

BUILDING STUDENT CHARACTER THROUGH LEARNING MATHEMATICS

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Abstract

This literature study aims to analyze the learning of mathematics to build the character of students in elementary school. Mathematical learning has a close relationship with everyday life. Thus mathematics will relate to the character of students such as honesty, social care and discipline. The concept of honesty in mathematics learning is depicted in social arithmetic material that introduces about profits, and losses. The character of discipline in mathematics can be interpreted in material such as debit. Attempts to build student character in learning are also the responsibility of the teacher. Thus prospective teachers must have superior competence in order to build the character of students through learning mathematics. Positive characters built through the learning of mathematics since the elementary school, is expected to be a habituation to students as a provision for life.

INTRODUCTION

Learning at the elementary school level that are currently using the Curriculum 2013, which is to insert a character education in all learning outcomes. Character education can be seen in the Competency Standards and Core Competencies, for example in the core competencies of Grade 1 of elementary school that is to accept and live the teachings of religion and beliefs that are embraced, have honest behavior, discipline, responsibility, courteous, caring, and confident in interacting with family, friends and teacher [1]

Achievement of learning in elementary school is expected to not forget the character aspects ,this is certainly a challenge for teachers and prospective teachers for the readiness to face the challenges of the times. Constructive learning in Elementary School can be attributed to the character that will be implanted into the student. One of them is a Mathematics lecturer in elementary school. States that mathematics is often understood only as formulas, rules, and algorithms of absolute truth, and can't be questioned why [2]

Mathematics learning is known as abstract learning for students. This presents a challenge to be associated with character education that is closely related to the daily life of the students. Which is actually in the subject matter of mathematics in elementary school very closely with real life . Along with that statement, states that when we think that math for all students, then we will need to pay attention to research on effective math learning practices [3].

From the explanation, the hope that learning mathematics is no longer considered as an abstract learning, difficult to understand students and make students uncomfortable to learn math, can be a learning mathematics that is easy to understand, fun for students. It can be achieved if the learning of mathematics can be attributed to the student's real life and inserted character education, so that learning will become effective and meaningful.

Substantive learning has the meaning that the core learning is "change", and the change is gained through activities responding to the learning environment [4]. Activity responds from the definition of learning, is the existence of activities created or designed by the teacher, with the intention that the students perform these activities to achieve the expected goals.

The purpose of learning mathematics by Kurikulum 2013 [5] emphasizes the modern pedagogic dimensions in learning, which uses a scientific approach ie observing, asking, trying, reasoning, tasting, and creating. It is intended that mathematics learning for mathematics learning becomes meaningful .

The mathematics content of elementary school in the curriculum of 2013 is (1) to show positive attitude of math: logical, meticulous and accurate, honest, responsible, and not easy to give up in solving problems, as a form of implementation of habit in inquiry and math exploration. (2) have curiosity, the spirit of continuous learning, confidence, and interest in mathematics, which formed through the learning experience. (3) understand the sum and subtraction of the original numbers. (4) grouping objects according to their shape. (5) understand the effect of adding and subtracting from the collection of objects. (6) identifying whole and daily life. (7) use images or photos to declare an information and answer questions about it. (8) using a concrete model in problem solving [6].

Fuadi, R, et al [7] stated that the mastery of mathematics material for students becomes an indispensable necessity in the arena of reasoning and decision making in an increasingly competitive era of competition at this time. Students need to have the ability to acquire, select and process information to survive in an ever-changing, competitive state. This ability requires critical thinking skills, systematic, logical, creative and effective collaborative skills . This can be developed through mathematics learning, since mathematics has a strong and clear structure and linkage between concepts to enable students to think rationally [8].

Mastery of mathematics material for students is a must, but it is necessary that the business of mathematics is not just numbers and symbols alone, which actually makes mathematics into a frightening lesson. Supported by the opinion of Turmudi [2] understanding of mathematics which is only understood as formulas, rules and algorithms will only shackle mathematical users only, inhibit the understanding that math is actually meaningful and useful.

Conceptually the draft of the 2013 curriculum is aspired to be able to give birth to a comprehensive intelligent future generation that is not only intellectually intelligent, but also emotionally, socially and spiritually [1]. Agreed with Hidayat, Maxwell [9] states that a good character is more than a word, a choice that brings success, is not a gift but is gradually built up with thoughts, words, real actions through habituation and formed out of difficulty for the sake of difficulty while living life.

From the opinion that it is very important to build character in students, especially students in Elementary School through the learning process obtained in the

School. The expected character of the students in Elementary School has been determined on the core competencies in the table 1.

Table 1. Core Competencies of Elementary Schools on Aspect of Attitude

Class	Character
I	Having honest, disciplined, responsible, polite, caring, and confident behavior in interacting with family, friends, and teachers
II	Having honest, disciplined, responsible, polite, caring, and confident behavior in interacting with family, friends, and teachers
III	Having honest, disciplined, responsible, polite, caring, and confident behavior in interacting with family, friends, and teachers
IV	Have honest behavior, discipline, responsibility, courteous, caring, and confident in interacting with family, friends, teachers, and neighbors and love homeland
V	Have honest behavior, discipline, responsibility, courteous, caring, and confident in interacting with family, friends, teachers, and neighbors and love homeland
VI	Have honest behavior, discipline, responsibility, courteous, caring, and confident in interacting with family, friends, teachers, and neighbors and love homeland

Hidayat [1]

Table 1 shows that in every level of our class has certain karater product. The higher grade levels more and more types of characters that must be achieved. Komalasari, K and Saripudin, D [10] states that character building education implicitly means building a behavior or pattern of behavior that is based on or associated with positive or good moral dimensions, not negative or bad. The statement explains that the expected positive character of the student as a result of the learning process, and it is expected to be built in every learning material in the school, not least in the learning of mathematics.

The importance of building character in the students is also supported by the Kementerian Pendidikan Nasional [11] identifies 18 values in cultural education and the character of the nation that is derived from religion, Pancasila, culture and national education objectives of religious character, honesty, tolerance, discipline, hard work, creative, independent, democratic, curiosity, the spirit of nationalism, love of the homeland, appreciate achievement, friendly/ communicative, love peace, love reading, caring environment, social care, and responsibility.

The characters contained in the Kementerian Pendidikan Nasional that has 18 values of characters, adjusted to education level or in other words built in stages according to level. The characters expected in the elementary school students can be seen in table 1.

METHOD

This research is a research deskriptif with qualitative approach through literature study. This research by doing study on some literature in book, journal about study about mathematics learning, character education, and character building through learning mathematics. Sources of study in the form of reference books and published scientific journals. This research is also designed to know and explain about the characters can be built on students starting from elementary school through learning mathematics. The type of data used is secondary data is supporting data sourced from the literature as well existing references.

RESULT AND DISCUSSION

Students attempting to solve mathematical problems often fail to perceive that symbols associated with abstract ideas [3]. This shows that students who do not understand mathematics because they only see mathematics as abstract symbols will force themselves to memorize the rules that exist in mathematics. This misunderstanding also makes students difficulty in memorize math rules that lead to surrender and no longer want to try to solve math problems.

Difficulties experienced by students on learning mathematics is also one of them because students consider mathematics as an abstract learning. This has been expressed by Prof. Turmudi that "mathematics as long as this thing that is in the sky and the duty of the teacher to bring it down to earth". The statement has the intention that mathematics can be concretized or in other words can be attributed to real life.

Understanding that mathematics is a learning that can be associated with real life needs to be started since students in basic education bench. It is intended that the learning of mathematics for secondary education can be more easily understood by the students if from the basic students already have a good understanding of mathematics. A good understanding of mathematics by students is also expected to build a positive character to mathematics that will impact the character of students in everyday life.

Character of students who are expected to arise or awaken from the learning of mathematics course the material will be delivered will be hurt with the life or habits of everyday students, so that the material given will be easy to understand students and characters that are expected to be owned by students. Mathematics learning materials in Elementary School can be attributed to the students' daily life. As for some material that is associated with daily life and can build the character of students will be discussed in the following discussion.

The environmental caring character in mathematics learning in elementary school can be identified in everyday activities such as debit material that is using enough water when brushing teeth. Character of environmental care built on the debit material intended for students to have an attitude of water savings through brushing teeth. This debit material is identified so that students can use the water wisely through the habit of brushing their teeth. The habit of brushing teeth is mostly done by using a tap that continues to flow using the help of a glass. It is expected that students can differentiate it

and choose the right action that is by using glass while taking water to rinse while brushing teeth [9].

Water saving attitudes that are built as a caring character of the environment can also be linked to social caring characters, where students are encouraged to be sensitive to others who also need water for their survival. So students have an awareness of the importance of not wasting water.

Such environmental cares are identified through the debit material in accordance with the description of environmental caring values from the Kementerian Pendidikan Nasional [11] that is the attitude and actions that always try to prevent damage to the surrounding natural environment, and develop efforts to repair the natural damage that has occurred.

The character of discipline in learning mathematics in elementary school can be identified in everyday activities such as the matter of numbers know the time (hours and minutes) is doing daily activities in accordance with the time. The character of the discipline built on the material of time meant that the student has an attitude to respect the time. The material is identified so that students can perform good habits according to activity in time, which starts from waking up to sleep again.

This time-honoring attitude is important to be implanted in students since elementary school so that students are not accustomed to stalling, and students are expected to be able to keep their promises and be trained for good planning as a reflection of time. The character of this discipline is through the material of time according to the disciplinary value descriptions of the Kementerian Pendidikan Nasional [11] which is an act which shows orderly conduct and complies with various rules and regulations.

In an honest character in mathematics learning in primary school can be identified for example on the measurement material (weight, length and other) that students understand that any measurements such as determining area, weight, length of objects and others adjusted to the actual size, without harming others. This honest character can also be associated with other materials such as profit and loss calculations.

This honest character through the measurement material and the calculation of profit and loss in accordance with the description of the Kementerian Pendidikan Nasional (2010b) [11] for the honest value of the behavior carried out on the effort make himself as a person who can always be trusted in words, actions, and work.

From these discussions, mathematics learning is a learning that relates to everyday life and has positive value for the students. This suggests that mathematical learning is closely related to everyday life, even related to positive characters that can be built on students. According to Freudenthal [3] social life often utilize mathematical principles, because in essence mathematics is the activity of human life.

This awareness is considered necessary for teachers and prospective teachers as a solution for mathematics learning can be given effectively and easily understood students. Walle [12] states that learning how best helps students believe that math makes sense and that students can understand mathematics is a fun and long process.

Positive characters built through mathematics learning, identified not only from one subject matter but can be an integral material one with other materials in building a positive character of students. Similarly from one material can be built more than one positive character..

CONCLUSION

Mathematics learning when viewed only once passes only in the form of symbols and numbers that for students have nothing to do with their daily life. This is what makes the students difficulties in understanding mathematics even make math lessons that are not desirable. Whereas if mathematical learning is accustomed to be presented by connecting in real life, the hope of students to be able to understand the learning of mathematics well can be achieved. Especially when the mathematics learning associated with daily life students are also inserted to build a positive character of students, will make learning mathematics not only interesting for students to learn but also be a meaningful learning for students to understand. Positive characters built through the learning of mathematics since the elementary school, is expected to be a habituation to students as a provision for life.

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