three dimensions. Kerawalla, Luckin, Seljeflot, and Woolard (2006) said augmented reality has the ability to make students more dedicated and motivated in exploring sources of knowledge with the real environment from a variety of new perspectives. Chang, Morreale, and Medicherla (2010) mentioned that augmented reality many studies have revealed augmented reality contributes to increasing student motivation in learning. Following are the stages of using AR in learning:
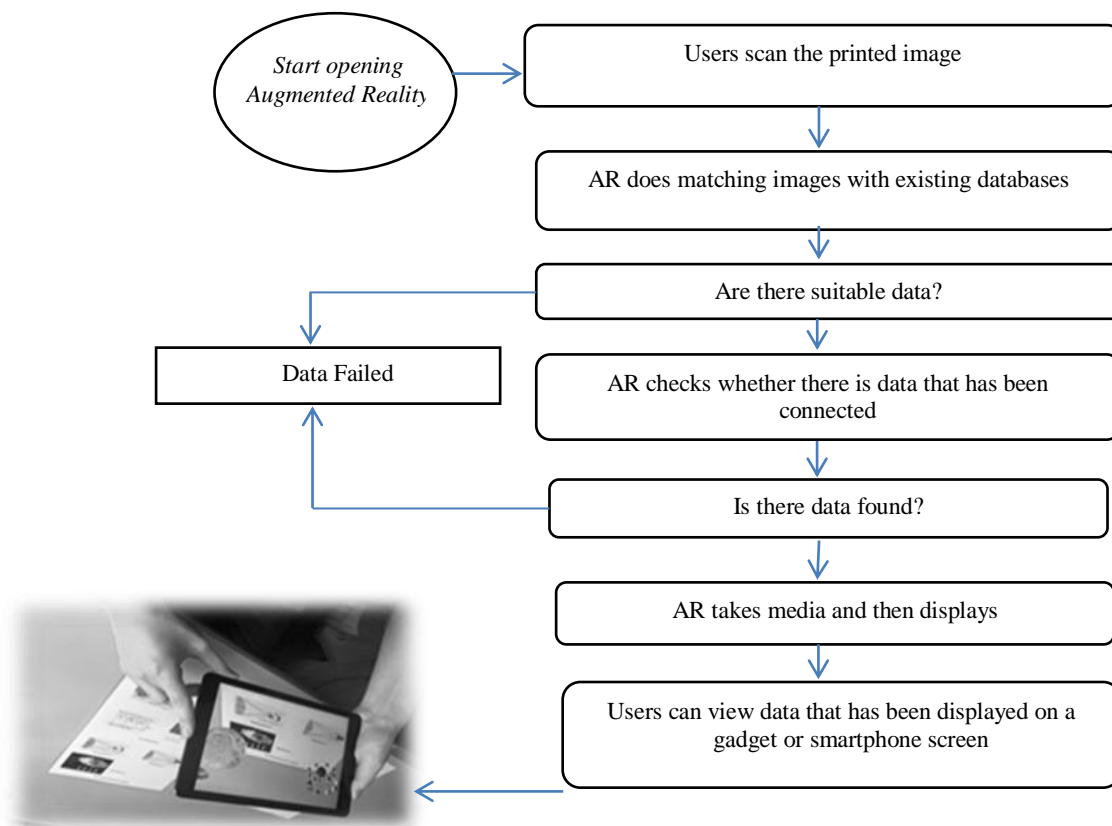

Figure 1.1 Augmented Reality Work Process
Source: Sungkur, Panchoo, danBhoyroo (2016)

Arends (2012) mentions that motivation is a process that stimulates behavior or which moves to action. Maslow (1970) states that motivation is constant, never-ending, up and down, complex and it is a universal characteristic in practice that every organism exists. Pintrich (2003) revealed that motivation produces a reciprocal relationship with learning and performance, that is, motivation influences learning and performance and the things that are done and learned by students affect these students.

Cole & Chan (1994) states that motivation is related to individual energy directed to achieve certain goals. In general, three motivational components that can be identified, namely: (1) the expectation component which includes students' beliefs about their ability to perform tasks such as their competence, self-confidence, perception and self-control; (2) the value component which refers to students' perceptions about the value of various types of targets for performing tasks, such as learning-oriented; (3) the emotional component that refers to students 'reactions or emotions to schoolwork, such as students' attitudes toward school learning and their anxiety about assignments.

Taylor and MacKenney (2008) mention several ways that can be done to facilitate students who are not motivated in learning, namely (1) creating a conducive and positive learning atmosphere by accepting students' perspectives, giving enthusiasm, emphasizing competition, collaboration in problem-solving, involve students in making rules and compliance if they violate; (2) teaching by combining the contents of students' interests, abilities, culture, opinions, and experiences with learning strategies that offer for the development of self-expression; (3) choose learning strategies that motivate students to engage in high standards and realistic expectations, evaluate student work systematically, use varied and concrete materials, promote academic and social abilities.

Cole & Chan (1994) revealed ways that can be done to motivate to learn, techniques to motivate students to learn need to necessarily involve all components of motivation: (1) motivate students to learn then must help students to develop positive attitudes towards learning in school, (2) appreciates the value of academic activities, (3) ensures that students can achieve success in learning activities with reasonable and appropriate effort. Fathurrohman & Sobry (2008) some of which can be applied to foster learning motivation, among others: (1) The teacher explains the learning objectives clearly. When they want to start the learning process the teacher first explains the learning objectives of the material to be explained; (2) The teacher gives a gift. This is expected to trigger the enthusiasm of students to study harder; (3) The teacher gives praise. Give praise or appreciation to students who answer the question correctly, do the assignment correctly and honestly; (4) The teacher gives the punishment. This punishment is given in the hope that the students know the mistakes they have made either intentionally or unintentionally; (5) The teacher uses learning methods that vary according to the subject matter. The selection and use of various learning methods are expected to create a new atmosphere for students in receiving lessons so that students always feel comfortable in

participating in learning; (7) The teacher uses learning media. The use of media is expected to make it easier for students to see concrete examples that can be displayed through the media.

3. CONCLUSION

Based on the results of the study above about the benefits, functions, how to increase learning motivation and how the syntax of the operation of augmented reality in learning that augmented reality can encourage students to be more active in learning, creating, contributing in learning activities, getting inspired learning, these things have an impact on student motivation in learning because students feel the benefits directly of the subject matter thanks to the help of augmented reality in learning.

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