



Mathematics Learning Framework Based on the Perspective of the Qur'an

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ABSTRACT

The purpose of this study was to analyze and describe the design of the mathematics learning framework based on the perspective of the Qur'an. This research uses a qualitative approach, namely library research. The research data sources consist of references or literature related to learning mathematics in the perspective of the Qur'an, especially focused on algebraic concepts such as numbers, various numbers, and operations. In addition, one expert in the interpretation of the Qur'an was involved as a data source. The research data were analyzed using content analysis techniques. The results of this study indicate that in the Qur'an there are various mathematical concepts that can be used. studied in more depth, and the Qur'an clearly provides an overview of mathematical concepts such as algebra, namely regarding numbers, various numbers, and number operations as well as various learning activities. Designing mathematics learning based on the perspective of the Qur'an is something that very interesting because it will be motivated to seek, study, and adabburi every thing related to mathematics to be correlated with the Qur'an. With this research, it can be concluded that learning mathematics based on the perspective of the Qur'an can help the learning process both theoretically and practically.

Keywords: *Framework Design; Mathematics Learning; and Al-Qur'an Perspective*

1. INTRODUCTION

Mathematics is a subject that is taught at every level of education in Indonesia. This is because mathematics is considered to have an important role in various aspects of life. Many problems in daily life can be solved using mathematics. Among them is to find out the elements of buying and selling activities in the market and around one's own residence. Such as profits, losses, and so on in these buying and selling activities.

In the era of scientific and technological advancement like today, educators should be aware that it requires educators to be more creative and innovative in delivering mathematics learning so that students can learn independently outside of study hours. On the other hand, the availability of facilities and infrastructure is one of the obstacles to being able to carry out learning activities independently or cannot be used optimally as a learning resource. However, the availability of books, and modules as teaching materials is quite easy to obtain, but the availability of teaching materials with Islamic nuances based on the perspective of the Qur'an is still rare and even rarely used in a learning activity for the delivery of learning materials.

Some of the studies that have examined the integration of mathematics with Islam are as follows: (1) The integration of number verses in the Qur'an with Islamic values. (2) Mathematics learning in the perspective of the Qur'an. 3) Development of Islamic Nuanced Worksheets (LKS) in Mathematics Learning. It can be seen that research on the integration of mathematics with Islam has been very numerous and even diverse. However, if examined more deeply related to research on how the design

of the mathematics learning framework based on the perspective of the Qur'an is still lacking.

The Qur'an is the holy book of Muslims that contains guidelines for human life, surely in the Qur'an it not only describes the guidelines for human life in terms of worship, but also contains guidelines for relationships between humans in various other aspects of life. One of the guidelines in human relations is the guidelines that regulate the procedure for seeking knowledge, including learning. The learning process is an interpretation of the verses of the Qur'an that is associated with the concept of mathematics learning that is developing today.

The Qur'an is a guide that, when studied, will help us find values that can be used as a guide for solving various problems in life. If lived and practiced, it will make our thoughts, feelings, and karsa lead to the reality of faith that is needed for stability and peace of personal and community life. The Qur'an is the holy book of Muslims which is the source of all sources of knowledge, which in practice should be reflected in the overall behavior of a Muslim's life. Mathematics as a science, even dubbed as the king of science, mathematics is definitely part of the Qur'an. Based on this point of view, it is explained that mathematics learning is inseparable from the Qur'an because there are many mathematical concepts in it.

Therefore, by developing an inspiring, easy, communicative and interesting learning concept that is sourced from the verses of the Qur'an, it is hoped that the joy of children and the next generation will grow to be more enthusiastic in learning mathematics. Mathematics learning does not have to be displayed with a complicated or complicated impression but it is necessary to have simple, interesting, and contextual displays of mathematics learning. Based on the description above, this study will conduct research to analyze and describe the **"framework of the concept of learning Mathematics based on the perspective of the Qur'an"**

2. LITERATURE REVIEW

1. Framework Design

Design is a process to define something that will be done using a variety of techniques and involves a description of the architecture and details of the components and also the limitations that will be experienced in the process of work.

Several experts also give opinions about this design or design, including Pressman "Design is a meaningful engineering representation of something that is to be built". This means that a design result will later be a representation of something to be built (in this case, learning). Then Gustafson gave a broader opinion stating that "Design is the process of applying various techniques and principles for the purpose of defining a device, a process, or a system in sufficient detail to permit its physical realization". This means that in the design process can use various types of techniques to realize the goals you want to achieve.

2. Mathematics Learning

According to Corey in (Sagala), learning is a process in which a person's environment is deliberately managed to allow him to participate in certain behaviors, certain conditions or produce responses to certain situations, learning is a special subset of education. Meanwhile, according to Achyar, learning is the process of interaction between students and educators and learning resources in a learning environment.

Based on the above opinion, it can be concluded that learning is a process that has been designed programmatically by educators to attract students to participate in certain learning matters, so that students can learn actively and independently by using all learning resource facilities.

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In the teaching and learning process at school, students study several areas of study including mathematics. Mathematics has a very important role in daily life and in helping other fields of science. Mathematics is a means of logical, systematic, and consistent thinking in determining and developing science and technology to face future challenges in global competition. Given the importance of the role of mathematics, there is hope that mathematics learning achievement can be improved.

3. Perspective of the Qur'an

Etymologically, the Qur'an comes from Arabic, which is the plural form of the masdar noun of the verb qara'a (أَرَق) – yaqra'u (أَرَقِي) – qira'atan (قِرَاءَاتٍ) – wa qur'anān (أَنْزَارِق) which means "reading" or "something" that is read over and over again". Meanwhile, in terminology (Islamic terms), the Qur'an means the holy book of Muslims which contains the words of Allah SWT which were revealed to the Prophet PBUH as a miracle.

Then experts put forward their opinion about the Qur'an, namely, according to M. Quraish Shihab stated that "it is a proper name of Allah's choice, because there is no reading since man knew the reading five thousand years ago that can match the Qur'an, a perfect and noble reading. Meanwhile, according to Nursupriana (2017) in (Subhi) that the Qur'an is the word of Allah SWT. The holy book that contains the heavenly message mediated by revelation and quick signals that are secret in nature was conveyed by Allah to the Prophet and the Messenger who became a miracle revealed to the Prophet Muhammad PBUH.

4. Mathematics Learning Framework Based on the Perspective of the Qur'an

In the process of learning mathematics, an educator has a very important role. This is because educators are facilitators in the learning process, educators must be able to develop all student competencies to the maximum.

To carry out a mathematics lesson, educators do not necessarily do not necessarily do without preparation, namely they must prepare all things that refer to learning activities. Good learning must have a good and mature preparation. With this good preparation, it is hoped that it will be able to increase the confidence of educators in delivering learning materials effectively to students.

Mathematics learning is a process designed with the aim of creating an environment that allows students to carry out mathematics learning activities, so that the understanding of mathematical concepts or principles can be learned well by students. Through these actions, an effective, efficient, and engaging learning process can be carried out and the results of learning will be achieved.

The researcher interprets the design of the mathematics learning framework based on the perspective of the Qur'an, namely how the mathematics learning framework is designed according to the Qur'an. Where the conceptual framework of mathematics learning is based on or sourced purely from the Qur'an, namely regarding its various verses that refer to the concept of mathematics learning. If the basis of the teachings in the Qur'an is peeled off, then there are a lot of verses related to

mathematical concepts. One of them that will be discussed in this study is algebra. The study of algebra cannot be separated from several components, including numbers and number operations. Then the Qur'an also talks about geometry related to the concept of form and measurements. The mathematical learning framework designed in this study is compiled and described in general.

3. RESEARCH METHODS

This study uses qualitative research with the method of library research or literature review. The object of this research is the Qur'an looking at perspectives related to mathematics learning. The results of the research were obtained through the stages of data analysis techniques, including data reduction, data display and conclusion drawing. The analysis in this study is carried out by a type of content analysis, which is research conducted on information, which is documented both in recordings, images, sounds, and writing. The next step is to carry out a descriptive interpretation, namely by providing an overview and interpretation as well as a description of the data that has been collected.

From the results of the collected data, the researcher processes and analyses the data using qualitative analysis, which is an analysis that reveals a problem not in the form of numbers but in the form of perception based on the results of data processing and the author's assessment, because of the qualitative path with a literature review system in order to find valid data from each existing reference source.

In this study, the researcher used several instruments to be able to collect the necessary data as a tool to see the results of the research. The researcher uses an instrument, namely library research, which is to study references or literature related to the discussion, both Indonesian and foreign-language. This study concerns the verses of the Qur'an, so as a secondary literature is the book of tafsir, as a support for researchers using Islamic books, journals, articles and several opinions that discuss the design of the mathematics learning framework based on the perspective of the Qur'an.

The data collection techniques carried out by the researcher are as follows:

- a) Finding and recording Qur'anic verses related to mathematics learning. In accordance with the scope of the discussion carried out by the researcher who then grouped which verses are related to algebra. This is done manually using the Qur'an and translating interpretations, using scientific books, newspapers, magazines, and other documents related to the matter.
- b) Identify and sort out Qur'anic verses that contain the concept of algebra, namely about numbers, various numbers and number operations.
- c) Write verses that contain algebraic concepts in Arabic and include translations in Indonesian for analysis

4. DISCUSSION

1. Mathematics Learning Based on the Perspective of the Qur'an

As the results of research taken in the journal Mulin Nu'man (2016) stated that the mathematics learning process is an interpretation of several verses of the Qur'an that are associated with the concept of mathematics learning that is developing today. In addition, this study also explains that there are various principles in the learning process in the Qur'an, namely 1) learning activities cannot be represented by others, must be experienced by students themselves, 2) teaching is an effort to make others learn, 3) the main role of teachers is to create conditions so that learning activities occur in students, 4) a student-centered learning approach, 5) interacting with each other, 6) sharing material asking each other

questions/answers. These six principles must be integrated in every learning process, including mathematics learning. The various principles are integrated in the following stages of learning activities:

Tabel.1 Mathematics Learning Activities

No	Reference Sentences	Activities
1.	QS. Al-Alaq verse 1	Reading, Observing and Thinking
2.	QS. Al-Maun verse 1	Frequently Asked Questions
3.	QS. Al-Alaq Verse 2	Experiment
4.	QS. An-Nahl verse 125	Discussion
5.	QS. Al-Maidah verse 90	Assigning Assignments/Habituation
6.	QS. Al-Insyirah verse 5	Troubleshooting
7.	QS. Al-Baqarah verse 31	Reflection

The design of the mathematics learning framework based on the perspective of the Qur'an in this study describes in the implementation of mathematics learning where it will be presented relevant to the current learning process with the source of material being the development of the interpretation of the verses of the Qur'an and the focus of the material in this study is about the concept of algebra learning, namely about numbers, various numbers and number operations. The mathematics learning framework based on the perspective of the Qur'an that will be designed contains the following activities:

1. Preparation Stage

The preparation stage is the initial stage of planning for teachers to design all aspects of learning to provide smoothness during the learning process. The Qur'an itself gives an illustration of the importance of preparation in learning planning as stated by Allah SWT in Surah Al-Alaq verse 2 which means "He has created man from a clot of blood". This verse gives an overview of the beginning of the process of human life starting from its creation, So that this verse explains to humans that Allah really planned the process of creating His creatures, how and why Allah SWT created them, as we know that all creatures created by Him, especially humans, are to worship Him. Similarly, in preparing learning activities, as a teacher, you must know what its role is in the learning process and what the direction and goals of learning are. Moreover, what are the things that support learning activities that must be prepared.

In the preparation stage itself, as in general, teachers prepare a series of learning plans, namely preparing lesson plans, learning materials and LKS. And at this stage, the analysis stage is carried out on competencies, materials that will be included in learning and also teaching materials that will be used.

2. Implementation Stage

a. Introduction

In the preliminary stage, the teacher conditions students in a conducive atmosphere before learning takes place. Then it began by opening the learning with greetings by the teacher and continued with the reading of prayers before learning began.

Furthermore, it provides motivation to students, namely associating mathematics learning materials with the Qur'an and its use in daily life.

And the teacher also conveys the learning goals that he wants to achieve, and informs students about the learning process that will be carried out, namely regarding the aspects that are assessed during learning.

b. Core Activities

1. Reading, Observing and Thinking

Allah says in surah Al-Alaq verse 1 which means "Read by calling your Lord the Creator". From this verse, it is explained that reading, observing, and thinking activities are integrated in starting the human learning process.

2. Troubleshooting

In the Qur'an, it is taught that humans must be able to be critical in solving problems in their lives as stated by Allah SWT in surah Al-Insyirah verse 5 which means "Because after difficulties there is ease". The connection of this verse with mathematics learning is to look at the side of mathematics learning where students are given a problem or problem, if students learn and be patient, it will definitely lead them to independently solve the problem systematically according to the right solution or answer.

3. Discussion

In the discussion stage, the teacher directs students to study and analyze more deeply about the mathematics learning material that will be studied as material for discussion. As Allah SWT says in surah An-Nahl verse 125 which means "Call (humans) to the way of your Lord with wisdom and good lessons and refute them in a good way. Indeed, your Lord He knows better about those who have strayed from His ways, and He knows better about those who are guided." This verse provides an overview of discussion, where in terms of expressing opinions, humans are required to learn as well as possible in giving strong opinions so that they can break weak or doubtful opinions. Similarly, in the mathematics learning process, discussion activities are able to provide benefits in the mathematics learning process.

4. Frequently Asked Questions

In the learning process, the name of the activity is never spared, which includes questions and answers. And in this case, the Qur'an gives a clear picture in surah Al-Maun verse 1 which means "Do you know those who deny religion". This verse is a picture that is a direct question of Allah to his people. Therefore, teachers can also create and stimulate students' curiosity by presenting mathematics learning that can directly involve students to ask questions and discuss.

5. Cover

1. The teacher facilitates students to conclude the findings based on the learning that has been carried out and this includes the subject matter that the teacher has given to the students.
2. Closing the learning activity, and this activity is immediately carried out by a teacher by giving an interesting final impression to the students who are able to give injections to their students so that they are willing and even can't wait to see them again to be able to take part in the next learning in the future.

3. Evaluation Stage

Learning evaluation is an assessment of students' learning activities and progress which is carried out periodically both in the form of exams, practicums, assignments and learning observations. The purpose of evaluation activities in this learning is essentially feedback for students, teachers, information for parents, and appreciation and motivation for students.

As the results of the research, the evaluation stage of learning based on the perspective of the Qur'an is as follows:

a. Assigning Assignments/Habituation

The next mathematics learning activity is assignment. The assignment is done for habituation for students in an effort to think mathematically in solving problems. This habit will later affect the meaning of learning or the strength of knowledge embedded in students' memories and behaviors. Allah SWT explained how habituation has a great impact on the strength of knowledge embedded in the brain. For example, in surah Al-Maidah verse 90 which means "O you who believe! Indeed, drinking, gambling, idolatry, and drawing fortune with arrows, are heinous acts and include the deeds of Satan. So stay away from them so that you may be lucky."

The above verse is an illustration that if drinking intoxicating liquor is habituated, it will have a bad impact. This can be made a counterposition, if you want to get a good impact, then students must be accustomed to doing good. If students want to be able to better understand and remember mathematical concepts regarding algebra, then make it a habit for students to always do mathematical assignments related to the material.

b. Reflection

Reflection on learning activities is an activity that has a great influence on the assessment of learning outcomes. Reflection is an activity to ask students about how their understanding of mathematical concepts is learned today. The results of reflection can be used as a reference material for teachers as evaluation materials for the learning process carried out. From the results of the research as in the verse of the Qur'an, namely surah Al-Baqarah verse 31, Allah gives an overview of the activity of reflection which means "And He taught Adam the names of all these things, and then He showed them to the angels, saying, "Tell Me the names of all these things, if you are right."

In the verse above, there are several important aspects, namely a) the teaching from Allah SWT to the prophet Adam (as), Allah as an educator, and the prophet Adam as a student, b) the aspect of teaching materials, namely the names of all things in this universe, c) the form of feedback (reflection), which is Allah's command to the prophet Adam to reinform the knowledge that has been taught to him before the angels, It's similar to the exam plus assist, and d) the aspect of feedback in the form of the Prophet Adam's excellent mastery of the knowledge that Allah has taught him. Referring to this, reflection activities can also be applied in algebra learning which involves interaction between teachers and students with teaching materials is algebra material based on the perspective of the Qur'an, then in the feedback process the teacher gives an exam that can stimulate students to restate the learning results that have been given by the teacher as answers in the exam.

5. CONCLUSION

Mathematics learning based on the perspective of the Qur'an is learning that is related to the material, strategies and also learning steps based on the perspective of the Qur'an. With the design of a mathematics learning framework based on the perspective of the Qur'an, it will foster students' interest and interest in learning mathematics, students can analyze a problem more critically, and increase students' insight into mathematics learning based on the perspective of the Qur'an which is sourced from the Qur'an itself, the activity also becomes more communicative and meaningful. In addition, teachers can also help and make it easier for educators to plan the learning process, namely preparing inspirational teaching materials related to the design of a mathematics learning framework based on the perspective of the Qur'an.

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