Development of Islamic Integrated Mathematics Module Based on HOTS Problem (MATHIKS HOTS) with Strengthening Mathematical Literacy on SPLDV Material

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A R T I C L E I N F O	A B S T R A C T
	Mathematical literacy and HOTS is essential to prepare students in solving real-life problems. Integrating Islam into mathematics can enrich students' understanding by connecting mathematical concepts with Islam. This study aims to develop an Islamic-integrated mathematics module based on HOTS (Higher Order Thinking Skills) questions while strengthening mathematical literacy in the SPLDV topic. The research was conducted in Grade VIII at MTs Negeri Kota Pasuruan using a Research and Development (R&D) approach with the ADDIE development model (Analysis, Design, Development, Implementation, and Evaluation). The final product is a mathematics module called MATHIKS HOTS (Islamic-Integrated Mathematics Based on HOTS Questions). The MATHIKS HOTS module is designed with the main characteristics of loading HOTS questions on the SPLDV material, mathematical literacy content, integration of relevant Al-Quran verses or Islamic values, and an attractive module design in accordance with the characteristics of junior high school students. The module was evaluated by experts in content, Islamic integration, media, assessment, and practitioners. The overall validation results showed an average score of 92.4%, which falls into the "highly valid" category. The implementation of the MATHIKS HOTS module received a positive response from students, as indicated by a 94.8% approval rating in the student response questionnaire. Based on these findings, it can be concluded that the MATHIKS HOTS module is a practical and effective teaching material that integrates Islamic values while enhancing students' mathematical literacy. This module can be a learning resource for students who want to develop HOTS skills, strengthen mathematical literacy, and at the same time form students' religious character.

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1. INTRODUCTION

A learning module is a collection of learning materials that are organized and designed in a systematic way to ensure that students can achieve the learning objectives (Daryanto & Darmiatun, 2013). Learning modules whether in printed or electronic form are used by teachers

as learning resources to assist students in studying independently (Husna, 2022). This means that readers have the ability to take part in learning activities without direct teacher assistance.

This module allows students to learn at their own pace and strategy (Chuseri et al., 2021), helping them to solve problems according to their individual abilities. Modules are considered effective in overcoming learning difficulties because of their interesting and efficient preparation (Utami et al., 2018). A good mathematics learning module has practical characteristics, both in terms of content and design. The content or material of the module can be integrated with Islamic values. The integration of material with Islamic values in the module provides a deeper understanding to students, not only about formulas and numbers, but also about the cultivation of Islamic values (Larasati et al., 2020). Islamic-integrated mathematics learning helps form noble character and good intellect (Rahma et al., 2023), and provides provision of religious teachings by linking material with Islamic teachings (Dalimunthe, 2022). This Islamic character building process will be better if students are trained in mathematical literacy skills that are closely related to the content in the module.

Mathematical literacy is essential so that learners can utilize their thinking to solve daily problems (Firdaus et al., 2021). Integration of Islamic values in modules with strengthening mathematical literacy helps students think systematically, improve mathematical literacy skills, and understand mathematical problem solving that contains Islamic values (Imamuddin et al., 2020). In Indonesia, students' mathematical literacy skills are still relatively low. This is evidenced by the results of the Program for International Student Assessment (PISA) in 2022 released by the OECD, where the average mathematics score of Indonesian students only reached 365, while the average score of OECD countries was 472. One of the causes is the lack of application of mathematical literacy in everyday life (Mulyani et al., 2025). Learners may master the basic concepts of mathematics, but their skills in problem solving are not yet structured. Therefore, to solve mathematical problems, learners must have high order thinking skills (Chuseri et al., 2021). This ability is essential for encouraging learners to think critically, be able to explain, analyze, and create solutions to complex problems.

Aini et al. (2022) stated that the three highest levels in the cognitive domain in Bloom's taxonomy related to higher order thinking skills (HOTS) are analyzing, evaluating, and creating. However, the application of HOTS in mathematics learning is still rarely done by teachers, resulting in the low level of thinking skills in students (Anggara, 2020). HOTS can help learners understand complex information, analyze ideas, make hypotheses, and construct information in the problem-solving process (Chuseri et al., 2021). This process makes students not only focus on memorization, but also understand what is being taught. HOTS is applied in the questions in the mathematics learning module which is tailored to the subject matter.

In line with mathematical literacy and HOTS-based questions, the right choice of material is material that is closely related to contextual problems. One of the materials related to contextual problems is the system of linear equations of two variables or can be abbreviated as SPLDV. SPLDV material is important to master because it is the basis for further material and is included in PISA related to algebra (Maulidiyawati et al., 2023). SPLDV contains stories or literacy that are formed into mathematical models, helping students solve everyday problems in a mathematical context (Purnama & Suparman, 2020).

Previous research on the development of learning modules provides a clear picture for current research. Alfarizqi (2021) developed a problem-solving-based mathematics learning module for SPLDV material, while in the same year Sholikin (2021) developed a mathematics module on SPLTV material integrated with Islamic values to improve mathematical literacy and

religious character. Husna, (2022) developed a numeracy literacy-based RME e-module in mathematics learning, and Aini et al. (2022) developed a HOTS-based SPLDV module for junior high school. However, the four studies are not completely the same, but show varying differences. The diversity of the research results is evident in the aspects of material, development models, module content, learning models used, and the objectives of the module development itself. From these differences, there is still a research gap in the form of developing Islamic integration modules and HOTS with strengthening mathematical literacy, which until now has not been widely studied in previous studies.

In addition, the results of observations at MTs Negeri Kota Pasuruan and produced several conclusions. Among them, such as the use of mathematics teaching materials by teachers has not been integrated into Islam, evaluation instruments have not been integrated into Islam, students' interest in reading is still low, and the teaching materials used do not contain HOTS-based questions. These results show that it is necessary to develop an Islamic integrated mathematics module based on HOTS questions with strengthening mathematical literacy that is valid and practical so that it can be used as Islamic integrated teaching material with strengthening mathematical literacy for students

2. METHOD

In this study, the type of research to be used is development research or Research and Development (R&D). The ADDIE development model consisting of five stages will be applied, namely the Analysis, Design, Development, Implementation, and Evaluation stages. The stages of the ADDIE development model described by Branch (2009) will be illustrated in the figure below.
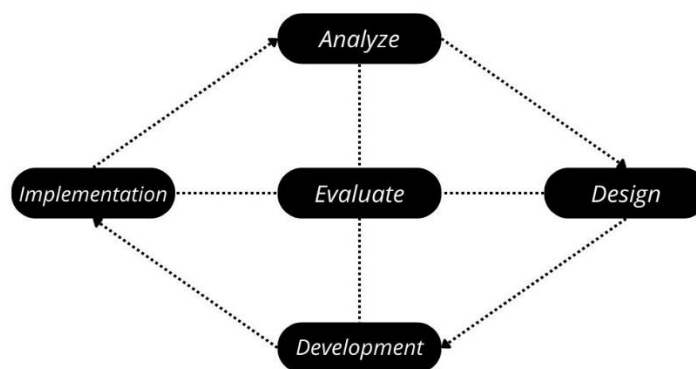

Figure 1. ADDIE Development Model Branch (2009)

Based on Figure 1, the initial stage is the Analysis stage, which includes analyzing the curriculum, needs, learner characteristics, and literature study. At this stage, evaluation is conducted to ensure proper understanding of the learning context and needs. The second stage is Design, which includes material assessment, designing module components, and creating assessment instruments, where evaluation is used to review the design to match the learning objectives. The third stage is Development, which includes making products according to design, product validation by experts, revision, and small-scale trials, the evaluation at this stage serves to improve and refine the module based on feedback. The fourth stage is Implementation, which is a large-scale trial to assess students' responses through questionnaires, as well as an evaluation of the validity and practicality of using modules in learning. The last stage is Evaluation, where evaluation criteria and tools are established and a thorough evaluation process is carried out to determine the overall success of the product.

The MATHIKS HOTS module trial has two stages, including expert test (expert validation) and trial to students. Expert validators include material experts, design experts, Islamic integration experts, evaluation experts, and learning practitioners. The MATHIKS HOTS module was tested in two phases: a small-scale trial involving 7 students and a large-scale trial with 32 students. The small-scale trial aimed to assess the participants' initial responses to using the MATHIKS HOTS module for the SPLDV topic. The large-scale trial was conducted to evaluate the practicality of the MATHIKS HOTS module in teaching the SPLDV material

There are 2 data collection instruments in this study, namely an assessment questionnaire and an interview. The questionnaire used was developed based on the assessment aspects of the suitability of the material in the module, language, presentation, graphics, Islamic integration, and aspects of the evaluation of the HOTS questions. Interviews were conducted to collect information about mathematics learning, such as curriculum analysis, identifying needs, and characterizing students. Indicators on each aspect of the assessment developed are presented in the following Table 1-6.

1. Material Expert Validation Questionnaire Grid

Table 1. Material Expert Validation Questionnaire Grid

No	Criteria	Indicator
1	Aspects of material validity	A. Suitability of materials with learning achievements and learning objectives
		B. Suitability with the needs of mathematics learning materials
		C. Accuracy of material content in the module
		D. Coverage of material in the module
		E. Context of mathematical literacy
2	Presentation aspect	A. Systematic presentation
		B. Communicative
		C. Complete information
		D. Providing motivation

2. Expert Validation Questionnaire Grid Media

Table 2. Expert Validation Questionnaire Grid Media

No	Criteria	Indicator
1	Graphic aspects	A. Font selection
		B. Layout design
		C. Attractiveness of the cover
		D. Suitability of the contents and design of the module
		E. Suitability of the images to the content of the module
		F. Attractiveness of the images
2	Linguistic aspects	A. Readability of the module
		B. Clarity of information in the module
		C. Following general guidelines for Indonesian spelling
		D. Using efficient and effective language

3. Expert Validation Questionnaire Grid Islamic integration

The validation questionnaire grid by Islamic integration experts was adopted from research conducted by (Sholikin, 2021)

Table 3. Expert Validation Questionnaire Grid Islamic Integration

No	Criteria	Indicator
1	Expert Validation Questionnaire Grid Islamic integration	A. Accuracy of the meaning of the Quran and Hadith in the module B. Connecting Islamic values with the material and daily lives of students C. Accuracy of the meaning of the Quran in the module D. Connecting the Islamic values of the module with the daily lives of students E. Alignment of Islamic values in the module, examples and solutions to module questions F. Accuracy in selecting verses of the Quran and Hadith to be used as examples and explanations of module content. G. Unification of Islamic values and materials in the module.

4. Expert Validation Questionnaire Grid evaluation

This evaluation aspect grid is adopted from research conducted by Nisa' (2022) and is presented in Table 4.

Table 4. Expert Validation Questionnaire Grid Evaluation

No	Criteria	Indicator
1	Clarity	A. Clarity of each question item B. Clarity of instructions for filling in the questions C. Suitability of language to the level of understanding of students at junior high school D. Appropriateness of the form of questions with indicators
2	Relevance	Conformity between question items and material
3	Validity	Truth of the question
4	No bias	The question item contains one complete idea

5. Expert Validation Questionnaire Grid Learning Practitioners

The validation questionnaire grid for learning practitioners is similar to that of material experts, with the addition of the usefulness aspect from Sholikin (2021). Table 5 presents the detailed grid.

Table 5. Expert Validation Questionnaire Grid Learning Practitioners

No	Criteria	Indicator
1	Material validity aspects	A. Suitability of materials with learning achievements and learning objectives B. Suitability with the needs of mathematics learning materials C. Accuracy of material content in the module, D. Coverage of material in the module E. Context of mathematical literacy
2	Presentation aspects	A. Systematic presentation B. Communicative C. Complete information D. Providing motivation
3	Usefulness aspects	A. Ease as a teaching material B. Strengthening students' mathematical literacy

C.	Helping to improve students' Islamic character
D.	Practicality of using modules in learning

After the module is declared valid by the validator, the next thing to do is to test the module on students and distribute student response questionnaires to determine the practicality of the module. The criteria and indicators of module practicality are adopted from research conducted by Hidayatullah (2022) with the indicators shown in Table 6.

Table 6. Student Response Questionnaire Grid

No	Criteria	Indicator
1	Module attractiveness aspect	A. Attractive module display B. Module instructions can be understood C. Student involvement in the active learning process
2	Module usage aspect	A. Helping students understand integrated Islamic material by strengthening mathematical literacy B. The sequence of activities in the module is clear
4	Evaluation aspect	Practice supports students in working through the questions provided

This study employs both quantitative and qualitative methods for data collection and analysis. The data analysis technique used is descriptive analysis. The data gathered from the student response questionnaire were analyzed according to the validation criteria outlined in Table 7.

Table 7. Module Validity Criteria

Percentage (%)	Criteria	Description
85-100	Highly Valid	No revision
70-84	Valid	No revision
60-69	Quite Valid	Only partially revised
40-59	Less Valid	Revise again by paying attention to details and looking for product weaknesses to then be perfected
0-39	Not Valid	Needs total revision

Source : (Nesri & Kristanto, 2020)

After the module is declared valid and has been tested on students, the next step is to analyze the questionnaire that has been filled out by students using the same formula as the validation analysis in the module. So that the percentage value of the analysis results that have been carried out will be seen in the student response criteria in Table 8

Tabel 8. Student Response Criteria

Percentage (%)	Criteria	Description
85-100	Very positive	Very practical
70-84	Positive	Practical
60-79	Fair	Quite practical
40-59	Not positive	Less practical
0-39	Not positive	Not practical

Source : (Nesri & Kristanto, 2020)

3. RESULTS AND DISCUSSION

This research produces a mathematics learning module integrated with Islamic concepts and based on HOTS questions (MATHIKS HOTS) with strengthening mathematical literacy. This module is designed for grade VIII students on the material of System of Linear Equations of Two Variables (SPLDV). The development of the MATHIKS HOTS module was carried out through five stages of the ADDIE model, namely: a) Analysis; b) Design; c) Development; d) Implementation; and e) Evaluation. The following is an explanation of each stage of the ADDIE model used in this study.

Analysis.

At this stage, data on initial problems in mathematics learning were collected through literature review and interviews. Interviews were conducted with mathematics teachers at MTs Negeri Kota Pasuruan in October 2023. The analysis stage included four aspects: curriculum analysis, needs analysis, learner characteristics analysis, and literature study analysis. The steps are detailed as follows

First, curriculum analysis. The results of interviews with class VIII mathematics teachers, MTs Negeri Kota Pasuruan, especially class VIII, use the independent curriculum where the independent curriculum emphasizes high-level thinking skills and mathematical literacy skills of students. The implementation of the independent curriculum is still not optimal because this is a new curriculum. Teachers' mastery of mathematical literacy materials and understanding of the independent curriculum are still inadequate (Yayuk et al., 2023). The emphasis on student learning outcomes, especially in mathematics lessons, still needs a lot of evaluation, one of which is the need for many supporting learning resources.

Second, needs analysis. Because the results of the curriculum analysis still state that there is still a need for many supporting learning resources, information continues to be collected through interviews with class VIII mathematics teachers at MTs Negeri Kota Pasuruan. The teacher explained that the madrasah still uses the provided textbooks. The suitability between the available books and the curriculum used is still not appropriate. In addition, teachers emphasized the need for integration between mathematics and Islamic material in the learning process, especially with the need for teaching materials used. Integrated Islamic mathematics learning will be able to provide stimulus regarding the instillation of Islamic values in students (Rahma et al., 2023). This is because if the teaching materials or books used are integrated with Islam, the characteristics of students will grow to be better so that they can deepen religious knowledge through learning mathematics.

Next is the analysis of student characteristics. Information regarding the characteristics of students at MTs Negeri Kota Pasuruan continues to be collected from mathematics teachers. Basic abilities, learning styles, mathematical literacy skills, and high-level thinking skills of students also want to be known. The results obtained are that the basic abilities possessed by each student are relatively different, some are low, medium, and high. Students' learning styles also vary from auditory, visual, and kinesthetic. These differences in learning styles also affect students' ability to understand mathematics lessons (Sari et al., 2023)

In addition, the results of information from mathematics teachers regarding students' mathematical literacy skills are also low. Students often have difficulty modeling and representing problems related to real life. In order to support maximum student learning outcomes, teachers need learning resources that are oriented towards real problems. Students also tend to have difficulty solving problems that require high-level thinking skills. When students can connect concepts in mathematics, their understanding becomes more profound and lasting. Additionally,

this approach makes learning more enjoyable and motivating, leading to the acquisition of more meaningful knowledge (Nurcahyono, 2023). There needs to be special training to accustom students to be able to maximize learning outcomes. Students also need to measure their ability results through self-assessment based on the fact that what they have learned is correct according to their abilities.

In providing solutions to overcome the three problem analyses mentioned above, a literature review was also conducted. The results of the literature study on research conducted by Aini et al. (2022); Alfarizqi (2021); Husna (2022); Sholikin (2021), where the four researchers discussed the development of mathematics modules. These four studies are used as the main references to further maximize the mathematics learning process from the problems encountered so that they can strengthen the analysis process that has been carried out in the field.

Design

The design stage is the stage where the module to be developed is designed. The purpose of this stage is to prepare the content and materials that will be used in the module being developed. There are 3 stages that have been carried out, namely material review, module component design, and making assessment instruments.

First, namely material review. The module to be developed is an Islamic-integrated mathematics module, Higher Order Thinking Skills (HOTS) questions, and strengthening mathematical literacy for SPLDV material for grade VIII odd semester. This module was developed in accordance with the independent curriculum with a focus on phase D learning outcomes. Four learning objectives were determined that were adjusted to the concept of Islamic integration after conducting a study of learning outcomes. The design of learning activities and practice questions were prepared in accordance with the learning objectives, and mathematical literacy questions were also included to support the strengthening of students' mathematical literacy.

Second, module design. The components in the module include 3 main parts, namely the opening, content, and closing. The opening section contains the cover, table of contents, mind map, module identity, module usage instructions, learning materials, learning outcomes, learning objectives, and Muslim scientists. The core section of the module contains material and examples of Linear Equation in One Variable (PLSV) and Linear Equations in Two Variables (PLDV) questions, student activities, SPLDV solution methods, summaries, competency tests, self-assessments, and collections of HOTS questions. while the closing section contains the answer key, glossary, list of figures, bibliography, author profile, and back cover.

The module is also designed with specifications made based on the components that have been described previously. The module will use print media with A5 size and Montserrat Arabic font type. SPLDV material will be integrated with Islam sourced from the Qur'an and Hadith. The module will also be equipped with various evaluation questions, including questions with HOTS difficulty levels, as well as practice questions to strengthen mathematical literacy. The language used is Indonesian which is adjusted to the understanding of students. In addition, software such as Canva Pro is also prepared to design modules and GeoGebra to create graphs to support learning methods.

The instruments for this study were prepared, including validation questionnaire sheets and student responses, with various aspects in accordance with the objectives of each questionnaire as well as a 1-4 assessment scale and improvement columns. Validation was carried out by material experts, Islamic integration, media, evaluation, and learning practitioners. Furthermore,

a product trial plan will be carried out at MTs Negeri Kota Pasuruan in class VIII to observe student responses to the practicality of the developed module. Evaluation of the design stage showed the need to compile the module in a simple format to facilitate use by students.

Development

At this stage, the development of the MATHIKS HOTS module was carried out by strengthening mathematical literacy in the SPLDV material. This development stage includes module development, validation, revision, and small group trials. In the development stage, the module is arranged by following the previous design, including steps such as compiling a series of learning activities, presenting material with varied and contextual examples of questions, as well as integrated Islamic exercises, HOTS questions, and questions with strengthening mathematical literacy. Motivational notes and references from Muslim scientists are included to motivate students. The module design is carried out using the Canva Pro application, while the graph creation uses the Geogebra application to improve the accuracy and context of the questions.

The next development stage is expert validation. In line with research that has been conducted by Fatchiyah & Utami (2022) where after completing the development of the module, the thing that is done is to submit a consultation to expert validators in various related fields, such as material, Islamic integration, media, evaluation, and learning practitioners. This validation process produces valuable input for improving these aspects in the SPLDV module. Data from the validation process consists of questionnaire results and criticism and suggestion columns, which are then analyzed to obtain a clear picture of the quality of the developed module. The assessment of experts on the MATHIKS HOTS module is as follows.

1. Expert Validation Results Material

The validation by the material expert is conducted to assess the quality of the content and presentation of the MATHIKS HOTS module. The validator, a lecturer in Mathematics Education at UIN Maulana Malik Ibrahim Malang, evaluates these aspects. The following are the validation results from the material expert.

Tabel 9. Expert Validation Results Material

No	Aspects	Scores	Criteria
1	Content	49	
2	Presentation	29	
Total		78	Valid
Avarage		3,25	
Percentage (%)		81,25	

Table 9 presents the validation results from material experts, indicating an average score of 3.25 with a percentage of 81.25%. According to the module validation criteria in Table 7, this score falls into the valid criteria without requiring revisions, based on the predetermined standards.

2. Results of Islamic Integration Expert Validation

The validation of Islamic integration experts aims to determine how the Islamic integration aspect of the MATHIKS HOTS module. The Islamic integration expert validator comes from a

lecturer in Mathematics Education at UIN Maulana Malik Ibrahim Malang. The following are the validation results by the Islamic Integration expert

Table 10. Results of Islamic Integration Expert Validation

No	Aspects	Scores	Criteria
1	Islamic integration	60	
Total		60	Highly
Avarage		3,75	Valid
Percentage (%)		93,75	

Table 10 shows the validation results by Islamic integration experts showing an average value of 3.75 with an average percentage of 93.75%, so based on Table 7 module validation criteria, this value is included in the highly valid criteria without revision based on the established criteria.

3. Validation Results by Media Experts

Media expert validation aims to determine how the media aspects include graphics and language of the MATHIKS HOTS module. The media expert validator is a lecturer in Mathematics Education at UIN Maulana Malik Ibrahim Malang. The following are the validation results from the media expert.

Tabel 11. Validation Results by Media Experts

No	Aspects	Scores	Criteria
1	Graphic	63	
2	Linguistic	31	
Total		94	Highly
Avarage		3,92	Valid
Percentage (%)		97,9	

Table 11 presents the validation results from media experts, showing an average score of 3.92 with a percentage of 97.9%. Based on the module validation criteria in Table 7, this score falls into the highly valid criteria and does not require any revisions according to the established standards.

4. Expert Evaluation Validation Results

The validation of the evaluation expert aims to find out how the quality aspects of the questions presented in the MATHIKS HOTS module. The evaluation expert validator is a lecturer in Mathematics Education at UIN Maulana Malik Ibrahim Malang. The following are the validation results from the media expert.

Tabel 12. Expert Evaluation Validation Results

No	Aspects	Scores	Criteria
1	Clarity	15	Highly
2	Relevance	4	Valid
3	Validity	19	

4	No bias	3
Total		41
Avarage		3,7
Percentage (%)		93,2

Table 12 presents the validation results from evaluation experts, showing an average score of 3.7 with a percentage of 93.2%. According to the module validation criteria in Table 7, this score falls into the highly valid criteria and does not require any revisions based on the established standards.

5. Results of Learning Practitioner Validation

Validation of learning practitioners aims to determine the aspects of the quality of the content, presentation, and benefits of the MATHIKS HOTS module. Validator of learning practitioners comes from the 8th grade mathematics teacher of MTs Negeri Kota Pasuruan. The following presents the results of validation by learning practitioners

Tabel 13. Results of Learning Practitioner Validation

No	Aspects	Scores	Criteria
1	Content	58	
2	Presentation	34	
3	Usefullnes	31	Highly
Total		123	Valid
Avarage		3,84	
Percentage (%)		96	

Table 13 shows that the validation results from learning practitioners have an average score of 3.84 with a percentage of 96.1%. Based on the module validation criteria in Table 7, this score falls into the highly valid criteria and does not require revisions according to the established standards.

The next development stage is product revision. Based on the validation results of experts and learning practitioners, a revision of the MATHIKS HOTS module product will be carried out according to the suggestions and input from the experts. Here are some product revisions to the MATHIKS HOTS module according to the suggestions of the experts presented in Table 14.

Tabel 14. Revision Product

No	Before Revision	After Revision

1

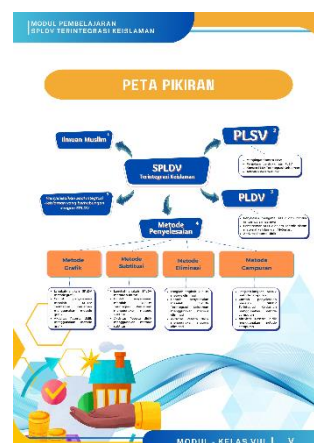The cover of the module does not show that the module is a module with mathematical literacy enhancement.

Adding text to the design about the module to strengthen students' mathematical literacy

2

On the mind map page, a holistic mind map should be created that describes the integrative study and what will be done in each section.

Presentation of a holistic mind map that describes the integrative study and what will be done in each part of it
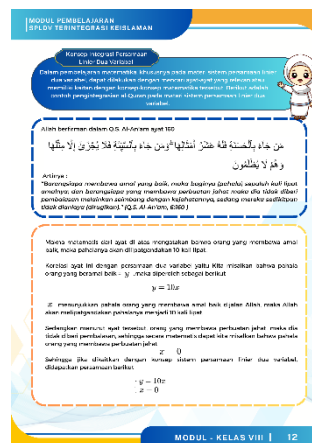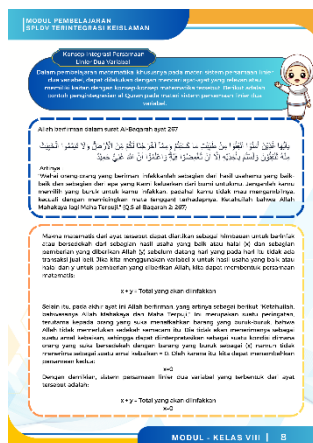
3

These individual activities do not really show mathematical literacy content, it is necessary to add stories with Islamic contexts.

Display mathematical literacy content by adding stories with Islamic context.

4		
	Conceptual errors in the process of integrating mathematics with the Quran. There is an error in the process of modeling "variable x and variable y", so that the variable modeling does not represent the concept of integration in SPLDV material.	Correction of conceptual errors in the process of integrating mathematics with the Quran where the equation "variable x and variable y" already represents the concept of integration in SPLDV material.
5		
	The "*Pojok Literasi*" section does not yet show the context of mathematical literacy reinforcement questions so it is necessary to create a question context with mathematical literacy reinforcement. In addition, an answer column for the activities carried out is also added.	The "*Pojok Literasi*" section has shown the context of the mathematical literacy reinforcement questions. In addition, an answer column has also been added for the activities carried out.

After the revision, the module was then tested on a small scale with 7 students. This small-scale trial was used to see the initial response of students so that it could be seen whether the developed module was practical or still needed to be revised. The results of the initial responses of students in the small-scale trial are presented in Table 15.

Table 15. Results of Student Responses in Small-Scale Trial.

No	Name	Aspect Score			Score Total	Persentage (%)
		1	2	3		

1	AS 1	24	12	7	43	89,6
2	AFM	25	11	7	43	89,6
3	AS 2	25	11	8	44	91,7
4	OZ	26	11	8	45	93,8
5	ADM	27	11	7	45	93,8
6	NYK	25	12	7	44	91,7
7	MRW	25	12	7	44	91,7
Total		**177**	**80**	**51**	**308**	**91,7**

The feedback from 7 students in the small-scale trial resulted in an overall average percentage of 91.7%, placing it in the very positive category according to the practicality criteria for the module in Table 8. Several comments and suggestions from students regarding the developed module were also conveyed. Students liked the attractive, funny, and colorful module design, as well as the presence of verses from the Quran and Hadith in it. However, they also noted several writing errors that needed to be corrected, indicating that although the module had been assessed as very practical, it still needed to be refined.

Implementation

The MATHIKS HOTS module was tested on 32 grade VIII students at MTs Negeri Kota Pasuruan. The trial was carried out for 4 lesson hours on Monday, May 6, 2024 and Wednesday, May 8, 2024. The aim was to see the practicality of this module for use in classroom learning activities. Students were very enthusiastic in participating in the mathematics learning activities presented in the module using examples from everyday life. After completing several activities, a questionnaire was distributed to evaluate students' responses regarding the practicality of the MATHIKS HOTS module in learning the Two-Variable Linear Equation System topic. The summarized results of the student responses are presented in Table 16

Table 16 Results of Student Response Questionnaire for Large-Scale Trial

No	Aspects	Score	Persentage (%)	Description
1	Module appeal	842	93,9	Very Practical
2	Module usage	367	95,5	Very Practical
3	Evaluation	247	96,4	Very Practical
Total		**1456**	**94,8**	**Veri Practical**

Table 16 shows the response data of 32 students in the large-scale trial with a final percentage of 94.8%. Based on Table 3.9, namely the module practicality criteria table, the value is included in the very positive category with the description very practical.

Evaluation

At the evaluation stage, the MATHIKS HOTS module with strengthening mathematical literacy in SPLDV material was assessed based on validation results from various parties, including material experts, media experts, integration mathematics experts, evaluation experts, and learning practitioners, as well as student responses through questionnaires. The evaluation results from the experts showed that the module was considered highly valid for use in Islamic-integrated mathematics learning that focuses on strengthening mathematical literacy, especially in teaching SPLDV material. The evaluation also included student feedback, which indicated a

very positive response to the practicality of the developed module. Therefore, this evaluation confirms a positive response regarding the validity and practicality of the module in supporting mathematics learning through an Islamic-integrated approach while enhancing mathematical literacy in the SPLDV topic.

The analysis stage was carried out comprehensively to identify initial problems in mathematics learning at MTs Negeri Kota Pasuruan. Through interviews with mathematics teachers, it was found that the implementation of the Independent Curriculum was still not optimal, especially in mastering mathematical literacy and high-level thinking skills (Yayuk et al., 2023). In addition, the availability of learning resources that are appropriate and integrated with Islamic values is still very limited (Rahma et al., 2023). The diverse characteristics of students in terms of basic abilities, learning styles, and mathematical literacy skills are also a challenge in themselves (Nurcahyono, 2023; Sari et al., 2023). Therefore, the development of innovative learning resources that are in accordance with curriculum needs and student characteristics is very necessary.

At the design and development stage, the MATHIKS HOTS module was developed with a focus on strengthening mathematical literacy and integrating Islamic values, especially on the Two-Variable Linear Equation System (SPLDV) material. This module is designed in accordance with the learning achievements of phase D of the Independent Curriculum. The validation results from experts show that this module is of high quality with a "very valid" category in terms of material, Islamic integration, media, evaluation, and learning practices (Fatchiyah & Utami, 2022). In addition, product revisions were made based on expert input, including adjustments to the integration of mathematical concepts with verses of the Quran, the addition of an Islamic-based mathematical literacy context, and improvements to the appearance and language of the module.

At the implementation and evaluation stage, small and large-scale trials showed positive responses from students. The results of student responses in the large-scale trial obtained a percentage of 94.8% which was included in the "very practical" category, indicating that this module is not only academically valid but also easy to use in classroom learning. The presence of integration of verses of the Quran and Hadith in the module also increases students' learning motivation (Aini et al., 2022; Husna, 2022). Thus, MATHIKS HOTS can be an alternative practical learning resource in strengthening mathematical literacy and instilling Islamic values in mathematics learning.

4. CONCLUSION

The results of the module development implemented at MTs Negeri Kota Pasuruan are in the form of the MATHIKS HOTS module with mathematical literacy reinforcement for SPLDV material. In this study, the ADDIE development model was used. The results of the validation of experts on the MATHIKS HOTS module showed that the percentage of material experts, Islamic integration, media, evaluation, and practitioners obtained an average percentage of 92.4%. Therefore, the conclusion is that this module is highly valid. The application of the MATHIKS HOTS module in class VIII MTs Negeri Kota Pasuruan received a very positive response. This can be seen from the results of the student response questionnaire during the small-scale and large-scale trials which showed percentages of 91.7% and 94.8%, respectively. With these results, it can be concluded that the MATHIKS HOTS module is practically used as a reinforcement of mathematical literacy for students. In addition, it is suggested that further research can be carried

out to test the effectiveness of the module in the learning process, including analysis of the thinking process of students, the learning model used, integration with the curriculum, and other factors that influence the success of mathematics learning.

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