Development of Augmented Reality as a Learning Media Introduction of Early Childhood Prayer Guidelines

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ABSTRACT*:* One technology that is now being seen as having great potential in the education sector is augmented reality. In the context of learning the introductory guidance of prayer for young children, augmented reality offers the possibility to enhance understanding and engagement of learners. This developmental research aims to identify the validity of augmented reality as a learning medium for early childhood. This research is development research using the ADDIE development model that consists of the phases Analysis, Design, Development, Implementation, Evaluation. Based on the results of the test, media experts obtained an average score of 92.10% which is categorized as highly qualified. The results of the material expert test conducted by 3 lecturers from the Faculty of Islamic Religion obtained an average percentage of 93.89% which was declared in the very feasible category. Based on the results of both tests, it can be concluded that the augmented reality media developed is very worthy to be used as a guidance in early childhood.

Keywords: Augmented Reality, Development, Learning Media, Prayer Guidelines

ABSTRAK*: Salah satu teknologi yang kini dipandang memiliki potensi besar di sektor pendidikan adalah augmented reality. Dalam konteks pembelajaran pengenalan dasar tata cara salat bagi anak usia dini, augmented reality menawarkan kemungkinan untuk meningkatkan pemahaman dan keterlibatan peserta didik. Penelitian pengembangan ini bertujuan untuk mengidentifikasi validitas augmented reality sebagai media pembelajaran bagi anak usia dini. Penelitian ini menggunakan model pengembangan ADDIE yang terdiri dari tahapan Analisis, Desain, Pengembangan, Implementasi, dan Evaluasi. Berdasarkan hasil uji, ahli media memperoleh skor rata-rata sebesar 92,10% yang dikategorikan sangat berkualitas. Hasil uji ahli materi yang dilakukan oleh tiga dosen dari Fakultas Agama Islam memperoleh persentase rata-rata sebesar 93,89% yang dinyatakan dalam kategori sangat layak. Berdasarkan hasil kedua uji tersebut, dapat disimpulkan bahwa media augmented reality yang dikembangkan sangat layak digunakan sebagai panduan dalam pembelajaran anak usia dini.*

Kata kunci*: Augmented Reality, Pengembangan, Media Pembelajaran, Panduan Shalat.*

INTRODUCTION

Educational technology has provided a new dimension to the way of learning and interaction between teachers and students. With the continuous development of information technology, teaching methods have evolved from conventional approaches to more interactive and engaging techniques. One technology that is now beginning to be seen as having great potential in the education sector is augmented reality (AR). Augmented reality is a technology that integrates virtual objects into the real world, thereby providing a more immersive experience to its users (Saputra et al., 2020). The application of AR in education has demonstrated significant benefits in enhancing students' understanding and engagement, particularly in areas requiring visualization and interaction.

In the context of learning the introductory guidance of prayer for young children, AR offers the possibility to enhance learners' understanding and engagement. Prayer is one of the essential pillars of Islam and requires a thorough understanding of various movements and recitations. Teaching children to pray correctly involves not only memorization but also an appreciation of the spiritual and physical aspects of worship. Various methods have been used to facilitate children in learning prayer guidance, such as utilizing desktop-based applications (Lestari, 2024), creating educational games on the guidance of obligatory prayers for children and Android-based applications (Birastuti & Al Irsyadi, 2019; Mauladi et al., 2021), techniques of habituation of prayer in person (Kinanti & Mavianti, 2023), the use of interactive multimedia (Sahputra et al., 2020), and the utilization of augmented reality media (Jarjis et al., 2018). Despite these advancements, studies indicate that there has yet to be widespread use of augmented reality as a medium for introducing prayer guidance to young children.

The statement above is further supported by general observations in early childhood education schools in Kendari City. Several teachers have reported that AR media has not yet been utilized in the learning process. Up until now, the introduction of prayer guidance has been conducted primarily through direct practice and the use of instructional videos. While these methods provide some level of guidance, they often lack interactivity and engagement. In some schools, it has been found that students struggle to understand the details of movements and recitations due to the limited visualization provided by conventional methods. In some cases, this leads to a lack of interest and seriousness among students in the practice of worship, as they do not fully understand or feel connected to what they are doing. The absence of dynamic and interactive media contributes to these challenges, making it necessary to explore new approaches that can enhance learning outcomes.

The review of previous research and real-world observations indicate the importance of using AR media in learning the introduction to prayer guidance. The in-depth development of AR media for prayer guidance not only offers a new approach in educational technology but also provides a much-needed resource for religious practices for young children. AR technology can help students visualize and practice prayers with interactive and personal guidance that can be repeated anytime, thus enhancing students' understanding and skills in performing worship correctly. Unlike traditional learning materials, AR allows students to interact with digital representations of prayer movements and recitations, making the learning experience more engaging and effective. Additionally, AR technology can offer personalized learning experiences tailored to the needs of individual students. This adaptability is particularly beneficial for children who may require additional practice or have different learning styles. The ability of AR media to tailor content based on individual responses and needs can help address personal learning challenges (Cacciatore, 2018; Ismayatim et al., 2019). For instance, children who struggle with memorization can benefit from interactive visual aids, while those who need reinforcement in physical

movements can practice with 3D animations demonstrating correct posture and motion.

Moreover, AR can provide a solution to challenges faced by educators in teaching prayer guidance. Teachers often have limited time to give one-on-one instruction to every student, making it difficult to ensure that all students receive adequate attention and practice. By incorporating AR into prayer learning, students can receive guided instruction outside the classroom environment, reinforcing their learning independently at home. Parents can also participate in the learning process, using AR applications to monitor their children's progress and provide additional support. From a technological perspective, the development of AR media for prayer guidance involves the integration of various tools and platforms. Software such as Unity 3D, Vuforia SDK, and Blender can be utilized to create realistic and interactive prayer learning experiences. These tools allow developers to create 3D models of prayer movements, synchronize audio recitations, and design user-friendly interfaces suitable for young learners. Furthermore, the compatibility of AR applications with mobile devices ensures accessibility, allowing children to learn anytime and anywhere without being confined to a classroom setting.

Based on the studies conducted, it is deemed necessary to conduct research on the development of augmented reality media as a learning tool for introducing prayer guidance. The objective of this research is to create augmented reality media that is suitable for use as a means of introducing prayer guidance to young children. The proposed AR application aims to provide an interactive and immersive learning experience, combining visual, auditory, and kinesthetic elements to support effective learning. By leveraging AR technology, this research seeks to bridge the gap in existing teaching methods and offer an innovative solution that enhances students' understanding, engagement, and motivation in learning prayer guidance.

Augmented reality presents a promising educational tool for enhancing prayer learning among young children. By addressing the limitations of conventional methods and incorporating interactive digital content, AR can significantly improve students' comprehension and retention of prayer movements and recitations. The development and implementation of AR-based prayer learning tools have the potential to revolutionize religious education, making it more accessible, engaging, and effective. Future research and development efforts should focus on optimizing AR applications to cater to the needs of young learners, ensuring that technology serves as a meaningful and valuable addition to Islamic education.

METHODs

This research is a development study using the ADDIE model, which consists of five stages: analysis, design, development, implementation, and evaluation. The activities carried out at each stage include: (1) analysis stage, this stage consists of two parts, performance analysis and needs analysis. Performance analysis is conducted to identify and clarify the performance issues faced. Needs analysis is the step needed to determine the skills or competencies that students need to learn to enhance their

performance or academic achievements.; (2) design stage, this begins with the design of flowcharts and storyboards, the preparation of materials, the creation of assessment instruments, and the collection of supporting materials.; (3) development, This stage applies the design phase, involving the realization of the storyboard into a product in the form of augmented reality media for the introduction of prayer guidance. Once the media product is developed, it undergoes assessment by media experts and content (material) evaluation by subject matter experts. This stage is considered complete when the assessments by media and subject matter experts provide recommendations for media usability, and any suggestions provided have been addressed and rectified; (4) implementation, This is the stage of media implementation with students. However, in this study, implementation with students is not conducted because the research process only proceeds to media testing and material testing; (5) his stage involves managing the results of the assessments and drawing conclusions.

Data processing is conducted using the Likert scale. The weighting is determined such that for positive statements, the values are 4 for "strongly agree," 3 for "agree," 2 for "disagree," and 1 for "strongly disagree." For negative statements, the values are 4 for "strongly disagree," 3 for "disagree," 2 for "agree," and 1 for "strongly agree." These scores are then summed and divided by the number of statement items (Setyosari, 2016).

RESULT AND DISCUSSION

Result

This study describes the results based on the stages of the ADDIE model, which consists of five main phases: Analysis, Design, Development, Implementation, and Evaluation. The first two stages, Analysis and Design, play a crucial role in determining the needs and initial design of the augmented reality (AR) media being developed.

The first stage in the ADDIE model is Analysis, which includes performance analysis and needs analysis. Based on preliminary findings, the main issue faced in introducing prayer guidance to children is the difficulty in memorizing prayer recitations. This occurs because the teaching methods used are still direct and lack supporting learning media that allow children to repeat and practice at home. As a result, children experience difficulties in fully remembering and understanding prayer recitations.

In the needs analysis, several important aspects are considered, such as learner characteristics, learning objectives, delivered materials, as well as technological and learning media requirements. The analysis of learner characteristics is conducted to understand how young children learn and absorb information, while the learning objectives are directed toward enabling them to understand prayer recitations, prayer movements, and the correct way of performing them. Additionally, the material analysis includes understanding prayer movements along with their accompanying recitations. Based on this analysis, the learning objective of the AR media is

established: to help children understand, memorize, and practice prayer recitations and movements in a more interactive and enjoyable way.

Various software and hardware are utilized to support the development of this AR media. The software used in AR development includes Unity 3D as the main platform for creating interactive applications, Vuforia SDK as supporting software for AR marker recognition, Android JDK to support development on Android-based devices, Microsoft Visual Studio as the main development environment, and Blender as a tool for creating three-dimensional (3D) models of prayer movements. The supporting hardware includes a desktop computer for the development and testing process, as well as iOS, Windows Phone, and Android-based devices to run the developed application. With this combination of software and hardware, the AR media is expected to function optimally and be accessible across various devices, facilitating user access.

The second stage in the ADDIE model is Design, which involves the process of designing 3D models, concept creation, selecting the design format, and designing the application interface. The initial step in the design phase is creating 3D models of prayer movements using Blender, which are then integrated into the augmented reality environment with Vuforia SDK. The modeled prayer movements include takbiratul ihram, standing with hands folded (bersedekap), bowing (rukuk), standing upright after bowing (i'tidal), prostration (sujud), sitting between two prostrations, the final sitting (tasyahhud), and the final greeting (salam). Each movement is designed as a realistic 3D object to enhance comprehension and visual appeal for children.

Next, the AR media concept is developed using a marker-based AR system, where children can scan cards containing markers using their devices. Upon scanning, a 3D object of the prayer movement will appear along with the corresponding prayer recitation audio. In this design stage, selecting the design format is also a crucial factor to ensure that the user interface (UI) and user experience (UX) of the AR application are well-designed for ease of use by children. Key aspects of the design format include a simple and intuitive layout, the use of attractive colors such as dark blue on the marker card edges to create a calming and focused effect, and additional design elements like small star patterns that enhance visual appeal and motivate children to learn. Furthermore, integrating audio elements, such as clear prayer recitation voices and soothing background music, supports a more effective learning experience.

The user interface (UI) design includes several key features, such as a main menu page that serves as the entry point for users to select available features, a marker scanning display where 3D prayer movement objects appear along with the corresponding prayer recitation audio, and simple navigation to enable children to use the application easily without adult assistance. With a child-friendly design, the interface features clear icons and appropriately sized text for readability and user comfort.

To illustrate the overall process in the design phase, visual schematics or technical illustrations are often used. In the research report, such illustrations can be presented as "Figure 1," depicting how the 3D model is designed and integrated into

the augmented reality environment. This visualization aims to provide a clearer understanding of the technical and creative stages involved in developing the AR media.

Based on the analysis and design phases of the ADDIE model, it can be concluded that children face difficulties in memorizing prayer recitations because conventional teaching methods are not yet supported by interactive media. Therefore, this AR media is designed to help them understand prayer recitations and movements in an interactive and enjoyable way. The development of this media involves various software and hardware components to ensure optimal AR functionality across different platforms. Additionally, the 3D model and user interface design are structured with consideration for ease of use and visual appeal, making them suitable for children. The schematic illustration or "Figure 1" in the research report helps depict the integration process of 3D models into the AR system. Through these first two stages of the ADDIE model, the AR media has been systematically designed to support children's prayer learning more effectively and enjoyably.

Figure 1. Creating 3D Objects in Blender Software

The 3D objects will display the movements associated with the prayers of the five daily prayer times. This includes the initial takbir (raising hands in reverence), folding hands over the chest, bowing (ruku), standing straight from bowing (I'tidal), prostration (sujud), sitting between two prostrations, the final sitting position where the testimony of faith (tashahhud or tahiyat) is recited, and the concluding salutation (salam). The process of creating these animations is also done using Blender software. The 3D objects undergo a process known as rigging, where a skeletal framework is applied. After the rigging stage, the animations are set up using frames to replicate the natural movements as accurately and in accordance with the requirements of prayer movements in Islamic law.

Next, the design of the AR media interface is created. An example of this AR media interface design is presented in Figure 2.

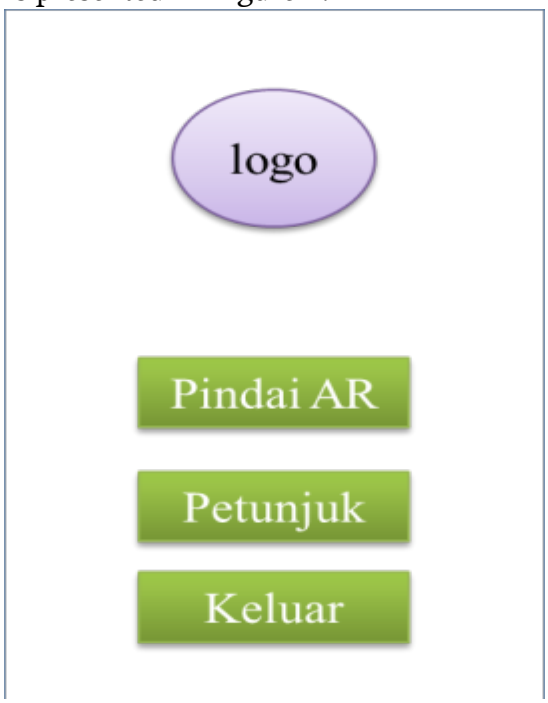

Figure 2. Main Menu Design

The third phase, known as the **development** stage, involves transforming the design concepts into a functional augmented reality (AR) media. This stage focuses on implementing the planned features and ensuring that the AR media operates as intended. The final product of this stage is an interactive AR-based learning tool.

Several key components are included in the developed AR media, such as the main menu interface, marker elements, and the system's response upon scanning these markers. These elements work together to create an immersive and interactive learning experience. The AR media has been specifically designed to support learning about prayer rituals, making it an effective educational tool for users.

This AR media has been named **"AR Belajar Shalat"** (AR Learning Prayer), which directly reflects its primary function and objective. The naming emphasizes its purpose as a digital learning aid that enhances users' understanding of prayer practices through augmented reality technology. By integrating visual and interactive features, this AR tool provides a more engaging way for learners to grasp the correct procedures and movements involved in prayer.

To illustrate the developed AR media, a screenshot of the main menu page is provided in **Figure 3**. This menu serves as the starting point for users to navigate through the application, access relevant content, and interact with the AR elements. The clear and structured interface ensures ease of use, making the learning process more intuitive and effective for users of various age groups.

Figure 3. Main Menu Page

The developed AR media is designed to function exclusively with specific markers that have been carefully created to support the learning process. A total of **10 unique markers** have been developed to facilitate the recognition and visualization of different prayer elements. These markers include **2 images representing the Subuh (dawn) and Maghrib (sunset) prayers**, along with **8 additional images** corresponding to each prayer movement. These movements include **takbir (raising the hands), folding hands over the chest, bowing (rukuk), standing straight after bowing (i'tidal), prostrating (sujud), sitting between two prostrations, reciting the tashahhud, and concluding the prayer with salam**.

Each marker is printed on a **4x3 inch card**, ensuring they are appropriately sized for easy handling by children. To enhance engagement and maintain user interest, the markers are designed with an appealing background that captures attention and stimulates curiosity. The color scheme incorporates **dark blue on the sides**, which has been chosen for its calming and soothing effects, creating a more comfortable and focused learning atmosphere. Additionally, a **small star pattern** is included to make the markers visually appealing, further motivating children to engage with the learning material.

The strategic use of colors and attractive visuals is particularly beneficial for early childhood learning. Studies indicate that **colorful objects can stimulate**

creativity, enhance cognitive abilities, and contribute positively to intellectual development (Fitri, 2021; Junita & Putrie, 2021). By integrating these design elements, the AR media aims to create an interactive and enjoyable learning experience that encourages children to actively participate in understanding and practicing prayer movements.

This combination of well-structured visual aids and interactive AR technology ensures that the learning process is both effective and engaging. To provide a clearer representation of the developed markers, an **example is illustrated in Figure 4**, showcasing how the design elements work together to create an immersive and educational tool for young learners.

Figure 4. Marker

When the designated marker is scanned using the AR media, a **3D animation** is displayed on the screen, accompanied by the corresponding **audio recitation** of the prayer. This feature allows users to see and hear the correct movements and recitations simultaneously, creating a more **immersive and interactive learning experience**. The audio output is synchronized with the **3D object**, ensuring that learners can follow along accurately as they observe the prayer postures and listen to the proper pronunciation of each recitation. This integration of **visual and auditory elements** enhances comprehension and retention, making the learning process more engaging and effective for children.

By incorporating **real-time interaction**, the AR media provides a dynamic approach to teaching prayer, reinforcing both **cognitive and motor skills**. The combination of **animated visuals and clear audio instructions** helps learners understand the **sequential flow** of the prayer, making it easier to practice and memorize. This method is particularly beneficial for **young learners**, as it supports different learning styles—visual, auditory, and kinesthetic.

An example of the **scanned marker result** is presented in **Figure 5**, illustrating how the AR media brings prayer movements to life through advanced **3D animation technology** and synchronized **audio guidance**.

Figure 5. Display of the Marker after Scanning

After the development of the **augmented reality (AR) media** was completed, it underwent a **feasibility assessment**conducted by experts in the field. This evaluation was carried out by three professors from the **Islamic Education Studies Program** at **Universitas Muhammadiyah Kendari**, who served as subject matter experts. Their assessment aimed to determine the **suitability, effectiveness, and appeal** of the AR media for use in **early childhood education**.

Based on the **validation process**, the AR media received an **average score of 93.89%**, which falls under the category of **highly suitable**. This result indicates that the developed media meets the necessary standards and is deemed **highly**

appropriate for educational purposes. The subject matter experts provided several key insights regarding the strengths of the AR media, particularly in its **ability to engage young learners and facilitate the learning process**.

One of the most **notable aspects** of the AR media, as highlighted by the experts, is its **engaging and interactive 3D animations**. The animations effectively illustrate **prayer movements** in a way that is **visually appealing and easy to follow**. The **user-friendly interface** further enhances its accessibility, ensuring that even young children can navigate and use the application with ease. Additionally, the use of **background music (backsound)** in the interface contributes to a **pleasant and immersive learning experience**, keeping children motivated and engaged throughout the learning process.

Another significant feature that received positive feedback was the **integration of voice assistance in prayer recitations**. The inclusion of **audio guidance** not only helps children **understand the correct pronunciation and rhythm** of the prayers but also serves as an **effective tool for memorization**. By listening to the **recitations repeatedly**, children can **internalize and retain** the prayers more efficiently, reinforcing their understanding and mastery.

Furthermore, the **physical design of the marker cards** was praised for its **attractiveness and functionality**. The **compact and visually appealing card format** makes it easy for children to interact with the AR media. The design elements, including the **color selection and patterns**, were carefully chosen to create a **stimulating and engaging**learning environment. These aspects contribute to the **overall effectiveness** of the AR media as an educational tool tailored for early childhood learners.

The **positive feedback from subject matter experts** underscores the **strong potential** of this AR media in enhancing **Islamic education** for young children. By combining **technology, interactivity, and educational content**, this media provides a **modern and effective approach** to teaching prayers. The validation results confirm that the AR media is not only **suitable for educational use** but also has the potential to **significantly improve the learning experience** for young learners.

The results of the **feasibility testing conducted by the subject matter experts** are visually represented in **Figure 6**, showcasing their assessment and validation of the developed AR media.

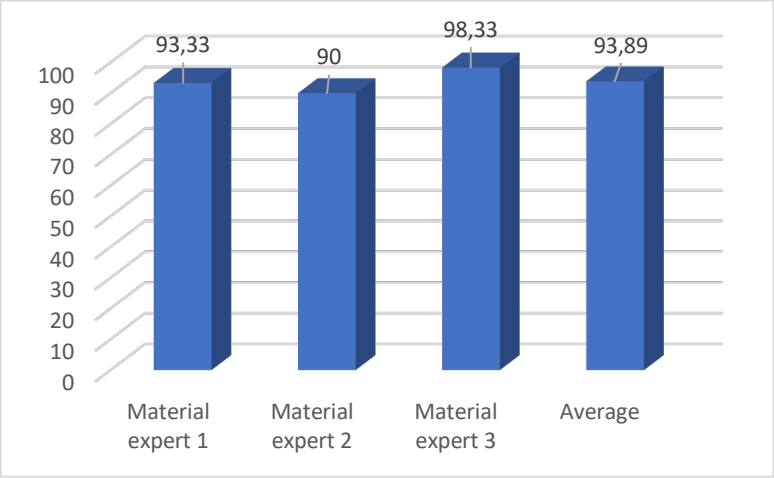

Figure 6. Results of Subject Matter Expert Testing

Following the validation process conducted by **subject matter experts**, which confirmed the **high suitability** of the developed **augmented reality (AR) media**, the next stage involved validation by **media experts**. This step was essential to ensure that the **technical aspects, functionality, and overall usability** of the AR media met the required standards.

In this study, the **media experts** consisted of **three professors** from the **Information Technology Education Studies Program** at **Universitas Muhammadiyah Kendari**. Their expertise in **educational technology and multimedia development** enabled them to conduct a **comprehensive evaluation** of the AR media, focusing on **system performance, interface design, responsiveness, and user experience**.

Based on the **validation results**, the AR media received an **average score of 92.10%**, placing it in the **highly suitable**category. This rating confirms that the AR media is not only **technically well-developed** but also **highly effective** in its intended role as a **learning tool for young children**.

The evaluation highlighted several **strengths** of the AR media. One of the most significant aspects was its **intuitive user interface**, which allows young users to **easily navigate** the application. The **smooth and responsive interaction** between the **markers and AR system** was also noted as a key feature that enhances the **learning experience**. Additionally, the **high-quality 3D visualizations** were praised for their **clarity and realism**, making the learning process more **immersive and engaging**.

Another notable strength was the **stability and efficiency of the system**, ensuring that the AR media operates **smoothly without glitches or delays**. The **integration of audio elements**, including **prayer recitations and background sounds**, further contributed to the **application's effectiveness** by making it more **interactive and enjoyable** for children.

The **color scheme and design layout** were also commended for their ability to create a **visually appealing learning environment**. The use of **calming yet engaging colors** was considered effective in maintaining children's **focus and motivation** while using the AR media.

These results indicate that the **augmented reality media for introducing prayer guidance** meets the **technical and usability standards** required for **educational applications**. The validation from media experts further strengthens the conclusion that the **AR media is an effective and engaging learning tool** for early childhood education. The **results of the media expert testing** are visually represented in **Figure 7**, showcasing their assessment and validation of the developed AR media.

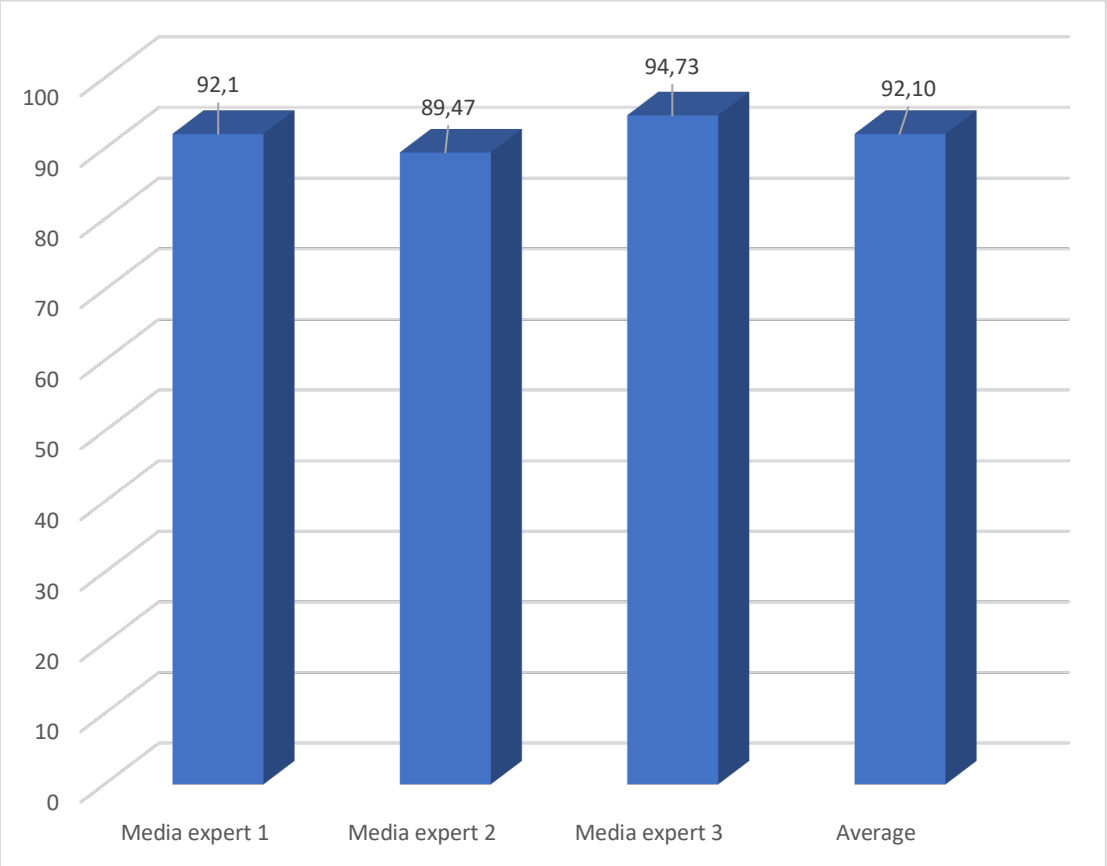

Figure 7. Results of Media Expert Testing

Discussion

Augmented Reality (AR) is a technology that integrates elements of the real world with digital data in real time through devices such as cameras, sensors, and visual displays (Cheng et al., 2024; Rebello et al., 2024; Saputra & Fajriani, 2021). This technology enhances user experiences by enabling the seamless integration of virtual objects or information into their real-world environment. AR creates an immersive

experience in which the digital and physical worlds interact harmoniously within a single display (Saputra, 2020; Wang et al., 2024).

One of the main advantages of AR is its ability to enhance users' visual and interactive experiences, making it an extremely effective learning tool (Arwansyah et al., 2023; Sulistianingsih & Kustono, 2022). By utilizing AR, users can observe three-dimensional (3D) representations of complex objects and better understand difficult or abstract information (Alvionita et al., 2021; Husnaini et al., 2023). In the field of education, AR offers more detailed and contextual simulations, enriching conventional learning methods with engaging and realistic visualizations.

In structured and guided prayer learning, AR can be used to provide clear and accurate visual representations of prayer positions and movements. Users can view three-dimensional models demonstrating various movements, such as bowing (ruku'), prostration (sujud), and sitting between two prostrations, while also listening to the corresponding recitations in an integrated audio format. This technology addresses the limitations of traditional methods, which often rely solely on verbal explanations or live demonstrations. Conventional approaches may not always be accessible to all learners, particularly those who struggle to comprehend oral instructions or lack direct access to religious instructors.

Another significant advantage of AR in prayer learning is its ability to offer a personalized and adaptive learning experience (Al-Ansi et al., 2023; Draxler et al., 2020). This technology allows learners to interact directly with the presented material, enabling them to study each movement and recitation at their own pace. AR also accommodates various learning styles—whether visual, auditory, or kinesthetic—making it an inclusive learning medium accessible to diverse learners (Liu et al., 2024; Sahria & Yulfihani, 2023).

Additionally, AR provides instant feedback to users, which is crucial in the learning process for prayer guidance. This feature enables users to immediately identify and correct their mistakes in movements or recitations, enhancing the effectiveness of learning and accelerating mastery of the material. In the context of religious education, accuracy in worship practices carries significant implications, making it essential for learners to understand and perform prayers correctly.

The advancement of AR technology also facilitates the integration of various rich and dynamic learning content. For example, AR applications can be customized to adjust prayer times based on users' geographical locations. Furthermore, the technology can be tailored to accommodate different skill levels, allowing learning materials to progress in line with individual users' development. These features make AR a highly effective and efficient tool for guided prayer learning, providing a strong foundation for users to perform worship correctly and meaningfully.

Moreover, AR contributes to the availability of consistent and reliable learning resources, which is crucial for the sustainability of guided prayer education. AR-based applications can be accessed anytime and anywhere, providing learners with the flexibility to review and practice materials according to their needs. With no time or location constraints, this technology becomes a valuable solution for individuals who

lack easy access to teachers or religious educational institutions (Fitria, 2023). Additionally, AR can serve as a supplementary tool for teachers or educators, enabling them to present material in a more engaging and interactive manner, ultimately enhancing the effectiveness of the learning process.

When developing AR applications for prayer learning, several factors must be considered to optimize their usability. One key factor is designing an intuitive and user-friendly interface to ensure accessibility for a wide range of users, including children and adults who are new to prayer instruction. Additionally, the content provided in the application must align with accurate religious guidelines and receive validation from experts in the field. Ensuring that AR content undergoes a rigorous verification process guarantees the accuracy and authenticity of the information presented.

Beyond technical aspects, the effectiveness of AR in prayer learning also depends on user engagement. Therefore, AR applications should be designed with high interactivity and gamification elements to enhance learning motivation. For instance, incorporating challenges or quizzes can encourage users to master each stage of prayer movements and recitations more effectively. These features make learning more enjoyable and engaging, ultimately increasing user participation and material retention.

AR is a technology with immense potential to enhance prayer learning experiences. Its ability to provide clear visualizations, adaptive and personalized learning, and instant feedback makes it an effective tool in helping individuals understand and practice prayer correctly. Additionally, the accessibility of AR technology allows anyone to learn anytime and anywhere, eliminating time and location barriers. Thus, the integration of AR into prayer learning presents an innovative solution to improving religious education in a more engaging, interactive, and easily accessible manner.

CONCLUSION

Based on the evaluation results, the assessment conducted by media experts yielded an average score of 92.10%, categorizing the augmented reality media as highly qualified. Additionally, a content evaluation carried out by three lecturers from the Faculty of Islamic Religion resulted in an average percentage of 93.89%, indicating that the media falls into the "very feasible" category. These findings suggest that the augmented reality media developed has met high standards of both technical and content quality, making it highly suitable for educational purposes.

The high score obtained from media experts reflects the strong technical aspects of the augmented reality application, including its usability, functionality, and effectiveness in delivering the intended learning experience. The interactive features and visual appeal were considered appropriate for young learners, making the media engaging and easy to use. This evaluation also highlights that the design and interface meet the necessary standards for accessibility, ensuring that early childhood users can navigate the media effectively.

In parallel, the material evaluation conducted by experts in Islamic studies confirms the relevance and accuracy of the content. The 93.89% score signifies that the information presented within the augmented reality media aligns well with the principles and guidelines of religious education. This validation ensures that the instructional content provided is both educationally and doctrinally appropriate, which is crucial for teaching young learners about religious practices.

By integrating both media and material expert assessments, it can be concluded that the augmented reality media has successfully combined advanced technological features with accurate and pedagogically sound content. The high feasibility scores from both groups of evaluators reinforce the credibility of the developed media as a reliable learning tool. This suggests that augmented reality has the potential to enhance early childhood education by offering an immersive and interactive learning experience.

Furthermore, the positive results from the evaluation process indicate that the augmented reality media can effectively serve as a guidance tool for early childhood learners. Since young children often learn best through visual and interactive means, the integration of AR technology provides a more engaging and effective learning approach compared to traditional methods. The application allows children to interact with 3D models, animations, and guided instructions, which significantly enhances their comprehension and retention of educational material.

Considering the high feasibility scores, it is recommended that the developed augmented reality media be implemented widely as an instructional aid in early childhood education. Educators and parents can utilize this technology to support children's learning experiences, ensuring that they receive well-structured and visually engaging educational guidance. The validation from both media and content experts strengthens the credibility of this innovation, making it a promising tool for improving the quality of early childhood education.

The augmented reality media has demonstrated high feasibility and effectiveness in delivering educational content to young learners. The combined assessments from media and material experts confirm its suitability as an instructional tool. Given its potential to provide engaging and interactive learning experiences, the adoption of this technology can significantly enhance early childhood education, making learning more accessible, interactive, and effective for young children.

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