



The Use of Augmented Reality as an Innovative Learning Media for Fiqh Material

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Abstract: In the process of knowledge transfer, innovation in learning media is needed to understand the context of fiqh material, to support teachers in delivering teaching content. In line with the 21st century, collaboration between education and technology is required, resulting in many breakthroughs in modern learning media. Augmented Reality is an additional reality in the form of advanced technology that combines virtual objects and real objects directly. This study aims to develop innovative learning media in the form of valid flash cards, the use of media, and the impact of using these flash cards. This type of research is research and development (R&D) using the ADDIE model, which consists of the following steps: Analysis, Design, Development, Implementation, and Evaluation. The development of the media went through a feasibility test by media experts, subject matter experts, practitioners (subject teachers), small group trials, and large group trials (students) with the distribution of questionnaires. The research was conducted in class X of Madrasah Aliyah Wali Songo with a total of ten students. The results show that the flash card learning media recapitulation meets the validity test with a score of 86,22% by media experts, 88,57% by fiqh lecturers, 85% by learning practitioners (teachers), 87.6% in small group trials, and 90% in large group trials, resulting in an average percentage score of 87.62% (very good for use). It can be concluded that the development of this media is able to increase student motivation and engagement, create enjoyable learning, improve understanding of fiqh munakahat material, and can certainly be used by teachers to innovate learning media in the classroom.

Keyword: Augmented Reality, Fiqh Munakahat, Marriage Contract, Innovation, Learning Media.

Abstrak: Dalam proses transfer ilmu diperlukan inovasi media pembelajaran dalam memahami konteks materi fiqih, untuk menunjang kegiatan guru menyampaikan isi materi ajar. Sesuai abad-21 diharuskan kolaborasi antara pendidikan dan teknologi menjadikan banyaknya terobosan media pembelajaran modern. Augmented Reality adalah realitas tambahan berupa teknologi canggih menggabungkan benda virtual dan benda nyata secara langsung. Penelitian ini bertujuan untuk mengembangkan inovasi media belajar berupa flash card yang valid, pemanfaatan media dan bagaimana dampak dari pengguna media flash card ini. Jenis penelitian ini, merupakan pengembangan (Research and Development) dengan model ADDIE terdiri atas langkah-langkah; Analisis, Desain, Development, Implementation, Evaluation. Pengembangan media melewati uji kelayakan oleh validasi ahli media, ahli materi, praktisi (guru bidang studi), uji coba kelompok kecil dan uji coba kelompok besar (siswa) dengan penyebaran kuisioner. Penelitian dilakukan pada kelas X Madrasah Aliyah Wali Songo dengan jumlah keseluruhan sepuluh siswa. Menunjukkan bahwa, rekapitulasi media pembelajaran flash card memenuhi uji kevalidan

dengan nilai oleh ahli media 86,22%, oleh dosen fiqh 88,57%, praktisi pembelajaran (guru) 85%, uji coba kelompok kecil 87,6% dan uji coba kelompok besar 90%, maka rata-rata nilai presentase 87,62% (sangat baik digunakan). Dapat disimpulkan pengembangan media ini mampu meningkatkan motivasi dan keterlibatan siswa, meningkatkan pemahaman materi fiqh munakahat, tentunya dapat digunakan guru guna menginovasi media pembelajaran dikelas.

Kata kunci: *Augmented Reality, Fiqh Munakahat, Akad Nikah, Inovasi, Media pembelajaran.*

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INTRODUCTIONS

Augmented Reality (AR) technology serves as the foundation for developing educational media that seamlessly integrates modern technology into both the real and virtual worlds, creating the illusion that the content is physically present before the user (Wiese, 2025). Augmented reality has emerged as one of the top trends in education because this technology allows students to access materials, collaborate, and interact directly. It features a blend of advanced technology, such as real-time visualization of three-dimensional objects, overlaid with content accessible via mobile devices and laptops (Handoyo et al., 2024). Furthermore, mastering this technology offers benefits that are more engaging and contextual compared to conventional learning methods, particularly in abstract and complex subjects like fiqh. Thus, the augmented reality approach is considered suitable for delivering content through a humanistic method one that is understandable and, of course, practical (Mahfut Amrullah, 2023). Innovative learning media are a crucial element in fostering students' innovative instincts. According to Suyanto in Efifani (2024), innovative learning media are essential learning aids that can take the form of supporting tools such as interactive media, 3D videos, online games, and learning through images.

In understanding the basic concepts of Fiqh Munakahat, visual representations are essential in supporting the transfer of knowledge regarding Islamic marriage. According to Nirmala & Rizqa (2024), visual representation is a process through which individuals establish a strong connection between internal concepts and external objects perceived through the human senses. In line with the views of Agus & Rohmi (2023), within the basic concepts of Fiqh adapted for AR development, students are focused on three stages: first, learning by engaging with real objects or items, such as a simulated marriage contract (Enective). Second, learning by using images of the pillars and conditions of marriage (Iconic). Third, interacting through memorization of both legal texts and hadiths regarding marriage law (Symbolic). A thorough understanding of the Munakahat fiqh concepts must be mastered first so that students can grasp the overall fiqh framework and apply this knowledge as a

foundation for life (M. Zali et al., 2023). However, field observations during the study, particularly during interviews with fiqh teachers at Madrasah Aliyah Wali Songo Tebo, revealed that the learning process remains dominated by traditional methods such as workbooks and textbooks supporting the discussion chapters. Consequently, the fiqh learning system still relies relatively little on technology-based learning models. The research location was chosen because this madrasah is situated in a rural area with relatively basic facilities. Consequently, students reportedly still face difficulties in visualizing the fiqh learning process. In other words, further exploration is needed, particularly regarding the implementation of Augmented Reality as an innovative medium.

The use of Augmented Reality technology in educational media is a highly relevant topic for research. According to Liono et al. (2021), Augmented Reality-based learning has a strong contextual nature because this technology is specifically designed to align with the learning material. This technology opens up opportunities as a practical and innovative learning scenario in the digital age (Sembiring & Kona, 2023). Various studies have sought to introduce digital innovations into fiqh materials. According to M. Waqfin (2026), the use of AR learning media in certain religious subjects, including fiqh, is more effective in enhancing student motivation through the use of Flash Card tools. The teaching-learning process can proceed effectively, thereby making students more enthusiastic (Prasittichok et al., 2024). Nevertheless, the majority of these studies still focus on audio-based media or general multimedia that is passive in nature. On the other hand, research by Fitiani in M. Jarir (2025) demonstrates that the use of AR (Flash Cards) is more conventionally effective in improving student memorization, but has not yet fully harnessed the potential for interactivity that strengthens students' direct learning experiences. These limitations indicate a research gap that needs to be bridged. First, there is no research specifically developing flashcard products that can be accessed repeatedly, particularly for marriage contract simulation materials. Second, there is a lack of studies adapting interactive media displays to a religious context for abstract learning needs. Third, there have not been many studies that interpret improvements in learning outcomes in terms of understanding concepts and digital-based skills in fiqh material, particularly discussions on munakahat (Islamic marriage law).

This study aims to conduct further exploration regarding the ideal learning media (Nabillah, 2024). Based on these findings, the researcher is interested in conducting an exploration titled "The Use of Augmented Reality as an Innovative Learning Medium for Fiqh Materials." Specifically, the discussion focuses on Munakahat fiqh due to the adaptation of the fiqh learning materials to be delivered to 10th-grade students at Madrasah Aliyah Wali Songo, as a subject that clearly

serves as a life skill, not merely a subject for rote memorization. This study focuses on two main questions: (1) how is Augmented Reality applied in fiqh instruction at MA Wali Songo, and (2) what is the impact of using Augmented Reality on student innovation at the school. The basic assumption of this study is that the application of Augmented Reality in the teaching and learning process enhances students' learning innovation at MA Wali Songo, located in Rimbo Bujang District, Jambi Province. Furthermore, AR technology holds potential for the development of sustainable learning media, which can be adopted by various schools (A. Rohana, et al., 2022)

Method

This study employed a research and development (R&D) approach using the ADDIE model (Ade Rahayu, 2025). The research was conducted from September 27 to November 2 at Madrasah Aliyah Wali Songo, Grade 10, with a total of 10 students. The ADDIE model is a teaching material development model systematically designed to address learning problems, focusing on learning resources tailored to students' needs and characteristics (Fayrus & Slamet, 2022). This model consists of the following stages: Analysis, Design, Development, Implementation, and Evaluation (Tamaulina Br. Sembiring et al., 2024). The Analysis stage in this study involved identifying problems through observation, interviews with subject teachers, and analysis of instructional media. As the identified issues were addressed to find appropriate solutions, this analysis stage aimed to produce materials for the subsequent stages (Nusantara et al., 2023). Analyzing students is important because it makes it easier for researchers to select the knowledge that must be learned, both from teaching media and students' attitudes (Shabrina et al., 2025).

During the design phase, an Augmented Reality learning medium in the form of QR-scannable flashcards was designed, along with the creation of a 3D animation simulating a marriage ceremony, which will be further developed. Next is the development stage, which includes validation testing and expert review (Winaryati et al., 2021). The validation of the flash card media instrument was conducted by several validators, namely media experts, subject matter experts (UIYB lecturers), and practitioner experts (Fiqh teachers). The media expert validation consists of five assessment aspects: accessibility, scan performance, visual design, audio and animation, and practicality. Meanwhile, the subject matter expert validation assesses the appropriateness of content, presentation, and language in the audio. This validation uses a 5-point Likert scale (BT-C-CB-B-SB).

During the implementation phase, a pilot test of the Flash Card media was conducted at Madrasah Aliyah Wali Songo with 10th-grade students, through two stages: a small-group pilot test and a large-group pilot test. In the small-group trial

phase, purposive sampling was used to select 4 students, while the large-group trial involved 10 students (the entire student body). Following AR-based learning activities on fiqh material, a questionnaire was distributed as a response survey consisting of 15 statements, with the results calculated using the percentage (%) formula. $\frac{\text{skor analisis}}{\text{skor maksimum}} \times 100\%$ used in the data compilation. Next is the evaluation stage, during which the researcher analyzes the media used during the implementation phase using a validated response questionnaire to determine whether there are any remaining shortcomings or weaknesses. If no further revisions are needed, the media is deemed suitable for use (Hidayat et al., 2021).

Result and Discussion

Results

Analysis Steps

The needs analysis for technology development addresses issues related to students' learning styles and methods, with the development process beginning with a definition phase (Nurhasanah & Usman, 2023). This activity serves as the researcher's initial preliminary analysis through research to identify the need for implementing Augmented Reality (AR) interactive media to enhance student engagement; this serves as one of the foundational considerations in developing educational media products tailored to both subject matter and subject teachers (Suntari et al., 2025). Data analysis was conducted using a questionnaire distributed to 11 respondents (1 fiqh teacher and 10 students, 100% response rate via purposive sampling), a 30-minute interview with the subject teacher, who reported no prior experience with AR technology despite agreeing 100% that visual aids like flashcards are needed, and a 90-minute classroom observation in Grade 10 showing that the students' active participation rate was only 45%. The rest were chatting, daydreaming, and dozing off. This proves that traditional methods are ineffective and lead to low comprehension. Regarding the potential for technology use among 10th-grade students at MA Wali Songo, this needs analysis addresses three interconnected aspects.

The aspects examined were: (1) the use of interactive media based on the results of data analysis obtained from questionnaires completed by 1 teacher and 10 students. This yielded an alternative learning medium designed to make students enthusiastic about learning fiqh munakahat (marriage contract simulation). Since field data indicated that 6 out of 10 students (60%) struggled with the traditional model (Lickert scale mean 4.1/5, SD 0.8), technology-enhanced collaborative learning is necessary. (2) How teachers apply the context of Augmented Reality technology in terms of understanding and experience related to this digital learning medium, so that teachers who have never used this technology can achieve the desired learning objectives. (3) The impact of the product feasibility test, the results

of which can include the integration of fiqh munakahat material with learning device standards; the type of media practiced is “Flash Card Market,” scanned directly via the camera lens on a mobile device. Furthermore, in the initial stage, this is also linked to indicators of learning objective achievement in the adapted teaching module, as shown in Table 1.

Table 1. Learning Objective Achievement Indicators

Indicators of Learning Objective Achievement	
1.	Understand the basic concepts of marriage in Islam.
2.	Study the laws and regulations governing marriage according to the teachings of the Prophet Muhammad (peace be upon him).
3.	Develop attitudes and memorize the relevant principles of Islamic jurisprudence (Fiqh).
4.	Analyze the requirements and procedures for the marriage contract (involving the bride and groom, the guardian, the officiant, and two witnesses).

Design Phases

The design in this study is based on the second analysis from the previous research phase. This resulted in the development of an interactive learning medium utilizing Augmented Reality (AR) technology for the topic of fiqh munakahat – specifically, the marriage contract – through 3D objects, designed using QR Market cards, to enhance students’ understanding and engagement in the knowledge transfer process. This design was developed based on the results of a needs analysis regarding the use of AR media, with the aim of improving the quality of learning.

This study produced design instruments to serve as guidelines during the data collection process. The research stages outlined in these instruments include: (1) Product pilot test instrument; (2) Instructional material suitability instrument; (3) Observation instrument regarding product usage comprehension. This study also produced a product in the form of “Flash Cards,” which were designed using the Assemblr edu application to create QR Market materials, 3D objects, and other materials required as AR media.



Figure 1. 3D Modeling and Layout for Marriage Contract Materials

A design for a 3D model featuring a groom and bride in Islamic attire, the bride's guardian, and two witnesses arranged in a circle, shaking hands for the *ijab qobul* in accordance with the pillars of marriage. Exported via Blender as a 3.8 MB file for Assembler Edu to ensure it runs smoothly on Android devices, with 360-degree rotation and an 8–10 cm trigger. This facilitates the visualization of the marriage ceremony using the created objects.



Figure 2. Object Description

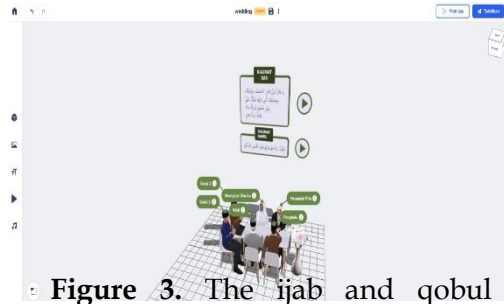


Figure 3. The ijab and qobul



Figure 4. Volume and play button

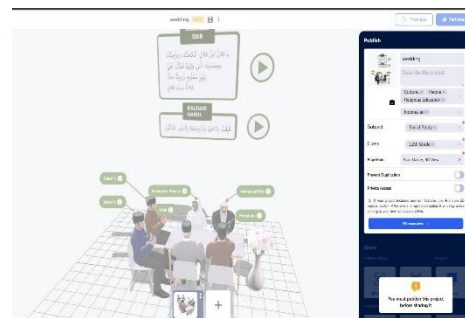


Figure 5. The publishing



Figure 6. QR Code

To create a flashcard, first (1) open [Asmblr.edu.com](https://asmblr.edu.com) and log in to your account, (2) click "Create new project" and select "Super Simple Editor"; within this, there are several options (click the QR Marker). (3) Click "Next" and select the objects you want, or objects you've already created, to match the learning material's theme. (4) Upload a custom 3D object into the project. (5) Add object annotations as shown in Figures 2 and 3, include audio and a play button in the visual coding

interface, and prepare it for export. (6) Click "Publish," select the QR Marker section (wait for the scan image to process), then download it as shown in Figure 6 above.



Figure 7. Flash card design

This design is the final layout created using Canva by incorporating a scan and a brief explanation of the material. To use these flashcards: (1) Open Google, then navigate to "Scan" (until the text "asblr.com/R7yGsn" appears) and click on it. (2) The interface will display the platform options (view in 3D). (3) The platform can be used and viewed from various angles by swiping, in accordance with the object's description. (4) Click the play button to hear the wedding vows in image 4.

Development Phase

During the media creation phase, we developed a set of marriage contract flashcards based on 3D object designs created in Blender software, depicting the marriage contract process (ijab qobul). It was exported and integrated into the Asseblr edu platform via the AR marker scanning feature; this process took two weeks (one week for design and integration, two days to adjust the audio narration of the marriage contract recitation, and the remaining days for initial testing). Naturally, before this product was used, the researcher conducted trials to determine whether it met the standards for instructional materials and the intended functions of the product. This included subject matter expert validation, media expert validation, and practicality testing. This validation was conducted by 3 media experts (1 lecturer from Yasni Bungo Islamic University, Dr. Andryadi, M.Pd, and 2 multimedia teachers), 2 lecturers specializing in fiqh content (Dr. Muhammad Sabli, M.Pd, Yasni Bungo Islamic University), and 2 fiqh subject teachers (practitioners). This stage serves as a reference for determining whether the flashcard product meets the criteria for validity and practicality. The following are the results of the expert

validation of the learning media used in this study, using a 1–5 Likert scale (1 = very unsuitable/poor, 5 = very suitable/excellent).

Table 2. Summary Of Media Experts' Ratings

Statement	Score 3 respon	Points Maximum	Criteria
1. The development platform is accessible on Android	13	15	Good
2. Easy barcode scanning	14	15	Very Good
3. Fast loading after scanning	14	15	Good
4. Attractive card design	14	15	Very Good
5. Clear audio within the platform	14	15	Good
6. Smooth animation features	12	15	Fair
7. Clear display	14	15	Very Good
8. Scanning does not cause the phone to freeze	13	15	Good
9. Product text is legible	12	15	Good
10. Creative product design	11	15	Fair
11. Practical card product	14	15	Good
12. Appropriate animated images	14	15	Very Good
13. Adequate sound volume	12	15	Good
14. Display is visible from all angles	12	15	Good
15. Color contrast and product display	11	15	Fair
Total Value	194	225	
Percentage	86,22%		Very Good

$$\text{Formula for calculating a percentage (\%)} = \frac{\text{skor analisis}}{\text{skor maksimum}} \times 100\%$$

Table 3. Summary Of Subject Matter Expert Scores

Statement	Score 2 Respon	Points Maximum	Criteria
1. Makes it easy to understand complex material	9	10	Very Good
2. Alignment with learning objectives	8	10	Good
3. Media designed to complement the material	10	10	Very Good
4. Material can be viewed and accessed repeatedly	10	10	Very Good
5. Audio aids in memorizing the Arabic marriage contract	7	10	Good
6. Provides an overview of the material	9	10	Very Good
7. Makes learning engaging	9	10	Very Good
Total value	62	70	
Percentage	88,57%		Very Good

Table 4. Summary of Media Usability Testing

Statement	Score	Criteria
1. Easy barcode scanning	5	Very Good
2. Accessible on Android phones	4	Good

3. Fast loading time after scanning	4	Good
4. Simple product operation	5	Very Good
5. Does not cause phone errors or slowdowns	4	Good
6. Attractive 3D animation design	5	Very Good
7. Clear audio volume	4	Good
8. Alignment between card visuals and animations	3	Fair
9. Alignment of animation features with the content	4	Good
10. The "Flash Card" AR product is creative and can bring innovation to learning	5	Very Good
11. Teachers can easily utilize the AR product's features	3	Fair
12. AR media provides a hands-on learning experience	4	Good
13. Alignment with learning objective indicators	4	Good
14. Flash Card media aligns with the instructional content	5	Very Good
15. Audio in the animations facilitates the practice of memorizing the pronunciation of the akad	4	Good
16. AR media can support complex learning	4	Good
17. AR media is practical and can be accessed repeatedly	4	Good
18. The AR product provides a visual representation of the learning material	5	Very Good
19. The AR product creates student engagement in learning	4	Good
20. AR media provides opportunities for student involvement in the teaching and learning process	5	Very Good
Total Value	85	
Percentage	85%	Sangat baik

The following is a description of the 1-5-point Likert scale commonly used in validation:

Description	Percentage	Description
Very good	81-100%	Acceptable without revisions
Good	61-80%	Minor revisions (general)
Fair	41-60%	Moderate revisions (minimum threshold)
Insufficient	21-40%	Extensive revisions
Very insufficient	0-20%	Complete redesign

Implementation Phase

After the Flash Card product was validated by several experts, an implementation phase was conducted to test user response to the learning media and assess the product's suitability through a questionnaire distributed to students to evaluate the learning media they had used. The questionnaire was administered

to students in two stages. First, students ensured their smartphones were connected to the internet, and then the teacher provided the learning media in the form of flash cards. After using the product, students were given the questionnaire via a Google Form link.

a. Small-group pilot test

The subjects for this pilot test were 10th-grade students at Madrasah Aliyah Wali Songo. The educational media product was tested with a sample size of four students. It was ensured that the students' smartphones could connect to the internet, and the teacher distributed flashcards containing the lesson material, which could be scanned directly via the camera lens to display 3D object animations on the platform. After using the product, the students were asked to fill out a questionnaire. A summary of the results from the small-group pilot test is shown below:

Table 5. Summary of Small-Group Test Scores

Statement	Respon				Score	Points Maximal	Percentage
	1	2	3	4			
1. Flash card design	4	4	4	5	17	20	85%
2. Easy-to-use interface	4	5	4	4	17	20	85%
3. Clear 3D animation	4	3	4	4	15	20	75%
4. Attractive platform design	4	5	5	5	19	20	95%
5. Efficient flash card size	5	5	5	5	20	20	100%
6. Easy to scan with the camera	5	4	4	5	18	20	90%
7. Accurate 3D object rendering	4	4	4	4	16	20	80%
8. Smooth animation	3	4	4	4	15	20	75%
9. More interactive flash cards	4	5	5	5	19	20	95%
10. Interaction with 3D objects enhances learning engagement	5	5	5	5	20	20	100%
11. Content is relevant and easier to understand	4	5	5	5	19	20	95%
12. Animated content provides a clear illustration of the material	5	5	5	5	20	20	100%
13. Supports memorization of marriage contracts (Fiqh Munakahat)	3	4	4	3	14	20	70%
14. Animation features align well with the content	4	3	3	5	15	20	75%
15. Learning Fiqh becomes more enjoyable	5	5	5	4	19	20	95%
Jumlah skor					263	300	87,6%

$$\begin{aligned}
 \text{Formula for calculating a percentage (\%)} &= \frac{\text{skor analisis}}{\text{skor maksimum}} \times 100\% \\
 &= \frac{263}{300} \\
 &= 87,6 \%
 \end{aligned}$$

Based on the table above, the results of a survey of 10th-grade students regarding Augmented Reality-based learning tools in a small-group pilot study are presented. With a total of 87.6%, this score falls into the "very good" category.

b. Large-scale pilot test phase

In this final phase, the large-scale pilot test was conducted with a group of 10 tenth-grade students from Madrasah Aliyah Wali Songo. The trial used flashcards supported by smartphones to scan the QR codes printed on the cards distributed to the students. It had been confirmed beforehand that the smartphones used could access the internet. After using the media, students were asked to fill out the questionnaire provided via Google Forms. All 10 tenth-grade students completed the questionnaire. A summary of the results from the large-scale trial can be seen below:

Table 6. Summary of Large-Sample Test Values

Statement	Score	points Maximal	Percentage
1. Flash card design	44	50	88%
2. Easy-to-use interface	43	50	86%
3. Clear 3D animation	44	50	88%
4. Attractive platform design	48	50	96%
5. Efficient flash card size	46	50	92%
6. Easy to scan with the camera	45	50	90%
7. Accurate 3D object rendering	44	50	88%
8. Smooth animation	45	50	90%
9. More interactive flash cards	46	50	92%
10. Interaction with 3D objects enhances learning engagement	44	50	88%
11. Content is relevant and easier to understand	45	50	90%
12. Animated content provides a clear illustration of the material	46	50	92%
13. Supports memorization of marriage contracts	44	50	88%
14. Animation features align with the teaching material	45	50	90%
15. Learning fiqh becomes more enjoyable	43	50	86%
Total score	675	750	90%

$$\begin{aligned}
 \text{Formula for calculating a percentage (\%)} &= \frac{\text{skor analisis}}{\text{skor maksimum}} \times 100\% \\
 &= \frac{675}{750} \\
 &= 90\%
 \end{aligned}$$

The results in the table above show that the questionnaire survey of 10th-grade students at Madrasah Aliyah Wali Songo regarding Augmented Reality-based learning media in a large-scale pilot study yielded a total score of 90%, which meets the criteria for “very good.” Meanwhile, the implementation of flashcard-based

learning media in the 10th grade demonstrated that the instruction aligned with the learning objectives for fiqh munakahat in the chapter on marriage contracts.



Figure 8. The Process of Accessing Media



Figure 9. Use of Flash Cards

Evaluation Stages

Based on the evaluation stages of the ADDIE development approach, the researcher evaluated the product using data obtained through a summary questionnaire completed by media experts, content experts, and practitioners (fiqh teachers). Product revisions were made based on suggestions and guidance from validators, who noted that the flashcards were prone to damage and were too small. Consequently, the product was revised to laminated blank cards, changing from thin paper to a 0.5 mm thick material with dimensions of 10 cm x 7 cm and made waterproof to prevent damage during use, allowing for repeated use. Effectiveness was measured through pre-test and post-test questions administered to 25 students at Madrasah Aliyah Wali Songo (experimental group n=10 and control group n=15) using 20 multiple-choice questions.

In the pretest phase, the experimental class scored $x = 64.5$ and the control class scored $x = 63.8$. In the posttest phase, the experimental class scored $x = 88.4$ and the control class scored $x = 72.2$, with an N-Gain score of for the experimental class $g = \frac{88,4 - 64,5}{100 - 64,5} = \frac{23,9}{35,5} = 0,67$ (in the high category) and in the control class $g = \frac{72,2 - 63,8}{100 - 63,2} = \frac{8,4}{36,2} = 0,23$ (low). Thus, the independent t-test of the posttest revealed a significant difference in results; therefore, the use of AR media proved effective in significantly enhancing students' understanding of fiqh munakahat material compared to the traditional method after the product was revised. The results of this study on the use of Augmented Reality learning media align with the research by Budi et al. (2025), who suggest that the use of flashcards can contribute to educational interaction between students and teachers, ensuring that the knowledge transfer process proceeds optimally.

Discussion

Based on the researchers' field findings regarding the analysis of student needs, the use of digital learning media significantly supports the learning process and makes a tangible contribution to enhancing classroom learning effectiveness, consistent with the researchers' results from the pretest and posttest phases, which revealed a 15.5-point gap between the control class's score of 8.4 and the experimental class's score of 23.9—data indicating that AR media can enhance students' learning comprehension. In the digital age, the use of technological media as an innovative tool to create an engaging learning environment aligns with the views of Putri, L. A., & Rahmi (2024), who state that digital-based learning media can provide a more dynamic and structured learning environment. Digital media suited to 21st-century developments will be easier for teachers to adapt using diverse strategies, models, and methods, according to Cahya et al. (2023). Thus, learning media can provide concrete experiences as a medium for student learning aids.

Regarding the use of instructional media, many respondents understood that media is used to monitor students' progress and interests (Kafiar et al., 2025). This indicates that teachers need to use instructional media to engage students' interest during the learning process; digital media allows access to materials anytime and anywhere, making it consistent with constructivist learning theory. This view aligns with Zahwa & Syafi'i (2022), who state that the use of technology as an educational medium is a necessity to make learning more engaging and not solely teacher-centered. This reflects teachers' experiences with flashcards and their benefits, consistent with the theory by Nasiroh et al. (2024), which emphasizes that flashcards serve as a relevant tool for teachers. Survey results on needs assessment indicate that teachers have never used AR media in fiqh lessons; interview findings reveal that

teachers more frequently use workbooks or storytelling, due to a lack of basic training in digital utilization and available facilities. Data from the interviews reveal that teachers express a desire to use technology-based learning media.

The augmented reality media developed using QR markers for the fiqh munakahat curriculum was also deemed, based on evaluators' assessments, to have appropriate content, as well as favorable evaluations regarding the flash card design, the alignment of animation features with the content, the speed of barcode scanning, and the 3D display within the appropriate platform. Access to this media utilizes students' and school-owned mobile phones, as well as existing school facilities such as the internet network (Wi-Fi), printers for printing products, and laptops for content creation, making it cost-effective to design and produce the cards. This addresses the researcher's initial observation that the lack of facilities at this school results in low student participation in learning. Furthermore, the Augmented Reality media can be sustainably developed for other chapters of fiqh, whether in the form of cards or directly using WebAssembler Edu displayed in PowerPoint.

The researchers also taught how to create products using Augmented Reality on the Assemblr.edu website (Sitompul et al., 2025). This was done until subject teachers were fully capable of creating digital learning materials that meet contemporary standards (3 training sessions) in the field of educational technology. The development of AR media is based on the suitability and needs of teachers and 10th-grade students at Madrasah Aliyah Wali Songo. The implementation process for students must first go through a validation stage by experts to obtain evaluations, feedback, suggestions, and revisions. Teachers can use flashcards to assist in simulating marriage ceremonies and understanding the legal requirements of marriage, making this AR media an innovative tool (Nurhayati, S.P., et al., 2024).

In the field of fiqh, fiqh munakahat can be defined as a branch of fiqh derived from the word "fiqh" practical Islamic law and "munakahat," meaning marriage, which encompasses rules ranging from engagement to the legal consequences of divorce, with the aim of creating a family characterized by *sakinah*, *mawaddah*, and *warahmah* as a form of *muamalah* worship. Ali, M., & Fatimah, n.d. (2025). However, this flashcard material focuses on the marriage contract process as its practical application, to demonstrate how the material is applied using digital animation media, with the pillars of the contract as outlined by Fahrol & Haikal (2025), who state that: (1) The prospective husband and wife must have clear identities and not be prohibited by *mahram* ties, (2) The bride's marriage guardian (father, grandfather, or their substitute), (3) two just male witnesses who observe the process, and (4) the *ijab* (offer from the guardian) and *kobul* (acceptance by the prospective husband), as outlined on the flash cards, serve as tools to help achieve

the learning objectives. Thus, the product is truly developed in accordance with the instructional material to be presented in the classroom.

The development of fiqh munakahat flash cards for marriage contract material, designed to support innovative learning, has received a positive response from various experts. Specifically, the media experts' evaluation yielded an 86.22% approval rate, the subject matter experts' evaluation yielded an 88.57% approval rate, and the practicality test conducted by subject teachers yielded an 85% approval rate. In the large-scale pilot test, the response rate was 90%. Furthermore, the implementation of the media in Class 10 at MA Aliyah Wali Songo was met with great enthusiasm as students followed the researcher's instructions on using the flash card product. This was conducted before distributing the questionnaire to the students; initially, the researcher explained how to aim a smartphone camera at the QR code printed on the front of the card, up to how to apply the 3D animation feature with the recitation of the marriage contract available on the flash card platform. This product is suitable for other schools with an Islamic character (Islamic religious education) and can be used over 2-3 sessions due to the context of understanding and memorization. Therefore, the developed product is highly suitable and has a positive impact when used as supplementary media for fiqh al-munakahat in the marriage contract curriculum. Furthermore, the implementation of the flashcard product with QR codes allows for smooth use; students actively participate, which enhances their understanding of fiqh material while simultaneously fostering interest in studying the complex subject of fiqh.

Conclusion

Augmented reality has the potential to revolutionize educational media; it makes previously incomprehensible material accessible, offering seamless interaction between the real and virtual worlds (AR), and rendering objects and events more natural. In education, this research demonstrates the concept of collaboration between traditional media and technology. The "marriage contract" flashcard media based on Augmented Reality for 10th-grade fiqh material utilizes the ADDIE development model (Analysis, Design, Development, Implementation, Evaluation). The study involved test subjects comprising media experts, subject matter experts, subject teachers, and students. They served as validators, with a total of 10 10th-grade students from Madrasah Aliyah Wali Songo in Tebo Regency, Jambi Province. As respondents to the flashcard media development trial, the results, based on the summary obtained, fell into the "very good" category.

Overall summary by media experts: 86.22% (very good); summary by subject matter experts: 88.57% (very good); practitioners: 85% (very good); small-group trials 87.6% (very good), large-group trials 90% (very good), resulting in an average

of 87.62%, thus categorizing these flash cards as very good. The innovation in fiqh instruction is clearly evident and aligns with the learning objectives.

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