

## DEVELOPMENT OF MATHEMATICS TEACHING MATERIALS IN THE FORM OF QR CODE BASED AL-QUR'AN SOURCED LEAFLETS

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### Abstract

The development of digital mathematics teaching materials for Islamic schools in mathematics subjects originating from the Al-Quran has not been widely found. Based on that, this research aims to develop and measure the level of validity of mathematics teaching materials developed with a concise presentation and Islamic content using QS An-Nisa: 11-12 about inheritance which is presented in the form of QR Codes. This is the research and development using the Plomp and Nieveen model with research subjects of seven class VII students at the As-Sakinah Madani Generation Islamic School, Pontianak, Indonesia. The research instrument is an interview guide and data collection questionnaire. To analyze needs, an interview process was carried out, then to obtain validity data using a questionnaire. The result of this development is a mathematics teaching material product that can be accessed via QR Code containing comparative material leaflet designs based on QS An-Nisa: 11-12 implemented by inheritance law. The research results showed that teaching materials were suitable for use (valid) with a final average score on a Likert scale of 5, namely 4.63, very valid category. In general, valid mathematics teaching materials are obtained, namely teaching materials that are based on NCTM principles so that they can meet the needs of students, for example in Islamic schools, verses from the Koran are the basis so that learning can occur effectively.

**Keywords:** Al-Qur'an; mathematics teaching materials; leaflets; Q.R code

### Abstrak

Pengembangan bahan ajar matematika digital untuk sekolah Islam pada matapelajaran matematika bersumber dari Al-Qur'an belum banyak ditemukan. Berdasar pada hal tersebut, penelitian ini bertujuan untuk mengembangkan dan mengukur tingkat kevalidan bahan ajar matematika yang dikembangkan dengan sajian yang ringkas dan muatan Islam menggunakan Q.S An-Nisa:11-12 tentang waris yang disajikan dalam bentuk Q.R Code. Penelitian ini merupakan penelitian pengembangan menggunakan model Plomp dan Nieveen dengan subjek penelitian tujuh peserta didik kelas VII di Sekolah Islam Generasi Madani As-Sakinah, Pontianak, Indonesia. Instrumen penelitian berupa pedoman wawancara serta angket pengumpulan data. Untuk menganalisis kebutuhan proses wawancara dilakukan, kemudian untuk memperoleh data kevalidan menggunakan angket. Hasil dari pengembangan ini berupa produk bahan ajar matematika yang dapat diakses melalui Q.R Code yang berisikan desain leaflet materi perbandingan berlandaskan Q.S An-Nisa:11-12 terimplementasi hukum waris. Hasil penelitian diperoleh bahan ajar yang layak digunakan (valid) dengan skor rata-rata akhir dalam skala likert 5 yaitu 4,63 kategori sangat valid. Secara umum diperoleh bahan ajar matematika yang valid ialah bahan ajar yang berlandaskan pada prinsip NCTM sehingga dapat memenuhi kebutuhan peserta didik sebagai contoh di Sekolah Islam, ayat Al-Qur'an sebagai landasannya agar pembelajaran dapat terjadi secara efektif.

**Kata kunci:** Al-Qur'an; bahan ajar matematika; leaflet; Q.R.code



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## INTRODUCTION

Digital technology has now become a necessity in all aspects, including in the world of education, according to technological principles (NCTM, 2000&Allen et al., 2020). The world of formal education in Indonesia, including public and religious-based schools (for example Islam), should participate in using digital technology to enable TPACK (Technological Pedagogic Content Knowledge and effective learning) (Saadati et al., 2014;Lestari, 2017;Wulanningsih et al., 2021;Hevriansyah & Megawanti, 2017;Susanta & Sumardi, 2022; Panggabean & Tamba, 2020; And Zulfitri et al., 2020). Apart from that, each educational unit has its own identity in learning. For example, Islamic schools should emphasize religious values in all learning activities or presentation of textbooks. Looking at the state of Islamic school education, the teaching materials currently circulating focus on the integration of applicable curriculum standards and are not yet at their peak in using technology and do not meet Islamic culture. Even though mathematics arises based on activities from daily events which are contextualized to build and raise awareness of the role of mathematical knowledge which can be used as a basis for learning in school.(Rosa M., Shirley, L., Gavarrete, M. E., & Alangui, W. V 2017; D'Ambrósio, U., Rosa, M., Orey, D. C., Shirley, L., Alangui, W. V., Palhares, P., & Gavarrete, M. E. 2016).

All aspects of education can be correlated with religion, both in terms of values and material presentation in teaching materials, because religion is the largest universe of daily culture, in line with. Proven by research into the mathematics of the Qur'an (Cahya &

Ahmadi, 2020; Meldi et al., 2022; Syamaun, 2020;Hamza, 2022;Purwanto, 2015;Ramadhani et al., 2022). It is claimed that the Al-Qur'an contains mathematical knowledge so that it is suitable for use in the learning of students in religious schools, because it is in accordance with the NCTM principles regarding equality and teaching about apperception of what students know and need in understanding mathematics and the Al-Qur'an .

Several studies on the development of mathematics teaching materials from the Qur'an (Karim et al., 2021;Ulia et al., 2020;Tiara et al., 2018;Syamaun, 2020;Novianti et al., 2021&Widiyastuti & Luma, 2022). Shows that the teaching materials in circulation do not fully meet the needs of students. Apart from that, research on teaching materials takes the form of leaflets as a concise learning innovation in leaflet presentation to create optimal learning and interest in reading(Winarso & Yuliyanti, 2017). However, so far, researchers have not found studies that combine mathematical knowledge from the Koran which is presented in leaflet form.

Apart from that, as far as researchers have studied, there are verses related to fractional numbers and comparisons(Hapiz, 2019;Shadat & Iqbal, 2023)namely in QS. An-Nisa verses 11 and 12 are potential muhkamat verses to be used as the main learning source in understanding comparisons in inheritance calculations. In line with(Meldi et al., 2023)who has claimed that QS An-Nisa contains the concept of equal comparison and can be combined and matched with digital technology as a crosscheck calculation medium using the i-waris application.

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Field facts at the research site, which is an Islamic-based school, showed that 98% of students had smartphones. It would be a shame if this facility was not maximized in learning. Apart from that, conciseness in the use of technology is a concern so that information can be obtained practically, hence QR. Code is selected (McCabe & Tedesco, 2012; Koreňová & Hvorecký, 2018). Seeing all the potential that can be used in achieving mathematics learning objectives, this research is here to develop mathematics teaching materials based on the Al-Qur'an based on QR Code with material regarding inheritance calculations in QS An-Nisa verses 11 and 12.

The development of teaching materials based on QS An-Nisa is deemed appropriate and necessary because the teaching materials that will be developed will be used in the long term and answer the needs of Islamic schools such as Islamic boarding schools because they are based on the Al-Qur'an which is universal and never changes over time. The above efforts are a form of centralization in the development of teaching materials focused on comparative material from ethnomathematics ideas. Apart from constructing mathematical knowledge, students can increase their religious knowledge of jurisprudence and jurisprudence which is useful for their lives. Therefore, this research aims to develop mathematics teaching materials in the form.

## METHODS

The data to be obtained in the Plomp model development research with three stages, namely the Preliminary stage, the prototyping stage, and the assessment stage, with a quantitative approach to data

acquisition. The detailed development procedure of the 3-stage model (T Plomp & Nieveen, 2007) in this research is formulated in Table 1.

Table 1. Development stages of the Plomp and Nieveen models

<b>Stages</b> (T Plomp & Nieveen, 2007)	<b>Activity description</b>
<b>Preliminary Investigation</b>	Analysis of student needs Analysis of the material on the teaching materials used Learning analysis
<b>Prototyping (Prototyping Stage)</b>	Formulation of learning objectives Product components and specifications Supporting sources Development of teaching materials Revision of teaching materials
<b>Assessment (Assessment Phase)</b>	Limited trial Data processing

Table 1. In the preliminary investigation, the researcher uses needs interviews to obtain information at the needs analysis stage, then uses a questionnaire as a basis for making decisions on teaching materials that can be used. The interviews will be analyzed based on the results of the students' verbal language recordings in answering a series of questions. Observation of learning is carried out directly by researchers based on a series of processes of learning activities in schools with Islamic nuances. Observations were carried out comprehensively for about one year. Likewise, the material analysis starts from the content of the curriculum, the vision and mission of the school, and the learning objectives to be achieved.

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Seven interview questions analyze student needs include learning obstacles, the relationship between mathematics and religious values, religious values that have been obtained from learning mathematics, learning resources, sources for learning mathematics from the Qur'an, closeness to the Qur'an and opinions if developed. Mathematics teaching materials sourced from the Qur'an. Nine aspects of observation and four aspects of material and curriculum analysis. Then there are three examples of complementary questions and four practice questions which are constructed based on QS An-Nisa: 11:12 with indicators (1) Organizing comparative equations from fragments of a verse of the Qur'an, (2) Resolving inheritance calculation problems related to comparisons worth using tables or graphs, which are presented in leaflets that have been validated by experts in the field of mathematics. Apart from the 44 statements in the material and presentation questionnaire, 17 statements in the media validation questionnaire were adapted from NCTM principles. All instruments have gone through a validation process by two experts in the field of mathematics education.

The overall data that has been collected through interviews, observation, and material analysis will be analyzed systematically and coded independently. Researchers used qualitative data analysis on the results of interviews, observation, and material analysis selectively through coding, axial and selective procedures (Creswell, 2016 & Miles, et al., 2014).

At the prototype stage, the researcher formulated learning objectives that would be achieved through developed teaching materials that focused on mathematics based on the

Qur'an in inheritance calculations. After that, to achieve the goal, the researcher designed the specifications and components contained in the teaching materials, presentation flow and integrated mathematics and Al-Qur'an content from the results of the exploration of supporting literature. The execution of the design results was carried out by starting to edit and design teaching materials containing mathematics based on the Qur'an. After the main product is completed, expert views or assessments are needed regarding the validity of the product developed in the validation process using a questionnaire. Then for the acquisition of validity, assessments were carried out by three validators consisting of 2 expert lecturers in the field of mathematics education at Tanjungpura University as material and media experts and one fiqh teacher at the research school as a material expert on the content of waris fiqh. The selection of the validator is assessed on the experience and expertise of the validator in relation to Al-Qur'an mathematics regarding inheritance calculations.

Then the acquisition of data from a questionnaire of teaching materials with a Likert scale of 5 will be calculated so as to produce an average validator score. The contents of the questionnaire are a series of questions developed by researchers based on four principles of NCTM with Qur'anic nuances (inheritance) which form the basis for the development of mathematics teaching materials in the form of leaflets. The teaching material validation questionnaire was validated first then the scores of the three validators will then be calculated based on the validity criteria so that an average score on a Likert scale of 5 is obtained which is then concluded

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(Widoyoko, 2016). Data is understood repeatedly to obtain answers to research questions. The scores obtained from the three validators were understood, and discussions were held with experts in the field of mathematics education to discuss whether the assessment results for each indicator were met or not optimal as research findings and a basis for revising teaching materials. after declared valid by the validator to be used as a mathematics teaching material questionnaire in the form of a leaflet

In Assesment phase, Seven students in class VII of the As-Sakinah Pontianak Generation Madani Islamic School were selected based on the content of development material adapted to the level of material in the class to find answers about students' needs. The research subjects consisted of seven students who were carried out in the even semester of the 2022-2023 academic year on value comparison material which was developed on inheritance calculation problems based on needs analysis and the connectivity of mathematical material with Islamic teachings regarding inheritance which originates from the Al-Qur'an.

## **RESULT AND DISCUSSION**

### **A. Preliminary Stage**

#### **1. Analysis of Student Needs**

This analysis was carried out based on the experience of researchers during teaching. Apart from that, based on the vision and mission of different schools, as an example, the vision is "preparing a strong generation of Muslim women in realizing sakinah, mawaddah, warahmah (samara) households." Continuing the Missions of the As-Sakinah Generation Madani Islamic School is (i) to equip Muslim women with useful religious knowledge; (ii) to equip Muslim women with household

knowledge; (iii) to equip Muslim women with skills in the world of work. Based on the school's mission, it means that the needs of students, especially in learning mathematics, should and should be equipped with religious knowledge and the implementation of mathematics in the household or the world of work.

Further, through an analysis of the needs of students, which is strengthened through interviews conducted with representatives of students. Based on the results of interviews with AAM and JS, it was concluded that students needed and liked more about the topic of mathematics based on the Al-Qur'an. In addition, the presentation of teaching materials they like teaching materials that are short, clear, concise, and attractive in color. In addition, they prefer to learn material that is known to be useful in life.

#### **2. Material Analysis on the Teaching Materials Used**

Generation Madani Islamic Schools under the Ministry of Religion and Learning Activities Studios are technical implementation units from the service that handles education affairs in districts/cities in the form of non-formal education units or the like. The subjects at this school are tailored to the vision and mission so that the lessons and materials provided are more dominant in religious knowledge in the subjects Tahfidzul Qur'an, Arabic, Aqidah Morals, Al-Qur'an Hadith, Adab, Fiqh, Nahwu Shorof, Kitabah Muhadatsah. While development subjects such as ICT/RT (Household) and Video editing. Furthermore, general subjects are English, ICT/RT, sports, and Mathematics.

Reviewing and weighing the dominance of religious subjects as well as the vision and mission that pivots on

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the implementation of religious and life values which can be accessed from <https://sigmassakinah.sch.id/kurikulum/>. Focused on mathematics subjects as the material presented is based on students' prior knowledge of religious knowledge and the emphasis of learning on implementation in life. Based on experience, the teaching materials used in these schools are still similar to formal school mathematics textbooks using books from the Directorate of Literacy and Equality Education Development under the Ministry of Education and Culture, thus not in line with the achievement of the school's vision and mission. This statement was made because there were no teaching materials based on religious knowledge, for example, the Al-Qur'an which is used as a source of learning mathematics.

Based on the results of the material analysis, it was found that the curriculum achievements, learning outcomes, and competencies to be achieved, as well as the school's vision and mission, obtained positive support from relevant Qur'anic verses to be included in teaching materials that could align what was to be achieved in learning. Thus, especially in comparison of teaching materials with curriculum considerations, learning outcomes, and competencies to be achieved, it is concluded that in QS An-Nisa: 11-12, it is suitable and aligned on the topic of comparative worth discussion, which is the source of developing teaching materials in the form of leaflets.

### 3. Learning Analysis

Learning analysis will be presented based on school habits, teaching materials used in learning, and the mathematics learning process, which will be developed into nine indicators that will be observed in observation phase. Based on the explanation of the

learning analysis, the results of observations were formulated from aspects that were assessed, including the school's habit of reading and memorizing the Al-Qur'an, studying interpretation, application, and spiritual assessment as the main icon providing reinforcement that the Al-Qur'an is relevant for studying mathematics.

## B. Prototyping Stage

### 1. Formulation of learning objectives

Based on learning outcomes (Education et al., 2022) at the junior high school level, it is in phase D where one of the elements to be achieved is about numbers with learning outcomes comparing numbers. So that the learning objectives are formulated based on the curriculum and learning outcomes are set *on a leaflet* that is

- i. Determine and solve everyday problems (calculation of inheritance) related to comparisons of values with procedures and strategies according to the characteristics of the problem through the use of tables and equations correctly.
- ii. Check the calculation results again using the I-Waris application

### 2. Product Components and Specifications

The product component to be developed is in the form of a design through the Microsoft Word application using a laptop which is made in the form of a soft file (QR Code) according to the size of the leaflet. The design draft will be presented on both sides of the hard sheet; due to the file format presentation, two pages are made consisting of a front and back page with three columns, each designed in such a way as to meet research needs.

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Table 2. Specifications on leaflet front side

Column 1	Column 2	Column 3
Title	Concept definition	Problems built from QS An-Nisa verse 11-12
Learning objectives Apperception	Definition of comparison of worth Space to read, understand, and reason	Completing the answer from the comparison example in inheritance

Table 2 contains the specifications for the first front page of the leaflet. This table explains the content presented on the first side of the page, including the title of teaching materials, learning objectives, apperception,

definition of concept, definition of comparison, space for let's read, understand, problems from Q.S An-Nisa and solving the problem of calculating inheritance with equal ratios.

Table 3. Specifications in leaflet backside

Column 1	Column 2	Column 3
Let's try	Continuation of work	Exercises
Comparison of worth in QS An-Nisa verses 11-12	Problems pairing the comparisons of verse fragments	Reflection

Table 3 contains the specifications for the back page on the leaflet. This table explains the content presented on the second side of the page, including the let's try space and solution work space with comparisons, the problem of matching appropriate comparisons of verse fragments, practice and reflection on learning.

Izzudin (ed.); 10th ed.)  
LITERATURE OF IBNU KATSIR  
c. Al-Qur'an online from the Ministry of Religion on the following page <https://quran.kemenag.go.id/>

### 3. Supporting Resources

Researchers will find and collect relevant sources on the topic of comparative discussion as a reference for the development of the teaching material *leaflet*. The following are supporting references, namely.

- a. Directorate Literacy and Equality Education Development Directorate General of Early Childhood Education and Community Education-Ministry of Education and Culture, 2018, Mathematics Package B Level III Module Theme 3: The Fun of Trading
- b. Muhammad bin S. (2022) *Practical Guide to Inheritance Law*(K,

### 4. Development

#### a. Developing the concept of teaching materials

The initial stage was carried out by studying the translation and interpretation of QS An-Nisa verses 11 and 12. After mixing and matching the essence of the comparative material and the verses, it was included in making sample questions and exercises, which were outlined in the form of material and evaluations contained in the leaflet.

#### b. Assessment of the validity of teaching materials by experts

Next, translating what has been formulated in the design stage after construction is carried out into a soft file with a QR Code, which is then

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carried out in the validation stage by media experts and material experts. Obtained criticisms and suggestions are considered and then revised so that a product is created. The product design before the assessment or revision process can be downloaded using QR Code in Figure 1.



Figure 1. QR Code before revision. ([https://drive.google.com/file/d/1iCrByf\\_VpTlwg0I2IwPYmb7XcuiHbWq8/view](https://drive.google.com/file/d/1iCrByf_VpTlwg0I2IwPYmb7XcuiHbWq8/view))

Figure 1 is an initial design before validation by experts and revision. It can be seen from the initial presentation of the definition of the concept that there is a lack of clarity in the interpretation, the use of symbols is not yet clear, the uniqueness of the Al-Qur'an mathematics teaching material is less prominent, it has not been presented deductively, examples of work procedures in solving inheritance calculation problems are not yet systematic and detailed.



Figure 2. QR Code after revision (<https://drive.google.com/file/d/1ImK-ZGy7OL1hgEGPb0MY-JMZcsA4B47W/view>)

Figure 2 is the final product after validation by experts and revisions. It can be seen in the specification of learning objectives, the presentation has been refined in the definition of concepts that do not have multiple interpretations, the use of symbols is clear, the problems are presented from everyday comparisons and then transformed into inheritance problems in the Al-Qur'an, presented deductively, examples of work procedures in solving inheritance calculation problems more systematic and detailed, there is space to read, reason and try, there is space for explorative movement with iwaris applications and learning reflection. Details of changes in the process of improving teaching materials are briefly explained in the Table 4.

Table 4. Process of improving teaching materials

Load	Information
<b>Learning objective</b>	The clarity of the learning objectives in point 2, which is written re-checks the calculation results using the I-Inheritance application effectively" focused on the word looking back and effective as seen from the role of the I-Inheritance application as well as the effective word whereabouts are deemed inappropriate so that the sentence structure becomes "Checking to return the results of calculations using the I-Waris application."
<b>Approach scientific</b>	In the Let's Ask section, the language used in the examples of question formulation is not in accordance with the cognitive thinking processes of junior high school students, so it is changed based on the student's understanding of the language in the presentation of simpler and more specific sample questions.

Load	Information
<b>Concept definition</b>	<p>The let's read and reason section is complemented by the verse as the object. Because this is the Let's Read section, it is best if all aspects of the reading that will guide students to understand are presented in leaflets so that the presentation of the verses of the Qur'an Let's Read must be displayed.</p> <p>The definition presented is incomplete in characterizing or conditioning something to be compared. Then there is no explanation of the symbolic form in the definition of the concept. Strengthening the concept of comparison is not presented; how can students distinguish which is an example of comparison and which is not? So that the revision is carried out by clarifying the definition of comparison, providing a description of each written symbol, and providing an understanding of the concept of comparison from examples and non-examples.</p>
<b>Mathematical modelling</b>	<p>Construct a Comparison of Each Inheritance Part and the suitability of mathematical modeling. Before presenting a comparison table of a verse, it is important to first present the basis for determining the share of each heir based on the proportions stipulated in the Qur'an. Then, the appropriate mathematical modeling in forming comparative equations has not been given an example.</p> <p>Complete the words in the problem. The command word in the question only focuses on the final calculation, does not specify the order to form an equation from a comparison, determines the share of the assets acquired by each heir, and the sentence "Do lookingback" is changed to "do a check" which is clearly presented as follows.</p> <p>The closing part of the teaching material in the form of a reflection activity is not available in the leaflet. Thus the part that becomes an explanation for using the I-Inherit application is replaced with a persuasive sentence to reflect on the calculation of inheritance using the concept of comparison.</p>

Once it has been prepared, the teaching materials are then validated by experts,

and the validation results can be seen in Table 5.

Table 5. Recapitulation of the questionnaire for Mathematics Teaching Materials in the form of Leaflets

No	Validator	Average Score	Final Score	Average score	Final Score
		Material		Media	
1	Mr	4.89		4.23	
2	AN	4.95	4.89	4.47	4.37
3	AF	4.84		4.41	
<b>Decision</b>				<b>4.63</b>	
<b>Category</b>				<b>Very Valid</b>	

Based Table 5, the average score obtained from the three experts is 4.63. when converted, the value will be included in the "Very Valid" category. So teaching materials in the form of

leaflets based on the Qur'an based on QR Code is feasible and valid to use.

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### C. Assessment Phase

Product implementation must be carried out in face-to-face learning situations in schools. Use of QR Code-based leaflet teaching materials. The implementation is carried out on class VII students who will be tested simultaneously but individually as a small group trial which will be held on Monday, January 23, 2023.

Table 6. Centralization of trial result data

Data Centralization	Information
Average	78.3
Median	75
Mode	75

Based on Table 6, it can be seen that the centralization of the data leads to data homogeneity because the results of the mode and median are the same and the average is also close, so the data distribution is normal.

Apart from that, evaluation is always needed in order to create valid, effective and practical teaching materials so that an evaluation process is needed without time limits. After carrying out the trial phase, you will see what aspects need to be carried out. After the trial phase is carried out, it will be seen what aspects need to be evaluated, which are essentially product development efforts.

The results of this study are in the form of a concise mathematics teaching material product in the form of a leaflet that can be used for students in Islamic schools to understand material comparisons of value with implications for inheritance law. Facilitating users (students of Islamic schools) in accordance with the cognitive structure that exists in them, where the verses of the Qur'an (QS An-Nisa: 11-12) become a stimulus and support for students in

understanding the concept of comparability of value in a comprehensive manner. Teaching materials provide space for the user to get closer to the Al-Qur'an and practice a verse, as well as understand the comparative mathematical material of the implementation of inheritance law.

This research is only limited to developing teaching materials and testing their validity with a relatively small number. So that it can be continued on a large-scale test to obtain universal results. In addition, the content of inheritance material provided is in the scope of problems that are not yet complicated due to inheritance problems limited to the problems of the nuclear family (Father, Mother, Daughter, Son), which avoids the problem of dividing inheritance that is not divisible. Thus opening a new exploration space for further research to complement, construct, develop, and explore the case.

The results of this research are a concise mathematics teaching material product in the form of a leaflet that can be used by students in Islamic schools to understand value comparison material which has implications for inheritance law. Facilitate users (Islamic boarding school students) according to their existing cognitive structure, where the verses of the Al-Qur'an (QS An-Nisa: 11-12) become a stimulus and support for students in understanding the concept of comparison of worth comprehensively. It was found that learning that is delivered based on familiar knowledge, such as students' routine activities, will provide a link in the direction of cognitive thinking on the material to be studied more quickly compared to delivering knowledge that students have just learned about. The research shows that students are

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enthusiastic about asking questions on an ongoing basis, because they want to understand further the calculation of inheritance beyond the situation stated in the leaflet. All the responses shown are none other than because the product was designed based on the 4 NCTM principles which facilitate equality, prior knowledge, student needs and attractive presentations using technology.

The resulting product has its own uniqueness that has never been discovered by research for serving junior high/equivalent mathematics learning regarding comparative material regarding inheritance calculations. Students as Muslim users receive two branches of knowledge at once, namely mathematics in comparative calculations and jurisprudence regarding the rules for dividing inheritance. Teaching materials provide space for users to get closer to the Al-Qur'an and practice a verse as well as understand mathematical comparison material in inheritance law calculations. Apart from that, the presentation is very concise and attractive in a 2 page design which is presented in electronic form which can be accessed via QR Code, adding a new impression to mathematics learning at school.

It cannot be denied that this research has shortcomings in its development, namely that the development was limited to testing its validity with a relatively small number. So that large-scale testing can be continued to obtain universal results. Apart from that, the content of inheritance material provided is within the scope of problems that are not yet complicated, because inheritance problems are only limited to nuclear family problems (Father, Mother, Daughter, Son) so as to avoid the

problem of dividing inherited assets that are not completely divided. This opens up new exploration space for further research to complete, construct, develop and deepen the case.

The research found that QS An-Nisa verses 11-12 contain knowledge about the distribution of inheritance which contains a mathematical side to the value comparison material, in accordance with previous research studies regarding the content of mathematical concepts in the Al-Qur'an such as the results of the work; Cahya & Ahmadi, 2020; Meldi et al., 2022; Syamaun, 2020; Hamzah, 2022; Purwanto, 2015; Ramadhani et al., 2022). In addition, the results of the development of Al-Qur'an mathematics teaching materials produce valid teaching materials and become an alternative answer to the needs of students in Islamic schools in line with Karim et al., 2021; Ulia et al., 2020; Tiara et al., 2018; Syamaun, 2020; Novianti et al., 2021 & Widiyastuti & Luma, 2022).

Researchers feel that the resulting product should be used by all Islamic schools in Indonesia, because the mathematics material presented is a need for all students from junior high school level and the inheritance jurisprudence material in the Al-Qur'an is absolute, will never change. The product can be used by educators in mathematics and fiqh subjects, meaning that when fiqh educators want to provide an understanding of inheritance and the calculations can be facilitated by this product. Likewise, mathematics educators provide comparative understanding and obtain religious knowledge at the same time.

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## CONCLUSION AND SUGGESTION

The development procedure is carried out accordingly so as to obtain teaching materials that can be assessed for their feasibility. From the aspect of validity, the three experts obtained an average rating of material experts of 4.89 and an average rating of media experts of 4.37. Thus, it was found that the mathematics teaching materials in the form of leaflets developed in this study obtained a final average score of 4.63 in the "very valid" category. Therefore, the teaching materials developed meet the feasibility of the material, the feasibility of presentation, and the feasibility of language and graphics, which in this study pivot on the four principles of NCTM.

Based on these limitations, researchers suggest the following. First, whether or not teaching materials are appropriate is limited to a small trial scale. thus, the next researcher can provide additional criteria for deciding that a teaching material can be used universally, it is necessary to examine other aspects such as the number of participants, the wide scope of the test, carried out regularly, etc. in detail regarding the evaluation or assessment of teaching materials in order to obtain appropriate and reliable teaching materials. Second, the scope of discussion provides limitations for students to understand comparisons in inheritance law in the nuclear family only, the overall content of QS An-Nisa: 11-12 has not been touched in this study. Therefore, will provide a broad opportunity to study and develop further in order to obtain mathematics teaching materials in understanding a more comprehensive comparison of inheritance.

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