QR-Based Madura Batik Edutourism In an Effort to Optimize Learning in the Pesantren Environment

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Abstract. This research aims to develop a QR-based Edutourism Batik Madura learning media as an effort to optimize learning in the pesantren environment. The method used is a 4D development model, which consists of four main stages: Define, Design, Develop, and Disseminate. In the limited trial stage, response questionnaires are distributed to teachers and students to obtain feedback to improve the developed product. The results of the user response showed a positive response, so the product was declared ready for further testing. The validity of this learning medium was tested by obtaining design validation results of 95.83% and material validation of 97.5%. In terms of effectiveness, data analysis shows that this learning media is very effective, with a very active category obtained from the results of student participation which reached ≥ 85.5%. The learning outcome test also showed a classical completeness level of 100%, which indicates the success of learning. Based on these results, the QR-based Edutourism Batik Madura learning media can be concluded as a valid, effective, and feasible media to improve the quality of learning in the pesantren environment.

Keywords: Edutourism, Batik Madura, Quick Response Code, Islamic Boarding School Education

1 Introduction

Learning is the process of student interaction with education and learning resources in a learning environment. Learning is the assistance provided by educators so that the process of acquiring knowledge and knowledge, mastering skills and habits, and forming attitudes and beliefs in students can occur. In other words, learning is a process to help students learn well. Learning is not only about conveying a message but also a professional activity that requires teachers to be able to use basic teaching skills in an integrated manner and create efficient situations [1].

Educational institutions as part of an effective learning process require proper learning planning in accordance with the needs of the times where it needs to be studied from various aspects of life that can be reached properly. In carrying out a good learning process, educational institutions need to carry out their duties and functions, especially in organizing education properly. Among formal educational institutions, Islamic boarding schools are formal educational institutions based on Islam that lead many students to become noble individuals. Educational

ICHSS 2024, December 11, Surakarta, Indonesia

DOI 10.4108/eai.11-12-2024.2361747

institutions in pesantren develop a learning system that is packaged in formal education in the form of madrasas and there are also those packaged in non-formal education in the form of pesantren. Pesantren is also an educational institution that carries out learning that is able to carry out the learning process by applying religious values to its students [2].

In Islamic boarding schools, students or students are educated to be able to equip their graduates to become experts in religion who have good knowledge and are ready to participate in society. This is of course in line with relevant educational programs where religious knowledge is instilled in students while still paying attention to the development of technology and science. The results of the initial research carried out in several Islamic boarding schools in Sumenep district by taking data from Madrasah Ibtidaiyah students, it can be found that 85% of students have never learned to use technology, 65% of students' learning outcomes are still low, 92% of students know Madura batik but do not know the meaning contained in the batik, 82% of students want the learning process to be able to use technology, 78% of students already know and use mobile phones as part of technology.

Technology is one of the applied sciences that follows the development of modern times. In the learning process, technology has been involved a lot to make it easier to achieve the expected learning goals. Today's technological developments are mostly directed to the digital realm. So that it makes it easier for students to develop their creativity and innovation in the learning process [3]. Multimedia is part of today's technological advancements, the sophistication of technology in the learning process has produced many interesting innovations to be combined in the learning process [4]. Interactive multimedia is a media that can be used to clarify the learning process if it is supported by learning media that can attract students' interest and attention so that it can provide an adaptive and varied learning environment, students can also control and determine the order of learning materials according to their wishes [5]. One of the current technological developments is QR-Code which was first created in Japan to develop Bar-Code which is a one-dimensional code and developed into a two-dimensional code so that it can accommodate larger data, so that it can be implemented in shared fields including QR-Code for attendance systems [6].

In innovating, of course, we must not forget the culture that exists around students. One of the cultural products that is quite famous in Madura is Madura batik. There are various types of Madura batik pattern motifs. Some motifs that give rise to geometry can also be used in the learning process, especially mathematics. This, of course, if combined with technological developments, will produce an innovation that is effectively used in the learning process. Digital teaching materials are also one of the tools to make the learning process easier [4].

Based on the explanation above, the learning carried out, especially in Islamic boarding schools, can be optimized by utilizing technology in the learning process. In addition, students can also learn by utilizing technology and combining it with local wisdom around students or students. So that the learning process can continue to be carried out properly, innovatively and continue to prioritize aspects of local Madura culture around the students.

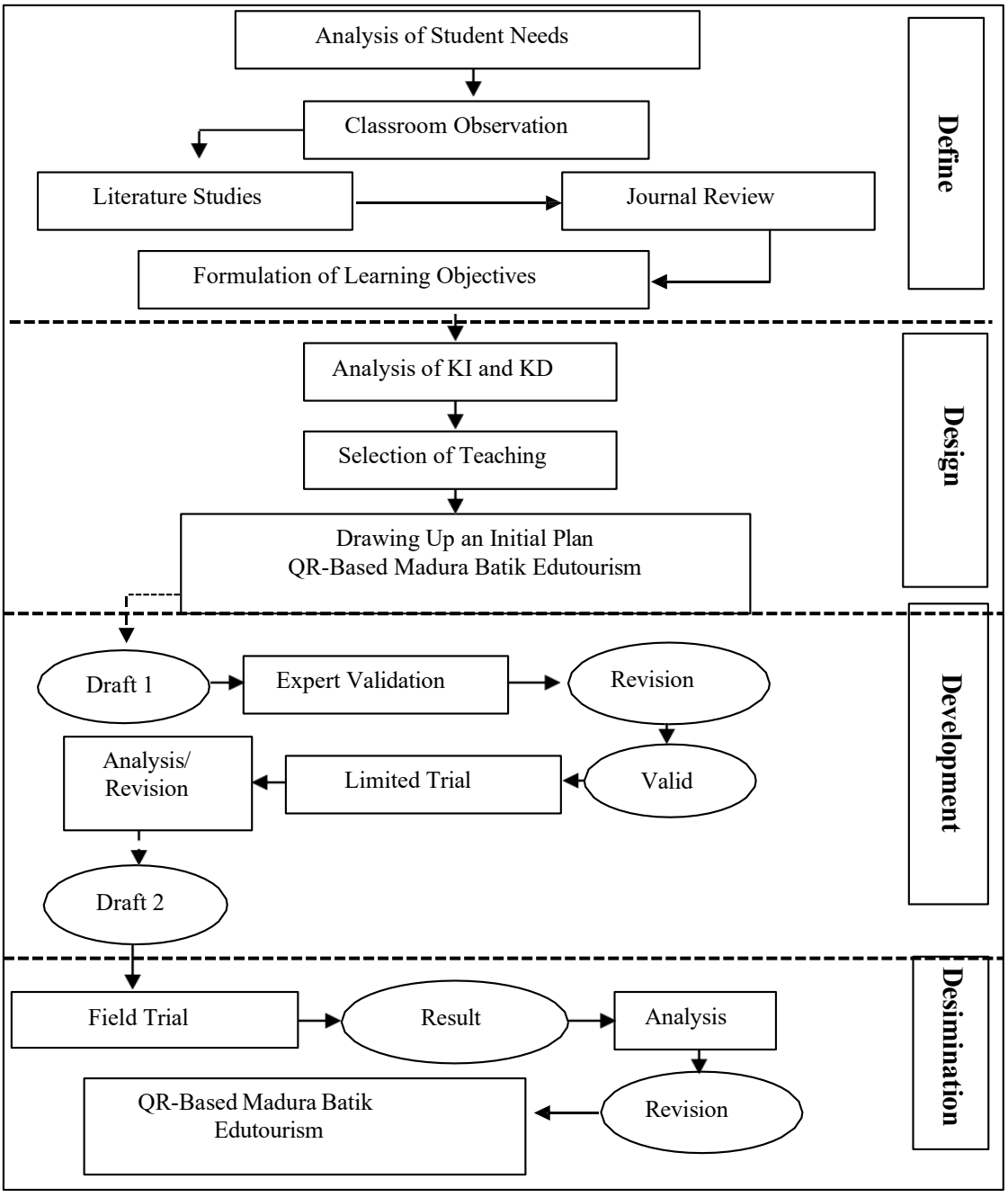
2 Research Method

2.1. Research and Development Model

This development research aims to develop products in the form of QR-Based Madura Batik Edutourism teaching materials for Madrasah Ibtidaiyah students. The model used

is an expansion of the 4-D model introduced by Thiagarajan Semmel and Semmel (1974). The 4-D model is a development model that can be used to develop different types of learning media. The stages of development are: (a) Preliminary Stage (define), (b) Planning Stage (design), (c) Development Stage (develop), (d) Desiminate Stage (desiminate). Here are the steps for research or developers to make a chart as below:

Fig. 1. Analysis of Student Needs



2.2 Development Procedure

2.2.1 Define Stage

This stage is to establish and define the needs in the learning process. The definition begins with class observation and interviews with class Ustadz, conducting literature studies, and reviewing the results of previous research. Classroom observation is carried out to find out the extent of the participation and activeness of students in learning, This literature study is carried out by reviewing the applicable books and curriculum. In addition, needs were also analyzed which include: Core Competencies, Competency Standards, syllabus and lesson plans used.

2.2.2 Design Stage

The second stage in the 4D model is design. There are 4 steps that must be passed at this stage, namely constructing criterion-referenced test, media selection, format selection, and initial design. In the second step, the design of development research is carried out. The procedures that will be carried out in the planning consist of: (a) Analysis of learning needs; (b) Formulate learning objectives; (c) search for data about the QR-Based Batik Madura Edutourism to be created, and (d) prepare a QR-Based Madura Batik Edutourism framework.

2.2.3 Development Stage

The development of QR-Based Madura Batik Edutourism is based on the development of KI and KD analysis carried out, so that it will remain in accordance with the expected learning objectives [4]. In the manufacture and development of QR-Based Madura Batik Edutourism products, the researcher discussed with Ustadz and learning experts first so that the manufacture was in accordance with the material developed and the learning characteristics of the students.

2.2.4 Dissemination Stage (Spread)

At this stage of dissemination, it starts from expert validation activities, journal publishing, IPR, and several outputs according to the target in this study. This dissemination stage is intended so that the output of this research can provide benefits, especially for the development and optimization of student learning outcomes, and can be used for a wider range of things to increase the achievement of the expected learning goals [2].

2.2.5 Research Locations

The locations used in this study include several places: a) a preliminary study by exploring Madura batik in Sumenep district as a material to make a prototype of QR-Based Madura Batik Edutourism, b) Two Islamic Boarding Schools that are used as large-scale trial sites/uses, namely Pp. Darul Ihsan Talango and Pp. Annuraniah Padike-Talango as a place for the application of QR-Based Madura Batik Edutourism in the Sumenep area.

2.2.6 Data Collection Instruments

The data collection instrument that will be collected is used to determine the level of

feasibility, effectiveness, applicability and attractiveness of the QR-Based Madura Batik Edutourism carried out by media experts, materials/content, ustadz and students in an effort to optimize student learning outcomes [5]. The data to be collected in this study are presented in the following Table.

Table 1. Student learning outcomes.

Data	Subject	Instruments	Observed data
Product eligibility	Material/content expert	Validation Questionnaire	• Eligibility of the content of the material
	Instructional materials expert	Validation Questionnaire	• Qualification of teaching materials
Effectiveness	Ustadz and Santri	Questionnaire	• The effectiveness of the use of teaching materials in teaching and learning activities
		Student Learning Outcome Evaluation Sheet	
		Observation Sheet	• The activeness of students in learning
Applicability	Ustadz and Santri	Questionnaire	• Ease of ustadz in using teaching materials
Highlights	Ustadz and Santri	Questionnaire	• Interest of students in learning using learning media

3 Data Analysis Techniques

3.1. Product feasibility analysis

The feasibility data obtained from the results of product validation calculated by a descriptive analysis formula developed by Akbar (2011) is as follows.

$$V = \frac{\Sigma\ TSEV}{\Sigma\ S - max}\ x\ 100\%$$

Information:

V = Validity of eligibility

∑ TSEV = Total number of validator empirical scores

∑ S-max = Maximum number of expected scores 100% = Constant

The percentage results obtained from are interpreted by converting the percentage results into the following table.

Table 2. Data Analysis Techniques

Achievement Level In (%)	Qualification	Information
75,01 - 100,00	Very worthy	Can be used without revision
50,01 - 75,00	Quite decent	Can be used with minor revisions
25,01 - 50,00	Not eligible	Unusable
00,00 - 25,00	Very unworthy	Prohibited use

Source: Akbar (2011:207)

3.2. product effectiveness analysis

The data obtained from the effectiveness test questionnaire is calculated using the following formula.

$$V = \frac{\Sigma\ TSEV}{\Sigma\ S-max}\ x\ 100\%$$

Information:

V = Validity of effectiveness

∑ TSEV = Total number of empirical scores

∑ S-max = Maximum number of expected scores 100% = Constant

The percentage results obtained from are interpreted by converting the percentage results into the following table.

Table 3. Product effectiveness analysis

Achievement Level In (%)	Qualification	Information

75,01 - 100,00	Highly effective	Can be used without revision
50,01 - 75,00	Quite effective	Can be used with minor revisions
25,01 - 50,00	Ineffective	Unusable
00,00 - 25,00	Highly ineffective	Prohibited use

Source: Akbar (2011:207)

Apart from the questionnaire, to find out the extent of the effectiveness of the product can be seen from the achievement of learning objectives, which is calculated using the following formula.

$$V = \frac{\Sigma\ n}{\Sigma\ N}\ x\ 100\%$$

Information:

E : Percentage of student learning outcomes

∑ n : Number of students who complete their studies

∑ N : Total number of students

The criteria for the completeness of student learning outcomes are stated as follows.

- Individual absorption, a person is said to be complete if he achieves a learning outcome score of ≥ 70 out of a maximum of 100.
- The development of teaching materials can be said to be effective in achieving learning objectives if 70% of students who get a learning outcome score ≥ 70.

3.3. Product attractiveness analysis

Data obtained from the attractiveness test questionnaire is calculated using the following formula.

$$V = \frac{\Sigma\ TSEV}{\Sigma\ S - max}\ x\ 100\%$$

Information:

V = Validity of attractiveness

∑ TSEV = Total number of empirical scores

∑ S-max = Maximum number of expected scores 100% = Constant

The percentage results obtained from are interpreted by converting the percentage results into the following table.

Table 4. Product attractiveness analysis

Achievement Level In (%)	Qualification	Information
75,01 - 100,00	Very interesting	Can be used without revision
50,01 - 75,00	Quite interesting	Can be used with minor revisions
25,01 - 50,00	Not interesting	Unusable
00,00 - 25,00	Very uninteresting	Prohibited use

Source: Akbar (2011:207)

4 Result And Discussion

This chapter contains data presentation, analysis and discussion about QR-based Madura Batik Edutourism in an effort to Optimize Learning in the Islamic Boarding School Environment. Here we also discuss the stages that have been passed in the data collection process which are presented as follows

4.1. Results and Data Analysis

a) Madura batik data collection activities

This data collection was carried out in jasmine batik in Sumenep Regency. Before carrying out the initial data collection activities of the research, the researcher and the team planned the stages that would be carried out in the data collection process. This discussion was carried out with lecturers and students so that later the research carried out could be directed and in accordance with what was expected. After carrying out a discussion with the team, the researchers participating in the team carried out the data mining process carried out in Sumenep Regency. From the data mining process, several batik motifs were obtained that have meanings and philosophies in each motif presented. Some motifs that have philosophical value about the condition of the Madura people include batik slag moon, Ajem coker, batik beddey, etc.

Batik taken as material for multimedia products is a classic Madura batik made by batik craftsmen in writing and has the unique meanings of Sumenep Regency. After the data about batik was collected, a product was designed in the form of a learning video packaged in QR-based multimedia.

b) Analysis of Student Learning Needs

Based on the results of the questionnaire distributed during the pre-research, the following data can be found

Table 5. Results of student learning needs questionnaire analysis

No.	Question	Yes	No
1.	I love the science lessons	83,3%	16,7%

2.	I pay close attention to learning	66,7%	33,3%
3.	IPAS lessons are related to my daily life	83,3%	16,7%
4.	I find it difficult to learn IPAS	66,7%	33,3%
5.	When I don't have assignments, I like to look for information (through the internet/books) about social science materials	76,7%	23,3%
6.	I still make notes about IPAS materials	33,3%	66,7%
7.	There is learning media on science and technology materials	40%	60%
8.	I love technology in learning	93,3%	6,7%
9.	Learning media on science and technology materials using technology/internet	93,3%	6,7%
10.	I like to ask about new information that friends or teachers give me when they deliver material	30%	70%
11.	I am more interested in learning if teachers use audiovisual learning media (video) in IPAS materials	70%	30%
12.	I can explain a material in the science and technology subject well	33,3%	66,7%
13.	When asked to conclude a material in a science lesson, I felt confident	30%	70%
14.	I am happy if I am asked to express my opinion or answer a question	30%	70%
15.	I am enthusiastic about learning if studying and exams are digital and internet-based, because it is interesting	75%	25%

Based on the explanation of the table above, it can be seen that the learning interest of MI Annuraniah students is still relatively low. This can be seen from the results of interviews and the distribution of student questionnaires which show that students still have few teaching materials for the learning process in the classroom, besides that students also find it difficult to develop knowledge because they only use existing teaching materials that have been provided by the school. The learning process also still uses a conventional process that has not used technology in the learning process so that this can also have an impact on the low interest in learning of students at MI Annuraniah.

Character education as a form of learning outcomes needs to be optimized in order to make it easier to achieve the expected learning goals. To facilitate this optimization, the researcher combines teaching materials with local Madura wisdom in the hope that students

will be more familiar with their culture in learning and interested in optimizing the character possessed by students in the hope of also optimizing student learning outcomes [2].

c) Stages of Teaching Materials Development

The QR-based Madura batik Edutourism teaching material for MI Annuraniah Padike Santri in Talango District, Sumenep Regency was developed through several stages that have been adjusted to the 4D development stages. The first stage is to carry out an initial analysis of students' learning needs, which is then followed by an analysis of the material that will be studied or used in the teaching materials developed. After the material has been determined, the next stage is to develop teaching material products. This teaching material was developed through two main applications, namely a QR-based multimedia maker application and a video creation application. These development products are saved in the form of videos and stored in Google Drive. The Google Drive link is stored in the form of a QR Code, which is then read using an application developed using multimedia software for QR code readers. So that the product output in this study has two forms, namely multimedia and learning videos. The stages of QR code reader development are carried out through the creation of an Android studio-based application. This application aims to form a QR code reader application. Then the next stage is to develop a learning video based on Madura batik Edutourism. The application used is the Adobe premiere application. After the learning video product is formed, it is then stored in Google Drive where later the Google Drive link is formed in a QR code [5].

Fig. 2. QR Qode Development Products Teaching Materials for Edutourism Batik Madura

QR Qode Development Products Teaching Materials for Edutourism Batik Madura

d) Validation Stages

The validation stage is carried out to find out the extent to which the product developed is valid by experts. The experts used in the validation process of this product development are teaching material experts and learning design experts, namely teachers. The teaching material expert comes from a PGSD lecturer at the State University of Malang, namely Mr. Dr. Yohanes Kurniawan Barus, M.Pd. he is a teaching material expert who is also capable of teaching material development courses. Learning design experts are from teachers, this is done so that the learning design developed is in accordance with what is in the school. The expert in the design of teaching materials used by the researcher is Mrs. Suparti S.Pd., she is a 4th grade teacher and has also taught in 5th grade so that the results of her analysis are felt to be in accordance with the product developed by the researcher.

The results of the validation assessment of learning design experts obtained were 138 with a maximum score of 144 and the results of the validation of material experts obtained were 78 with a maximum score of 80.

e) Data Collection Implementation Activities

The data collection process was carried out at madrasah ibtidaiyah in the pesantren environment. The MI that was targeted was MI Annuraniah Padike, Talango District, Sumenep Regency. This data collection process is carried out by applying for permission to carry out research activities at MI Annuraniah, after obtaining permission, the researchers participating in the team carry out data collection, namely carrying out a learning process assisted by QR-based Madura batik edutourism teaching materials. The data collection process was carried out in grades 4 and 5. This is done because the material taught is in accordance with the material in grades 4 and 5 so it is hoped that this teaching material can be used as a reference for teaching materials to improve the learning process in order to achieve the expected learning goals. After distributing the teaching materials, the researcher was assisted by a team to carry out the learning process optimally. In addition, this research process is also observed by observers, namely classroom teachers. After the learning process is completed, the next stage is the dissemination of student response questionnaires and teacher responses as well as observation results. This is done in order to find out the extent to which these teaching materials are effectively used in the learning process at MI Annuraniah.

The student response questionnaire is intended to find out the extent of student response to the teaching materials developed. The teacher response questionnaire was given to find out the extent to which teachers are able to analyze this QR-based Madura batik edutourism-based learning is effectively used for teaching. And lift the evaluation test is used to find out the extent to which this teaching material is able to optimize the student learning process.

4.5.1 Small Group Trial Implementation Activities

After the product has passed the expert validation stage, the researcher carries out a small group trial stage. This stage is used to test the extent to which this research product can later be used for targets. This small group trial was carried out using 5 students or students. The students selected for this trial stage are two students with low ability, two students with medium ability and two students with high ability. This is done to find out the extent to which the teaching materials developed are able to be used by students or students with different abilities. This trial was carried out at MI Annuraniah Padike, Talango District,

Sumenep Regency. At this trial stage, the researcher only provides teaching materials to students or students, then with the guidance of the researcher as a teacher, students are able to understand the material from the teaching materials and are able to fill out a questionnaire for small group student responses [7].

The selection of students in this small group trial was assisted by the homeroom teacher of class V with different cognitive abilities of students, ranging from high, medium, and low levels of cognitive ability. This small group trial is to find out the practicality, effectiveness, and attractiveness of the product developed. The percentage results obtained from the test results are 82%, while the percentage means that the product is designed to be effective. Based on the test results given to students in the small group trial, it can be seen that 5 students or all students of the small group trial with a score of more than KKM (75) or can be said to be complete.

4.5.2 Large Group Trial Implementation Activities

The large group or target trial stage was carried out on research subjects, namely students or 4th grade students of MI Annuraniah Padike, Talango district, Sumenep Regency. This large group or target trial aims to find out the extent of the effectiveness of learning outcomes and the attractiveness of teaching materials as seen from the results of student response analysis. The effectiveness of learning outcomes is obtained from the results of observations made by observers and the value of learning outcomes that have been obtained by students or students using the developed teaching materials.

The selection of students in this large group trial was assisted by the homeroom teacher of class V with different cognitive abilities of students, ranging from high, medium, and low levels of cognitive ability. This large group of trials is to find out the practicality, effectiveness, and attractiveness of the products developed. The percentage results obtained from the test results are 85.5%, while the percentage means that the product is designed to be effective. Based on the test results given to students in the large group trial, it can be seen that 18 students in a large group trial with a score above KKM (75) or can be said to be complete and 2 trial students in a large group with a score below KKM (75) or can be said to be incomplete.

Discussion

Islamic boarding schools, as traditional Islamic educational institutions in Indonesia, have long been known for their learning methods that focus on teaching religious science. However, in the development of the times, the challenge for pesantren is how to integrate technology and utilize the potential of local culture to support more interesting and applicable learning. One of the local cultures that is rich and has high artistic value is Madura Batik. Madura Batik not only has visual beauty but also contains a deep philosophy and meaning that can be used as part of character education in Islamic boarding schools [2].

Seeing the potential of Madura Batik as a cultural asset that must be preserved, this research focuses on the development of QR Code-based Edutourism Batik Madura learning media which is expected to facilitate more interactive and in-depth learning for students. QR Code itself is a technology that allows access through digital devices that can provide more information in just one step. This media aims to increase students' understanding of Madura Batik and also support learning with a more modern approach [1].

This research aims to optimize learning in the pesantren environment by integrating QR Code technology in learning Madura Batik culture. The main objectives of this study

are:

a. Developing learning media that combines elements of education and educative tourism (edutourism) [7].
b. Utilizing QR Code technology to access Madura Batik learning materials in a more interactive manner [5].
c. Increase students' understanding of the importance of Madura Batik culture both in terms of its manufacturing techniques, history, philosophy, and application in daily life [1].
d. Providing practical skills in batik that can be an economic provision for students and the surrounding community.

It is hoped that with the introduction of Madura Batik through this technology, students will not only gain knowledge but also useful skills to develop a local culture- based economy.

4.5.3 QR Code-Based Edutourism Media Concept for Batik Madura

4.5.3.1 Definition of Edutourism and Its Role in Islamic Boarding School Learning

Edutourism is a tourism concept that combines educational elements in travel or tourist experiences. In this case, Edutourism Batik Madura aims to provide an interesting learning experience, not only in the form of texts or theories about Madura Batik, but also direct experience through interaction with the batik making process. This concept is very suitable to be applied in Islamic boarding schools because in addition to providing theoretical knowledge, Edutourism also opens opportunities for students to gain practical experience.

With QR Codes, pesantren can facilitate a wider learning experience.

Students involved in this activity can scan QR Codes installed in various learning media (such as batik fabrics, batik tools, or other teaching materials), which then directs them to access materials in the form of video tutorials, batik history articles, or explanations about the philosophy of batik in Madura [7]. Through this approach, pesantren plays an active role in educating and preserving local culture in a practical and modern way.

4.5.3.2 Use of QR Codes in Learning

QR Codes are used to simplify the learning process in a more practical and interactive way. On every object related to batik learning, such as batik fabric, batik tools, or finished batik products, a QR Code can be placed. When students scan the code, they will be immediately directed to various materials such as:

- **Video tutorial** explaining the steps of making Madura batik.
- Articles that explain the history and philosophy of a particular batik motif.
- **Information about local batik** artisans who can provide first-hand insight into batik techniques and culture.

With QR Codes, learning can be done anytime, anywhere, without being tied to a certain space and time. This allows students to learn independently and get a more personalized learning experience

4.5.4 The Impact of the Use of QR Code Learning Media in Islamic Boarding Schools

4.5.4.1 Increasing Students' Motivational Interest in Learning

One of the most significant research results is the increase in interest and motivation of students in attending lessons about Madura Batik. This technology-based learning utilizes media that is familiar to their daily lives, namely mobile devices. By using QR Codes, students feel more involved in the learning process that not only involves conventional teaching, but also utilizes more varied and interactive digital information [3].

The interactivity provided by QR Codes makes learning feel more enjoyable. For example, a tutorial video that shows how to make batik directly accessed via mobile phones provides a real picture for students. This certainly adds to their curiosity about the material taught.

4.5.4.2 Increasing Understanding of Local Culture

This QR Code-based learning media has also succeeded in increasing students' understanding of Madura Batik, both in terms of history, philosophy, techniques, and its application in daily life. Through direct access to articles or videos, students can learn more about batik without having to rely only on limited written text. They can also learn the symbolism contained in each batik motif, which is usually difficult to understand only through verbal explanations.

4.5.4.3 Practical Skills of Batik Making

In addition to increasing theoretical knowledge, the use of QR Codes also helps students in developing practical skills. By accessing tutorials on how to make batik or seeing the batik making process firsthand, students gain a broader insight into batik techniques. Some Islamic boarding schools also collaborate with batik craftsmen to hold batik workshops, so that students can learn directly from batik experts. Thus, these skills not only increase students' creativity, but also provide economic opportunities in the future.

4.5.5 Challenges in the Implementation of QR Code Educational Media

Although the application of QR Code-based learning media has many benefits, there are several challenges that need to be considered in its implementation:

1. Limited Access to Technology in Islamic Boarding Schools

Not all Islamic boarding schools have adequate technological infrastructure. Some pesantren may not have enough digital devices such as mobile phones or tablets that can be used by students. In addition, a stable internet connection is also often an obstacle in certain areas.

Solution: Procurement of digital devices such as tablets or mobile phones for students, as well as strengthening internet infrastructure in Islamic boarding schools by collaborating with third parties such as the government or non-governmental organizations (NGOs).

2. Limitations of the Use of Technology by Students

Some students may not be familiar or skilled in using technology such as QR Codes. This can limit the effectiveness of using this media in learning.

Solution: Intensive training for students on how to use technology devices and QR Codes. Technology teaching can also be included as part of the curriculum to increase digital literacy among students.

5 Conclusion

Based on the results of the development research that has been explained, 4D development research is a method used to design, develop, and implement educational products, such as learning materials or teaching aids. The 4D model consists of four main stages: Define, Design, Develop, and Disseminate.

The limited trial was carried out by distributing response questionnaires to teachers and students. The function of this response questionnaire is to find out what needs to be improved in the product. Based on user responses, it can be stated that the product gets a positive response. The product can be used in implementation trials. The validity of the data of the QR-Based Edutourism Batik Madura learning media in an effort to optimize learning in the pesantren environment obtained by the researcher in the form of percentages, including the validation of the learning design obtained a percentage of 95.83%, the validation of the material obtained a percentage of 97.5%.

The effectiveness of QR-Based Madura Batik Edutourism learning media in an effort to optimize learning in the Islamic boarding school environment. Effectiveness was obtained based on the data that had been analyzed, it was stated that the category was very active because it obtained a ≥ result of 85.5%. Based on the scientific process test, students obtained a level of classical completeness of students of 100% and were categorized in the complete category because ≥ 85.5%. So that the QR-Based Edutourism Batik Madura learning media in an effort to optimize learning in the pesantren environment can be declared effective and can be used.

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