

Development of AQDA Learning Media Based on *Google Sites* to Improve Learning Outcomes of Class X Students

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Abstract : *This study aims to (1) determine the development of AQDA learning media based on Google Sites (2) determine the effectiveness of using AQDA learning media in improving the learning outcomes of class X students of MA Unggulan K.H. Abd. Wahab Hasbulloh Tambakberas Jombang (3) determine the response of class X students to the use of AQDA media. The method used in this study is the Research and Development (R&D) research method developed using the ADDIE model, namely Analysis, Design, Development, Implementation, Evaluation. The resulting product is validated by material experts and media experts to determine the feasibility of the learning media before being tested. The results of this study obtained a material validation score of 90% and a media validation of 92%, which means that this learning media is categorized as "very feasible" to be tested. The results of the field trial showed a significant increase in student learning outcomes of 85% and student responses of 92% with the category "very interesting". Thus, AQDA learning media can improve student learning outcomes and is very interesting for students.*

Keywords : AQDA; Google Sites; Learning Outcomes; Learning Media; Student Responses.

INTRODUCTION

Education plays a fundamental role in developing and implementing human thought, serving as a significant behavioral benchmark in shaping an individual's framework of thinking towards everyday life. As a means of developing progressive knowledge, education applies models and strategies that are conclusive and relevant to the development of the times. Based on the Undang-Undang Sistem Pendidikan Nasional (UU Sisdiknas) No. 20 Tahun 2003, pendidikan merupakan usaha sadar dan terencana untuk menciptakan proses pembelajaran aktif yang bertujuan mengembangkan potensi peserta didik secara holistik. Aspek yang dikembangkan mencakup spiritual, pengendalian diri, kepribadian, kecerdasan, dan keterampilan, untuk membentuk individu berakhlak mulia yang berkontribusi positif terhadap masyarakat (Rahim et al., 2024).

Education also plays a role as a means of developing progressive knowledge through the application of models and strategies that are relevant to the development of the times. As an essential component in improving the quality of human and community life, education functions as an assessment of needs and a fundamental source of learning,

as well as the foundation of a nation's knowledge. Good quality education has a positive impact on the progress of the nation, so that improving the quality of education is a top priority (Yusuf et al., 2024).

In today's era of globalization, technological literacy is very important in supporting daily life. Technological literacy is defined as the ability to use, understand, manage, and evaluate technology effectively. This ability involves systematic knowledge and processes to solve problems and create innovative solutions (Lubis et al., 2024). In the context of education, technology has a significant role in improving the quality of learning and the development of science. The use of technology in education can create innovations that facilitate the learning process and improve student learning outcomes. However, to achieve optimal results, the use of technology must be balanced with a varied and contextual learning approach (Riska Aini Putri, 2023).

The word media comes from Latin and is the plural form of the word "medium" which literally means intermediary or messenger (Fadilah et al., 2023). According to the Association of Education and Communication Technology (AECT) in America, media is defined as all forms and channels that people use to convey messages or information. Meanwhile, according to Gegne (1970: 1) media are various types of components in the student's environment that can stimulate them to learn (Junaidi, 2019). From the definition above, it can be concluded that media is all forms of tools or components used to convey messages and stimulate students to learn.

According to Mudlofir & Rusydiyah (2019:124) in the journal (Hamidah & Gumilang, 2023) argue that learning media functions as an effective intermediary in conveying messages, motivating, and helping students achieve satisfactory learning outcomes. Meanwhile, according to Suparno in the journal (Halawa, 2020) learning media is defined as all means or tools used to convey messages or information from the sender to the recipient. Learning media can be defined as a means or tool that facilitates the delivery of learning materials effectively (Alifa, 2022). Learning media acts as a tool that conveys messages and triggers student responses in the cognitive, affective, and psychomotor domains, thus encouraging an effective learning process. The use of appropriate learning media that is in accordance with students' learning needs can increase the effectiveness and efficiency of the learning process, so that students can understand the material optimally.

In the context of education, teachers act as professionals who are responsible for encouraging learning consistently and becoming comprehensive learning facilitators to meet the needs of students. The selection of appropriate learning methods and media according to student characteristics is very important to achieve learning goals and improve student learning outcomes. The main task of teachers is to create a conducive and enjoyable learning environment to arouse students' curiosity and interest in learning (Ma'arif & Claudia, 2021).

Senior High School (SMA) and Madrasah Aliyah (MA) are two types of senior high school education units that have similar goals, namely preparing students to continue their education to a higher level. Although they are under the auspices of different ministries, namely the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek) for SMA (Desky et al., 2022) and the Ministry of Religious Affairs (Kemenag) for MA (Kasman, 2024) , both refer to the same national curriculum. SMA focuses on developing a more general curriculum, with an emphasis on general subjects and the integration of religious education. Meanwhile, Madrasah Aliyah (MA) has a uniqueness with a greater emphasis on Islamic values and religious education in its curriculum, thus allowing the implementation of these values in everyday life to be more relevant.

The curriculum at Madrasah Aliyah has been classified into 5 Islamic Religious Education subjects which include Al-Qur'an Hadith, Aqidah Akhlak, Fiqh, History of Islamic Culture and Arabic. The Aqidah Akhlak subject aims to instill knowledge, appreciation and correct belief in the principles of faith in Islam, so that students can practice these values in everyday life based on the Al-Qur'an and Hadith. With this, the Aqidah Akhlak subject becomes a religious subject that must be used as a guide in forming the character of students by cultivating good morals, so that they can develop strong moral values.

Learning Aqidah Akhlak in several schools still uses conventional methods, such as the use of books, blackboards, and lectures. This method can cause students to feel unenthusiastic, lazy, crowded and seem monotonous. Based on the results of observations and interviews with teachers related to teaching methods in class and the distribution of questionnaires to students related to learning in the subject of Aqidah Akhlak conducted at MA Unggulan K.H. Abd. Wahab Hasbulloh Tambakberas Jombang, researchers found that the methods used by teachers were still limited to lecture methods and had never used ICT-based learning media such as the use of *Google Sites*-based learning media. Therefore, both teachers and students want a new innovation in learning Aqidah Akhlak in the form of interesting interactive learning media. That way, students will be more enthusiastic about following the learning process.

Researchers plan to develop a technological innovation in the form of *Google Sites*-based learning media. *Google Sites* is a free web platform provided by Google, allowing users to create websites without the need for coding knowledge (Journal et al., 2024).

Google Sites is easy to use and can be accessed through various devices, including mobile phones, laptops, and computers. However, the creation of learning media can only be done via a laptop or computer. In addition, *Google Sites* can also be accessed from anywhere, as long as it is connected to the internet, making it an example of an effective online platform.

Based on the problems that have been described, the researcher developed AQDA learning media based on *Google Sites* that focuses on the material of Aqidah Akhlak for

class X, even semester. This research is expected to produce interactive, easily accessible, and effective learning media in improving the quality of learning.

METHOD

This study uses a research and development method which in English is called Research and Development (R&D). In other words, researchers develop a product. This is in line with Sugiyono's opinion that research and development or Research and Development (R&D) aims to produce a product, then continue by testing the effectiveness of the product that has been developed (Okpatrioka, 2023).

The researcher compiled this research with the ADDIE development model approach which is an acronym for Analysis, Design, Development, Implementation and Evaluation. The reason for choosing this approach is because the steps are structured and measurable. However, the ADDIE development model consists of 5 components that are interrelated and systematically structured so as to provide effective and efficient results.

Initially, the ADDIE model (*Analysis, Design, Development, Implementation and Evaluation*) was developed by Dick and Carey to construct a learning model. The use of the ADDIE model functions to develop software and infrastructure for effective and dynamic learning processes (Hidayat & Nizar, 2021). The basis for using this ADDIE approach model is simpler but systematic because the stages are measurable so that the results developed will be more valid, effective and efficient.

Based on the ADDIE approach model, the procedure for developing AQDA (Aqidah Akhlak) learning media goes through 5 stages, which are presented as follows:

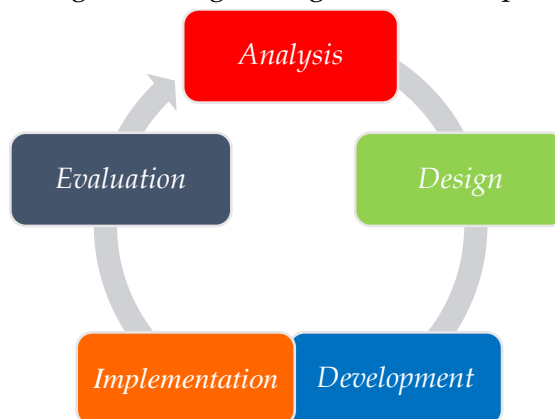


Figure 1. ADDIE Development Model

The following is a description of the stages of the ADDIE model:

Analysis

At this stage, researchers conduct a needs analysis and curriculum material analysis to collect information that is used as a reference in creating interactive learning media products.

Design

The design stage is a crucial phase in the development of learning media that involves the systematic preparation of a conceptual framework based on needs analysis. The main objective is to prepare materials and data sources for the next development stage, so that the resulting learning media is effective and meets learning needs.

Development

The development stage in the ADDIE model involves the realization of the design into a physical product through the integration of materials and material sources. Validation by material and media experts is carried out to ensure the feasibility of the product, and the results are used as a basis for revision before implementation. At the AQDA media development stage, a validation process is carried out by material experts and media experts to measure the level of product validity. Material validation is carried out by two experts in the field of Islamic education and media validation is carried out by two experts in the field of learning media.

Implementation

The implementation stage in the ADDIE model involves the application of validated products in the Aqidah Akhlak learning process in class X. A product trial was conducted on 37 10th-grade students to evaluate the media's effectiveness in improving learning outcomes. Data were collected through student response questionnaires and analysis of problem-solving results. Learning outcomes were measured based on increases in pre-test and post-test scores, while student responses were measured based on student interest and enthusiasm during the learning process.

Evaluation

The evaluation stage in the ADDIE model aims to assess the quality and effectiveness of the AQDA learning media in improving student learning outcomes. The evaluation results are used as a basis for product revision and improvement.

RESULT AND DISCUSSION

1. Result

This research resulted in the development of AQDA learning media to improve student learning outcomes in the main material of Aqidah Akhlak for class X using the ADDIE model. This model consists of five systematic stages, namely analysis, design, development, implementation, and evaluation. The results of the development of this learning media can be seen in the following Table 1:

Table 1. Result of Materi Expert Validation

No	Assessment Aspects	Descriptor	No. Item	Score	
				V1	V2
1.	Relevance	Material relevant to the competencies that must be mastered	1	4	5
		Suitability of material to	2	5	5

		educational level			
		Learning songs make it easier for students to remember the material	3	5	5
		Practice questions can be used as a learning evaluation	4	4	4
2.	Accuracy	Accuracy and correctness of the material	5	4	5
3.	Serving Equipment	The material is explained in a coherent and systematic manner	6	4	5
		Quality of discussion and presentation that is easy to understand	7	4	5
4.	Basic Concepts of Matter	Instilling religious values in students	8	4	5
5.	Suitability of presentation to purpose student-centered learning	Encourage students to think critically	9	4	4
		Encourage students to construct their own knowledge	10	4	5
Total Score			42	48	
Maximum Score				50	
Eligibility Percentage			84%	96%	

After the validation process, revisions were made to the material based on feedback and suggestions from the validator, which included several aspects, including:
a) The scope of the questions was increased b) The method must be adjusted to the character of the material and must vary.

After the revision and finalization of the material, the next stage is media validation. The results of this media validation are presented in Table 2 below:

Table 2. Results of Media Expert Validation

No	Assessment Aspects	Descriptor	No. Item	Score	
				V1	V2
1.	Layout Design	The accuracy of background selection with material	1	4	5
		Accuracy of layout proportions	2	4	5
		Suitability of image selection	3	4	5
2.	Text/Typography	Correct font selection	4	4	5
		Letter size accuracy	5	4	5
3.	Usage	Flexibility (can be used	6	5	5

		both individually and under guidance)			
		Creative and innovative learning media	7	5	5
4.	Navigation and Interactive links	Navigation button precision	8	5	3
		Interactive link performance accuracy	9	5	5
5.	Audio	Backsound slides do not allow students to concentrate	10	4	5
Total Score			44		48
Maximum Score			50		
Eligibility Percentage			88%		96%

After the validation process, revisions were made to the media based on feedback and suggestions from the validator, which included several aspects, including: a) Addition of audio (voice over) to improve the quality of media presentation. b) Migration of applications from the Canva platform to *Google Sites*, so that the application that was originally based on Canva hyperlinks was moved to *Google Sites* to improve functionality and media integration.

After completing the entire validation process, the next stage is media implementation. At this stage, pre-test and post-test data are obtained, which are then presented in Table 3 below:

Table 3. Results of Students' Pre-Test and Post-Test Scores

No	Student Name	Pre-Test	Post-Test
1.	NI	100	100
2.	ZR	100	100
3.	NC	90	90
4.	SB	90	90
5.	UM	90	90
6.	RA	90	90
7.	SA	80	90
8.	SP	80	90
9.	QF	80	90
10.	TN	80	90
11.	SS	80	90
12.	SA	70	90
13.	SA	70	90
14.	ES	70	90
15.	SS	70	90
16.	SA	70	90
17.	IN	70	90
18.	RA	70	90

19.	SS	70	90
20.	SM	70	90
21.	SN	70	90
22.	SR	60	90
23.	ZS	60	80
24.	WK	60	80
25.	YA	60	80
26.	SC	60	80
27.	VD	60	80
28.	NZ	60	80
29.	ZC	60	80
30.	SD	60	60
31.	ZU	50	50
32.	RB	50	50
33.	PS	50	50
34.	SN	50	50
35.	ZH	50	50
36.	VM	40	40
37.	NS	30	30

After implementing the media, students were given a questionnaire to assess the media's effectiveness in the learning process. The student responses are presented in Table 4 below:

Table 4. Results of Student Response Questionnaire

No	Participant Name	Question Number										ΣK	Σ M K	%
		1	2	3	4	5	6	7	8	9	10			
		Answer Result												
1.	ES	5	4	5	5	5	4	5	5	5	5	48	50	96
2.	IN	5	5	5	4	5	4	5	5	5	5	48	50	96
3.	NC	5	5	5	5	5	4	5	5	5	5	49	50	98
4.	NZ	4	5	4	4	3	5	4	5	4	4	42	50	84
5.	NI	5	5	5	5	5	5	5	5	5	5	50	50	100
6.	NS	5	5	4	4	3	4	4	4	4	3	40	50	80
7.	PS	4	4	4	4	3	4	5	5	4	5	42	50	84
8.	QF	5	5	5	5	5	4	5	5	5	5	49	50	98
9.	RA	5	5	5	5	5	5	5	5	5	4	49	50	98
10.	RA	5	5	5	5	5	5	5	5	5	5	50	50	100
11.	RB	5	4	4	4	5	4	5	4	4	4	43	50	86
12.	SP	5	5	5	5	5	5	5	5	5	4	50	50	100
13.	SN	5	5	5	4	5	4	5	5	4	5	47	50	94
14.	SS	5	5	5	4	5	5	5	5	5	4	48	50	96
15.	SD	5	4	5	4	5	3	5	5	5	4	45	50	86
16.	SN	4	4	4	5	5	4	4	4	4	4	42	50	84
17.	SB	5	5	5	5	5	5	5	5	5	4	49	50	98
18.	SM	5	4	5	5	5	4	5	5	5	5	48	50	96

19.	SS	4	4	4	5	4	5	5	5	5	5	46	50	92
20.	SA	5	5	5	5	5	5	5	5	5	5	50	50	100
21.	SC	5	4	4	5	3	5	5	5	4	5	45	50	90
22.	SA	5	5	5	5	5	5	5	5	4	4	48	50	96
23.	SS	5	5	5	4	4	4	5	5	5	3	45	50	90
24.	SA	5	5	5	5	5	4	5	5	5	5	49	50	98
25.	SA	5	5	5	5	5	5	5	5	5	5	50	50	100
26.	ZR	4	4	5	4	4	4	5	5	5	5	45	50	90
27.	SR	5	5	5	4	5	4	5	5	5	4	47	50	94
28.	TN	5	5	5	5	5	3	5	5	5	5	48	50	96
29.	UM	5	5	5	4	4	5	5	5	5	5	48	50	96
30.	VD	4	5	4	4	5	5	4	4	5	4	44	50	88
31.	VM	5	4	4	4	3	5	4	3	4	4	40	50	80
32.	WK	4	5	5	3	5	4	5	5	5	5	46	50	92
33.	YA	5	4	4	5	5	3	5	5	5	4	45	50	90
34.	ZH	5	4	4	4	4	4	4	4	4	4	41	50	82
35.	ZU	4	4	4	4	4	5	5	5	4	4	43	50	86
36.	ZS	4	5	5	5	5	4	5	5	5	4	47	50	94
37.	ZC	4	5	4	4	4	4	5	5	4	4	43	50	86
Amount		175	172	172	166	168	161	179	178	173	164	170	9	
Maximum Score		185	185	185	185	185	185	185	185	185	185			
%		95	93	93	90	91	87	97	96	94	89			
Average		92%												

2. Discussion

Analysis

This study began with the analysis stage conducted at MA Unggulan K.H. Abd. Wahab Hasbulloh Tambakberas Jombang in the form of an analysis of teacher and student needs and curriculum materials. This analysis was conducted through interviews. The results of the interviews showed that students tended to be bored with the learning methods applied because they felt monotonous and lacked variety. Although teachers have utilized technology such as Google Classroom, Smart TV, and LCD projectors, the lecture method with textbook references is still dominant in delivering material. Teachers admit that new innovations based on ICT media are needed to increase the effectiveness and involvement of students in the learning process.

Design

The design stage of AQDA learning media development involves a systematic process from planning to completion. AQDA media consists of several components, namely home, profile, syllabus, materials, learning songs, and questions. The advantages of this media are the presentation of materials in audio-visual form, creative learning songs, and evaluation questions that can be accessed online. The final product is produced after going through a revision process based on feedback from material and media experts through validation sheets. The development stage includes several systematic processes to

produce effective learning media. The AQDA Media display is presented in Figure 2 below:



Figure 2. AQDA Media Display

Development

In the AQDA media development stage, a validation process was carried out by material experts and media experts to measure the level of product validity. The following is a description of the validation of material experts and media experts:

Material Expert Validation

Material expert validation was carried out by two experts in the field of Islamic Religious Education.

Based on table 1, it can be seen that the total score of validator 1 is 42, and validator 2 is 48. These results are obtained from the sum of the scores from the five assessment aspects. Then the maximum score is 50, obtained from the number of descriptor items multiplied by the maximum score from the Likert scale, which is $10 \times 5 = 50$. Furthermore, the percentage results of validator 1 are 84% and validator 2 is 96%. These results are obtained from the following calculations:

$$\begin{aligned} V1 &= \frac{X (\text{Skor ahli validator})}{X1 (\text{Skor maksimal})} \times 100\% \\ &= \frac{42}{50} \times 100\% \\ &= 84\% \end{aligned}$$

Based on the validation results by two material experts, it shows that validator 1 gave a percentage value of 84% and validator 2 gave a percentage value of 96%, so that AQDA media is categorized as "very feasible" with an average percentage value of 90%.

Media Expert Validation

Media expert validation was carried out by two experts in the field of learning media. Based on table 2, it can be seen that the total score of validator 1 is 44, and validator 2 is 48. These results are obtained from the sum of the scores from the five assessment aspects. Then the maximum score is 50, obtained from the number of descriptor items multiplied by the maximum score from the Likert scale, which is $10 \times 5 = 50$. Furthermore, the percentage results of validator 1 are 88% and validator 2 is 96%.

Based on the validation results by two media experts, it shows that validator 1 gave a percentage value of 88% and validator 2 gave a percentage value of 96%, so that AQDA media is categorized as "very feasible" with an average percentage value of 92%.

The final result of the revised product after going through the validation process by the validator can be seen by this link: <https://sites.google.com/view/bahan-ajar-aqidah-akhlak-mita/halaman-muka>

Implementation

At this stage, the researcher conducted a trial by implementing learning media that had been validated by experts to 37 grade X students at MA Unggulan K.H Wahab Hasbulloh. The trial procedure included: (1) presentation of media, (2) explanation of the material contained therein. (3) explanation of the use of media, and (4) provision of student response questionnaires and (5) provision of questions and problems to measure student learning outcomes after using the media.

The analysis of the trial results showed that the average value of the students' pre-test was 70% and the post-test was 85%, which showed a significant increase. So it can be concluded that this learning media is categorized as "very interesting" and is suitable for use in learning Aqidah Akhlak for class X at MA Unggulan K.H. Abd. Wahab Hasbulloh Tambakberas Jombang

The results of student responses were obtained from the results of distributing questionnaires to students after using the AQDA learning media. As the response results are calculated using the formula (Salsabila & Wijayadi, 2024):

$$PR = \frac{\sum K}{\sum MK} \times 100\%$$

$$PR = \frac{1709}{1850} \times 100\%$$

$$PR = 92\%$$

Based on the results of the analysis of student responses, a percentage value of 92% was obtained, so it was categorized as "very interesting". These results indicate that the AQDA media has a significant contribution in increasing the effectiveness of learning and arousing students' interest in the Aqidah Akhlak learning process at MA Unggulan K.H. Abd Wahab Hasbulloh Tambakberas Jombang Thus, it can be concluded that the AQDA media is effective in increasing students' interest and learning outcomes in learning. The results of this study can enrich the scientific treasury in the field of research on the development of Google Sites-based learning media to improve student learning outcomes, such as research conducted by Yhurico Alam Syah and Rachmad Syarifudin Hidayatullah (2024), Cahya Jendra, Wening Parmi Rahayu and Ery Tri Djatmika Rudjianto Wardhana (2024), Mayasari Novira, Sigit Saptono, and Ellianawati (2024).

Evaluation

Evaluation is carried out to assess the quality and effectiveness of the learning media that has been developed and tested, as well as to identify areas of improvement based on validator suggestions and student learning outcomes.

CONCLUSION

The research on the development of AQDA learning media based on *Google Sites* in the subject of Aqidah Akhlak at MA Unggulan K.H. Abd. Wahab Hasbulloh Tambakberas Jombang using the ADDIE model has been successfully carried out. The results of the study showed that this learning media met the eligibility criteria with a material validation score of 90% and a media validation score of 92%, both of which were included in the "very eligible" category. Field trials on grade X students showed that the AQDA media based on *Google Sites* was "very interesting" for students with a score of 85% and was effective in improving student learning outcomes. Student responses were also very positive with a score of 92%, which was categorized as "very interesting". Based on the results of this study, it can be concluded that the AQDA learning media based on *Google Sites* can be used as an alternative innovative and effective learning media to improve the learning outcomes of grade X students at MA Unggulan K.H. Abd. Wahab Hasbulloh Tambakberas Jombang.

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