Validity Test of Teaching Material Development Based on the Internalization of Tauhid Values In Mathematics To Shape Student Characters

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Abstract

Human civilization is very much determined by education. However, currently, there are more and more cases of bullying and bullying. This contradicts Law No. 20 of 2003, which states that the goal of national education is to develop the potential for intellectual and spiritual intelligence. Therefore, the authors develop teaching materials based on the internalization of tauhid values in mathematics to shape student character. This study aims to determine valid learning materials based on the internalization of tauhid values. The research methodology used is development research which includes analysis, design, evaluation, and revision. Data collection was carried out with the results of a questionnaire from the validator experts who were collected. The sample of this research is the third-grade students of full day Islamic elementary school in Tuban district. The conclusion that can be drawn is that the prototype of teaching materials based on the internalization of tauhid values is valid according to validator experts. Therefore, teaching materials based on the internalization of tauhid values can be applied to the learning process in shaping student character.

Keywords : Development; Teaching Materials; Internalization of tauhid values; character

1. Intoduction

Human civilization is very much determined by education. It is like a tree whose roots plunge to the bottom of the earth, its branches, twigs, and fruit dangling into the sky. In fact, in society today is feeling various multidimensional crises in all aspects of life. The rise of cases of bullying and bullying in educational institutions from elementary to secondary levels is a big challenge that must be resolved together. This is in line with Law No. 20 of 2003 concerning the purpose of national education, which is to develop the potential for intellectual and spiritual intelligence. KPAI conducted a study with the results as much as 17% of violence experienced by children while in school. This was strengthened again in 2013, recorded 181 cases resulting in death, 141 cases of victims suffered serious injuries, and 97 cases suffered minor injuries (Andina 2015). The character of the students who continues to decline is a tough task for the teacher because in addition to delivering material content, guarding the process of character formation is the most important thing.

Character is a habit that has been done repeatedly, so that it runs without any coercion. The Language Center of the Ministry of National Education in Imam

Gunawan wrote that character is innate, heart, soul, personality, character, behavior, personality, character, temperament, disposition, and attitude. There are so many character values contained in every subject matter, including mathematics. This should be a serious concern for mathematics teachers, as a teacher should not only teach material concepts, but also teach the principles of life to their students.

Cultivating character in students through learning mathematics can be done by internalizing the values of Tauhid in it, this means that before students receive material concepts, their deepest heart will be touched first by involving God in every process of studying knowledge. Character education-based mathematics learning is a learning process that consists of various elements (subjects, students, teachers, and natural surroundings) so that it is not just as simple as a concept.

The author refers to relevant research related to inculcating student character through mathematics learning based on the internalization of the value of monotheism to support and strengthen research assumptions, namely an article written by Ariningsih and Amalia (2020), with the research title Building Student Character through Integrated Islamic Mathematics Learning. In this study, the formation of student character can be done by the teacher through classroom learning by teaching mathematics to students who continuously instill character-based habits and behaviors, and also internalize Islamic values in learning mathematics in the classroom.

However, to internalize Islamic values in every lesson is not as simple as expected. This is because the historical background of the teacher also greatly influences the learning process. Therefore, in this study, the authors endeavor to develop teaching materials based on tauhid values in mathematics learning. With the limited time to create complex teaching material content, the authors limit the current research is related to the validity test of teaching materials involving only two validators, namely a religious expert and a mathematician. Based on the background description above, we formulated the problem formulation: What is the Validity Level of the Development of Teaching Materials Based on the Internalization of Tauhid Values in Mathematics to Form Student Character?

This research needs to be done to provide facilitate teachers to continually hone their competencies related to their profession, especially those who still have minimal religious knowledge to process learning material and internalize the values of monotheism in mathematics to shape student character.

2. Research Method

2.1 Types Of Research

This type of research is product-oriented development research in the form of teaching materials in the field of education. Its use is to facilitate the existence of a gap between researchers who produce educational theories and educators as product users. (Sugiyono in Faiz Hamzah 2015).

2.2 *Design Development*

a. The internalization model of tauhid as a development approach
   Based on the descriptions that have been described, this study was designed

using the application and implementation of internalization of tauhid in mathematics as a reference for the development of teaching materials.

b. Learning development design

The model used in the development of mathematics teaching materials for grade III SD is the Dick & Carey model. In this model there are 10 steps in the design of learning development (Faiz Hamzah, 2015: 49), namely: 1) identifying instructional objectives, 2) conducting instructional analysis, 3) analyzing student characteristics and context, 4) formulating specific instructional goals, 5) developing assessment instruments, 6) developing instructional strategies, 7) developing and selecting appropriate instructional materials, 8) designing and conducting formative evaluations, 9) revising learning, and 10) designing and conducting summative evaluations. However, in this development, it only uses 8 steps, because the development of teaching materials that will be carried out is limited to testing the validity of the product prototype.

2.3 Validity Test Subject

The subjects of testing the product validity of the development of teaching materials based on the internalization of the value of monotheism in mathematics are one religious expert and one basic mathematics content expert. The religious experts in this development research are the caregivers of the Tahfidz Islamic Boarding School in Tuban Regency. While the content expert for elementary mathematics in this development research is the principal of a full day Islamic elementary school in Surabaya.

2.4 Data Analysis Technique

This research uses descriptive qualitative quantitative data analysis. Expert validation data analysis used descriptive analysis by revising it based on the validator's notes in terms of 2 characteristics, namely the content of tauhid, the content of the material. The results of the analysis will be used to improve the teaching materials and test instruments. Data from expert validation to measure the level of product validity in the form of teaching materials

a. The range of assessment scores is 1 - 5, which will be converted into a percentage using the formula:

$$Score = \frac{(score\ obtained)}{(maximum\ score)} \times 100\ \%$$

b. The results of the validity in percentage can be synchronized with the validity criteria as presented in Table 1.

Table 1. Expert Validation Criteria

No.	Score	Criteria
1.	85,01 – 100 %	Very valid
2.	70,01 – 85,00 %	Quite valid
3.	50,01 – 70,00 %	Less valid

Source : (Fatmawati, 2016)

3. Results and Discussion

Textbooks are a medium that can never be separated in the learning process. So that it becomes an ideal medium for coloring student characters. The internalization of the tauhid values contained therein, can be a reference for teachers to be able to teach mathematics while preaching. In the following, we describe the results of the validity test by religious experts and content.

3.1 The Validity Test of Religious Experts

Subjects assessed the product development of teaching materials that have internalized the values of monotheism in mathematics class 3 semester II through closed and open questionnaires. The results of the assessment through a closed questionnaire are presented in table 2.

Table 2. Validation of Religious Experts

No.	Criteria	Score
1.	The truth of Islamic concepts and matter	4
2.	The conformity of the verses of the Al-Qur'an with the topic of discussion	5
3.	The accuracy of choosing the verses of the Al-Qur'an with the discussion	4
4.	The Qur'anic verse shows the concept of mathematical integration	3
5.	The module contains a message of devotion	4
6.	Ability to instill Islamic values	4
7.	The accuracy of Islamic values is implanted	3
8.	This module can add insight into the concept of an Islamic point of view	4
9.	This module can make students aware of the greatness and power of Allah	4
	Amount	35
	Percentage	77,78%

Meanwhile, based on an open questionnaire, religious experts provide input

related to the internalization of tauhid in mathematics, namely, in addition to including the verses of the Koran, it is better to include the corresponding hadiths, so that the material is more applicable.

3.2 Validity Test of Material Content Experts

Subjects assessed the content of teaching materials development products that were aligned with the second semester of grade 3 mathematics subject matter through closed and open questionnaires. The results of the assessment through a closed questionnaire are presented in table 3.

Table 3 Validation of Content Experts

No.	Criteria	Score
1.	The accuracy of chapter titles with the content of the material in each chapter	5
2.	Clarity of instructions in each chapter	4
3.	Conformity between competency standards and learning objectives	5
4.	Clarity of material description	4
5.	Clarity of examples of questions given	3
6.	Clarity between assignments and exercises given	4
7.	The accuracy of the supporting sources obtained is used as a reference for finding reading sources that are relevant to the material	3
8.	Use of an applicative example	3
9.	Availability of feedback at the end of learning activities	3
	Amount	34
	Percentage	75,55%

Meanwhile, based on the open questionnaire validation, the material content expert gave input related to the content of the material in mathematics, namely, giving exercises by increasing the types of HOTS questions.

3.3 Discussion

Building the character of students can be done by continuous habituation which leads to the cultivation of character education in students. Elkin & Sweet (2004) defines character education as a learning process designed to educate and direct students to develop basic values of state and character, ethics of service to the surrounding community, improve schools and student achievement.

Based on the Regulation of the Minister of National Education Number 22 of 2006 (maxinus jaeng, 2016:21), which contains the objectives of mathematics, several values of character education can be developed through learning mathematics which includes the characteristics of mathematics education. including discipline, honesty, hard work, creativity, curiosity, independence, responsibility.

Validation of religious experts through a closed questionnaire which is reflected in table 2 obtained a percentage score of 77.78%. This percentage, if converted to the level of validity by table 1, is in a fairly valid qualification, meaning that essentially the

values of Tauhid in mathematics material are following the expected standards. As for the input from the validator so that the internalization of the value of Tauhid besides the verses of the quran is also added with relevant hadiths.

While the content validation through a closed questionnaire which is reflected in table 3 obtained a percentage score of 75.55%. This percentage, if converted to the level of validity according to table 1, is at a sufficiently valid qualification, meaning that the essence of the content in mathematics material is following the expected standards. There is input from the validator to add more challenging questions for students.

Based on the description of the results and discussion so that the formulation of the problem in this study can be answered, namely, the teaching materials based on the internalization of tauhid values in mathematics are quite valid and can be used as a draft for further, more in-depth research.

Conclusion

Carrying out the process of internalizing monotheistic values in mathematics becomes easier if the teaching materials used are integrated with Islamic values. Before the teaching material is used, it must go through a validation process from a competent expert. The validation results obtained in the study showed that the teaching materials had met the criteria which were quite valid.

The results of this study are the first steps for the author to develop existing teaching materials by testing their practicality and effectiveness. So that it is ready to be used for the learning process and the formation of student character.

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