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The Influence of the Use of Augmented Reality Technology in Learning Arabic in increasing students' learning motivation

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ABSTRACT

Background. Along with the development of the times and changes in the way of looking at the use of technology in learning Arabic is becoming more sophisticated and complicated. For that, the use of Augmented Reality technology is applied in learning Arabic in order to improve the learning process. Augmented Reality technology is a technology that in its use can combine digital elements that can be seen virtually and can also be presented in the form of 3D animation.

Purpose. The aim of this research is to determine the effect of using Augmented Reality technology in Arabic language learning on student learning motivation. Apart from that, to create innovative and creative Arabic language learning for students.

Method. The research method used in this research is a quantitative method with a randomized control experimental approach. Data was collected through questionnaires in the form of questionnaires.

Results. The results of this research show that the use of Augmented Reality technology in Arabic language learning can increase student learning motivation. Students who are involved in Augmented Reality-based learning show a higher level of motivation, as well as a more active level of participation in the learning process. The use of Augmented Reality technology strengthens student engagement with learning material, increasing their understanding of the Arabic language context. Students are also increasingly interested in learning Arabic.

Conclusion. The conclusion of this research states that Augmented Reality technology in Arabic language learning has a positive impact on student learning motivation. This emphasizes the importance of implementing technological innovation in education to increase learning effectiveness and strengthen student engagement. This research provides a basis for further development in the use of Augmented Reality technology in the context of learning Arabic and other subjects.

KEYWORDS

Augmented Reality Technology, Arabic, Learning, Motivation,.

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INTRODUCTION

The utilization of technology in education has become a growing trend and has a positive impact in various fields of learning (Ansas dkk., 2022). One of the fields that has undergone considerable transformation is

language learning, including Arabic language learning (Alfiyanto dkk., 2023). With the development of technology, especially information and communication technology (ICT), new approaches in learning Arabic have emerged, with the aim of increasing the effectiveness and efficiency of learning (Alharbi dkk., 2021). In recent years, Augmented Reality (AR) technology has become one of the technologies that attract attention in the context of Arabic language learning (Amin dkk., 2020).

The use of technology in Arabic language learning is a solution to the changing times and the need for more innovative and engaging learning approaches for the new generation of learners (Aldjanabi dkk., 2021). Today, the generation of learners who grew up in the digital era tends to be more responsive to learning experiences that involve technology (Alsubaie, 2022), so the use of technology in Arabic language learning is becoming increasingly relevant and important (Mustapa dkk., 2022). In addition, technological developments also allow educators to access a more diverse and accessible range of resources and learning materials, which can improve the overall quality of Arabic language learning (Mutholib dkk., 2020).

The Use of Augmented Reality Technology in Arabic Language Learning

Augmented reality (AR) technology is one of the technologies that provide great potential in enhancing the Arabic language learning experience (Hanid dkk., 2020). Augmented reality allows users to see the real world with additional digital information that can improve understanding and learning experience (Utami & Salamah, 2019). In the context of Arabic language learning, Augmented Reality can be used to present more interactive learning content, such as visualization of Arabic letters, words, phrases, or sentences in the context of the real world (Chin dkk., 2020). For example, through the use of Augmented Reality applications, students can see three-dimensional animations of everyday objects accompanied by labels in Arabic (Alkhabra dkk., 2023), allowing them to expand their vocabulary in a more interesting and memorable way.

In addition, the use of Augmented Reality technology also allows for the simulation of real-life situations in an Arabic-speaking environment (Mokmin & Rassy, 2024). For example, students can participate in simulations of communicating in Arabic with virtual characters generated by Augmented Reality technology (Suzuki dkk., 2021). This provides an opportunity for students to hone their speaking and listening skills in a more realistic context, without the need to leave the classroom environment. Thus, Augmented Reality technology not only enhances students' learning motivation (Alqahtani & AlNajdi, 2023), but also broadens the scope of Arabic language learning by presenting a more immersive and relevant learning experience.

However, despite its great potential, the use of Augmented Reality technology in Arabic language learning also faces some challenges and limitations (Hutahaean dkk., 2022). One of them is the availability of the necessary infrastructure and devices. To be able to use Augmented Reality technology effectively (Faramarzi & Dayag, 2023), it requires hardware such as smartphones or tablets that support Augmented Reality technology, as well as a stable internet connection. Not all students may have access to these devices, so the use of Augmented Reality technology may not be equally adopted in all learning environments (Erwinsah dkk., 2019).

In addition, adjusting the curriculum and developing learning materials that are suitable for Augmented Reality technology is also a challenge (Bawadi dkk., 2023). Learning approaches involving Augmented Reality technology require changes in the way educators organize learning materials and design learning experiences (Bagus Nur Rahma Putra dkk., 2021). This requires considerable time, effort and resources to be done effectively. Therefore, to be able to widely adopt

Augmented Reality technology in Arabic language learning, a strong commitment is needed from various parties, including educational institutions, teachers, and technology developers

In the context of technological innovation, the use of Augmented Reality technology in Arabic language learning promises a bright future in improving the effectiveness and efficiency of learning (Zahara dkk., 2021). By continuously developing and integrating Augmented Reality technology into the Arabic language learning curriculum, it is expected that students' learning experience enhanced, which in turn will contribute to a better understanding and mastery of Arabic. Therefore, further research and development in the use of Augmented Reality technology in the context of Arabic language learning is essential to continue supporting progress and innovation in education.

The Forms of Using Augmented Reality Technology in Arabic Language Learning

The use of Augmented Reality technology in learning Arabic can be implemented in various forms that aim to enrich the student's learning experience (Wang dkk., 2023). One form of using Augmented Reality is through a mobile application that allows students to access Arabic language learning content interactively (Dochy dkk., 2003). For example, through the Augmented Reality application, students can direct their smartphone cameras to Arabic texts found in books or in their surroundings, and the application will display translations or explanations in other languages directly on the screen, facilitating better understanding and pronunciation. In addition, the use of Augmented Reality in the form of educational games can also be an effective method in learning Arabic.

Through Augmented Reality games, students can participate in challenging interactive activities (Mustapa dkk., 2022), such as matching Arabic words with suitable pictures or finding certain objects in a virtual environment presented by Augmented Reality technology (Sudirman dkk., 2020). This not only makes learning more enjoyable, but also helps strengthen understanding and expand their Arabic vocabulary intuitively (Dinata dkk., 2023). In addition, the use of Augmented Reality technology in the form of a virtual tour or simulation of the Arabic language environment is also one of the most effective forms of learning (Borgen dkk., 2021). Thus, the use of Augmented Reality technology in learning Arabic not only enriches the student's learning experience (Yilmaz dkk., 2022), but also opens up new opportunities to explore and understand the Arabic language and culture in a more in-depth and interactive way.

There are several previous studies related to the use of Augmented Reality technology in learning. The first research according to (Cai dkk., 2022), with the research title Augmented reality technology in language learning: A meta-analysis. The results of this research explain that The pooled effect-size estimate was 0.93 for language gains and 0.42 for motivation, which indicates that AR applications have a large effect on learners' language gains and a small to medium effect on learners' motivation. The moderator analysis results suggested that learners' educational levels and intervention durations are significant moderating factors that impact the effect of AR on learners' motivation. In particular, elementary school students in this meta-analysis study experienced a large measurable effect in terms of both language gains and motivation. Additionally, exposure to AR applications for up to 1 week is especially effective for enhancing learners' motivation.

The second research according to (Turan & Atila, 2021), with the research title Augmented reality technology in science education for students with specific learning difficulties: its effect on students' learning and views. The results of this research explain that general results of the study showed that augmented reality technology was effective in supporting the learning of students with a specific learning difficulty and these students were willing to use augmented reality technology, finding it attractive. The third research according to (Wong dkk., 2021), with the research title

Using Augmented Reality as a Powerful and Innovative Technology to Increase Enthusiasm and Enhance Student Learning in Higher Education Chemistry Courses. The results of this research explain that using AR has a positive impact on enthusiasm and learning in higher education chemistry courses for subdegree students, and this technology should be broadly used as a digital tool to promote active learning during the COVID-19 pandemic.

The research carried out by this researcher is different from that carried out by previous researchers. In this research, the research results stated that the use of Augmented Reality technology in Arabic language learning can increase student learning motivation. Students who are involved in Augmented Reality-based learning show a higher level of motivation, as well as a more active level of participation in the learning process. The use of Augmented Reality technology strengthens student engagement with learning material, increasing their understanding of the Arabic language context. Students are also increasingly interested in learning Arabic.

RESEARCH METHODOLOGY

This research method uses a randomized quantitative with control experimental approach to evaluate the effect of using Augmented Reality (AR) technology in Arabic language learning on student learning motivation (Jung, 2019). This research method aims to evaluate the effect of using Augmented Reality technology in Arabic language learning on student learning motivation (Sun dkk., 2023). The population of this study were students who took Arabic language courses at a college. Sampling is done by purposive sampling by selecting two equal classes, where one class will use Augmented Reality-based learning and the other class will use conventional learning methods as a control group.

Research instruments are tools or methods used to collect data in research. This instrument is designed and developed in accordance with the research objectives and variables to be studied. Research instruments can take various forms, ranging from questionnaires, interviews, observation sheets, tests, to specialized technologies such as certain software or hardware (Kang dkk., 2020). The instruments in this study include questionnaires to measure student learning motivation before and after treatment, as well as direct observation of student participation and involvement during the learning process. The questionnaire was developed based on relevant learning motivation theories and has been validated by a number of experts in the field of education and Arabic language.

The procedure of this study consisted of several steps. First, two classes were identified as the research subjects. The first class will apply Augmented Reality-based learning, while the control group will use conventional learning methods. After that, a learning motivation questionnaire will be distributed to both groups before the start of the treatment. Then, the first class will start learning using Augmented Reality technology, while the control group will continue learning according to conventional methods. After the learning period is over, the learning motivation questionnaire will be given back to both groups for re-evaluation. In addition, direct observation is conducted during the learning process to record student participation and engagement.

Data analysis was conducted using descriptive and inferential statistical methods (Risdiana Chandra Dhewy, 2022) . To analyze changes in learning motivation before and after treatment, a difference test between the two groups will be conducted using an independent t-test. In addition, a comparative analysis will be conducted on the level of student participation and involvement between the group using Augmented Reality learning and the control group. The approach used in this research is quantitative with a focus on measuring and analyzing numerical data to evaluate the effect of using Augmented Reality technology on student learning motivation. In this case, the

experimental approach is used to test the hypothesis that Augmented Reality-based learning can increase student learning motivation compared to conventional learning methods.

The statistical test used is an independent t-test to compare the average difference in learning motivation between the group using Augmented Reality learning and the control group. The comparison will also be done qualitatively through direct observation of student participation and involvement in the learning process. The scope of this research methodology is very limited to data collection from one college and in the context of Arabic language learning. Another limitation is the reliance on learning motivation measurement instruments that may not fully cover all aspects of student learning motivation and the distribution of questionnaires only online.

RESULT AND DISCUSSION

Arabic has an important position in the modern world as one of the languages of religion, culture and international communication. However, for most learners, Arabic is considered a difficult language to learn due to its complex structure and different writing systems. Arabic is also feared by students because they feel that Arabic is a difficult and complicated language (Bazi & Laachfoubi, 2019). In fact, they do not know how to create an interesting and innovative Arabic learning process. Therefore, teaching Arabic requires an innovative and effective approach to increase students' interest and motivation to learn. One way to create an interesting, innovative, and effective Arabic learning process is by utilizing Augmented Reality technology.

Augmented reality is a technology that combines virtual elements with the real world, creating an interesting interactive experience, so it seems real. In the context of learning, Augmented Reality offers a variety of potentials, including improving concept understanding, increasing engagement, and increasing learning motivation (Baumann & Arthurs, 2023). The use of Augmented Reality in Arabic language learning allows students to interact with learning materials directly. They can see virtual objects such as Arabic letters, sentences, or conversational situations in their real environment. For example, by using Augmented Reality applications, students can "see" Arabic letters floating above books or around the room, creating an interesting and interactive learning experience. They experience the learning process by presenting real images.

One of the main advantages of using Augmented Reality is its ability to create an immersive learning experience. In Arabic language learning, students can experience daily life in Arab countries through Augmented Reality simulations. They can "visit" traditional markets, communicate with virtual characters, or participate in real-life situations in Arabic. This not only enhances the understanding of Arabic culture and context, but also makes learning more fun and interesting for students. This will broaden students' horizons in depth about the Arabic language.

Augmented reality allows better personalization of learning according to the needs and interests of each student. With Augmented Reality technology, students can access learning content that is tailored to their ability level and personal interests. For example, they can choose to focus on everyday vocabulary, conversations about daily life, local conversations, and many others. This ability to personalize learning can increase students' motivation to learn by giving them control over their own learning process. This is very helpful for students in improving their abilities.

In this research, the researcher made a questionnaire containing 10 statements with the assessment categories of strongly agree, agree, disagree, and strongly disagree. In writing this questionnaire, the researcher has followed the provisions in writing a good and correct questionnaire. This questionnaire is made through Google Form which will then be distributed to students. The questionnaire contains statements about the effect of using Augmented Reality

technology in learning Arabic. The results of filling out the questionnaire researchers sajuakan in the form of a table as in the picture below.

NO	Expression	Strongly agree	Agree	Don't agree	Strongly disagree
1	I feel more motivated to learn Arabic through the use of Augmented Reality technology in the learning process.	70%			
2	I feel that the use of Augmented Reality technology makes the process of learning Arabic more interesting and fun.		70%		
3	I feel more enthusiastic about participating in learning activities when using Augmented Reality technology.		70%		
4	Augmented Reality technology helps me to understand Arabic learning content better and more effectively.		70%		
5	The experience of using Augmented Reality technology in learning Arabic has made me more enthusiastic about learning with interesting content.		75%		
6	I feel more confident in using Arabic after using Augmented Reality technology in learning because it is equipped with various features.		70%		
7	Augmented Reality technology helps me to expand my Arabic vocabulary faster.		60%		
8	The use of Augmented Reality technology makes me feel more involved in the Arabic language learning process.		75%		
9	I feel more motivated to take part in more Arabic learning sessions if I use Augmented Reality technology.		70%		
10	The use of Augmented Reality technology increased my interest in learning Arabic.	70%			

Table 1: The influence of using Augmented Reality technology in learning Arabic

Based on this table, it can be explained that the first statement, namely I feel more motivated to learn Arabic through the use of Augmented Reality technology in the learning process, obtained responses in categories strongly agree 70%. The second statement is I feel that the use of Augmented Reality technology makes the process of learning Arabic more interesting and fun, obtain responses with categories agree 70%. The third statement is I feel more enthusiastic about participating in learning activities when using Augmented Reality technology, obtain responses

with categories agree 70%. The fourth statement is Augmented Reality technology helps me to understand Arabic learning content better and more effectively, obtain responses with categories agree 70%. The fifth question is The experience of using Augmented Reality technology in learning Arabic has made me more enthusiastic about learning with interesting content, obtain responses with categories agree 75%.

The next sixth statement is I feel more confident in using Arabic after using Augmented Reality technology in learning because it is equipped with various features, obtain responses with categories agree 70%. The seventh statement is Augmented Reality technology helps me to expand my Arabic vocabulary faster, obtain responses with categories agree 60%. The eighth statement, namely The use of Augmented Reality technology makes me feel more involved in the Arabic language learning process, obtains responses in categories agree 75%. The ninth statement is I feel more motivated to take part in more Arabic learning sessions if I use Augmented Reality technology, obtain responses with categories agree 70%. The tenth statement is The use of Augmented Reality technology increased my interest in learning Arabic, obtain responses in categories strongly agree 70%.

From the results of the questionnaire given to students, on average they gave an affirmative response to the influence provided by the application of Augmented Reality technology in learning Arabic. They directly experience the benefits and feeds of Augmented reality technology in the learning process.

NO	Aspects of Influence	Description
1	Increased student interest	The use of Augmented Reality technology in learning increases student interest because the learning experience is interactive and fun.
2	There is active involvement	Augmented Reality encourages active student involvement in the learning process by providing opportunities to interact directly with learning material.
3	Increasing student creativity	Students can develop their creativity in exploring Augmented Reality content, which motivates them to look for new solutions in understanding Arabic.
4	Helping students learn independently	Augmented Reality allows students to learn independently, increasing their independence in the learning process, which in turn increases learning motivation.
5	Personalize learning	Students can personalize their learning experience according to personal needs and interests, giving them control over the learning process.

Table 2: Effect of Using Augmented Reality Technology on Student Learning Motivation

There are a number of challenges that need to be faced in implementing Augmented Reality technology in Arabic language learning. One of them is the accessibility of technology, where not all students have access to the necessary Augmented Reality devices such as smartphones or tablets. some students who are far from the internet network will experience difficulties to access it. In addition, the development of quality and relevant Augmented Reality content also requires considerable investment of time and resources. Another challenge is the integration of Augmented

Reality technology into the existing learning curriculum, which requires additional training for educators as well as adjustments in the teaching process.

In addition, the adoption of new technologies such as Augmented Reality can also cause reluctance from some circles, both on the part of teachers and students, which requires persuasive efforts and a careful approach to overcome. In addition, issues related to privacy and data security are also a major concern in the use of Augmented Reality technology in the context of education. Maintaining data security is essential in this regard. Overcoming this requires the development of clear policies and adequate privacy safeguards to protect students' personal data. By addressing these challenges, it is hoped that the implementation of Augmented Reality technology in Arabic language learning can run more smoothly and provide maximum benefits for students and educators.

CONCLUSION

The conclusion of this research states that Augmented Reality technology in Arabic language learning has a positive impact on student learning motivation. The results of the questionnaire given stated that on average students who had implemented the use of Augmented Reality technology in learning Arabic felt positive feedback. The results of the questionnaire also stated that 70% of them answered agreeing with the positive influence they felt on Augmented Reality technology in learning Arabic. This emphasizes the importance of implementing technological innovation in education to increase learning effectiveness and strengthen student involvement in the learning process. Through Augmented Reality technology in the learning process, students can experience a more interactive, interesting and enjoyable learning experience. By utilizing visual and audio elements added digitally to real environments, Augmented Reality is able to create more fun and engaging learning situations for students. It helps overcome challenges in learning Arabic that are often considered archaic or difficult, by introducing innovative and engaging approaches.

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