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WUDU WONDER : VIRTUAL REALITY ABLUTION EDUCATION FOR YOUTH

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Abstract

Ablution is a ritual washing performed by Muslim and it is a part of compulsory activities to ensure cleanliness before the Muslim perform prayers Knowledge on performing ablution procedures properly is a must as all Muslim must pray. However, traditional methods of ablution education and lack of accessibility often struggle to engage youth learners due to uninteresting media usage. Wudu Wonder is a 3D educational virtual reality game designed to educate children on compulsory ablution procedures with motion capture technology from Kinect. The program aims to develop an educational interactive tool that tailors the youth learning experience by combining the engaging aspects of virtual reality education approach with ablution education. Utilizing ADDIE Model as the methodology for the foundation of this project serves as the framework to develop an engaging educational tool. The User Experience Questionnaire (UEQ) was implemented to evaluate the impact on user experience. The project achieves a high percentage of user satisfaction which is 85.2%. The research shows that Wudu Wonder is not only meets its educational goals but also provides an interesting and engaging medium for youth to learn ablution. Future research could offer all ablution procedures and multi-platform support. Wudu Wonder demonstrates the potential of VR technology in creating interactive learning experience.

Keywords: ablution, children, Muslim, prayers, cleanliness, education, youth, virtual reality, motion capture, Kinect, engagement, ADDIE Model, user experience, satisfaction, interactive learning, game-based learning

INTRODUCTION

Ablution or known as Wudhu is the most important act for praying as it is not accepted by Allah if it is not preceded by ablution. Ablution according to language means clean or beautiful (Idris, Wita, Rahmi, & Warmansyah., 2022). It is a ritual washing performed by

Muslim and it is part of compulsory activities to ensure cleanliness before they perform prayer (Idris et al., 2022). Generally, ablution followed by washing on particular parts of body. The washing ritual involves washing at four compulsory areas, face, both of hand, forehead to crown of head and both feet. It is also must be done in order. One indicator of the acceptance of prayer is perfection in ablution as said by Idris et al (2022). As ablution is an important daily activity for Muslims to perform, education on ablution is crucial especially among children. Children from an early age should get habitual ablution (Suryani, 2020). Practicing ablution to children should be an obligation until it becomes a habit.

Education in ablution has some issues with the methods of learning, especially for children. If, in the paradigm before the 21st century, the teacher was the main source of learning with the teacher playing an active role while the students were passive (Simatupang, 2019). Currently, the paradigm changes to active students and the teacher only acts as a guide and helps students. The teacher's role is to function as a facilitator who helps student learning run effectively, efficiently, and correctly (Hamid, 2019). The techniques of learning ablution in school curriculum appear to be dull, outdated and not aligned with the advancements in high-end technology era. Thus, children now face difficulties learning ablution effectively. In grade II elementary school children, the material for ablution, for example, if it is only delivered using the lecture method, it will be more difficult for them to understand 2 because children aged 6-7 years have not been able to absorb well what is conveyed orally, by imitating, or practiced directly (Simanjuntak, 2022).

This statement is also supported by Chomariyah, Fakhruddin, & Supriyadi (2019) as children now receive various information media faster (Chomariyah et al., 2019). Therefore, this project is designed to address this issue by evaluating user experience by focusing more on the interesting media usage as a key element for a more effective approach. The project also attempts to develop learning experiences that stimulate young children's interest and curiosity and develop a genuine interest for learning by analysing how they interact with this education game-based learning. Besides, the project provides another alternative method of ablution education. In conclusion, it is hoped that this proposed game can construct and customize educational experiences that boost motivation and have beneficial effects on children's ablution act.

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OBJECTIVES

The main objectives of this project are threefold. Firstly, it aims to design a storyboard for a game-based learning application that educates children about ablution. Secondly, it seeks to develop this educational tool using a Virtual Reality approach to provide an immersive learning experience. Lastly, the project intends to evaluate the user experience of the virtual reality application to ensure it effectively teaches children about ablution.

SIGNIFICANCE

The significance of this project is providing accessibility of ablution education among children to give them hopefully proper instructional methods for comprehensive ablution education. This virtual reality project provides carefully designed instructions based on a learning model that meets the expectations and requirement of these youth who are more technologically inclined. It covers the essential step by step process of ablution movement also the importance and benefits of ablution in our daily lives. Additionally, the project enhances accessibility on ablution education through Virtual Reality, providing as another different media that is effective and immersive educational medium. The ability to create contextual learning that is more realistic through different media and allows children to be more controlled, interactive multimedia can create an effective learning environment for students. Interactive multimedia can be useful because it provides material for real-world objects and through the interaction of several senses (Chomariyah et al., 2019). Chomariyah (2019) also adds that this kind of learning method tackles the problem of limitations of learning technique. Interactive Learning Multimedia (MPI) is very important for its existence to be used by schools because the limitations of teachers cannot bring interesting media related to learning religious and moral values (Chomariyah et al., 2019).

This program also allows the children to immerse the benefits of learning through virtual reality learning methods which is interesting media. Virtual reality based program plays a pivotal role within the educational framework, demonstrating its significance through the utilization of technology to enhance the learning experience for children. Interactive learning at the present time that attracts children's interests is always associated with educational game applications (Chomariyah et al., 2019). Zupan, Cankar & Setnikar (2018) also shares the same

thought, in designing digital games by focusing on such elements as curiosity and challenge fantasy, children's interest and motivation can be increased, which in turn increases the interaction of digital games with children (Zupan et al., 2018). Moreover, the implementation of Virtual Reality in this project can boost motivation and interest among students. In the application of virtual reality, applying game-based learning so that students are more 7 motivated and can increase their interest in learning (Maulana, Pangetsu, Sano, Purnomo, Rahmadika & Widartha, 2021). This project truly shows that it can be one of the teaching materials for ablution. Teachers and parents at home can take this project as a huge advantage of alternative medium for ablution education for the children. The experience of implementation of Virtual Reality brings user close to reality which user can apply the learning outcome to the real world. In other terms, this project act as a new educational strategy.

LITERATURE REVIEW

Introduction to Ablution

In Islam, ablution is one of the legal conditions for prayer, which must be carried out by washing or washing all certain limbs using water before praying (Firmansyah, Kholis, Rahmawati & Azizah, 2022). Ablution or also known as Wudhu is a ritual washing performed by Muslim and it is a part of compulsory activities to ensure cleanliness before the Muslim perform prayers as depicted in the holy Quran, "When you stand up for prayer, wash your faces and your hands up to the elbows, and wipe a part of your heads and your feet, up to the ankles." (Quran 5: 6).

Ablution is also known as purification process (taharah) as it entails cleaning the limbs with purified holy water to eliminate minor hadas. Minor hadas refers as people who have not performed ablution or people who do not have water for ablution. One indicator of the acceptance of prayer is perfection in ablution (Idris et al., 2022). In order to engage in prayer, one must be in a purified state which is free from minor hadas. The selection of water is a critical consideration, among the five types of water – Mutlaq, Mustakmal, Musyammas, Mudhaf and Mustanajjis, only mutlak water, a specific and pure form of water, is permissible for this purification ritual (Abdullah, Dasuqkhi, Sirajuddin, Razak & Kadir, 2022). Mutlaq water is tahur (pure) in nature and can be used for cleansing likes rainwater, sea water, dawn

water, well water and snow (Mardhiah, Zahari, Kirin, Ahmad, Marpuah, Zainatul & Zainol, 2021). Therefore, the significance of education in ablution becomes crucial especially for children as it involves compulsory actions regarding religion acts.

Difficulties on Ablution Education

Education in ablution is commonly imparted through demonstrations by elders, who repeatedly perform the ritual in front of the younger generation. However, the reality reveals a gap in this traditional approach, with many elders failing to adequately teach children about ablution daily within their households. Consequently, a concerning statistic emerges, indicating that 8 out of 10 children between the ages of 5 and 6 lack knowledge about wudhu when prompted to perform prayer (Jazilah, 2017). It shows that children have difficulties in obtaining proper education on ablution. This can be emphasizing as mostly Malaysians show their understanding of performing ablution procedure but their knowledge on ablution is very basic (Johari, Hassan, Anwar & Kamaruzzaman, 2013). However, sufficient parents are found to be lacking in teaching the practice of ablution to their children as a habit at home. This can be found in most children, especially those aged 5-6 years, who should already be familiar with worship and direct practice in terms of ablution proven by research from (Idris et al., 2022). 10 This causes an alarming problem as children are taught about ablution from parents and early childhood education must be facilitated to develop moral and religious values (Zainuddin, Musriaparto & Nur, 2022). To shape the character of children in a positive direction, it is necessary to inculcate religious values (Faiz & Kurniawaty, 2022).

Children still face limited guidance on ablution as the parents' teachings are still questionable, and the education level on school are also insufficient cause teachers only invites children to practice ablution only once per week according to the Jurnal Pendidikan Anak Usia Dini 2022. One of the leading mishaps is the teacher itself does not use effective methods on teaching children to perform ablution resulting concern on child's skill on ablution acts. It appears there are persisting errors in the pronunciation of the intention before performing ablution, an incorrect sequence in carrying out ablution, limited to rubbing the head without touching the hair, incomplete handwashing that falls short of the elbow, and a lack of awareness regarding the benefits and water conservation associated with ablution (Idris et al., 2022). T.Idris et al (2022) also adds that the use of media is needed for learning ablution for children

so that children can be trained and accustomed to learning with better conveyed message (Pangestika, Malik, Shofwan & Siswanto, 2021).

Virtual Reality in Ablution Education

As Virtual Reality seems more effective for education media as the student has experience in the virtual world, it is also interesting for Muslim especially student to improve knowledge about ablution (Anamisa et al., 2020). 3D model could give direct experience, real experience and show the whole object simultaneously supports learning ablution. Research from Anamisa et al (2020) truly proves that the implementation of Virtual Reality in ablution would increase the effectiveness and improved user experience to learn ablution by 69.6% comparing to traditional way of learning ablution which is printed media. With the help of VR technology, users can acknowledge the details of the ablution procedures and the instructions ensure clear comprehension of the correctness of their actions.

Constructivism Approach on Virtual Reality Education

The past few decades have seen accelerated use of information technology to support learning, with new learning opportunities arising through the integration of digital media in the classroom and in that case, Virtual Reality is what technology that implemented into this project. And for technology, that is where constructivism theory comes in handy. The theory and technology acceptance approach are used to explore learner behavioural intention on real life activities as a means of motivating learners. A growing body of research suggests that constructivist principles are fundamental to our understanding of learning in virtual reality learning (Huang & Liaw, 2018). As constructivism encourages learners to solve and learn in real life problems, Virtual Reality learning environment distinctly aligns with the needs and requirement. Consequently, VR presents information through simulated real-life settings and relevant situations, to create authentic learning experiences. Authentic content situated in the learner's daily experience is an important factor in triggering reflective thinking. 18 Virtual reality learning environments allow learners to interact with the simulated environment, and thus learn and solve problems through an immersive and interactive experience (Huang & Liaw, 2018). To gain a deeper understanding of how virtual reality supports constructivist learning, it is worth revisiting M. Alizadeh’s summary of the implications of constructivism

for instructional design considering VR integration in education. Knowledge construction may be facilitated in learning environments which (Alizadeh, 2019):

• provide multiple representations of reality;
• represent the natural complexity of the real world;
• present authentic tasks;
• provide real-world, case-based learning environments, rather than pre-determined instructional sequences;
• foster reflective practice;

METHODOLOGY

ADDIE is an acronym of its five-step process, Analysis, Design, Development, Implementation, and Evaluation. This methodology is a systematic instructional design framework that is widely used in the development of educational programs and training materials. ADDIE focuses on linear iterative processes that emphasize the importance of proper planning, design and continuous evaluations ensuring effective learning outcome.

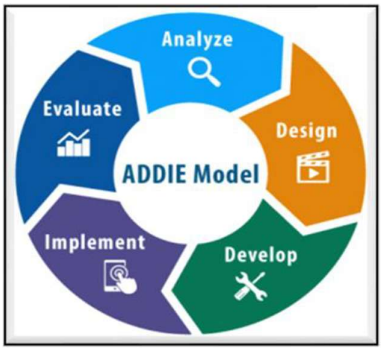

Figure 1: Illustration of ADDIE Model

ADDIE is an instructional design method that are used by many educators and instructional designers as a framework in designing and developing educational and training programs (Serhat, 2018). In the line of this project, ADDIE is the perfect method to use. ADDIE itself is an abbreviation of its each phase which is Analyse, Design, Implement, and Evaluate. ADDIE does not impose a strict linear progression through the sequence. Educators find this

approach very useful because having stages clearly defined facilitates implementation of effective training tools. ADDIE model is now technologically accepted on a large scale worldwide as researchers believe this model is flexible enough to be adapted to different instructional environments and therefore, is strongly applicable for integrating technology into instruction (Almelhi, 2021). Table 1 shows the outline activities that carried out in each phase of the ADDIE model along with the deliverables.

Table 1: Outline of ADDIE Phases

Phase	Activities	Deliverable
Analyse	• Create a proposal and the concept of the project. • Creating a survey for future evaluation • Define the software and hardware requirements • Extensive research on online database and journal articles	• Clear framework and idea of the whole project • Identified the objectives and goals of the educational project • Developing a Gantt chart
Design	• Design the flowchart. • Design the storyboard. • Design the User Interface	• Flow and foundation of the project has been specified
Develop	• 3D Modelling elements • Programming the logics and scripting • Developing User Interface • Calibration of real-time motion capture	• Smooth and functional development of the project
Implementation	• Integrated testing • Attentive observation	• Refinement and improvement can be made to the project
Evaluation	• Undergo user experience testing. • Gather feedback from a survey	• Obtain useful information and data to evaluate the user experience of the project

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The flow of the project is presented by the flowchart below in Figure 2. As soon as the project starts, the user prompts the title screen. It shows three buttons to navigate to all the features in the project. The first one is Virtual Ablution Tutorial where a slide of animation videos will play to educate user on ablution procedures. The user must complete the tutorial to proceed back to the main menu. The next button will bring user to the main feature of the project which is the interactive ablution. There will be five mandatory procedures of ablution presented as five levels and user must complete each level to progress. Once completed, the user went back to main menu to play the last feature of the project, Minigames. User can play some minigames based on the knowledge learned by the user throughout this game.

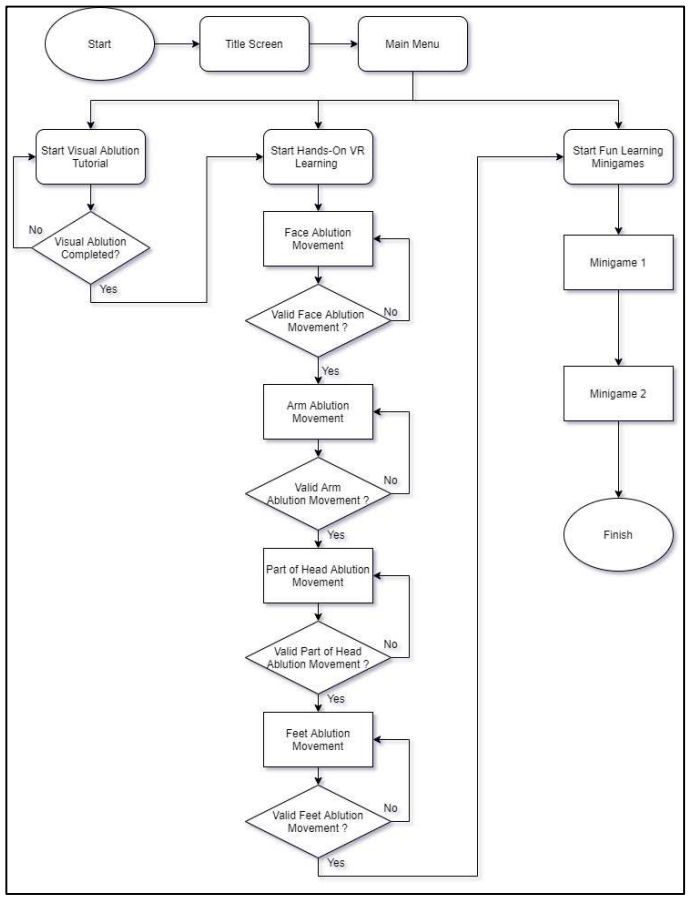

Figure 2: Flowchart of Wudu Wonder

The application consists of information about the need to perform ablution and the circumstances or situations which require the ablution, the recitation, and the actual process of performing ablution, its correct sequence, circumstances that cancels out ablution, video

snippets on performing ablution regarding each body parts including a complete video from the beginning until the end of the ablution process and two minigames on the process. Kinect Camera is the special device used for this project to capture the user's body motion. At the beginning of the game, the user demonstrated with an animation video of full process of ablution movement followed by checkpoints for the user to click and playback for each step. Then, an immersive interactive game for the user to perform ablution with indicators as a sign of successful movement. Lastly, users then prompted to play a minigame of interactive quizzes about body parts of ablution based on the first demonstration animation video as shown in Figure 3.

Figure 3 Interfaces of Wudu Wonder

RESULT AND DISCUSSION

To assess whether this educational VR project thrives the objectives and goals of the project, obtaining user feedback is essential. Evaluation plays a key role in this process and for

this case is to tackle user experience on the virtual reality application that teaches children about ablution. All the participants who took part in this testing phase had been measured in aspect of user experience using the widely recognized tool, User Experience Questionnaire (UEQ). The evaluation utilizes Google Form survey as the medium consisting of two sections. First one is Demographic Information, and the second one is the UEQ. A total of 36 respondents actively took part in this project evaluation.

User Experience Findings

The results of the evaluation survey for the "Wudu Wonder" application illustrate how participants perceived their experience with the VR content in terms of attractiveness, perspicuity, efficiency, stimulation, and novelty. Each question required respondents to rate their experience on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree), ensuring a thorough assessment of the application's user experience. SD, D, N, A and SA stands for Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree respectively.

Table 5.1 User Experience Questionnaire (UEQ)

Questions	Factor	Questions (UEQ)	SD (1)	D (2)	N (3)	A (4)	SA (5)
E1	Attractiveness	The game is enjoyable	0	2	1	15	18
E2		The game is attractive	1	0	3	22	10
E3		The game is user friendly	0	1	2	18	15
E4		This game is pleasing	0	2	1	20	13
E5	Perspicuity	This game is understandable	0	1	1	18	16
E6		This game is clear	18	16	0	2	0
E7		This game is easy	0	1	2	16	17
E8	Efficiency	This game is smooth	0	2	3	18	13
E9		This game is efficient	0	1	2	25	8
E10		This game is organized	0	1	3	21	11
E11		This game is useful	0	1	1	11	23
E12	Stimulation	This game is motivating	0	1	0	14	21
E13	Novelty	This game is creative	0	1	0	11	24
E14		The concept of the game is advanced	0	1	1	12	22

Overall Findings

The overall findings from the user experience survey reveal a highly favorable response across several key factors. Attractiveness scored a mean of 4.25, indicating that users find the game enjoyable, appealing, and pleasing. The game's design and enjoyment levels are well-regarded. Perspicuity, with a mean of 3.64, suggests that while the game is generally understandable and user-friendly, there are some areas where clarity could be enhanced. Efficiency also scored 4.25, reflecting that the game is seen as effective and well-functioning, meeting user expectations for performance. The Stimulation factor received a strong mean score of 4.56, showing that the game is highly engaging and motivating for players. Finally, Novelty achieved the highest score of 4.61, indicating that users perceive the game as exceptionally original and creative. The overall total mean of 4.26, with a percentage of 85.2%, highlights a robust positive reception, demonstrating that the game delivers a satisfying and well-rounded user experience as shown in Table 5.8. While the game excels in creativity and engagement, there is room for improvement in enhancing clarity and comprehensibility.

Table 5.2 Overall Total Mean Value in Percentage

User Experience	Total Mean
Attractiveness	4.25
Perspicuity	3.64
Efficiency	4.25
Stimulation	4.56
Novelty	4.61
Total Mean	4.26
Overall Total Mean (%)	**85.2**

The findings from the study indicate that Wudu Wonder effectively met its third goal, which was to evaluate how well a VR-based educational tool taught young users about the ablution procedures. The results reveal that most participants provided positive feedback, giving high ratings across various aspects, including enjoyment, pleasantness, user-friendliness, understandability, clarity, efficiency, organization, motivation, creativity, and ease of use. Importantly, participants' favorable impressions were significantly influenced by content that was both engaging and practical.

CONCLUSION

To conclude, learning ablution procedures with the usage of VR advancements and integrated motion capture by Kinect can be more effective and interesting. This has been proven with feedback and thought by the users who tested this project. Wudu Wonder addresses the challenge faced by youth generations who struggle learning through traditional methods. Despite its current limitations, it continues to excel by executing that future research to refine and improve making Wudu Wonder one of the best tools for learning ablution procedure.

REFERENCES (APA 7TH EDITION)

Abdullah, S. S., Dasuqkhi, M., Sirajuddin, M., Razak, A., & Kadir, A. (2022). *ABLUTION-FRIENDLY COSMETICS: ANALYSIS FROM FIQH PERSPECTIVE* (Vol. 28, Issue 2). http://al-qanatir.com

Alizadeh, M. (2019). *Virtual Reality in the Language Classroom: Theory and Practice*. https://www.researchgate.net/publication/335969992

Almelhi, A. M. (2021). Effectiveness of the ADDIE Model within an E-Learning Environment in Developing Creative Writing in EFL Students. *English Language Teaching*, *14*(2), 20. https://doi.org/10.5539/elt.v14n2p20

Anamisa, D. R., Yusuf, M., Mufarroha, F. A., & Rohmah, N. (2020). Design of Virtual Reality Application for Taharah Using 3D Blender. *Journal of Physics: Conference Series*, *1569*(2). https://doi.org/10.1088/1742-6596/1569/2/022071

Chomariyah, S., Fakhruddin, & Supriyadi. (2019). Development of Interactive Multimedia on Ablution and Prayer Learning to Introduce Religious and Moral Values for Kindergarten. *Journal of Primary Education*, *8*(3), 270–280. https://doi.org/10.15294/jpe.v8i3.26955

Faiz, A., & Kurniawaty, I. (2022). Urgensi Pendidikan Nilai di Era Globalisasi. *Jurnal Basicedu*, *6*(3), 3222–3229. https://doi.org/10.31004/basicedu.v6i3.2581

Firmansyah Kholis, Rahmawati Rina Dian, & Azizah Ema Siti Nur. (2022). Pendampingan Pembelajaran Praktek Tayamum dan Wudhu di TPQ Al-Khasanah Desa Barong Sawahan. *KEAGAMAAN: JURNAL PENGABDIAN MASYARAKAT*, *3*(1), 30–39.

Halim Simatupang. (2019). *Strategi Belajar Mengajar Abad Ke-21*.

Hamid, A. (2019). BERBAGAI METODE MENGAJAR BAGI GURU DALAM PROSES PEMBELAJARAN. *AKTUALITA Jurnal Penelitian Sosial Dan Keagamaan*, *9*(2). www.ejournal.annadwahkualatungkal.ac.id

Huang, H. M., & Liaw, S. S. (2018). An analysis of learners' intentions toward virtual reality learning based on constructivist and technology acceptance approaches. *International Review of Research in Open and Distance Learning*, *19*(1), 91–115. https://doi.org/10.19173/irrodl.v19i1.2503

Idris, T., Wita, A., Rahmi, E., & Warmansyah, J. (2022). Ablution Skills in Early Childhood: The Effect of Big Book Media. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *6*(6), 5549–5557. https://doi.org/10.31004/obsesi.v6i6.3185

Jazilah Nur. (2017). APLIKASI PEMBELAJARAN BERBASIS AUGMENTED REALITY PADA BUKU PANDUAN WUDHU UNTUK ANAK. *JURUSAN TEKNIK INFORMATIKA FAKULTAS SAINS DAN TEKNOLOGI UNIVERSITAS ISLAM NEGERI MAULANA MALIK IBRAHIM MALANG*, 1–134.

Johari, N. H., Hassan, O. H., Anwar, R., & Kamaruzaman, M. F. (2013). A Behaviour Study on Ablution Ritual among Muslim in Malaysia. *Procedia - Social and Behavioral Sciences*, *106*, 6–9. https://doi.org/10.1016/j.sbspro.2013.12.002

Kurt Serhat. (2018). ADDIE Model: Instructional Design. *Frameworks & Theory*, *1*(1), 1–11.

Mardhiah, W. A., Zahari, W., Kirin, A., Ahmad, N., Marpuahd, S., Zainatul, N., & Zainol, N. (2021). Water Treatment and Purification in Fiqh Perspective. In *Turkish Journal of Computer and Mathematics Education* (Vol. 12, Issue 2).

Maulana, F. I., Pangestu, G., Sano, A. V. D., Purnomo, A., Rahmadika, S., & Widartha, V. P. (2021). Contribution of Virtual Reality Technology to Increase Student Interest in Vocational High Schools. *Proceedings - 2021 International Seminar on Intelligent Technology and Its Application: Intelligent Systems for the New Normal Era, ISITIA 2021*, 283–286. https://doi.org/10.1109/ISITIA52817.2021.9502195

Novi Ade Suryani. (2020). PENINGKATAN KETERAMPILAN FISIK MOTORIK MELALUI NYANYIAN DAN GERAKAN DALAM BERWUDHU PADA ANAK USIA DINI. *JDER Journal of Dehasen Education Review*, *1*(2), 82–85.

Pangestika, N., Malik, A., Shofwan, I., & Siswanto, Y. (2021). IMPLEMENTATION OF CHARACTER EDUCATION AT PAUD SEKOLAH ALAM AR RIDHO SEMARANG. In *Multidisciplinary Peer Reviewed Journal ISSN* (Vol. 7).

Simanjuntak, R. (2022). THE EFFECTIVENESS OF THE USE OF DEMONSTRATION METHODS FOR PAI SUBJECTS FOR WUDHU MATERIALS FOR CLASS II STUDENTS AT SDN 152980 HAJORAN I ACADEMIC YEAR 2021-2022. In *Journal of Engineering, Social and Health* (Vol. 1, Issue 2).

https://jesh.globalpublikasiana.com/index.php/gp/

Zainuddin, Z., W., S., Musriaparto, M., & Nur, M. (2022). Solusi Pembentukan Perilaku Nilai Moral Anak Usia Dini Melalui Pendidikan Islam. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *6*(5), 4335–4346. https://doi.org/10.31004/obsesi.v6i5.2606

Zupan, B., Cankar, F., & Setnikar Cankar, S. (2018). The development of an entrepreneurial mindset in primary education. *European Journal of Education*, *53*(3), 427–439. https://doi.org/10.1111/ejed.12293