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DEVELOPMENT OF THREE-DIMENSIONAL MEDIA IN THE PROCESS PAI LEARNING

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Abstract: *This research aims to develop and implement three-dimensional (3D) media in the Islamic Religious Education (PAI) learning process in order to increase the effectiveness of learning and students' understanding of the material being taught. The use of 3D media is expected to provide more real and interactive visualization, so that students can understand abstract concepts in PAI more easily and in depth. The research results show that the three-dimensional media developed is effective in increasing students' understanding of PAI material. Students who learn using 3D media show significant improvements in learning outcomes compared to students who learn using conventional methods. Apart from that, 3D media has also succeeded in increasing students' motivation and interest in learning, as well as facilitating more interactive and enjoyable learning. Thus, this research makes an important contribution to innovation in PAI learning, especially through the use of three-dimensional media that is effective and enjoyable for students. It is hoped that the results of this research can become a reference for the development of technology-based learning media in the future.*

Keywords: *Development, Three Dimensional Media, PAI Learning*

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Introduction

In the era of increasingly rapid development of information and communication technology, the learning process has undergone a significant transformation. One of the innovations in the field of education is the development of technology-based learning media, including three-dimensional (3D) media. The use of 3D media in the learning process of Islamic Religious Education (PAI) offers various benefits that can improve the effectiveness and quality of learning. (Muafiyah, 2024)

Three-dimensional media is a learning aid that can provide a real visualization and approach the original form of the object or concept being studied. In the context of PAI, the use of 3D media can help students understand abstract and complex material more easily. For example, visualizations of historical buildings in Islam, such as the Grand Mosque or the Prophet's Mosque, can be presented in 3D to provide students with a clearer and more in-depth picture. In addition, 3D media can increase students' motivation and interest in learning. Interaction with interesting and interactive media is able to reduce boredom in the conventional learning process. (Noveri & Eti, 2021)

Thus, students become more enthusiastic and actively involved in learning. This is in line with the theory of constructivism which emphasizes the importance of meaningful learning experiences and the active involvement of students in building their own knowledge.

The use of 3D media also supports a more varied and innovative learning approach. Teachers can design various learning activities involving 3D media, such as simulations, educational games, or virtual exploration. Thus, the learning process becomes more dynamic and flexible, and is able to accommodate various learning styles of students. (Nurhanifa et al., 2023)

In this context, research and development of three-dimensional media in the PAI learning process becomes very relevant. This research aims to explore the potential of 3D media in improving the quality of PAI learning, as well as identify supporting and inhibiting factors in its implementation. Thus, the results of this research are expected to make a real contribution to the development of more effective and meaningful PAI learning innovations.

Discussion

Definition of Three-Dimensional Media

Media comes from the Latin word medius which means middle, introduction, intermediary. Learning media according to Retno Susanti are materials, tools, methods or techniques used in the learning process so that educational communication runs effectively and efficiently in accordance with learning objectives. The use of media is chosen according to the learning objectives and the learning media is positioned as the introduction of the message. Three-dimensional media, according to Ryndra Azar, is an item that has length, width, and height so that it is a building of space that can be seen from various sides. Usually in the form of real objects, actual objects (Susanti, 2018).

According to Gerlac and Ely, media is a person, material, event that builds conditions for students to acquire skills, knowledge or attitudes. Media is also interpreted as something that can stimulate students' feelings, thoughts, and willingness to learn. (Tatang, 2012)

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According to Suryani & Agung, three-dimensional media is media whose use is presented visually in three dimensions (has length, width and height). This group of media can take the form of an original object either alive or dead, and can also take the form of an imitation that represents the original. (Sumarno & Anggun, 2019)

Thus, we can understand that three-dimensional media is a group of objects, either in the form of imitations or real objects that have a certain volume/weight that are used to convey material, clarify students' understanding and increase enthusiasm in learning. The position of the media in the learning process is important to improve the quality of learning.

Media helps reduce learning that is too teacher-focused. It is true that the role of the teacher cannot be replaced, but if the teacher's involvement is too high, then the student becomes passive. The selection of learning media that is in accordance with the characteristics of students' learning styles will have a significant impact on achieving learning goals.
According to Made Wena, there are 5 types of learning media (Wena, 2013)

1. Human-based media, such as instructors, role-playing, field trips,
2. Print-based such as books, student worksheets.
3. Visual-based such as charts, charts, slides
4. Audio-visual based such as video, movie
5. Computer/technology-based such as the use of search engines and certain applications.

In this case, three-dimensional media is included in the human-based category as well as can be included in the visual or audio-visual category. Visual media is more suitable for learners with visual modalities but is not interesting for kinesthetic learners who need to see, feel and move to be able to understand something. A teacher who shows the image of the kaaba on the slide can attract visual students, but for auditory and kinesthetic types, the picture is not as interesting as if a video of thowaf surrounding the kaaba with the sound of talbiyah or a thowaf demonstration in the field by surrounding the miniature kaaba. The existence of this three-dimensional media accommodates various types of students with different modalities.

More specifically, Sadiman explained the benefits of three-dimensional media in learning, including the following:

1. Laying concrete foundations for thinking
2. Increase students' interest and motivation to learn
3. Laying the foundations that are important for learning development so that lessons are easier to remember
4. Providing a concrete learning experience so that it motivates to learn independently
5. Fostering orderly, continuous thinking
6. Aids in the understanding and development of language skills

Three-dimensional media has significant benefits in helping students understand learning. Starting from building concrete thinking basics, forming an orderly flow of thinking to improving language skills (Sardiman, 2014)

Three-dimensional media itself has several forms, namely:

1. Solid models
   Examples of this solid model are torso dolls, miniature kaaba, banknotes, scales, judge's hammers, clerk's clothes, etc.

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Solid models are a type of media that can be purchased or made by yourself. This compact model can also be borrowed from the learning environment, for example for torso dolls from borrowing from the parents of students who own clothing stores. The advantage is that solid media can provide direct experience to students, The existence of solid media can develop the concept of realism for students. The drawback is not being able to reach a large number of targets. In addition, students with visual disabilities cannot see it.

2. Cross-sectional model. An example is the model of the flow of the hajj implementation from Miqot to Arofah, Muzdalifah, Mina, and Return to Mecca for the Ifadhoh thowaf. This cross-sectional model can be made by students with the direction of the teacher. The advantage of cross-sectional models is that they learn more deeply and focus on one thing. It makes it easier to understand because you can only see important things and be structured systematically. Get an idea of the real object replacement. It can be made cheaper than students have to be invited to visit certain real objects. The drawback is that it takes time and effort to make it. Blind children cannot compare, cannot reach many targets, and need storage and care.
3. The working model, usually is an imitation of the system how a tool works. For example, star binoculars, how to calculate how many degrees of the hilal and the mechanism for seeing the hilal, etc. The working model can also be used to describe the line of command of the leadership/government during the Islamic dynasties, war strategy, etc.
4. This arrangement model is a collection of several complete parts and arranged into a specific system. The objects can usually be removed/stripped one by one and studied. If there are any damaged parts, it will greatly affect the overall performance.

Both the arrangement model and the work model require a lot of effort and detail to make so that not much is done. In this case, three-dimensional media is something that can be seen from various sides and its existence is a tool as well as a learning resource in the PAI learning process.

Each type of media above has its own advantages and disadvantages. After all, three-dimensional media contributes to complementing and perfecting teacher performance. Unfortunately, the use of three-dimensional media has not yet become a culture among teachers. When the author asked what three-dimensional media is used in PAI learning, resource person F asked, "*What do you think, ma'am?* Indicates that the resource person is not used to using three-dimensional media. *During the practical exam, use a torso doll, right?* Where did it come from? The source said that it was borrowed from the science laboratory. When asked about the practice of manasik, the resource person explained that the hajj manasik had been carried out many years ago, namely by visiting the Pondok Gedhe hajj dormitory, now it is no longer done due to time and financial reasons. The use of three-dimensional media in learning is not widely done because it has many challenges. In addition to not being easy to get, it also takes time and effort to prepare.

Definition of Islamic Religious Education

The definition of Islamic Religious Education according to Abdul Majid is a conscious effort made by educators to make students understand, believe and practice through guidance, training, and planned teaching according to the expected goals. PAI learning is a conscious effort made by teachers to guide and train students to carry out Islamic teachings more perfectly

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both in mind and action. The learning process of PAI will be more interesting because it is prepared by professional teachers. The professional teacher according to the Regulation of the Minister of National Education of the Republic of Indonesia Number 16 of 2007 is a person who has qualifications of pedagogic, personality, social and professional competence. (Majid, 2012)

In effective learning delivery, a professional teacher is required to have creativity, be able to provide adequate teaching materials and choose the right media. Media is not always right for all students. In addition to considering students' learning styles, media also needs to be selected based on students' needs and, psychological aspects and existing carrying capacity. (Rusman, 2017)

The presence of media is an important part in making it easier for teachers to convey knowledge and develop various aspects of student growth. The skill of choosing the right media and in accordance with the purpose is not a simple thing, therefore it can only be done by a professional teacher. In other words, a professional teacher certainly has the skills to plan, create, and select learning media that are in accordance with learning objectives, the availability of time and funds.

PAI learning does not use much three-dimensional media because of the limitations of teachers making these media, but this can be overcome by involving students to make it. Professional teachers are able to guide students to work as a team and create three-dimensional media that is in accordance with the learning material. For example, by directing students to make dioramas of the Harom Mosque, Marwa Hill and Shofa. In the implementation of this learning, teachers not only focus on spending subject matter but also develop various social aspects and personality of students. During learning, teachers can fill out a rubric for the identification of psychomotor aspects of students in their involvement in teamwork. Not only students who work together, teachers can also collaborate with peers to create or plan the right media. Teachers not only collaborate with fellow PAI teachers but also with Cultural Arts and skills teachers, such as by creating art performance projects with themes according to Islamic Cultural History material. Cultural Arts and Skills teachers assess the elements of art and students' skills in making their properties, assessing their acting skills while PAI teachers assess aspects of students' understanding of History. In this case, Indonesian teachers can also be invited to collaborate for joint assessments because drama is material in Indonesian subjects. (Helmi, 2016)

In PAI learning, three-dimensional media plays an important role in the effectiveness of the absorption of learning materials. Sometimes teachers skip these materials because they are considered not cheap and require time and preparation, but these challenges can be overcome with the collaboration of students and teachers as peers.

Development of Three-Dimensional Media in PAI Learning

By opening up opportunities for the use of more sophisticated and modern technology in the teaching of Islam. In addition, three-dimensional media can also enrich existing learning methods, so that students can have a deeper understanding of Islamic religious teachings. Thus, it is hoped that the development of this three-dimensional media can be one of the solutions to improve the quality of Islamic religious education in the current digital era. (Ade et al., 2023)

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The existence of three-dimensional media in the PAI learning process, teachers can use it to provide a more interesting and interactive learning experience for students. The use of more advanced technology can also increase students' interest in learning Islam, so that the learning process can run more effectively. In addition, with three-dimensional media, students can also learn independently and more actively, so that they can improve their understanding of the material being taught. All of this is expected to make a positive contribution to improving the quality of Islamic religious education in Indonesia. (Dewi & Ade, 2023)

The process of creating and implementing three-dimensional media in PAI classrooms requires cooperation between teachers, students, and other related parties. Teachers need to have skills in using the technology needed to create three-dimensional media, while students need to be actively involved in the learning process using the media. In addition, collaboration with related parties such as technology and graphic design experts is also needed to ensure that the three-dimensional media made has good quality and is in accordance with learning needs. With good cooperation between all parties, the development of three-dimensional media in PAI learning can provide great benefits for improving the quality of Islamic religious education. (Isran & Haidir, 2022)

Examples of three-dimensional media that can be used in teaching PAI include interactive animation, 3D simulation, and virtual reality. By using this media, students can more easily understand abstract concepts in PAI lessons and are also more motivated to learn. This will help increase students' understanding and interest in learning Islam, thereby creating a generation that is more knowledgeable and has noble character. For example, in teaching the stories of prophets and apostles, teachers can use interactive animations to make the stories more engaging and visual. In addition, with 3D simulations and virtual reality, students can experience near-reality in understanding holy places such as the Grand Mosque and the Prophet's Mosque.

The challenges and limitations of the use of three-dimensional media in PAI education are the availability of adequate equipment and high production costs. However, with the rapid development of technology, it is hoped that the use of three-dimensional media in Islamic religious education can be more widespread and affordable. Thus, it is hoped that the younger generation can continue to improve their knowledge and understanding of Islamic teachings and be able to practice them in their daily lives. (Astuti, n.d, 2021)

The Influence of Three-Dimensional Media on Learning

Student engagement and understanding with and without three-dimensional media shows that the use of three-dimensional media in learning can improve student engagement and their understanding of the material being taught. This can help students to better understand abstract and difficult to understand visually, so that learning becomes more effective and fun. Thus, the use of three-dimensional media in PAI education can make a positive contribution to improving the quality of Islamic religious education in Indonesia. (Ayesha et al., 2023)

With student feedback on the use of three-dimensional media in PAI classes, it shows that the majority of students feel more engaged and understand the material well when three-dimensional media is used in PAI learning. Students also said that concepts that were difficult to understand became clearer and easier to understand through the visualizations provided. Thus, it can be concluded that the use of three-dimensional media in PAI education is very

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important to improve the effectiveness of learning and the quality of Islamic religious education in the classroom.

The long-term effect of incorporating three-dimensional media in PAI education is an increased understanding of complex and abstract Islamic religious concepts. With the use of this medium, students can gain a deeper understanding and retain the information learned in the long run. This helps to create a generation that is more skilled in understanding and applying the teachings of Islam in daily life, thus having a significant positive impact on Indonesian society as a whole. (Subhan & Himmatul, 2020)

Conclusion

The use of advanced technology such as virtual reality can provide a more engaging and interactive learning experience for students. Thus, it is hoped that students will be more motivated and become more active in the Islamic learning process. This is expected to increase their understanding of the material taught and ultimately improve the quality of Islamic religious education in Indonesia.

Thus, the development of three-dimensional media in the learning process of Islamic Religious Education (PAI) can provide great benefits for students in understanding and internalizing Islamic religious values. With the use of advanced technology such as virtual reality, it is hoped that students can be more motivated and active in the learning process, so that the quality of Islamic religious education in Indonesia can improve significantly.

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