ANALYSIS OF THE NEED FOR DEVELOPMENT OF ISLAMIC E-MODULE IN MATRIX MATERIAL IN CLASS XI MA

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Abstract
The problems that often become student complaints are the difficulty of understanding the abstract problems provided in school-facilitated textbooks, in learning mathematics not all teachers connect the material being taught with contextual problems that exist around students, and also based on the results of interviews between researchers and teachers in the field of study. information was obtained that the teacher had never combined Islamic nuances with the material being taught. Therefore, we need a solution by making a teaching material in the form of an Islamic e-module. The purpose of this study was to analyze the need for an e-module with Islamic nuances by integrating Islamic values in it for class XI MA students. The research method used is descriptive qualitative method. The subjects of this study were mathematics teachers at MAN 3 Pekanbaru and class XI students at MAN 3 Pekanbaru. Analysis of research data using the Miles-Huberman Interactive Analysis which includes data reduction, data presentation, and making conclusions. The results obtained in this study are that it is necessary to develop teaching materials in the form of e-modules with Islamic nuances for class XI MA matrix materials. This research can be used as a needs analysis in research on the development of Islamic E-Modules in the XI MA class matrix material. The population used for this study is still on a small scale, therefore in future research it is hoped that it can increase the number of population used, so that it will approach the picture of the actual condition.

Keywords: Needs Analysis, Matrix, Islamic nuances E-Module

INTRODUCTION
The government has launched character education in the 2013 curriculum, but this is only a discourse on the reality on the ground. One of the character education that is very
necessary in learning is about religious attitudes, therefore it is necessary to have education that teaches values and can form a personality with character, noble and civilized character, namely Islamic education. Islamic values can be integrated in the learning process, especially in learning mathematics. So that it can lead students to achieve knowledge (cognitive), understanding and application of Islamic values. In other words, through learning mathematics, religious values can be instilled in children. Therefore we need a mathematics learning that integrates Islamic values on school mathematics topics (Supriadi, 2015). Thus, in addition to understanding mathematical concepts, students can also understand and apply religious values in learning. However, advances in science and technology like this should require educators to be more creative and innovative in delivering learning so that students can learn independently outside of study hours.

On the other hand, the availability of facilities and infrastructure is an obstacle to being able to carry out independent learning or cannot be used optimally as a learning resource. The availability of teaching materials with Islamic nuances is still rarely found and even rarely used in delivering learning materials. Teaching materials are all forms of materials used to assist teachers/instructors in carrying out teaching and learning activities in the classroom. The material in question can be in the form of written material or unwritten material. In other words, teaching materials are learning tools or facilities that contain materials, methods, limitations, and evaluation methods that are designed systematically and attractively to achieve the expected competencies (Lestari, 2013). This is in line with research conducted by Syamsuar (2017) which states that teaching materials by instilling Islamic values can improve student religiosity and learning outcomes. The teaching materials used in this research are Islamic E-modules. Teaching materials are needed to support 2013 curriculum learning. Teaching materials have an important role in the curriculum that must be prepared so that the implementation of learning can achieve the expected goals (Nuhyal & Yunita, 2020). According to Yuliastuti and Soebagyo (2021) with the presence of teaching materials the learning process can run more smoothly. Teaching materials must be adapted to the age level and needs of students, interesting, easy to understand, systematic, and sorting clear vocabulary with the aim that students can master it clearly (Diana et al., 2018). One of the uses of teaching materials is to increase the effectiveness of learning and improve the quality of learning. Teaching materials used by teachers must be able to be a guide for students to achieve competency standards. Therefore, the teaching materials used must meet the
The importance of the availability of teaching materials that are in accordance with the characteristics of students is contrary to the facts at school, teachers rely more on publishers' worksheets and textbooks facilitated by schools, teachers do not understand the importance of compiling teaching materials that are tailored to learning needs, and the usefulness of teaching materials in designing learning devices in the implementation of learning in the classroom. This was also stated by (Putri, Roza, & Maimunah, 2020) in their research, namely that supporting teaching materials facilitated by schools utilize teaching materials from other people or writers. According to Putri et al. (2020) in her research, she said that the LKS books used today do not facilitate students in the learning process, because the presentation of material on the LKS is abstract and there are several examples that are not coherent with the level of difficulty, so students find it difficult to learn the material and always need the role of the teacher to review it. The success of student learning is dependent on how to teach teachers in the learning process (Arianti, 2018). Based on these problems, there is a need for an innovation in learning to improve the achievement of competency standards. One solution is to choose teaching materials that match the use of appropriate learning resources for students. Seeing the current situation, namely the Covid-19 pandemic, which requires teacher creativity in designing suitable teaching materials for students. According to Faisal (2015) the world of education has now entered the era of the world of technology, in this era learning activities need to reduce the lecture method and be replaced by the use of many media. Moreover, in current learning activities that promote active learning and process skills, students today really need interesting and innovative educational media. The selection of the right media will certainly make it easier for educators to provide learning materials, thus making students more interested and easy to accept the material provided. One of the learning media that can be developed is an electronic module or hereinafter referred to as e-module.

Teaching modules are presented comprehensively and systematically, which contains a set of planned learning experiences, designed to facilitate students mastering certain learning objectives (Rachmawati & Daryanto, 2013). The module contains the information students need to achieve and assess specific knowledge and abilities. The module is a learning tool or facility that contains materials, methods, limitations, and ways of evaluating that are designed systematically and attractively to achieve the expected competencies according to the level of complexity (Rhosyida & Jailani, 2014).

The modules developed must be adapted to current educational needs. Indonesia has now entered the era of the Industrial Revolution 4.0 so that it has an impact on various aspects of life. One of them is Islamic values and the character of the nation that will be tested for its existence in the understanding and knowledge of the community. Islamic values can be integrated in the mathematics learning...
process, where Islamic values are included in the learning process so that the learning has an Islamic nuance. In line with research conducted by (Diana et al., 2018) it was stated that the development of Islamic nuanced mathematics learning modules met the interpretation criteria achieved, namely "Very Interesting". Therefore, teaching materials are needed that can instill Islamic values so that students can process information that is easy to understand independently. Student learning resources are in the form of teaching materials that can integrate Islamic nuances in mathematics. The purpose of this study is to identify field needs before developing an electronic module by integrating Islamic nuances in class XI MA students.

METHODS

This research is a qualitative descriptive research. Based on the descriptive qualitative nature, the data generated in this study is in the form of narrative text. The data obtained from this study is a description of the need for e-module teaching materials with Islamic nuances. This research was conducted at MAN 3 Pekanbaru on Monday and Tuesday, 27 to 28 September 2021. Population of this research is all students of class XI MIA Pekanbaru for the academic year 2021/2022. Selection of sample size by random sampling is a sampling technique in this study is simple random sampling, where all individuals in the population can be selected individually or collectively. Therefore, from the 4 existing classes, 2 classes were selected, namely class XI MIA 2 and XI MIA 4 MAN 3 Pekanbaru.

Instruments of this research are teacher interviews in the field of mathematics studies and student questionnaire sheets as follows:

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>Number item</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The need for electronic teaching materials in learning</td>
<td>1, 2, 3, 4, 5</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Interesting teaching material needs</td>
<td>6, 7, 8</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Application of Islamic nuanced learning</td>
<td>9, 10, 11, 12, 13</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Obstacles in delivering material</td>
<td>14, 15</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Number</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

Reference: Modification (Rofiah, Aminah, & Sunarno, 2018)

The stages of data analysis in this study were: (1) All the findings of this phenomenon were recorded through interviews with the mathematics teacher in class XI MAN 3 Pekanbaru. This aims to determine the analysis of the needs for the development of teaching materials, teaching materials will be developed in the form of an Islamic nuanced electronic module; (2) After collecting data and collecting data. Then the data is simplified through sharpening analysis, conducting classification, guidance, processing and sorting to reach final conclusions and verify them; (3) Describe the classified data by taking into account the main points and
research objectives; (4) Carry out the final analysis in the form of a report study.

Table 2. Student questionnaire grid

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>Number item</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ownership of learning materials/sources</td>
<td>3, 4, 5, 1, 2</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>The need for electronic teaching materials in learning</td>
<td>6, 7, 8, 9, 10</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>The need for an attractive display of teaching materials</td>
<td>11, 12, 13, 14, 15</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Application of Islamic nuanced learning</td>
<td>17, 18, 16, 19, 20</td>
<td>5</td>
</tr>
</tbody>
</table>

Reference: Modification (Rofiah et al., 2018)

RESULTS AND DISCUSSION

The needs analysis is based on the conditions in the school, namely MAN 3 Pekanbaru. This analysis was conducted to determine whether or not the development of teaching materials in the form of e-modules is necessary. Analysis of the needs of this study was observed when at school interviews with teachers in the field of study and distributing questionnaires to class XI students. The purpose of distributing questionnaires is to find out whether students want to learn to use electronic module teaching materials. Questionnaires were distributed to 45 students or respondents, it was known that 36 students wanted to use electronic modules for learning, while 9 students did not want to use electronic modules for learning, 80% of them wanted to use electronic modules in their learning. In addition, it is known that there are 33 students who are interested if mathematics material is associated with Islamic elements while 12 students are not interested in the percentage of 73.3% who are interested and 26.7% are not interested in mathematics material associated with Islamic elements in learning mathematics.

Table 3. Results of student needs analysis

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ownership of learning materials/sources (other than school textbooks)</td>
<td>64.4%</td>
</tr>
<tr>
<td>The need for electronic teaching materials in learning</td>
<td>80%</td>
</tr>
<tr>
<td>The need for an attractive display of teaching materials</td>
<td>95%</td>
</tr>
<tr>
<td>Application of Islamic nuanced learning</td>
<td>26%</td>
</tr>
</tbody>
</table>

Reference: Primary data, Year: 2021

Furthermore, the graph of student interest in learning mathematics with Islamic nuances is as follows:
The graph above contains information that there is still a lack of knowledge of students about the nuances of Islam in learning so that the development of Islamic nuanced electronic teaching materials can be one solution to increase Islamic values for students.

The results of interviews and observations of teachers in the field show that the teaching materials used by schools are government textbooks, and schools provide LKS. The supporting manual is a mandatory manual and should be used in schools in general. Textbooks based on the 2013 curriculum provided by the government in schools are very helpful in the teacher's learning process. A complete introduction to the material contained in textbooks and the many ways to solve problems greatly stimulates students' critical thinking skills. But in fact, the existence of this textbook creates difficulties for some students. Many students are not ready for the availability of textbooks based on the 2013 curriculum. According to research (Purwoko et al., 2020) too much material provided in textbooks tends to paralyze students' interest in learning and cause boredom. Students find that there are abstract problems in textbooks that are difficult to solve because the level is too high so students are difficult to understand.

The learning process in schools must be adjusted to the level of student development (Utami et al., 2018), because learning activities that are not in accordance with the level of child development will reduce the effectiveness of learning activities. Of course, this is the role that the teacher plays in designing teaching materials that suit the needs of students.

In addition, through interviews that researchers conducted, researchers found out that the level of utilization of mathematics learning media was still very low, and there were no electronic-based textbooks as learning media. The use of electronic-based media in learning aims to achieve effective learning activities and answer the challenges of teaching skills in the 21st century (Ghavifekr et al., 2015). Other information was obtained that teaching materials such as electronic modules need to be developed because students do not always learn to use printed teaching materials in general, teachers as educators must have technological capabilities with distance or online learning models so that subject matter is conveyed properly due to the Covid-
The only need needed to achieve effective learning is to do face-to-face virtual with various supporting applications and design electronic teaching materials that can increase student interest in learning and can also learn the material easily independently. It is hoped that by using interesting textbooks, such as electronic modules that can be accessed by students anywhere, students can change their way of thinking, namely mathematics is a subject that is not difficult and interesting. Many studies also show that electronic-based textbooks have a positive impact on mathematics itself and student achievement in other subjects (Erni & Yuzianah, 2018; Kintoko et al., 2015). In Nurhamdiah’s research (2020) it can be concluded that based on the results of field trials, the practicality level of teaching materials integrated with Islamic values is 89.84% with very practical criteria. Thus, the developed teaching materials can be used as reference materials in the implementation of learning.

Based on the questionnaire distributed to class XI MAN 3 Pekanbaru, the results of the analysis of student needs showed that material analysis was done by checking the main material to be taught. Material analysis is also based on interviews with the mathematics teacher of class XI Man 3 Pekanbaru. The selected material will be adjusted to the syllabus, lesson plan (RPP) and mathematics books compiled by the Ministry of Education and Culture of the Republic of Indonesia to achieve maximum learning objectives. The results of the material analysis in this study are the material to be taught in class XI odd semesters, namely the matrix. The material will be combined with Islamic nuances in it. The Islamic nuanced e-module is a teaching material which contains the values of Islamic science combined with science (especially in mathematics). The integration of mathematics and Islam in question is developing teaching materials in the form of modules that teach mathematics with the values of the Qur'an. Syamsuar (2017) explains that the integration of mathematics and Islam means that teaching mathematics is done using an infusion strategy (the teacher emphasizes the aspects of the value of the Qur'an in the material in teaching mathematics), analogy (the teacher makes an analogy for the value of goodness in teaching mathematics), narrative (in teaching mathematics the teacher tells stories of mathematicians and Muslim mathematicians to be learned from), and uswatun hasanah (in teaching mathematics the teacher shows exemplary behavior such as honesty, sincerity, and thoroughness).

The electronic module that will be developed will contain verses from the Qur'an about matrices and stories of Muslim mathematicians to be learned from in the hope that they will be able to add insight into Islam in schools.

CONCLUSION AND RECOMMENDATION

Based on the results of interviews and questionnaires conducted in class XI MIA Pekanbaru and the discussion above, it can be concluded that the need for the development of an Islamic E-Module is needed, in this study it was designed on matrix material for class XI M. This
e-module or electronic module is expected to be able to help teachers to carry out learning activities, so that students can learn independently to understand concepts, and can learn Islamic nuanced learning materials in electronic modules. It is recommended to conduct further research to expand the research population, with the aim of obtaining more effective data, as well as conducting tests on different materials. After analyzing the needs for the development of Islamic nuanced electronic module teaching materials, it is hoped that in the future further research will be carried out to develop Islamic nuanced e-module teaching materials in the XI MA class matrix material.

REFERENCES


Restu Prabowo, Maimunah, Yenita Roza

Analysis of The Need For Development of Islamic E-Module in Matrix Material in Class XI MA


