
ANALYSIS OF MATHEMATICAL DISPOSITION IN ELEMENTARY SCHOOLS MATHEMATICS LEARNING

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Abstract

Mathematical dispositions play an important role in mathematics learning. Students who have a negative disposition will have an impact on their learning. Aspects of mathematical disposition consist of self-confidence, perseverance, learning with full responsibility, never giving up, and having an interest in challenging, reflective, and creative problems. Given the importance of the mathematical disposition aspect, it should be of particular concern in learning. This study aims to provide a description of the mathematical dispositions of students in grades 4, 5, and 6 at SDN Banyuajuh 1. Using a qualitative case study approach, this research was conducted to obtain in-depth results. The researcher is the main instrument and is supported by several supporting instruments, such as a mathematical disposition questionnaire, observation sheets, interview guidelines, and documentation guidelines. The findings in this study indicate that the condition of the high school students' mathematical dispositions is in a good category. This is indicated by several aspects of achievement, such as the implementation of mathematics and the positive level of student self-confidence. However, not all aspects of mathematical disposition can be achieved properly. Aspects of flexibility, monitoring ability, and student reflection abilities need to be improved. Not only that but teachers also need to pay attention to aspects of cultural appreciation and integration in mathematics. Students' mathematical dispositions are not only influenced by teacher factors but also by student factors. Learning environment factors also play an important role. So, this study provides implications and recommendations for mathematics learning activities that are oriented toward students' mathematical dispositions.

Keywords: elementary school; mathematical disposition; mathematics learning

Abstrak

Disposisi matematis memiliki peran penting dalam pembelajaran matematika. Siswa yang memiliki disposisi negatif akan berdampak pada kegagalan belajar. Aspek disposisi matematis yang terdiri dari percaya diri, tekun, belajar dengan penuh tanggungjawab, pantang menyerah, memiliki ketertarikan terhadap soal yang menantang, reflektif dan kreatif. Mengingat pentingnya aspek disposisi matematis, seharusnya menjadi perhatian khusus dalam pembelajaran. Penelitian ini bertujuan untuk memberikan deskripsi terhadap kondisi disposisi matematis siswa kelas 4, 5 dan 6 di SDN Banyuajuh 1. Melalui pendekatan kualitatif metode studi kasus, penelitian ini dilakukan guna memperoleh hasil yang mendalam. Peneliti sebagai instrumen utama dan didukung beberapa instrumen pendukung seperti angket disposisi matematis, lembar observasi, pedoman wawancara dan pedoman dokumentasi. Temuan dalam penelitian ini menunjukkan bahwa kondisi disposisi matematis siswa kelas tinggi dalam kategori baik. Hal ini terindikasi dari beberapa aspek capaian seperti implementasi matematika hingga tingkat kepercayaan diri siswa yang positif. Namun, tidak semua aspek disposisi matematis dapat tercapai dengan baik. Aspek fleksibilitas, kemampuan monitoring dan kemampuan refleksi siswa perlu ditingkatkan. Bukan hanya itu, guru juga perlu memperhatikan aspek apresiasi dan integrasi budaya dalam matematika. Disposisi matematis siswa tidak dipengaruhi oleh faktor guru saja, melainkan faktor dari siswa, faktor lingkungan belajar juga berperan penting. Jadi, penelitian ini memberi implikasi dan rekomendasi pada kegiatan pembelajaran matematika yang berorientasi pada disposisi matematis siswa.

Kata Kunci: disposisi matematis; pembelajaran matematika; sekolah dasar

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Introduction

Learning activities are activities to discuss subjects or in the 2013 curriculum known as topics. The subjects presented in elementary schools must be mastered by all students as a graduation requirement including Indonesian, Natural Sciences and Mathematics. Even though thematic learning has been applied in elementary schools, several subjects are still taught separately in high school, one of which is mathematics. This is happening at this time, when not all schools have implemented an independent curriculum. Some schools still stick with the 2013 curriculum. Based on the guidebook for implementing the 2013 curriculum, mathematics is separate subject from the thematic for high grades (Kemendikbud, 2012).

Mathematics is one subject that is separate from the theme of elementary school in the higher classes. Learning mathematics is one of the obligations of all students in the hope of continuing their education to the next level. In addition, mathematics is used as one of the subjects tested in the national exam. The national exam is a benchmark or determinant of whether or not a student passes his education. However, the real purpose of learning mathematics in elementary school is to prepare students to be able to deal with the changing circumstances that occur in their lives. Apart from that, students are expected to be skilled in using various mathematical concepts in their application in everyday life (Layco, 2020). Mathematics exams include exams with a difficult level of difficulty when compared to other exams (Jogja, 2019). The same thing was also expressed in some news about the 2019 national exams such as *kompas.com*, *kompasiana.com* and *okezone*. This statement proves that mathematics is a scourge for students, either because of the many formulas used or because of the large number of numbers. This was also stated by Nurjamaludin et al. (2021) which states that, mathematics is indeed close to numbers and formulas.

The purpose of learning mathematics briefly is to create an attitude of respect for the usefulness of mathematics in everyday life. Learning mathematics is expected to develop self-confidence that they actually have mathematical abilities, so that they can control their own success or failure (Nu'man, 2019). In addition to the importance of cognitive abilities, affective abilities must also be possessed by students. This is in accordance with the goals in learning mathematics, namely that students are expected to be able to appreciate the usefulness of mathematics, curiosity, concern and interest in learning mathematics. In this case the mathematical disposition is included in the affective aspect which can affect the thinking ability of students (Fitrianna et al., 2018). So, we have to believe that mathematical dispositions besides building abilities also build positive attitudes in students.

The mathematical disposition or attitude of students towards learning mathematics is an important matter. This attitude can be seen when students can complete mathematical tasks confidently, diligently, responsibly, not easily discouraged, always interested in solving challenging problems, confident in the completion and reflection and have a different way of thinking to solve math problems. Mathematical disposition needs to be concerned and improved, because mathematical disposition is the main factor that determines learning success (Dina et al., 2019). When students have a good or positive attitude towards mathematics, which in this case is done in learning that takes place in class or learning activities at home.

Mathematical disposition is a belief, desire and a tendency that exists within students to always act positively and think mathematically (Akbar et al., 2017). There are several aspects contained in mathematical dispositions such as self-confidence, the ability to explore ideas, persistence, interest, reflection on thinking processes, application of mathematics in everyday life and appreciation of mathematics. According to Kunhertanti & Santosa (2018) in their research about mathematics and self confidence states that "a learner will fail in solving problems if he loses confidence". As we know that self-confidence is part of a mathematical disposition. This is in accordance with the results of interviews conducted by researchers with 6th grade teachers at UPTD SDN Banyuajuh 1, state that when students have difficulty solving math problems, they don't dare to ask the teacher or friends and prefer to be silent. Finally, students will give up and assume that mathematics is difficult. This causes students to be less enthusiastic and less enthusiastic about participating in learning. So at that point the goal of learning mathematics will not be achieved.

As for research in international journals by (Almerino, 2019) regarding mathematical dispositions which states that "The affective beliefs of these college students have influenced and even impacted their perception, values, emotions and behaviors towards such academic discipline, which formed their mathematical disposition". This means that the affective beliefs of students influence their perceptions, values, emotions, and behavior towards such academic disciplines, which shape their mathematical dispositions. So, the existence of mathematical disposition abilities is very important, because it affects several aspects such as achievement, behavior, values, perceptions to the emotions of students in learning mathematics. In line with opinion Almerino, Awofala et al. (2022) and Siregar & Lisma (2019) states that mathematical disposition influences the performance of mathematics learning and learning achievement. Research that also discusses mathematical dispositions was carried out by Hutajulu et al. (2019) which states that one of the factors that can influence students' ability to solve mathematical problems is a disposition that is closely related to students' motivation or attitudes in learning mathematics. Kusmaryono et al. (2019) supports this with the statement of Hutajulu and colleagues, that mathematical dispositions have an important role in learning. This is because the disposition of mathematics related to student achievement. His research shows that mathematical dispositions play a significant role in the success of students learning mathematics.

However, in a preliminary study conducted by Kusmaryono and colleagues, they found that mathematics was often considered a difficult material. This assumption emerges from various groups, from elementary school to higher education. The difficulty faced is actually not because students do not have mathematical abilities, but this happens because of a negative disposition or negative perception of mathematics (Cai et al., 2019). That way, the teacher gets a new challenge, namely having to balance the abilities and attitudes of students in learning mathematics. Because it must be believed that the success of learning mathematics will affect the career and future of students (Kusmaryono et al., 2019).

This statement is in line with the results of initial observations made by researchers at the UPTD SDN Banyuajuh 1. The results of the questionnaire showed that the students' mathematical disposition ability was classified as moderate, with a percentage of 73.31% of 54 children from high class, namely class 4, 5 and 6. Even though students' mathematical disposition abilities are classified as moderate, there are several indicators that have not been optimally achieved. Among the indicators that are still lacking, namely students' self-confidence in solving mathematical problems only gets a percentage of 40.67% and appreciation or the role of mathematics in culture and its value with a percentage of 48%. The

two indicators are still said to be in the less category based on the preliminary studies conducted. In addition to completing the questionnaire, the researcher also conducted interviews with Ms. Suhartik as homeroom teacher for 4th grade and a senior teacher at UPTD SDN Banyuajuh 1. In the interview, teacher stated that when working on math problems, students still often asked their friends. Based on the results of the interviews conducted, it can be concluded that students are still lacking in confidence in solving math problems or in other words, they are still unsure and afraid of being wrong. Even though seeing the importance of the existence of mathematical disposition abilities that can influence several aspects such as achievement, behavior, values, perceptions to the emotions of students in learning mathematics.

To measure students' mathematical dispositions, there are seven indicators. The following is an indicator of the mathematical disposition used in this study according to NCTM (Supriadi, 2017) students' mathematical disposition abilities consist of confident in using mathematics to solve problems, communicate mathematical ideas and provide arguments, think flexibly in exploring mathematical ideas and trying alternative methods in solving problems, Persistent in doing math assignments, Interested and have curiosity and creativity in mathematical activities, monitor and reflect on thinking and performance, Appreciate the application of mathematics in other disciplines or in everyday life, appreciate the role of mathematics in culture and its values. These indicators were also disclosed in research by Kamid et al. (2021) and used as a benchmark for achieving students' mathematical dispositions.

Considering the importance of mathematical dispositions for students to have as a whole, and remembering that many teachers have not focused on assessing the state of their students' mathematical dispositions in learning. So the researcher is interested in exploring the mathematical dispositions at UPTD SDN Banyuajuh 1. The novelty of this study lies in the subjects used which are more complex, namely high grade elementary school age children with different ages, where they are in grades 4, 5 and 6. The purpose of this research is to answer the research question in the form of how the mathematical dispositions of students are in high class UPTD SDN Banyuajuh 1 and also aims to provide recommendations to teachers related to the mathematical dispositions of students at their school . Thus, the teacher will know what aspects need to be developed in learning mathematics and the teacher will have consideration in determining the didactic design according to the needs of developing students' mathematical dispositions.

Research Method

This study used a qualitative approach with case study method. Qualitative itself is a research paradigm that aims to make a description of an event, behavior or situation in the form of an in-depth narrative. Moleong (2014) states that one of the studies used to describe a subject is to use qualitative research. Where this research is used to examine a natural object condition. So this research showed the state of the high class students' mathematical dispositions at UPTD SDN Banyuajuh 1, Kamal by using descriptive qualitative research.

Several stages of research were carried out to obtain findings starting with an empirical study to determine the importance of this research. Then, the researcher examines in depth the theory related to the problems that occur. Valid data collection instruments were prepared to be able to dig up in-depth information in this study. As for the data processing process, researchers carry out reduction, presentation to drawing conclusions periodically and after

each completion of the field. Table 1 shows the grid of mathematical disposition instruments used by researchers.

Table 1. Mathematical disposition questionnaire instrument grid

Indicators	Item (+)	Item (-)
Self confidence	1, 5	2, 3, 4
Idea Exploration and flexibility	6	7
Persevere to solve the problem	8, 10	9
Attention, curious and interest in learning	12, 13, 14	11, 15
Monitoring and reflection	16, 17, 18	19
Respect to mathematic application	20, 21	22
Appreciate the application of mathematics in everyday life	23, 24	25

In addition to using a questionnaire survey, researchers also used supporting instruments in the form of semi-structured interview guidelines and documentation guidelines. Both of these instruments consist of questions and questions which are constructs of mathematical disposition indicators. Each indicator is represented by several items to support the information from the mathematical disposition questionnaire.

Subjects in this study were determined using purposive sampling techniques as a way to determine the sample. Purposive Sampling is a technique used for data collection through certain considerations of subjects who are considered to know the information to be researched the most, with the aim that the data obtained is more representative (Sugiyono, 2013). With the research location at UPTD SDN Banyuajuh 1, with total participant was 62 students. This research lasted for seven months.

Data collection techniques used in this study were observation, interviews, questionnaires and documentation. The results of the data obtained, the validity of the data was tested using triangulation techniques. Triangulation techniques is a test of the results of data collection with different techniques at the same source. The stages in this study started from the pre-field, field activities, data analysis and finally the report writing stage. As for the analysis of the validity of the data obtained in this study using triangulation. The triangulation technique is one way to be able to analyze and get good conclusions in qualitative research (Humble, 2009; Natow, 2020; Sugiyono, 2013). In this study, three data results was combined from the results of interviews, questionnaires and observations which will be supported by the results of the appropriate documentation.

Result and Discussions

This study observed the mathematical dispositions of high grade students which included grades 4, 5 and 6 at UPTD SDN Banyuajuh 1, Kamal. As already written in Permendikbud No. 58 of 2014 concerning the goals of learning mathematics which states that one of the goals of learning mathematics aims to form students' logical thinking not only about counting. This can be analyzed from the activity of observing indicators of exploring mathematical ideas with various problem solving. Observations that have been made to students still use the same method as taught by the teacher, in this case it means that students cannot logically determine other ways of solving mathematical problems. However, critically students try to find or solve math problems even though sometimes they still ask questions about what they don't understand. Interviews with both teachers and students also stated that students would ask questions about questions they did not understand.

The next result came from questionnaire instrument. There are even those who ask for remedies when they get poor results. The results of student response questionnaires about student self-confidence with questionnaire numbers 1, 3, 5 and 8 with good questionnaire scores. Where the questionnaire statement describes the activeness of students in learning, courage in expressing opinions and initiatives in discussions. It is true, students are brave and active to ask questions and express opinions in class when learning mathematics takes place.

The purpose of learning mathematics is also contained in a mathematical disposition. Where the mathematical disposition contains a positive attitude to support the growth of character and character of students. This positive attitude can be in the form of the ability to think critically, creatively, meticulously, flexibly, high motivation to achieve, to the ability to respect the opinions of others (Cai et al., 2019; Trisnowali, 2015). Seeing the importance of the mathematical goals contained in the mathematical disposition, this research is important to do. By knowing the mathematical dispositions, all parties involved in learning mathematics, especially teachers, are able to understand and pay attention to every aspect of the mathematical dispositions that students must have.

The methods that are often applied in high grades include question and answer lectures, audiovisuals, demonstrations, mini lectures and interactive lectures (Widiyantono, 2017). Based on this opinion, the same is also applied at the UPTD SDN Banyuajuh 1. The methods that are often used in high-class learning at the UPTD SDN Banyuajuh 1 in learning mathematics are lecture methods, question and answer and also games as expressed by informants in interviews. The game method is used so that students feel interested and not easily bored in learning. Mathematics that they find difficult will be easy and fun when students learn with pleasure. Fun math learning will make it easy for students to accept the material being taught. Ramani & Scalise (2018) states that mathematics can be taught informally, through several methods of playing, singing and several other activities. Lecture methods that are often used by teachers should be reduced, Tuma (2021) in this research stated that this method is sometimes suitable for use. However, variations on learning need to be done to provide opportunities for active learners.

Mathematical dispositions consisting of seven indicators ranging from student self-confidence, thinking flexibly, student persistence and determination, interest and curiosity, monitoring and reflection on the results of mathematical work, activities appreciating the application of mathematics in everyday life and appreciation of the role of mathematics in culture, values and language. Where mathematical disposition relates to the ability of students to solve mathematical problems to explore various alternative solutions to problems (Supriadi, 2017). When viewed from the context of learning, the manifestation of a mathematical disposition can be in the form of the ability of students to ask questions, give answers, express creative ideas and the ability to work with groups in solving problems. Beberapa sub aspek tersebut diungkapkan oleh Irawan & Iasha (2021) yang berfokus pada disposisi matematis dan kemampuan pemecahan masalah. Dengan bertanya, memberi jawaban dan berpikir kreatif, siswa akan menunjukkan sikap positif terhadap matematika.

The first indicator of a mathematical disposition is self-confidence. Based on the research conducted, it can be seen that students are trying to complete their own work. In addition to self-confidence, the first indicator also states the ability to communicate ideas and give arguments. This indicator can be mastered by students which can be shown by the results of observation and study of the following documentation:



Figure 1. Argumentation Ability and Confidence

Furthermore, an indicator of a mathematical disposition is the flexibility of students which is indicated by other ways when students solve problems. However, students always use the same method as previously taught by the teacher. Because the teacher gives examples of questions when finished explaining a way to solve math problems. When the observation activity took place, the material presented was geometric material. The teacher gives assignments to students to answer questions about the volume of the tube. The following is the result of the documentation of students' assignments in working on cylinder volume questions.

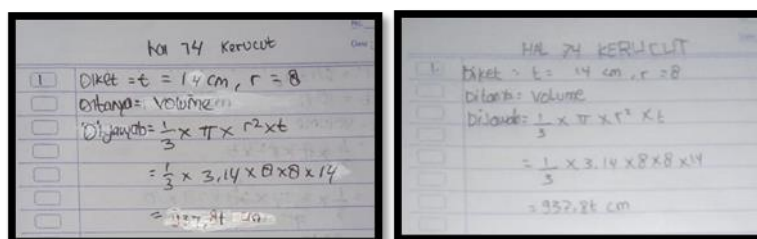


Figure 2. Problem Solving Documentation in the Same Way

The picture shows the results of students' work in solving cone material questions, where students' answers use the same method as has been taught by the teacher. This is in accordance with the results of the study Aini (2019) which states that the level of students' mathematical disposition is influenced by their ability to solve problems. The creativity of students to answer a question is the same as solving math problems. Because, that way students will understand the role of mathematics in everyday life. So if students have creativity or other ways to solve math problems it can be said that they meet the requirements of a good mathematical disposition. Because on of the aspect of mathematical disposition is flexibility of students thinking. From creative thinking it will help students to be critical in solving problems (Celik & Ozdemir, 2020).

However, vice versa, based on this discussion students cannot use a different method, so the researcher concludes that on this indicator students are still lacking. Factors that cause students to be less flexible or to use the same method as taught by the teacher said by one of the informants, namely SK, said that what the teacher has taught about methods or formulas is a doctrine for children. Interviews with students who also stated that, the method given by their teacher considered the easiest way. This opinion is in accordance with the statement of Nurlaily et al. (2019) which states that mathematics learning has not been as expected. The teacher's domination in the learning process makes students passive, one-way interactions so that they wait more for the presentation from the teacher than find their own knowledge.

Likewise, the skills possessed by students are only limited to what has been taught by the teacher (Tuma, 2021).

As a form of attitude in mathematics, a mathematical disposition expects students to be able to apply mathematics in everyday life. The activities of implementing mathematical dispositions were also documented by researchers to support indicators of appreciating the application of mathematics in everyday life. Where in this case is the application of mathematics in life in the school environment is the use of money, the application of simple addition and subtraction operations. Even though this material is not in accordance with the material they are taking at the high class level. However, indirectly students always use the concept of addition, subtraction and currency in everyday life.



Figure 3. Documentation of the Application of Mathematics in Life

In addition to data from documentation and observation studies, researchers also conducted a survey using a mathematical disposition questionnaire for grades IV, V and VI of SDN Banyuajuh 1. Where, class IV UPTD SDN Banyuajuh 1 consisted of 17 students, but 1 student did not participate in filling out the questionnaire. and was not observed by researchers because they were preparing for a district level competition. Based on the table we can see that the average ability of students' mathematical dispositions got a score of 76.13 and a percentage of 79.30%. Then, students in 5th grade of UPTD SDN Banyuajuh 1. A total of 18 students who were used as subjects in class V got an average score of 75.67 and a percentage of 78.82%. A total of 22 students who were used as subjects in class VI got an average score of 76.60 and a percentage of 79.78%. From the data and average results, if included in the criteria for a mathematical disposition, 4th grade students have a good level of mathematical disposition.

Based on data analysis with theory and research results that have been carried out by researchers. The findings in this study are of the seven indicators that adapted form Almerino (2019) that have been measured in mathematical disposition, there are three indicators that are still lacking in their application even though they are included in the good category. Among these indicators are indicators, the second indicator is flexibility in exploring ideas and trying various alternative solutions to problems, this indicator can be said to be lacking after being examined by technical triangulation. In the interview activity, the informant stated that students really like to imitate what has been exemplified by their teacher, so there is no variation in solving problems such as using other methods but with the right results and the same concept. The observation results also illustrate that there is no way that is different from what the teacher has taught. Research conducted by Yayuk & Ekowati (2022) about thinking creatively in a mathematical disposition also states the same thing. Students tend to imitate the method or formula given by their teacher. Some of the causes that indicate the low ability of

students to think flexibly or creatively are expressed by Asri et al. (2023) one of them is the lack of opportunities given by the teacher to students in giving opinions.

The fifth indicator is monitoring and reflecting on thinking and performance. Many students have difficulties because they are not careful so they do not realize the mistakes they have made. This is due to the lack of concentration of students in solving questions and at the stage of re-examining students have not yet reached this stage (Yuwono et al., 2018). This research is in accordance with the findings in this study, where students are still lacking in activities to re-check the results of their answers after working on the questions. In this study the observation activities obtained the result that students immediately collected the results of their work, this was also supported by the results of interviews from SK which stated that students were still lacking in correcting, because what was in their minds, when they finished they were in a hurry rest, go home and others. SK's statement was strengthened by the statements of students who had the motivation to collect the earliest to finish quickly. The activity of re-checking the results of work is also influenced by the level of concentration of students as stated by Yuwono in his research. It turns out that the same thing happened in research Ramadhini & Kowiyah (2022) and Simbolon (2022) that one of the limitations of elementary school students is in their accuracy. This has been analyzed as a student learning difficulty. So, the indicators of activity reflecting on the results of this work are related to indicators of student interest and interest. As for the documentation of interest and interest.



Figure 4. Documentation of Student Interests

Figure 4 shows students still playing alone. This means that when students play alone and do not pay attention to the teacher's explanation, it can be one of the causes of students' lack of concentration.

Furthermore, the indicator that has not yet appeared is the seventh indicator, namely the appreciation of mathematics in culture, values and language. The results of the interviews stated that teachers still find it difficult to connect mathematics with culture, as well as the results of observations in learning that do not involve cultural elements in it. It turned out that this was also experienced by other teachers in the preliminary study conducted by Harahap (2018) the challenge is how to teach mathematics while at the same time developing character in students and introducing local excellence to students. Linking mathematics is indeed difficult, as expressed by high grade teachers at UPTD SDN Banyuajuh 1, especially to find suitable material. Integrating cultural values in mathematics was also researched by Abadi et al. (2018) and Domu & Mangelep (2019), it was motivated by the importance of mathematics and culture as characters in learning.

Other indicators have emerged well. Overall based on the results of questionnaires, observations, interviews and documentation conducted by researchers. Some indicators that are already good such as students' self-confidence are good which are related to the ability to solve mathematical problems. According to research by Yani & Ningsih (2019) which states that student self-confidence influences the ability to understand mathematical concepts and a

strong mathematical disposition can be done by increasing student self-confidence. In addition, indicators of the interest and enthusiasm of students in learning mathematics can be seen from the activeness of students in asking questions or expressing opinions that have emerged in this study. This is also supported by Yani & Ningsih (2019) and Novera et al. (2021) where there are several factors that affect the enthusiasm of students such as asking questions to students, reading references related to the material to be studied. This activity was carried out by high class teachers at UPTD SDN Banyuwajuh 1 who appeared in observation activities and was also in accordance with the results of interviews with informants who stated that teachers had various ways to stimulate students either in the form of applying methods, models or strategies so that students were interested in learning mathematics.

As for the research findings, although there are several notes from researchers in observation activities who have not seen the application of several indicators properly. The results of the research on the mathematical disposition of high-grade students at UPTD SDN Banyuwajuh 1 are in the good category starting from the application of mathematics in everyday life to students' self-confidence and persistence in participating in mathematics learning activities. indicators that have been optimally applied in learning include indicators of self-confidence, determination and persistence of students, interest in and respect for the application of mathematics in everyday life. However, there are still indicators that are still lacking and need attention by teachers in learning mathematics, including indicators of flexibility, monitoring, and reflection as well as the relationship between mathematics and culture. Deficiencies in the application of mathematical dispositions are caused by the difficulty factor of the teacher to associate and find the right material, especially for indicators of the relationship between Madura culture and mathematics. Besides that, the lack of student interest in participating in mathematics learning is also a trigger for the lack of monitoring and reflection indicators. While the indicators of flexibility can be said to be lacking because of the tendency of students to always use the same method taught by the teacher.

Conslusion

The state of the high grade students' mathematical dispositions at UPTD SDN Banyuwajuh 1 is included in the good category where this can be seen from the results of interviews, observation and documentation as well as the acquisition of students' mathematical disposition questionnaire. Some indicators with good implementation include indicators of self-confidence, determination and persistence of students, interest in and respect for the application of mathematics in everyday life. However, what is noted in this study is that there are still three indicators of mathematical disposition that have not yet appeared or their application in learning is not optimal. Among these indicators are indicators of flexibility, monitoring and reflection as well as the relationship between mathematics and culture. Weaknesses in the application of mathematical dispositions are caused by the difficulty factor of the teacher to associate and find the right material and the lack of interest of students in participating in mathematics learning. The implication of this study is as a recommendation for mathematics learning activities in elementary schools that need to pay attention to affective aspects. This research can also be used as an initial diagnosis as a decision making for subsequent mathematics learning.

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