

Planting Character Independent Mathematics in Elementary School

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Abstract:- The cultivation of character is very necessary to shape the emotional abilities of students. Planting characters requires students' critical thinking skills that trigger independence in learning. An independent character demand students to think critically in learning. The purpose of this study is to describe the inculcation of elementary school mathematics independence characteristics. This research is a qualitative research. The study was conducted at elementary school Muhammadiyah 16 Surakarta in the academic year 2020/2021. Data collection techniques with participatory observation, in-depth interviews, and document analysis. Research data validation is done by triangulating sources and time. Analysis of research data was carried out reciprocally. The results of the study, the development of independent character in elementary school mathematics learning with collaborative learning and the teaching of independent training and controlled training in mathematics competitions. Planting independent character in mathematics elementary school Muhammadiyah 16 Surakarta is able to learn according to the rules, accustom serious and independent work, build trust. To support the planting of character needed supporting aspect including habituation of the teacher to provide exercises in the form of independent or controlled exercises. In addition, extracurricular activities are very advanced at the research site.

Keywords:- *planting of character, independent, mathematics.*

I. INTRODUCTION

Character education has an important role to shape the personality of students. Personality greatly determines students' emotional abilities. One of the abilities of students is the level of independence in learning. The level of schooling needs to be done moral conditioning) which is then continued with moral training (Setiawan, 2013). This is interesting from the results of the analysis of the ability of students in the International Study of PISA (Program for International Student Assessment), obtaining a score of 386 for mathematics and Puspendik Kemendikbud INAP (Indonesian National Assessment Program).

Currently Indonesia is experiencing difficulty in character values. Based on the results of the Program for International Student Assessment (PISA) in 2015 taken by students a maximum of 15 years was placed in Indonesia in the order 64 of 72 participating countries PISA (OECD, 2016: 5). Character education of students in learning needs

special attention because character is an embodiment of quality students, both academic and non-academic. PISA learns to measure student intelligence in mathematics so that it can be make learning activities conducive. Therefore character education is not necessarily given directly to students, but through various program activities that are integrated in learning so as to provide healthy learning activities, and intelligent learning outcomes. The character enhancement effort is one of the programs developed in learning, so as to produce intelligent students with independent character.

Students who have strong independent character must succeed in learning and preparing for global challenges that will be fully supported. Schools are expected to be able to create and produce students who are intelligent and have character, because of basic education from human resources. Bahri, S (2015) explains three areas in the field of the value of quality education in schools, namely the field of learning, the extracurricular field and through school culture. Therefore, education needs to develop self-ability and motivation possessed by students in accordance with the exemplary students.

The Independent character requires students to think critically in learning. The results of the pisa show that the learning process is still relatively low. This is because there is not collaboration between teachers and parents, then internalization of character values in learning must be established both between teacher and students (Prih, J., Tri, E., & Budi, B, 2018). So, things that should be a teacher's attention are, provide guidance / reinforcement related to student independence at school, provide stimulus / stimulation and shape student character early on.

The results of a preliminary study conducted by researchers at Muhammadiyah 16 Surakarta Elementary School, facilitating students who are able to do assignments / solve problems with the guidance of the teacher is not optimal in analyzing and solving problems independently. The results of these observations, in learning mathematics using the lecture method and teacher guidance in each step of learning activities. This can be interpreted that the character of independent student education is not optimal at the Elementary School in the study. Because learning mathematics is one of the development of students' selfpotential, character and skills (Novitasari, Utama, Narimo & Fathoni, 2019). To prepare students who need teachers to master new competencies (Warigan, 2019).

The tendency of elementary school teachers in the research areas of teachers provides knowledge and has not yet maximized the formation of student characters. This is supported by the opinion of Fithriyana (2017) stating that elementary education schools are responsible for building the next generation of the nation so that it develops into a generation that is intelligent and has character. Therefore it is necessary to optimize the independence of students in the study.

Students will be not optimal in completing their independence is still accustomed to analyzing and solving problems depending on the teacher. So that students are able to instill the independent character of the teacher to accustom students to explore their knowledge and to accustom students to be independent in the school environment and at home. This is supported by Suarto (2017) stating that supporting character education is approved by the environment both the family environment and the school environment. Cultivation of family character through ways to educate parents, family relationships, home atmosphere, economy, and understanding parents.

Another alternative for students to be able to analyze and simplify problems independently is that students are accustomed to learning and practicing questions both at home and at school. This is in accordance with Presidential Regulation Number 87 of 2017, requiring teachers to improve the character of students who are integrated in all learning. Pala (2011) character education is able to foster ethics, responsibilities and caring students. The cultivation of student character supports the caring, honesty, independence, responsibility and responsibility of others. Good character will be created and developed from time to time through the learning process. Therefore, teachers must have a strategy to integrate character into each subject.

Applanting independent character in elementary mathematics can be discuss learning indicators according to the rules, accustom serious and independent work, build trust. This is supported by Pasani (2014) which shows indicators of independent character, namely 1) Underwent instructions properly; 2) Focus, serious, independent in learning; 3) Having the confidence and conviction to complete the task.

Based on this description, the purpose of this study is to describe the critical thinking skills in mathematics of elementary school students.

II. METHOD

This research was qualitative research. This research emphasized the openness and those lead to contextual and social aspects which implied a view or perception of both individuals and groups and involved the human element as an instrument (Sutama, 2019: 106). This research is a case study of independent character planting by focusing on the learning in the state elementary school SD Muhammadiyah 16 Surakarta, Central Java.

The data collection techniques were observations, interviews, and documentation. In the observations, as a non-participant, the researcher observed the research subjects. This study employed in-depth interviews that were conducted face-to-face, individually and unstructured, where the questions were asked to some informants about the students independent characters. The documentation was intended to collect the secondary data relevant to its implementation.

The data analysis was done using an interactive model (Miles, Huberman, & Saldana, 2014), including data collection, data reduction and data presentation to make the data more focused, and verification and conclusion drawing.

III. RESULTS AND DISCUSSION

➤ *Independent character planting*

The grow up independent character in the preliminary activities of learning mathematics, elementary school teachers where research uses video media and collaborative learning strategies. Learning media are used for apperception and learning motivation. Before starting to learn, students give greetings to the teacher and one student leads a joint prayer without the teacher's guidance. This is a training for students' independence character. Learning material had been prepared, containing mathematical material. Collaborative learning strategies in the preliminary activities are presented in Figure 1.

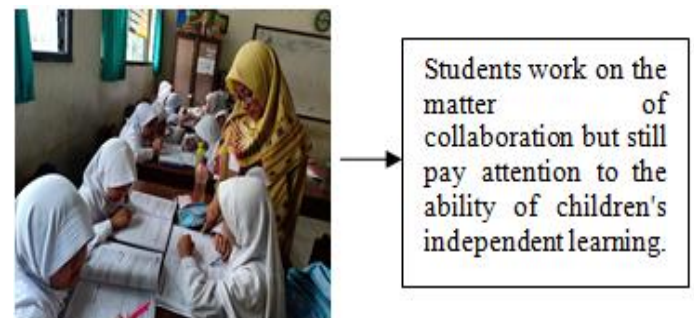


Fig 1:- Learning mathematics in preliminary activities

The results of interviews with elementary school teachers in the study stated that collaborative learning is a teacher's strategy in planting students' independent character. With collaboration, students are encouraged to learn independently to express their opinions on analyzing information through asking or answering questions. This is supported by the results of Amiruddin's research (2019) which concludes that to support educational reform, it can begin by preparing an atmosphere of quality and independent learning processes. Collaborative learning can improve the quality and independence of learning of students. Khoiriyah Annisatul's research results (2016) the formation of collaborative learning facilitates the independence, initiative, creativity, critical thinking ability, full responsibility and respect for the opinions of others.

The benefits of collaborative learning in core activities, to help students solve math practice questions independently. Examples of self-answer in the core activities are presented in Figure 2.

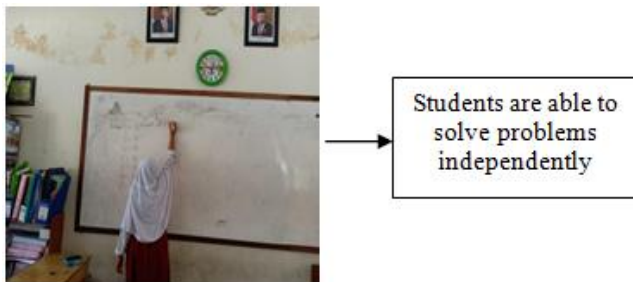


Fig 2:- Independent Completion in core activities

In the practice session, students provide assignments to do the questions both in group practice although independent practice. This practice is expected to all students thoroughly and it is recommended to solve mathematical problems independently and in control. So that all students are thoroughly, applied with peer tutors for the sake of changing. This requires that students are responsible for their learning and students practice independently. Munthe and Naibaho (2019) apply peer tutors in learning to make students more independent and help students with lower abilities. Means, peer teacher application about all students will be high-level critical thinking skills and have an independent character.

In the core activities, in addition to collaborative learning habits, the teacher also teaches independent practice. This is conveyed by the teacher verbally, that is independent practice which is enough to make students think critically. Independent practice will be presented by students in front of the class. Masriah (2015) in her research agreed that independent training provides positive learning for effective learning. This was supported by Pasani and Pramita (2014) who stated that independent learning succeeded increasing the students' independent character. Means that can be interpreted, independent spending is needed to support the independent character of students.

Collaborative learning in selection activities uses controlled exercises to make conclusions and post-tests. Through question and answer that guides students to write conclusions of teaching material that has been learned. Students work on the post-test questions independently without launching teaching material. Learning ends with prayer and greetings.

➤ *Problems that inhibit the planting of character*

Factors that hinder the improvement of character education in elementary school Muhammadiyah 16 Surakarta are related to various effectiveness in time management, low intelligence of students, and increasing

facilities. The results of interviews about effectiveness training in implementing mathematics learning in elementary school Muhammadiyah 16 revealed that students lacked confidence in solving mathematical problems. This is supported by Westheimer (2016) arguing about the culture of education. Independent character will be integrated in learning that is not included in the curriculum. The process of character education will become a good habit for students if the accompaniment is done to the maximum.

The use of teaching aids as a medium to train independent character in learning is still lacking. Thus, students are not interested in learning mathematics so that the level of independence of students is less optimal. Students who have dishonest character complete the task, students are not responsible as participants are responsible for students who complete and learn for selves the assistance provided by the teacher providing group assignments. Pranata research results (2016) states that the teacher's strategy in implementing character education with character development through school programs, and integrating into subjects through habituation in school.

➤ *Aspects That Support the Development of Independent Character Education*

The aspect that supports the development of independent character in elementary school Muhammadiyah 16 Surakarta is the habituation of teachers to provide training in the form of independent and controlled exercises. In addition, extracurricular activities are very advanced at the research site. Schools get the trust of the society to be one of the top schools in the city of Surakarta. These aspects can be elaborated as follows:

The implementation of independent character planting is collaborated with the extracurricular school system with a school system that is characterized according to the existing facilities. This is supported by Zurqoni (2018) who states one of the main factors that supports the approval of independent characters that support adequate learning facilities. This has become one aspect that supports the cultivation of independent character. As was added in the Strengthening of Character Education to develop character values is needed in preparation for global challenges.

The teacher's efforts to educate, train, and guide students in character development, both individuals and groups. For example the teacher gives mathematics with pretest and posttest. Students are expected to be able explore their knowledge independently. Motivation based learning is active, effective and practical character education (Yusuf, 2018). This is supported by Lisnawati (2016) who states that character education can be applied through habits in schools by showing the value of independent, honest, and renewed characters.

IV. CONCLUSION

Cultivating the students' self-reliance character in mathematics learning conducted by Elementary School Muhammadiyah 16 Surakarta teachers, using a collaborative learning model with independent motion training and controlled exercises. The collaborative learning process is carried out starting from the introduction, core activities, and closing activities. Collaborative learning about improving the character of student. Cultivating independent characters in learning can be help students to work together also work independently in solving math problems.

Cultivating independent character in mathematics elementary school Muhammadiyah 16 Surakarta is able to learn according to the rules, accustom serious and independent work, build trust. Cultivating independent characters in the learning indicators according to the rules, students are able to challenge instructions properly. Cultivating the independent character of the indicators of serious and independent work, students are focused, serious, Independent in learning. Instilling independent character on indicators to build trust, students have the confidence and conviction to complete the task.

Factors that inhibit the improvement of character education are related to effective participation in time management, low intelligence of students, and improvement of facilities. The use of teaching aids as a medium to train independent character in learning is still lacking. Thus, students are not interested in learning mathematics so that the level of independence of students is less optimal. Needed to support. Supporting Teacher Assistance provides independent forms of exercise and controlled exercises. In addition, extracurricular activities are very advanced at the research site.

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