



Development of Aqidah Akhlak Learning Media "Board Game Based on Education Fun on the Theme of Commendable Morals (E-Fun A2M)" for High School Students

Mochamad Desta Pradana^{1*} , Yusuf Olawale Owa-Onire Uthman² 

Institut Agama Islam Negeri (IAIN) Kediri, East Java, Indonesia^{1*} 

Ibn Haldun University, Istanbul, Turkey²

Received: 06/12/2022

Accepted: 04/01/2023

Publications: 20/01/2023

Abstract

Monotonous learning patterns lead to ineffective learning behavior which impacts on learning outcomes. Lack of teacher creativity and mastery in processing learning will make students reluctant to take part in learning. The use of learning media as a support for learning is not optimal. The purpose of this study was to develop Board Game Learning Media based on Commendable Morals Education Fun (E-Fun A2M) in Aqidah Akhlak High School subjects. This research is research development or Research and Development (R&D) with the Thiagarajan, Semmel and Semmel models by testing the validity of A2M's E-Fun learning media. This is intended to determine the practicality and effectiveness. The specialty of this research is research and development based on the four-D development model (Define, design, develop, disseminate). However, due to the limitations of researchers, this development only reached the develop stage. The research subjects were six students of class X. The instruments used were validation sheets, teacher and student response questionnaires, and student learning outcomes tests. The survey results show that the relevance score of E-Fun A2M learning media is in the very valid category with a value of 92.5%. This shows that the E-Fun A2M learning media can be used by students as a learning medium for Aqidah Akhlak.

Keywords— Aqidah Akhlak, Board Game, Four-D model, Learning Media.

Introduction

Fostering the moral values of the Islamic Aqidah for the people is very basic and these values must be instilled continuously from infancy to adulthood (Hajar et al., 2021). Personality and morals are largely determined by how deeply the teachings of the Spirit penetrate the soul (Humaidi et al., 2022; Zaki et al., 2020). In other words, if a person is brought up morally right, he or she is likely to have good character and moral will. Furthermore, to achieve a balanced development of the entire human personality through formation, mind and spirit (Hasbullah et al., 2019). Rationality is born of emotion and gratitude. The ultimate goal of Muslim education is an activity that embodies all kinds of service to humanity (Choirudin et al., 2022; Wekke et al., 2019). Educational institutions under the Ministry of Religion have realized this and made the Aqeedah Akhlak a focal point of study starting from elementary schools to higher education and other fields of Islamic studies related to the expected competencies.

The purpose of learning the Akhlak Aqidah through learning is for students to gain religious spiritual strength, self-discipline, character, intelligence, noble character, and the abilities needed by themselves, society, nation and state (Fauzi & Ayub, 2019; Mulia, 2020; Suryani et al., 2021). Monotonous learning patterns lead to ineffective learning behavior that affects learning success (Darmayanti et al., 2022; Sah et al., 2023). The lack of teacher creativity and competence in dealing with learning reduces student learning motivation. Based on observations made at the Assyfa Learning Center (YALC) Pasuruan Foundation, the Aqidah Akhlaq subject in class X is not a student's favorite subject. Most students pay little attention to this subject, as it is considered a subject that is not included in the state

exam. Boring learning, providing material that is usually only in the form of lectures, and making students memorize what they learn is not optimal. In addition, it can be seen that during the learning process, it was found that students did not dare to express their opinions or answers when faced with a discussion situation or a question, and answer session. It's easy to complain and less optimistic when given the problems that occur in facing life. Furthermore, some student learning behavior is caused by an ineffective learning process. Sleeping while studying, chatting with classmates, listening to music with *headphones*. This is a classroom atmosphere where the teacher has not created effective and enjoyable learning. *Schools of Fun*, they show that fun is the beginning of true learning (Anjarwati et al., 2023). The key to a fun class is the teacher as well as the director and actor. He decides whether his lesson is about scary stories or exciting adventures.

Literature Review

To achieve this goal the teacher needs to make the teaching and learning process interesting so that the participants are not bored and want to actively participate in the teaching and learning process (Ghozali et al., 2019; Safitri et al., 2023; Sekaryanti et al., 2022). One way to make the teaching and learning process interesting is through the use of appropriate learning media (Humaidi et al., 2022; Rizki et al., 2022; Schukajlow et al., 2022; Sugianto et al., 2022; Zhou et al., 2021). Learning media is anything that can be used to stimulate students' thoughts, feelings, attention, abilities, or skills to improve the learning process (Darmaji et al., 2019; Ezezika et al., 2021; Han et al., 2018; McAdoo et al., 2019). Learning media will be more fun when the teacher can design the media with a game element in it, learning while playing (*playful learning*) is the right solution.

Playful learning is a method that is widely used by teachers. Of course, how a teacher implements the content of the game must be adjusted to the learning objectives and what is being learned (K. Z. Chen & Chi, 2022; Tarrés & Cullell, 2021). By including games in the learning process, teachers can at least help overcome student boredom and stimulate interest in these subjects (Awan et al., 2019; Lam & Tou, 2014; Whitton, 2018). This learning-friendly game media in the student learning process should be adapted to the characteristics of the material, characteristics, learning objectives, student experience, and ability to play *board games*. *Board game* is a type of game in which one of the components is a square sheet like a board, of which there are various materials, but usually in the form of thick cardboard. (Kim et al., 2020; Sousa, 2021). *Board games* as learning media are designed in an attractive way to create a fun and comfortable learning environment.

Board game media a sig uses good morals material and through habituation the characters in the game can be played over and over again for the formation of students' morals and character with Islamic values. Designed to strengthen character by cultivating attitude. Instill values, moral values and character in students. "E-Fun A2M" is the name of the fun media board game "Praiseworthy Morals" in the field of Moral Faith. The *A2M E-Fun Learning Media* is designed as material for viewing games. This game accustoms students to competing to always collect good (commendable morals) and avoid evil or sinful behavior (Cardinot & Fairfield, 2019; Fjællingsdal & Klöckner, 2020). The winner of this game is not based on who reaches the finish line first. However, the winner is the person who collects the most goodness or merit. The game includes two cards showing examples of good and bad morality to help students understand the basic principles of Islamic morality. By playing this game, students indirectly develop the mindset to always compete with one another by advocating commendable morals and trying to avoid demeaning morals. What's more interesting is that when students stop at symbols of abominable morality, they have to move on to symbols of regret. In this case, Islam teaches humans that anyone who commits a sin must immediately repent. The repentance card also contains prayers from verses of the Koran related to repentance. The prayer of repentance included in this repentance card is easy for students to remember and can be applied when students repent. Besides that, there are also Al-Qur'an and Hadith Hypothesis cards about morals which contain discussion of

the Al-Qur'an and Hadith about these morals, each player stops at the symbol of the statement of the Al-Qur'an and Hadith. The hadiths were ordered to be read aloud of all players. This competition or game will end at the specified time.

Previous studies have shown that *board game media* can improve students' understanding of learning material (Rajkovic et al., 2019). *Board game media* can also improve student learning outcomes (Dell'Angela et al., 2020). Fun *board game* learning media increases student motivation and achievement used in the learning process (Gasteiger & Moeller, 2021; Wachs & Vedres, 2021). This media is also suitable for use in learning to overcome student boredom in learning (S. Y. Chen et al., 2021; Wahyuningsih & Setyadi, 2020).

The differences in this study are the material covered by the game content, the board games that are large enough to be used for individual and group learning, and the use of time limits in these games. In addition, the card also has commendable moral questions and tests. This is intended to assess whether students have a good understanding of this material. If the student cannot answer, enter the "Prison" symbol. This means that students stop for a moment and look for solutions, and if students can find the answer, students can continue the game and restore goodness (commendable morals). Therefore, it is necessary to develop a learning media for Akidah Akhlak "Board Game Based on Fun Educational Themes on Good Morals (E-Fun A2M)". The purpose of this study was to develop learning media for Akidah Akhlak "Board Game Based on Education Fun Akhlak Praise (E-Fun A2M)" for class XI MA students.

Research Method

This research involves *research and development* studies, research methods used to manufacture certain products, and testing the efficacy of these products. The product to be developed is a *board game* based on Education Fun Akhlak Praise (E-Fun A2M). The process of developing instructional media in this study refers to the steps of the *four-D* model. definition, design, develop, and Dissimilate (Thiagarajan et al., 1974).

In this study, the subject matter was applied to class X MA YALC Pasuruan subjects on Akidah Akhlak. There are six tested students. The data obtained from the development of learning media is in the form of quantitative and qualitative data. Data collection techniques were carried out by testing and non-testing. The testing methodology for this survey consists of an evaluation form and a questionnaire. The data collection tool is in the form of test questions which are presented to students at the end of each lesson using board game media. The non-test method is in the form of a questionnaire. Using the percentage method of data analysis method, the five categories were compared with the intervals corresponding to the number of respondents for each dimension, the teacher's media expert rating, the teacher's Akidah Akhlak material content, and the student's media rating. The categories are broken down into very good, good, mediocre, bad and very bad criteria.

Results and Discussion

Results

The A2M E-Fun learning media in the Akidah Akhlak subject was developed using the *four-D development model*. The following steps are used

Define (Defining Stage)

There are several activities carried out in the define stage, namely by analyzing the beginning and the end, student analysis, task analysis, and goal analysis. Look at table 1 below:

Table 1. A2M E-Fun Learning Media Define

No.	Type of Analysis	Activity
1	Beginning-end analysis	Includes an analysis of the current curriculum and materials related to basic skills. The curriculum used at MA YALC Pasuruan is 2013.
2	Student Analysis	look at the basic characteristics of students and initial skills. Based on an interview with a teacher of Akidah Akhlak, stated that the lack of interest in student learning has an impact on learning success, understanding of student material, and the adoption of commendable morals. This is an important element of the moral theme of the Aqidah and is based on the commendable morality of Islam. Humans are very basic creatures, and these values need to be instilled continuously from childhood to adulthood. Learning media that can foster enthusiasm and interest in learning in students through learning should be used. The solution to these problems lies in the use of appropriate media such as learning media <i>Board Game Education Fun (E-Fun A2M)</i> .
3	Task Analysis	consists of an analysis of competency criteria and basic competencies related to the material of commendable morals produced by the A2M E-Fun Media. Performance standards are a major component of good morale. Honesty, Discipline, Responsibility, Compassion (mutual cooperation, cooperation, tolerance, peace), Politeness, Love, Initiative and Problem Solving. It denotes an attitude towards the problem of interacting effectively with the social and natural environment and establishes itself as a reflection of the state in world affairs. Base ability is 1.4. commendable moral values (Hikmar, Ifa, Shajah, Ish) and 2.4. Get used to the morals of life (Haikuma, Ifa, Shajah, Izu)
4	Goal Analysis	create learning objectives as a basis for designing learning tools and preparing for exams. The goal is that students can explain the characteristics of commendable morals (Hikuma, Ifa, Shajah, Ishu) and students can understand the virtues of commendable morals (Haikuma, Ifa, Shajah and). Students are taught how to get used to good morals (Haikumar, Ifa, Shajah, Adha), the formation of morals and student character with Islamic values

Design (Design Stage)

The learning media developed in this study is a *board game learning media* based on *Education Fun (E-Fun A2M)* which includes material on good morals in the Akidah Akhlak subject. The process of making the media uses the following steps:

The first stage, in the first stage in the process of making the media begins with determining the content of the main materials of commendable morals in the Akidah Akhlak class X subject. In this media, material about commendable and despicable morals is selected as the content of the game (*Content*). This content is selected by writing down examples of application that include the practice of commendable morals which in practice students are later asked to explain the benefits of these examples. *The second stage*, after the contents of the media content have been determined, the next step is to develop the *game mechanism*. These mechanisms are the rules of the game. *Third Stage*, after the game mechanics are complete, the third step is to design the game board and supporting features such as playing cards, dice and game pieces. The product in the form of learning media is designed using the Canva application. The design we will create first is a game board. To

Implementation of the current stage, namely development (Develop) in this study was carried out by making development products. After the *A2M e-fun learning media* was developed, the media evaluation stage was carried out to determine its level of effectiveness. This media adequacy check consists of three validators, one material expert, namely a religion teacher and two media expert lecturers. The results of the efficacy test obtained an average score of testing the *A2M e-fun learning media*, with the theme "Commendable moral parents" which contains the scope of practice from the application of praiseworthy and despicable morals in table 2.

Table 2. the A2M E-Fun Learning Media Validation Assessment

No.	Rating Type	Aspect	Expert Validation	Score	Category
1	Theory	Purpose, characteristics, coverage of material, evaluation	Material expert	91.4 percent	Very good
2	Media	Design (purpose, text readability, ideal, attractive), usage (convenience, flexibility)	Media expert 1 Media Expert 1	92.7 percent	Very good

The teacher's content assessment was included in the very good category. 91.4 percent of their teachers felt that the physical content included in *the game* matched the learning objectives, student characteristics, scope of content, and suitability of the game as an assessment tool. Learning media are evaluated by teachers who have a scientific background in the field of learning media. *Game design* evaluation factors for learning media are color selection and combinations, suitability of type and size of letters, descriptions of images, ease of teaching games, and achievement of learning objectives. 92.7 percent results from media experts. Overall, this media got a very high score of 92.5 percent good. This shows that the board game learning media "*E-Fun A2M*" is very suitable for learning Akhlak Aqidah and this media can be tested on students. As a recommendation, in addition to a quantitative evaluation, a qualitative evaluation is also carried out by a material expert. This proposal refers to the contents and cards which contain several verses of the Koran relating to the main source of commendable morality. It is better to replace the symbols on the *gameboard* (which were previously filled with number symbols) with hijaiyah letters or Asmaul Husna. This allows students to indirectly learn about Allah, the Most-Good, His Name, SWT. Figure 4 is a display of the validated and revised *E-Fun A2M board game* learning media.



Figure 4. Display of the *E-Fun A2M board game* media
Disseminate (Deployment Stage)

The *A2M E-Fun board game* media developed has only reached the validation stage, and has not been tested yet. As a result, it cannot be implemented automatically at this stage either.

Discussion

E-Fun A2M is an educational and fun *Morales board game* designed to provide understanding and familiarity with manners in everyday life. The word 'E' comes from language teaching and means 'education', 'Fun' means fun and A2 comes from subjects that use this media, the Akidah Akhlak subject. This game teaches students to always collect goodness (good morals) and compete to avoid evil and immoral acts. The winner of this game does not depend on who reaches the finish line first. However, the winner is the one who collects the most rewards and prizes. This game contains four kinds which are presented on the cards in the display example in Figure 6. Cards showing four symbols (commendable morals, despicable morals, Koran, Test).

A laudable and despicable morals to help students understand the basic principles of Islamic morality. When playing this game, students indirectly build a mindset to always compete by upholding commendable morals and not destroying morals. What's more interesting is that when students stop at symbols of abominable morality, they have to move on to symbols of repentance. Not only that, students stop at the ladder symbol, then they will automatically go up to the next level which allows students to end the game more quickly. This is of course a loss for students, because the faster it is completed, the less chance of collecting rewards/good deeds. However, students also have the advantage that students will also avoid heinous acts. Furthermore, besides students stopping at the symbol of despicable behavior (jail symbol), students must also be vigilant when stopping at the hole symbol on the board, because students will automatically return to the start line. The meaning of advantage and disadvantage if it stops at this symbol is the opposite of the meaning when students stop at the ladder symbol.

The designs or rules used in this game have many purposes. Islam teaches humans that anyone who commits a sin must immediately repent. The repentance card also contains prayers from verses of the Koran related to repentance. The prayer of repentance included in this repentance card is easy for students to remember and can be applied when students repent. In this case, Islam teaches humans that anyone who commits a sin must immediately repent. The repentance card also contains prayers from verses of the Koran related to repentance. The prayer of repentance contained in this card should be easy for students to remember and apply when they repent. In addition, there are also the premises of the Koran and Hadith cards about morals, including discussion of the Koran and Hadith about morals. In this card, players who stop at the symbols of the Qur'an or hadith sentences are ordered to read them aloud so that all players can hear them. In this way, students can easily memorize the verses of the Qur'an and Hadith related to morals. A hint icon on the game board gives players the option to add prizes or coins. Players must be able to provide examples of suggestions on the card to other players to receive this prize. Through such a pattern, we can indirectly improve communication skills between players. Plus, you can improve your ability to speak your mind and respect the opinions of other players. This advice card can at least educate the players and make them aware that Islam strongly advocates the common good. Another interesting thing, when students stop at the quiz symbol, students must be able to answer the test questions written there. The questions are designed with the same material concept, but here students are required to be more critical where students must be able to provide reviews in their own language regarding the meaning, for example, the proposition "the mothers of commendable morals. If the student can pass, the student gets a coin, but if not, the student must step back (be silent) by stopping 1 round, then the student can join the game again.

Furthermore, this game is designed to help you understand and familiarize yourself with good moral behavior and has the following benefits: 1) Creating a more relaxed and enjoyable learning atmosphere without neglecting the content of the topic of moral learning,

namely the formation of Islamic morals. 2) Can motivate us to compete fairly and avoid cowardice. 3) Games are more flexible because they can change or develop based on learning objectives. MA YALC Pasuruan has used educational and fun *board game* learning media in various aspects. The results of interviews with teachers at these schools show that teachers are not arbitrary in choosing learning media. Choose according to the goals you want to achieve. This is in line with research (Dziob, 2020; Kuo & Hsu, 2020; Kusumawardani et al., 2020), which states that *board game media*: (1) Helps students better understand certain concepts, principles, and skills by using the most appropriate media according to the type of material. (2) provide a variety of learning experiences to further increase student interest and motivation; Promote attitudes and skills. (4) Create unforgettable learning situations for students. (5) Clarify information or learning messages. (6) Improving the quality of teaching and learning Apart from directed discussions, teachers also consider the benefits of using materials in the context of teaching and learning in the classroom.

The results of the validation from experts showed that 92.5 percent was in a very valid category so it was very feasible to try out. The same was conveyed in the study (Rizov et al., 2019; Tsai et al., 2021) noted some disagreement based on utility. (1) Equal distribution of learning content (2) Clearer and more interesting learning process (3) More interactive learning process (4) Efficiency of time and effort (5) Improving the quality of learning outcomes (6) The role of the media in the learning process can be done anytime, anywhere. (7) Media can foster students' positive attitudes towards learning materials and processes. (8) Changing the role of the teacher to be more active and productive.

The importance of the developed *A2M E-Fun media* is to be tested on students as an effort and solution to overcome monotonous learning and the desire for optimal learning outcomes. Considerations for teachers who are interested in education in choosing *board game learning media* are based on their function as well as their purpose and use. In line with research (Danilovic & de Voogt, 2021; Lin et al., 2021), which states that *board game media* has various functions: (1) Attracting students' attention, students may be less interested or less enthusiastic about the lesson because of the material. The lessons are hard and can not be digested. The use of learning media creates a fresh atmosphere in the classroom and increases student concentration, especially if the learning media is different, unique and fun. (2) Conveying messages, sometimes in class there are abstract concepts that are difficult to explain verbally. For example, parts of the human body. Learning media such as videos, photos, or human-made frameworks help students better understand what the teacher explains in class. (3) Overcoming space, time and cost constraints, for example when describing disgraceful traits. It is impossible for students to do these morals. If you use teaching materials such as pictures, you can understand what the teacher is saying by looking at the illustrative examples. (4) Avoid misinterpretation, when a teacher speaks orally, students may have a different point of view, and the meaning conveyed by the teacher is different from the student's understanding. In learning media, theoretical interpretation becomes the same and information misunderstandings are eliminated. (5) Consider the learning styles of different types of students, People have different abilities. By integrating learning media such as audio, audio-video, images, and text, students who have difficulty understanding oral lessons can be covered with other learning media that are easier to understand. (6) Achieving learning objectives effectively, for learning media, teaching and learning processes must be carried out in the classroom.

Conclusion

Based on the results of data analysis and study of product design results, it can be concluded as follows: First, this research produces a product in the form of a desktop-based Arabic Typing website that is designed to train typing Arabic text starting from the basics and uploading it with a URL page. www.ajher.co.id. Second, the feasibility of Arabic Typing website products based on the validation results of media experts obtained an average

percentage of 97.03% (Very Eligible), material expert validation obtained an average percentage of 85% (Very Feasible), while student feasibility tests obtained an average percentage 83.9% (Very feasible). In black-box testing, this website was declared successful/passed. In the stress test it is stated that this website is able to respond to requests from 10 users simultaneously in a stable manner, while in the installation/launch test, this website is stated that this website can be accessed in different browsers. above description, Research should be conducted in schools and using alternative development approaches going forward.

References

- Anjarwati, S., Darmayanti, R., & Khoirudin, M. (2023). Development of "Material Gaya" Teaching Materials Based on Creative Science Videos (CSV) for Class VIII Junior High School Students. *Jurnal Edukasi Matematika Dan Sains*, 11(1), 163–172. <https://doi.org/10.25273/jems.v11i1.14347>
- Awan, O., Dey, C., Salts, H., Brian, J., Fotos, J., Royston, E., Braileanu, M., Ghobadi, E., Powell, J., Chung, C., & Auffermann, W. (2019). Making Learning Fun: Gaming in Radiology Education. *Academic Radiology*, 26(8). <https://doi.org/10.1016/j.acra.2019.02.020>
- Cardinot, A., & Fairfield, J. A. (2019). Game-based learning to engage students with physics and astronomy using a board game. *International Journal of Game-Based Learning*, 9(1). <https://doi.org/10.4018/IJGBL.2019010104>
- Chen, K. Z., & Chi, H. H. (2022). Novice young board-game players' experience about computational thinking. *Interactive Learning Environments*, 30(8). <https://doi.org/10.1080/10494820.2020.1722712>
- Chen, S. Y., Tsai, J. C., Liu, S. Y., & Chang, C. Y. (2021). The effect of a scientific board game on improving creative problem solving skills. *Thinking Skills and Creativity*, 41. <https://doi.org/10.1016/j.tsc.2021.100921>
- Choirudin, C., Nyoman, I., Degeng, S., Kuswandi, D., Purnomo, P., & Maba, A. P. (2022). Career readiness among low-income Muslim students. *International Journal of Evaluation and Research in Education (IJERE)*, 11(3), 1400–1406. <https://doi.org/10.11591/ijere.v11i3.22727>
- Danilovic, S., & de Voogt, A. (2021). Making Sense of Abstract Board Games: Toward a Cross-Ludic Theory. *Games and Culture*, 16(5). <https://doi.org/10.1177/1555412020914722>
- Darmaji, D., Kurniawan, D. A., & Irdianti, I. (2019). Physics education students' science process skills. *International Journal of Evaluation and Research in Education*, 8(2), 293–298. <https://doi.org/10.11591/ijere.v8i2.28646>
- Darmayanti, R., Sugianto, R., Baiduri, Choirudin, & Wawan. (2022). Digital comic learning media based on character values on students' critical thinking in solving mathematical problems in terms of learning styles. *Al-Jabar: Jurnal Pendidikan Matematika*, 13(1), 49–66. <http://ejournal.radenintan.ac.id/index.php/al-jabar/index>
- Dell'Angela, L., Zaharia, A., Lobel, A., Vico Begara, O., Sander, D., & Samson, A. C. (2020). Board Games on Emotional Competences for School-Age Children. *Games for Health Journal*, 9(3). <https://doi.org/10.1089/g4h.2019.0050>
- Dziob, D. (2020). Board Game in Physics Classes—a Proposal for a New Method of Student Assessment. *Research in Science Education*, 50(3). <https://doi.org/10.1007/s11165-018-9714-y>
- Ezezika, O., Fusaro, M., Rebello, J., & Aslemand, A. (2021). The pedagogical impact of board games in public health biology education: the Bioracer Board Game. *Journal of*

- Biological Education*. <https://doi.org/10.1080/00219266.2021.1909638>
- Fauzi, N. A. F., & Ayub, A. (2019). Fikih Informasi : Muhammadiyah's Perspective on Guidance in Using Social Media. *Indonesian Journal of Islam and Muslim Societies*, 9(2). <https://doi.org/10.18326/ijims.v9i2.267-294>
- Fjællingsdal, K. S., & Klöckner, C. A. (2020). Green Across the Board: Board Games as Tools for Dialogue and Simplified Environmental Communication. *Simulation and Gaming*, 51(5). <https://doi.org/10.1177/1046878120925133>
- Gasteiger, H., & Moeller, K. (2021). Fostering early numerical competencies by playing conventional board games. *Journal of Experimental Child Psychology*, 204. <https://doi.org/10.1016/j.jecp.2020.105060>
- Ghozali, F. A., Asnawi, R., Khairudin, M., P Jati, M., & Hoirul, A. (2019). Designing a Skill Tree Model for Learning Media. *Jurnal Pendidikan Teknologi Dan Kejuruan*, 25(1), 132–140. <https://doi.org/10.21831/jptk.v25i1.20234>
- Hajar, A., Mahmud, Moh. N., Damis, R., & Salahuddin, S. (2021). The Concept of Islamic Education in Achieve Mahabbah (Love) Rabi'ah Al-Adawiyah (A Study on the Implementation of Akidah Akhlak Subjects at Islamic Boarding School of Al-Junaidiyah Biru, Bone Regency, South Sulawesi, Indonesia). *International Journal of Multicultural and Multireligious Understanding*, 8(7). <https://doi.org/10.18415/ijmmu.v8i7.2817>
- Han, J., Seo, Y., Lee, C., & Han, D. H. (2018). Comparing the behavioral patterns and psychological characteristics of web board gamers and gamblers. *Psychiatry Investigation*, 15(12). <https://doi.org/10.30773/PI.2018.10.22.4>
- Hasbullah, H., Muntasir, M., Bahri, S., Zahara, R., & Zulfia, Z. (2019). Messages Communication in the Al-Qur'an (Study of Messages in the Al-Qur'an for Believers). *Budapest International Research and Critics Institute (BIRCI-Journal) : Humanities and Social Sciences*, 2(4). <https://doi.org/10.33258/birci.v2i4.569>
- Humaidi, N., Darmayanti, R., & Sugianto, R. (2022). Challenges of Muhammadiyah's Contribution in Handling Covid-19 in The MCCC Program in Indonesia. *Khazanah Sosial*, 4(1), 176–186. <https://doi.org/10.15575/ks.v4i1.17201>
- Kim, J. W., Wi, J. A., Jang, S. J., & Kim, Y. bin. (2020). Sequential recommendations on board-game platforms. *Symmetry*, 12(2). <https://doi.org/10.3390/sym12020210>
- Kuo, W. C., & Hsu, T. C. (2020). Learning Computational Thinking Without a Computer: How Computational Participation Happens in a Computational Thinking Board Game. *Asia-Pacific Education Researcher*, 29(1). <https://doi.org/10.1007/s40299-019-00479-9>
- Kusumawardani, L. H., Rekawati, E., Fitriyani, P., & Ni Luh, Y. S. D. P. (2020). Improving clean and healthy living behaviour through snakes and ladders board game among school children. *Sri Lanka Journal of Child Health*, 49(4). <https://doi.org/10.4038/SLJCH.V49I4.9265>
- Lam, C. C.-C., & Tou, L. U.-I. (2014). Making Education Fun! The Marketing of Advanced Topics by Multimedia. *Procedia - Social and Behavioral Sciences*, 148. <https://doi.org/10.1016/j.sbspro.2014.07.020>
- Lin, H. C. K., Lin, Y. H., Wang, T. H., Su, L. K., & Huang, Y. M. (2021). Effects of incorporating augmented reality into a board game for high school students' learning motivation and acceptance in health education. *Sustainability (Switzerland)*, 13(6). <https://doi.org/10.3390/su13063333>
- McAdoo, R. M., Key, K. N., & Gronlund, S. D. (2019). Task effects determine whether recognition memory is mediated discretely or continuously. *Memory and Cognition*, 47(4). <https://doi.org/10.3758/s13421-019-00894-9>

- Mulia, H. R. (2020). Integrasi Pendidikan Karakter dalam Pembelajaran Akidah Akhlak. *TADRIS: Jurnal Pendidikan Islam*, 15(1). <https://doi.org/10.19105/tjpi.v15i1.3092>
- Rajkovic, A. I., Ruzic, M. S., & Ljubic, B. (2019). Board Games as Educational Media: Creating and Playing Board Games for Acquiring Knowledge of History. *Iartem E-Journal*, 11(2).
- Rizki, N., Laila, A. R. N., Inganah, S., & Darmayanti, R. (2022). Analysis of Mathematic Connection Ability in Mathematics Problem Solving Reviewed from Student's Self-Confidence. *Seminar Nasional Teknologi Pembelajaran*, 2(1), 111–126. <http://snastep.um.ac.id/pub/index.php/proceeding/indexKeahliandanPerformaPakardalamTeknologiPendidikanuntuk>
- Rizov, T., Djokic, J., & Tasevski, M. (2019). Design of a board game with augmented reality. *FME Transactions*, 47(2). <https://doi.org/10.5937/fmet1902253R>
- Safitri, N. D., Pgri, U., Pasuruan, W., Darmayanti, R., Setio, A., & Sekaryanti, R. (2023). Application of Vygotsky Theory in High School Mathematics Learning Material Limit Functions. *Jurnal Edukasi Matematika Dan Sains*, 11(1), 39–48. <https://doi.org/10.25273/jems.v11i1.14099>
- Sah, R. W. A., Laila, A. R. N., Setyawati, A., Darmayanti, R., & Nurmalitasari, D. (2023). Misconception Analysis of Minimum Competency Assessment (AKM) Numeration of High School Students from Field Dependent Cognitive Style. *JEMS: Jurnal Edukasi Matematika Dan Sains*, 11(1), 58–69. <https://doi.org/10.25273/jems.v11i1.14112>
- Schukajlow, S., Blomberg, J., Rellensmann, J., & Leopold, C. (2022). The role of strategy-based motivation in mathematical problem solving: The case of learner-generated drawings. *Learning and Instruction*, 80. <https://doi.org/10.1016/j.learninstruc.2021.101561>
- Sekaryanti, R., Cholily, Y. M., Darmayanti, R., Rahma, K., Prasetyo, B., & Maryanto, A. (2022). Analysis of Written Mathematics Communication Skills in Solving Solo Taxonomy Assisted Problems. *Jurnal Edukasi Matematika Dan Sains*, 10(2), 395–403. <https://doi.org/10.25273/jems.v10i2.13707>
- Sousa, M. (2021). Serious board games: Modding existing games for collaborative ideation processes. *International Journal of Serious Games*, 8(2). <https://doi.org/10.17083/ijsg.v8i2.405>
- Sugianto, R., Cholily, Y. M., Darmayanti, R., Rahmah, K., & Hasanah, N. (2022). Development of Rainbow Mathematics Card in TGT Learning Model for Increasing Mathematics Communication Ability. *Kreano: Jurnal Matematika Kreatif-Inovatif*, 13(2), 221–234. <http://journal.unnes.ac.id/nju/index.php/kreano>
- Suryani, I., Ma'tsum, H., Fittria, M., & Tarmizi, M. (2021). Peta Konsep Terminologi Akidah/Teologi dan Ruang Lingkup Studi Akidah Akhlak. *Islam & Contemporary Issues*, 1(1). <https://doi.org/10.57251/ici.v1i1.4>
- Tarrés, M. A., & Cullell, I. F. (2021). Playing or learning? Playful learning in teacher's musical training. *Revista Electronica Complutense de Investigacion En Educacion Musical*, 18. <https://doi.org/10.5209/RECIEM.67853>
- Thiagarajan, S., Semmel, D. S., & Semmel, M. I. (1974). Instructional development for training teachers of exceptional children: A sourcebook. In *indiana university, Bloomington, Indiana*. [https://doi.org/10.1016/0022-4405\(76\)90066-2](https://doi.org/10.1016/0022-4405(76)90066-2)
- Tsai, J. C., Liu, S. Y., Chang, C. Y., & Chen, S. Y. (2021). Using a board game to teach about sustainable development. *Sustainability (Switzerland)*, 13(9). <https://doi.org/10.3390/su13094942>
- Wachs, J., & Vedres, B. (2021). Does crowdfunding really foster innovation? Evidence from the board game industry. *Technological Forecasting and Social Change*, 168.

<https://doi.org/10.1016/j.techfore.2021.120747>

- Wahyuningsih, D., & Setyadi, D. (2020). Pengembangan Board Game “ Zathura Mathematics ” Pada Materi Bilangan Berpangkat dan Bentuk Akar. *Jurnal Matematika Kreatif Inovatif Kreano*, 11(1), 46–55.
- Wekke, I. S., Arif, B., Zubair, A., & Wardi, Moh. (2019). The Role of Muhammadiyah Institution Towards Muslim Minority in West Papua. *Jurnal Ilmiah Peuradeun*, 7(1). <https://doi.org/10.26811/peuradeun.v7i1.311>
- Whitton, N. (2018). Playful learning: Tools, techniques, and tactics. *Research in Learning Technology*, 26. <https://doi.org/10.25304/rlt.v26.2035>
- Zaki, I., Widiastuti, T., Yudha, A. T. R. C., Wijayanti, I., & Mi'raj, D. A. (2020). Implementation of Islamic entrepreneurial culture in Islamic boarding schools. *International Journal of Innovation, Creativity and Change*, 11(11).
- Zhou, L., Zhang, F., Zhang, S., & Xu, M. (2021). Study on the personalized learning model of learner-learning resource matching. *International Journal of Information and Education Technology*, 11(3). <https://doi.org/10.18178/ijiet.2021.11.3.1503>