Proceedings of the 3rd International Conference on Physics and Physics Education (ICONPHYEDU)
Departement of Physics Education, Universitas Islam Negeri Mataram, Indonesia
15th October 2024 *Available online at https://proceeding.uinmataram.ac.id/index.php/iconphyedu*
E-ISSN: XXX-XXX

EFFECTIVENESS OF THE SAVAR LEARNING MODEL BASED ON MIXED REALITY IN STRENGTHENING RELIGIOUS MODERATION TO STUDENT

A.Muhammad Syafar[1,*], Nurul Fuadi[2], Mukhlisin[3]
[1]Informatic Engineering, UIN Alauddin Makassar, Makassar, Indonesia
[2]Physics, UIN Alauddin Makassar, Makassar, Indonesia
[3]EducationVocational Engineering, Universitas Negeri Makassar, Makassar, Indonesia

Corresponding author: andi.syafar@uin-alauddin.ac.id

ABSTRACT

The effectiveness of educational models plays a crucial role in shaping students' perspectives and behaviors. In recent years, the integration of mixed reality (MR) into learning environments has shown significant promise in enhancing student engagement and understanding by blending the physical and digital worlds. One such innovative approach is the SAVAR (learning model, which promotes active student participation and deeper understanding through immersive, hands-on learning experiences. This research aims to analyze the effectiveness of the SAVAR (Substitution, Augmented, Virtual Learning, Apply, Reevaluation) learning model, which incorporates mixed reality technology to foster religious moderation among students. By combining the SAVAR learning model with mixed reality technologies, students are presented with interactive scenarios that enable them to engage with and reflect on real-world issues of religious diversity and harmony. Conducted at Politeknik Bosowa Makassar, the study involved 30 students as participants, utilizing a mixed-method approach to gather both quantitative and qualitative data. The SAVAR model seeks to enhance students' understanding and appreciation of religious diversity by creating an immersive, interactive learning environment that integrates visual, auditory, and kinesthetic elements. The average practicality of mixed reality learning media is 88.9% with "very practical" category. Additionally, qualitative feedback from students indicated increased engagement and a positive attitude toward diversity. These results indicate that the integration of mixed reality into the SAVAR model has a significant positive impact on promoting tolerance and developing a more inclusive educational setting, thereby supporting the broader goal of social harmony.

KEYWORDS: SAVAR Learning Model, Mixed Reality, Religious Moderation, Tolerance, Educational Technology.

1 INTRODUCTION

The development of technology in today's era is rapidly advancing. With the progress of science and the use of technology, it has permeated various fields, including education. Those involved in the world of education must be able to keep up with technological advancements, not only teachers or lecturers but also students, who must adapt to these changes (Efendi, 2019).

In the teaching and learning process, there are five very important components: objectives, materials, methods, media, and evaluation. These five aspects influence each other. The choice of a teaching method impacts the type of learning media used, without neglecting the other three essential aspects: objectives,

materials, and evaluation. The use of learning media in the teaching and learning process can generate interest and new desires, stimulate motivation and learning activities, and even have psychological effects on learners (Falahudin, 2014).

In the context of strengthening religious moderation, this model can offer a dynamic platform for fostering a balanced and inclusive mindset. Religious moderation, as a concept, aims to encourage tolerance, respect, and understanding among students of diverse religious backgrounds. However, achieving this goal requires a comprehensive approach that goes beyond traditional teaching methods.

By combining the SAVAR learning model with mixed reality technologies, students are presented with interactive scenarios that enable them to engage with and reflect on real-world issues of religious diversity and harmony. This innovative approach not only strengthens cognitive understanding but also deepens emotional and social comprehension of religious moderation in practical settings. The application of this model, especially in educational institutions, could prove essential in cultivating a generation of students who are not only knowledgeable but also empathetic and open-minded towards differing beliefs.

This study seeks to evaluate the effectiveness of the SAVAR learning model based on mixed reality in strengthening religious moderation among students, with the aim of providing evidence-based insights for educators seeking to promote peace, understanding, and cooperation within diverse societal contexts.

In the current era of technological advancements, the integration of innovative tools in education has become increasingly essential to enhance the learning experience and outcomes. One such innovation is the use of mixed reality, a blend of real and virtual worlds, which offers an immersive learning environment that engages students in deeper and more interactive ways. The education sector continues to explore the potential of this technology to transform traditional learning methods into more dynamic and effective approaches.

Religious moderation, particularly in diverse societies, is a crucial concept that promotes understanding, tolerance, and harmony among different religious and cultural groups. In a world that is increasingly interconnected, fostering religious moderation has become a priority to address growing concerns over extremism, intolerance, and social division. Education plays a key role in this effort, as it is through learning that individuals can develop a balanced and informed understanding of their own faith and that of others.

The development of the SAVAR (Substitution, Augmentation, Virtual Learning, Apply, Re-Evaluation) learning model, which is based on mixed reality, aims to strengthen religious moderation by offering learners an immersive experience that encourages reflection on religious values, tolerance, and peaceful coexistence. By blending virtual elements with real-world interactions, the SAVAR model provides a unique platform where students can engage with religious teachings in a way that is both modern and meaningful.

This study focuses on the design and implementation of the SAVAR learning model, examining its effectiveness in enhancing religious moderation among students. The research explores how mixed reality technology can be leveraged to create learning environments that promote critical thinking, empathy, and an inclusive worldview, which are fundamental to the practice of religious moderation. The development and evaluation of the SAVAR model offer insights into the role of emerging technologies in addressing contemporary educational challenges, particularly in fostering a more tolerant and harmonious society.

2 METHOD

1. Data Research

The data in this study were obtained through user responses to the practicality of learning media. This research was conducted at the Department of INFOMATIC ENGINEERING UIN ALAUDDIN MAKASSAR. The learning media that will be designed is a microcontroller learning media. Lecturers and students are involved in determining the practicality of using metaverse learning media.

2. **Design of System**

Before conducting research, it is necessary to have a concept and research design planning. In this study, a stage was designed for how augmented reality technology works. the planning stages include media selection criteria, application development, hardware and software analysis.

3. **Method**

Through a syntactic analysis of the various learning models considered for this research, it was found that the mixed Reality-Based Learning Model is divided into five phases and is named SAVAR, which includes: (1) Substitution; (2) Augmentation; (3) Virtual; (4) Apply; and (5) Re-evaluation. Each stage in this model is designed to be interconnected and mutually supportive, thereby creating an immersive and effective learning environment for students:

Figure 1. Savar Modelling

Based on the results of the needs analysis, the SAVAR learning model was developed. The model incorporates key elements of mixed reality to provide an immersive learning experience that promotes religious moderation. The development process included:

- **Content Development**: Religious moderation concepts and materials were designed in collaboration with religious scholars to ensure accuracy and appropriateness. The content was adapted to suit mixed reality environments, enabling learners to engage with both virtual and real-world elements.
- **Technology Integration**: Mixed reality tools and platforms were selected to support the model. The development team integrated augmented reality (AR) and virtual reality (VR) components to create a seamless learning experience where students can interact with virtual objects and scenarios that reinforce the principles of religious moderation.
- **Prototype Design**: A prototype of the SAVAR model was developed, combining religious content with interactive mixed reality features. The prototype was designed to be flexible and adaptable to various educational settings.

3 RESULT AND DISCUSSION

The prototype developed through the SAVAR model can be seen in the image 2 below.

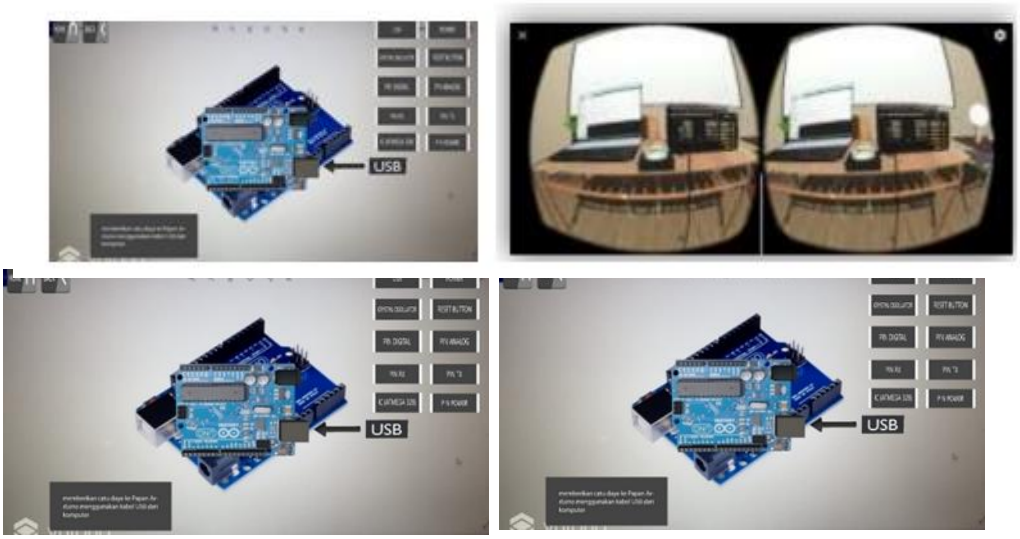

Figure 2. Mixed Reality

Practical analysis was obtained from the responses of lecturers and students after the trial of the use of learning media. The results of the practicality test are as follows Table 1.

Table 1. Practicality Analysis Result

No.	Indicator	Average	Category
1	Easy to use	88.3%	Very Practical
2	Easy of choosing the menu	86.6%	Very Practical
3	All the features provided are running well	88.3%	Very Practical
4	Use of language that is easy to understand	91.6%	Very Practical
5	Easy to understand	90.0%	Very Practical
	Overall Indicator	88.9%	Very Practical

The SAVAR (Substitution, Augmentation, Virtual Learning, Apply, Re-evaluation) learning model is an innovative approach designed to gradually integrate technology into the learning process. This model not only replaces traditional methods but also enhances the student learning experience by making optimal use of digital technology.

Researchers identified key challenges in developing the learning model and addressed them by incorporating the concepts of Substitution, Augmentation, Virtual Learning, Apply, and Re-evaluation (SAVAR). These concepts are the result of modifications to various relevant learning models and a digital-based learning design that integrates learning materials into digital technologies such as Augmented Reality (AR) and Virtual Reality (VR). Based on the results of practicality data analysis, the average practicality of metaverse learning media is 88.9% with very practical category

4 CONCLUSION

This study confirms that the SAVAR learning model, integrated with Mixed Reality, is highly effective in strengthening religious moderation among students. By blending physical and digital experiences, this model enhances engagement, reflection, and understanding of religious diversity. The practicality analysis results show an average score of 88.9%, categorized as "very practical," indicating ease of use and effectiveness in fostering tolerance.

Beyond improving learning engagement, SAVAR contributes to developing positive attitudes and empathy toward diverse religious perspectives. Through its structured phases—Substitution, Augmentation, Virtual Learning, Apply, and Re-Evaluation—the model creates an immersive learning environment that supports cognitive, social, and emotional growth.

Overall, integrating Mixed Reality in education holds significant potential for promoting inclusive values and social harmony. Expanding the implementation of the SAVAR model across educational institutions is highly recommended to cultivate a more open-minded and tolerant generation.

REFERENCES

Afandi, M. (2013). *Model dan Metode Pembelajaran di Sekolah*.

Anderson, P. (2022). The Metaverse: Exploring the Virtual World's Educational Potential. *Journal of Educational Technology*, 18(3), 45-59.

Alkhamisi, O. (2013). Rise of Augmented Reality: Current and Future Application Areas. *International Journal of Internet and Distributed Systems, 1*(1), 25–34.

Anggeraini, Y. (2019). Literasi Digital: Dampak dan Tantangan dalam Pembelajaran Bahasa. *SEMINAR NASIONAL PASCASARJANA 2019*, 386–389.

Ayu, L. T. (2014). Pengaruh Metode Pembelajaran Diskusi Berbasis Lesson Study Terhadap Aktivitas dan Hasil Belajar Biologi Dengan Menggunakan Assessment Portofolio (Siswa Kelas X Semester Genap SMA Negeri Kalisat Tahun Ajaran 2012/2013). *Pancaran*, *3*(1), 111–120.

Syafar,A.M. , M. Agung, W. Wisanty, Haswah, and J. N. Amanda (2023), "360- Degree Panoramic Visualization in Archaeological Documentation: An Interactive Learning Tool,", pp. 101–109. doi: 10.2991/978-2-38476-084- 8_15.

Syafar, A. M. (2021). Filsafat dan Rekonstruksi Teori Mata Kuliah Matematika Komputer pada Learning Centre Area (LENTERA) Virtual Class. ALL Grafika Makassar.

Syafar, A. M., Gani, H. A., & Agung, M. (2023). Development Of A Learning Model For Industrial Control Engineering Courses With AR Dan VR technology. Proceedings of the 3rd International Conference on Social and Islamic Studies, 289–294.

Syafar, A. M., Hasrul, M. H., Nurhidayat, A. M., & Akhiruddin. (2021). Aplikasi Pengenalan Buku Mata Kuliah Teknologi Informasi Dengan Teknologi Augmented Reality Berbasis Android. Jurnal Instek, 6(2), 245–253

BIOGRAPHIES OF AUTHORS

Dr.Ir.A.Muhammad Syafar., A.Md., S.T., M.T., IPM.

In 2005, graduated with a Diploma in Energy Conversion Engineering from Ujung Pandang State Polytechnic. In 2007, completed a Bachelor's Degree (S1) in Electrical Engineering at Hasanuddin University. Then, continued to pursue a Master's Degree (S2) in Electrical Engineering, graduating in 2011 from Hasanuddin University. In 2019, continued professional education in Engineering at Muslim University of Indonesia, earning a Professional Engineer (IPM) certification. In 2024, completed a Doctoral Degree (S3) in Vocational and Technical Education at Makassar State University (UNM). He can be contacted at email: andi.syafar@uin-alauddin.ac.id.