

Development of Explosion Box Learning Media in Islamic Religious Education Subject for Students of Junior High School

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Abstract. Islamic Religious Education learning at S.M.P.N. 9 North Kolaka focuses on theory and textbooks without utilizing various learning media such as Explosion boxes. It causes a lack of student understanding. This study aims to 1) analyze the need for Explosion box media development, 2) design Explosion box media, 3) evaluate the validity of Explosion box media, and 4) measure the effectiveness of Explosion box media. The method used is R&D with the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation). The study subjects were class VIII B SMPN 9 North Kolaka students, with data collection techniques through observation, interviews, questionnaires, and qualitative and quantitative data analysis. The study results showed that the Explosion box is valid and effective. Validation from media experts (91%), material experts (96%), and language experts (79%) showed that this media is feasible to use. Its effectiveness is also proven by an increase in student understanding by 89% based on tests. The development of this media has been proven to meet the validity criteria and effectively improve student learning outcomes.

Keywords: Explosion Box, Learning Media, Islamic Religious Education.

1. Introduction

Learning facilitates students or learners in learning according to their needs. Learning is an effort to influence intellectual and spiritual feelings in a person to learn according to his wishes (Khairini & Yogica, 2021). Furthermore, learning, in a unique sense, is a learning process that the teacher builds to increase students' potential and various abilities, such as thinking ability, creativity, constructing knowledge, problem-solving, and mastery of learning materials (Angga et al., 2022). It is reinforced by the (Masdul, 2018) opinion that learning is an educational interaction process to make students learn actively and be able to change their behavior through learning experiences.

The learning process is an interaction between teachers and students, students and their environment to achieve learning goals (Nahdatul Hazmi, 2019). Teachers can convey various information to students through learning activities by creating a varied learning environment to optimize the learning process. Students have a learning process through their development and environment, so they can learn from various learning resources and learning media in their environment (Mashelin Wulandari & Nadia Yensi Febriana, 2020). Media and learning resources are essential because they help students understand the information (Wulandari et al., 2023).

Learning media is one of the factors that play an essential role in the learning and teaching process. Teachers usually use learning media as an intermediary in delivering material so students can understand it (Badan et al., 2002). Using learning media in teaching and learning can develop new interests and desires, arouse motivation, and even psychologically influence learning. According to Wiratmojo and Sasonohardjo (Junaidi, 2019), using learning media at the teaching

orientation stage will significantly assist the effectiveness of the learning process of delivering messages and lesson content at that time.

The word media comes from Latin, which means medium, literally means 'intermediary,' 'mediator,' and 'introducer.' In the learning process, the media is an intermediary or messenger of the message source with the message receiver, stimulating thoughts, feelings, attention, and willingness that encourage the learning process. Learning media is one factor that enables students to achieve maximum learning goals (Faradila & Aimah, 2018). (Lange & Costley, 2020) also argue that learning media are assembled to clarify the message and meaning of the learning provided. Learning media is one of the teaching aids that teachers use to convey teaching material, increase student creativity, and increase student attention in the learning process. (Octavina & Susanti, 2021). So, it can be concluded that learning media is a teacher's tool in delivering education that can interpret concepts and discussions meaningfully and efficiently, understand and attract students' attention when learning, and achieve maximum learning objectives.

The teacher's skill in teaching is the most dominant factor in the effort to transfer knowledge to students because it can overcome student boredom in teaching, thus creating a creative and enjoyable learning atmosphere (Al-Said, 2023; Hidayat et al., 2023). Because each learner is a unique individual (different from the others), an educator provides treatment based on the characteristics of each learner (Walkington & Bernacki, 2020). That way, it is expected that teaching activities produce suitable learning activities. It can be done when educators use various sources variably and provide as many opportunities as possible for students to interact with existing learning resources.

Based on the results of interviews with 8th-grade Islamic Education teachers at SMP Negeri 9 Kolaka Utara, the above problems are due to the learning resources used as textbooks and not using varied media. In addition, the delivery of material is still done theoretically, so it impacts the lack of understanding of students in learning Islamic Religious Education. Therefore, a media that can be used in the learning process is needed by utilizing physical learning media, namely Explosion box media, to improve student learning outcomes.

Explosion box media development based on material aims to make it easier for students to understand learning material gradually (Br. Tarigan, 2022). Explosion box is a gift-shaped box made of cardboard paper. Usually, the paper is stacked into layers to make it strong. As the contents, people recreationally insert photos, letters, greetings, or other exciting designs (Lubis & Sapri, 2024). It is said to be an Explosion box because if opened, it will explode or open into four parts, including several pictures, explanations, and questions that will arouse students' enthusiasm in the learning process. So that students can understand the material being studied.

Previous studies have used similar media, namely research (Wijayanti et al., 2022). The results of this study indicate that the explosion box media is very valid, based on the calculation of the average score of media experts of 0.81 and the average material expert of 0.82. It can be said that the explosion box media is suitable for use in improving cognitive abilities and logical thinking. Furthermore, research (Chandra et al., 2024) where the results of this study show that the explosion box learning media can increase students' interest in learning. The study above discusses the explosion box learning media. On this basis, researchers are interested in developing learning media.

Recent studies have shown the effectiveness of using learning media such as Explosion Box to increase student engagement and understanding. For example, previous research revealed that Explosion box media is valid in improving students' cognitive abilities and learning interests. However, these studies focus on general subjects or broad student populations without delving into specific contexts, such as Islamic Religious Education and its impact on varied learning environments.

This study aims to analyze the needs in the development of Explosion box learning media, design the development of the media, and evaluate the validity and effectiveness of the Explosion box learning media. This study is expected to provide an overview of how Explosion box media

can be developed appropriately and effectively to improve the quality of learning, especially in facilitating students' understanding of the material being studied.

2. Method

This research uses the type of R&D (research & Development) research using the ADDIE research model, which consists of 5 stages: analysis, design, development, implementation, and evaluation. This research was conducted at SMP Negeri 9 North Kolaka, at Jl. Kihajar Dewantara No. 5 Porehu Village, Porehu Sub-District, North Kolaka Regency, South Sulawesi Province. This research was conducted from May to June 2024. The steps in the research and development process show a cycle that begins with analyzing a problem that requires solving using a particular product. The next step is to determine the product specifications to be developed. The subjects in this study were students of class VIII B SMPN 9 Kolaka Utara, totaling 19 people. The data collection techniques used in this study were observation, interview, and questionnaire. The data analysis technique used in this study consists of qualitative data analysis and quantitative data analysis. Qualitative data is obtained from needs analysis, interviews, and questionnaires. Quantitative data is obtained from the results of media, material, and language expert validators of the media that have been developed. The following formula will be used to calculate the data on the results of the media created by each expert:

1. Validity data analysis

Data analysis is generated from responses from each expert validator to the media developed using the formula:

$$\text{Percentage} = \frac{\sum \text{Score Per Item}}{\text{Maximum Score}} \times 100\%$$

The results are grouped using the following criteria table based on the percentage results:

Table 1. Expert validity test assessment categories

Alternatives	Description
81-100%	Very Valid
61-80%	Valid
41-60%	Fairly Valid
21-40	Less Valid
0-20%	Invalid

2. Data analysis Effectiveness

The effectiveness of the Explosion box learning media can be measured from the average score of students based on the questions answered by looking at classical completeness, namely 74% of all students who score high or equal to the Maximum Classical Completeness Criteria (CCC).

$$KK (100\%) = \frac{\sum ST}{N} \times 100\%$$

3. Result

The ADDIE model development steps consist of 5 stages, which aim to get the results of the Explosion box Learning Media Development on Islamic Religious Education Subjects for SMPN 9 North Kolaka Students:

a. Analysis stage

Researchers conducted an in-depth analysis of the needs of teachers and students, which aimed to find out the problems or obstacles experienced by teachers and students during the learning process activities. Based on the analysis stage, the results show that the availability of learning resources or media used at school is still limited. School is still limited. Therefore, it

would be more interesting if Explosion Box learning media were developed so that learning could run effectively and efficiently.

b. Design stage

At this stage, the researcher will design the product by creating a block-shaped Explosion box media design with a size of 42 cm long and 25 cm wide, then collecting what the media needs, such as the necessary materials and tools. In addition, researchers also collect several sources or references that will be used for material and design validation instruments, as well as question sheets that will be used to measure the validity and effectiveness of Explosion box media.

c. Development

After designing the product, the third step is to develop the product according to the design that has been made before. The results of the developed product were validated by several expert validators, namely media experts, language experts, and material experts. Validation was carried out to determine the developed media's validity level. The results of validation by the three experts are shown in Tables 2, 3, and 4 below:

Table 2. Media expert validation results

No	Indicator	Validation	Maximum score	Percentage (%)
1	Illustration	13	16	81%
2	Quality and appearance	15	16	93%
3	Attractiveness	16	16	100%
Total		44	48	91%
Category		Very Valid		

The table shows the results of the validation of learning media based on three indicators: illustration, quality and appearance, and attractiveness. Illustration obtained a percentage of 81%, quality and appearance reached 93%, and attractiveness got a perfect score of 100%. Overall, the total percentage reached 91%, which places this learning media in the "Very Valid" category.

It can be categorized as very valid. The results of expert validation can also be seen in the following graph:

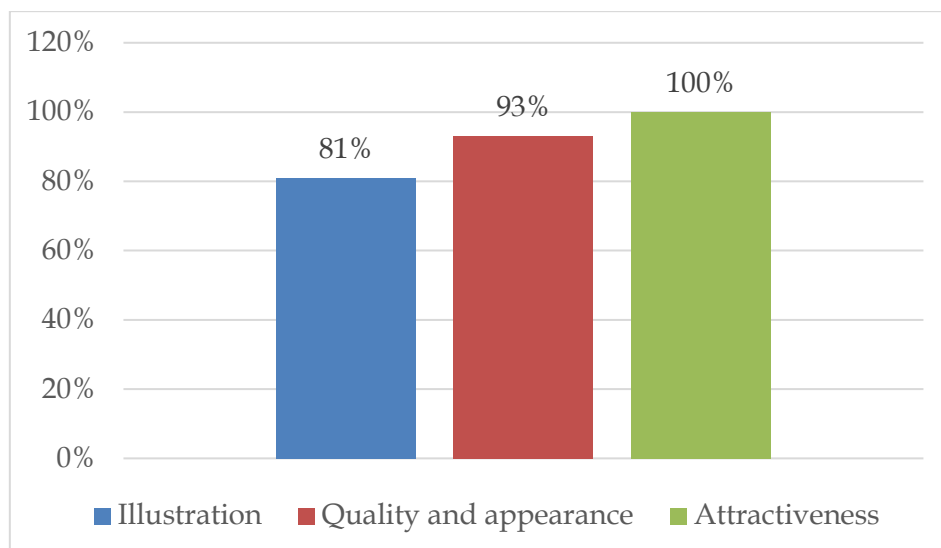
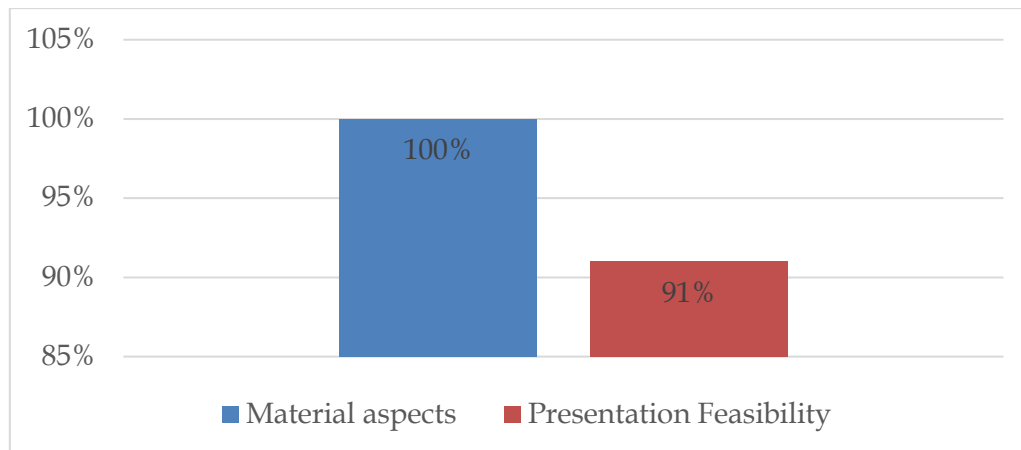


Figure 1. Graphic of media expert validation results

Table 3. Results of material expert tests

No	Indicator	Validation	Maximum Score	Percentage (%)
1	Material aspects	16	16	100%
2	Presentation Feasibility	11	12	91%
	Total	27	28	96%
	Category			Very Valid

The results of the material expert validation test can also be seen in the following graph:

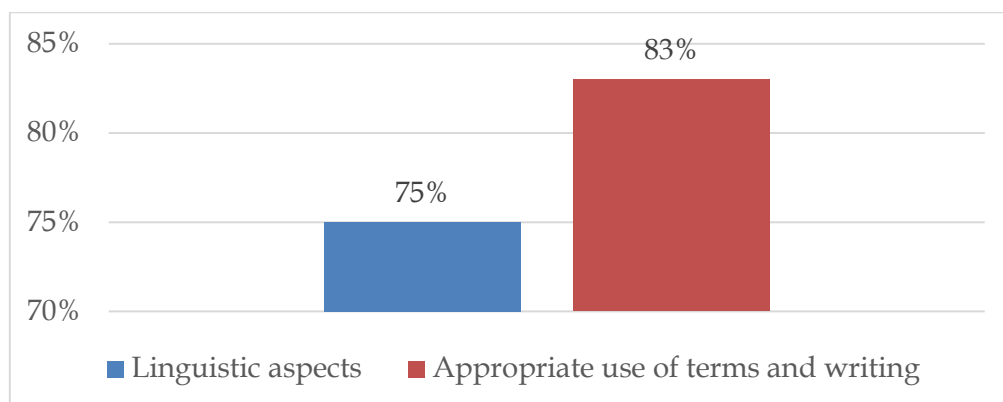
**Figure 2.** Graph of the results of the validation test by material experts

The material experts' results in Table 3 show that the average validator assessment is 96%. It can be categorized as very valid.

Table 4. Language expert test results

No	Indicator	Validation	Maximum score	Percentage (%)
1	Linguistic aspects	9	12	75%
2	Appropriate use of terms and writing	10	12	83%
	Total	19	24	79%
	Category			Valid

The results of the linguist validation test can also be seen in the following graph:

**Figure 3.** Graph of the results of the language expert validation test

The overall average value obtained by the average validator assessment is 79%. It shows that the results are categorized as valid by the results of linguist validation produced in Table 4.

So, the average percentage of validity of the product is very valid for the three validators: media experts, material experts, and linguists. The percentage results of each validator are 91% from media experts, 96% from material experts, and 79% from linguists.

d. Implementation Stage

This stage is carried out after the validator declares the developed media valid. Furthermore, at this stage, a trial will be carried out to determine the effectiveness of using Explosion box learning media in fasting sub-materials, as seen from the summative results conducted through a test of student learning outcomes using Explosion box learning media. This trial phase was carried out on a limited basis, namely, 19 students in class VIII B through a description or essay test sheet.

Table 5. Learner test results

No.	Value Range	Predicate	Scores earned	
			Essay Question	Number of Students
1	92-100	A	14	74%
2	83-91	A-	2	10%
3	74-82	B+	1	5%
4	<74	B	2	10%
	Total		19	100%
	≥ CCC		17	89%

In Table 5, the learning outcomes of students who achieved classical completeness were $\geq 74\%$ of those who achieved a score ≥ 74 , namely 89% (Essay questions). The acquisition of these scores shows that the development of Explosion box learning media in fasting sub-material is effectively used in Islamic Religious Education learning activities.

e. Evaluation stage

At this stage, researchers use formative and summative evaluation. Formative evaluation is carried out to obtain feedback based on the needs analysis results of learners and teachers, media expert validation, material expert validation, and linguist validation. At the same time, summative evaluation is carried out at the end of the stage to determine the effectiveness of Explosion box learning media. In this case, a test is carried out on students' learning outcomes to determine the effectiveness of the Explosion box learning media.

4. Discussion

This study uses the ADDIE development model, which consists of five stages: analysis, design, development, implementation, and evaluation. The main objective of this study is to develop Explosion box learning media in Islamic Religious Education subjects for students of SMPN 9 North Kolaka and to evaluate its validity and effectiveness.

Analysis Stage found that the learning media available in schools is still very limited, so developing more interesting and interactive media is necessary. This finding aligns with previous studies by (Batubara et al., 2021; Puspitasari & Mulkiyah, 2023), which stated that limited learning media can reduce learning effectiveness and student motivation. Therefore, the Explosion box media is expected to be a solution to improve the quality of learning.

Design Stage: The Explosion box media is designed to be 42x25 cm in size, aiming to accommodate various Islamic Religious Education material content in an attractive visual manner. This design supports the argument (Hussin et al., 2009) that well-designed learning media can increase student attraction and involvement in the learning process.

In the development stage, experts validate, with validation results from media experts reaching a score of 91%, material experts 96%, and language experts 79%. Overall, these results indicate that the Explosion box media is suitable for use. These results are also in line with research

by (Harahap & Nasution, 2022), which states that valid learning media can improve students' understanding of the material presented.

In the implementation Stage, a limited trial was conducted on 19 grade VIII students. The test results showed that 89% of students achieved a score of ≥ 74 , which indicates the level of classical achievement. It shows that the Explosion box media is effective in Islamic Religious Education learning, especially in the fasting sub-material. These results are consistent with research by (Dwijayani, 2019; Putri et al., 2022), which shows that interactive media can improve student learning outcomes.

Finally, formative and summative evaluations are carried out in the Evaluation Stage. Formative evaluation aims to obtain expert feedback and needs analysis, while summative evaluation is used to assess the effectiveness of the media based on student test results. The results of the summative evaluation support the use of the Explosion box as an effective and interesting learning media, according to the findings of (Van Den Beemt et al., 2020; Husna & Supriyadi, 2023), who emphasized the importance of using media that can increase student motivation and understanding.

The advantages and disadvantages of Explosion box learning media are as follows:

a. The advantages of Explosion box media

The advantages of the Explosion box media developed are:

- 1) Explosion box media creation can be adjusted to the learning theme, and each layer has a different surprise.
- 2) The appearance of the Explosion box attracts the attention of students, so it motivates more innovative learning.
- 3) Develop the creativity of educators and students.
- 4) Stimulate the imagination of students in the learning process.

b. Disadvantages of Explosion box media

While the shortcomings of the Explosion box media developed are:

- 1) The material in the media only contains fasting material only
- 2) Explosion box learning media design is physical, so it cannot be accessed via the internet because it is not in the form of software.

The results of this study indicate that the Explosion box learning media has high validity and effectiveness in improving students' understanding of Islamic Religious Education material. Using this media allows for the delivery of material visually and interactively, which can motivate students and strengthen their understanding of religious concepts. The involvement of media experts in the validation process also shows that the design and content of this media have been adjusted to the standards required for effective learning.

Based on the results of this study, it is recommended that schools be more active in developing and implementing interactive learning media such as Explosion Box in various subjects, not only Islamic Religious Education subjects. In addition, further research is needed involving more participants to determine the long-term impact of using this media on students' achievement and affective development. It can be done by involving more classes or schools and expanding the sub-materials taught using the media.

5. Conclusion

This study uses the ADDIE development model to develop Explosion box learning media in Islamic Religious Education subjects at SMPN 9 North Kolaka. Based on the validity test conducted by experts, the validation results from media experts were 91%, material experts 96%, and language experts 79%, which indicates that the Explosion box media has met the validity criteria. The effectiveness test of this media also shows that 89% of students achieve learning outcomes that meet the completion criteria, so the Explosion box media is declared effective for use in learning.

As a recommendation, the Explosion box media can be implemented more widely in various other subjects to increase student involvement and motivation in learning. This study contributes

by providing an alternative interactive and innovative learning media, especially in Islamic Religious Education learning, which can help teachers create a more interesting and effective learning atmosphere for students.

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