

EFFECTIVENESS OF DIFFERENTIATED LEARNING PROCESS ON SOCIOMATHEMATICAL SKILLS OF GRADE VIII

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Abstract

This study aims to determine the effectiveness of differentiated learning processes on the social mathematical skills of class VIII students at SMP Negeri 18 Medan. This type of research is quantitative descriptive research with the research population being all class VIII students at SMP Negeri 18 Medan. With a simple random sampling technique, a sample of class VIII-10 was obtained with 32 students. The instruments used were questionnaires and observations that had been tested for prerequisites in advance. After the differentiated learning process treatment was carried out, the results of the calculation of the learning quality questionnaire sheet reached an effectiveness category of 56% (moderate), the results of the calculation of the social skills questionnaire sheet reached an effectiveness category of 66% (moderate), the results of the calculation of the observation sheet for the suitability of the learning level to teacher activities obtained an average of 3.476 (good), the results of the calculation of the observation sheet on student activities obtained an average of 3.039 (good), the results of the calculation of the time allocation observation sheet obtained an average of 4 (good). Based on the quality of learning, the suitability of the learning level and time allocation, differentiated learning is effective for the social mathematical skills of class VIII students at SMP Negeri 18 Medan.

Keywords: Effectiveness, Differentiated Process Learning, Mathematical Social Skills

Abstrak

Penelitian ini bertujuan untuk mengetahui keefektifan proses pembelajaran berdiferensiasi terhadap keterampilan sosial matematika siswa kelas VIII SMP Negeri 18 Medan. Jenis penelitian ini adalah penelitian deskriptif kuantitatif dengan populasi penelitian adalah seluruh siswa kelas VIII SMP Negeri 18 Medan. Dengan teknik simple random sampling diperoleh sampel kelas VIII-10 sebanyak 32 siswa. Instrumen yang digunakan adalah angket dan lembar observasi yang telah diujicobakan prasyarat terlebih dahulu. Setelah dilakukan perlakuan proses pembelajaran berdiferensiasi diperoleh hasil perhitungan lembar angket kualitas pembelajaran mencapai kategori keefektifan sebesar 56% (sedang), hasil perhitungan lembar angket keterampilan sosial mencapai kategori keefektifan sebesar 66% (sedang), hasil perhitungan lembar observasi kesesuaian tingkat pembelajaran dengan aktivitas guru memperoleh rata-rata sebesar 3,476 (baik), hasil perhitungan lembar observasi aktivitas siswa memperoleh rata-rata sebesar 3,039 (baik), hasil perhitungan lembar observasi alokasi waktu memperoleh rata-rata sebesar 4 (baik). Berdasarkan kualitas pembelajaran, kesesuaian jenjang pembelajaran dan alokasi waktu, pembelajaran diferensiasi efektif terhadap kemampuan sosial matematika siswa kelas VIII SMP Negeri 18 Medan.

Kata Kunci : Efektivitas, Pembelajaran Proses Terdiferensiasi, Keterampilan Sosial Matematika

PENDAHULUAN

Education according to Adesemowo (in Susilawati, 2024) is a process of human development that is complete and involves many aspects that are usually found in formal institutions such as classrooms or schools. On a broader scale, education is not just the transfer of knowledge but also involves skills training and character development. Education also includes the act or process of

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Febrianti Br Sitanggang, Simon M. Panjaitan, Lolyta Damora Simbolon, Dame Ifa Sihombing, Lena R. Pangaribuan| Effectiveness Of Differentiated Learning Process On Sociomathematical Skills Of Grade Viii educating, in which there is discipline applied to a person's mind or character (Kamalia, 2023).

Mathematics learning is a process of interaction between teachers and students. Teachers use methods to create a thinking and logical learning model, so that mathematics learning can develop optimally, and students can learn more effectively and efficiently. The measure of learning success is not only the results of achievement in school, but learning that can improve and develop what is learned and then applied in everyday life Anggreini and Priyojadmiko (in Widayati, 2022). Mathematics is one of the subjects taught in schools that plays a role in realizing national education goals and building a productive, creative, innovative and insightful Indonesian nation. Mathematics in independent learning aims to create an interesting education for students and teachers, because education in Indonesia has so far emphasized the knowledge aspect more than the skills aspect. (in Widayati, 2022).

Social skills are a person's ability to interact, communicate, and cooperate with others, Siregar (in Maysarah et al., 2024) . Social attitudes are closely related to life between humans. The purpose of this social attitude is so that students can always maintain good relationships with each other because basically humans cannot live alone without involving the role of others. Social skills are important in learning mathematics. Ulum (in Maysarah et al., 2024) stated that social skills are the main capital in interacting with others. Someone who has low social skills will have difficulty carrying themselves in their environment. However, on the other hand, someone who has high social skills will be able to cooperate with others. According to Bremer (in Maysarah et al., 2024) social skills are divided into five dimensions, namely: 1) skills in relating to others (*peer relations*); 2) self-*management* skills; 3) *academic skills* ; 4) *compliance skills* ; and 5) *assertion skills* . In addition, someone who has high social skills also tends to have empathy for others, and can find a way out (solution) to the problems being faced (Laia, 2022).

Nowadays, social problems are still the center of attention in the education system. Research conducted by Hadi et al, Handayani, Kasim, and Rici & Alawiyah (in Amin, 2022) revealed the fact that the social skills of students in Indonesia are still low so that efforts need to be made to improve them. Factors that cause low social skills of students include the impact of technological and communication advances Downey and Gibbs (in Amin, 2022) , including addiction to online games Prayudha, Virilia & Setiadji (in Amin, 2022) , and social media Rasyidah & Cahyawulan and Sari & Aviani (in Amin, 2022). This condition certainly should not be ignored, because teachers have an important role in helping students develop their social skills, both when interacting in class and outside the classroom. The relationship between teachers and students can be a major factor in the development of students' social skills.

Social skills also affect student learning outcomes, meaning that developing social skills in students can lead to increased student learning outcomes Maksu et al (in Amin, 2022). Conversely, if students do not have social skills, many problems will arise in classroom learning. This is evidenced by studies conducted by Dewanti et al, Humaidin, Sutomo, and Wahid (in Amin, 2022) . However, in reality, there are still many schools that have not trained students to develop social skills, even though these skills greatly affect their learning outcomes. This is in accordance with the results of *the Programme for International Student Assessment* (PISA, 2022) survey which shows that Indonesia occupies a low position, namely 66th out of 81 other countries with an average score of 366, where this score is still far from the OECD average score of 472 (OECD, 2023). In addition, social skills also influence other skills, including mathematical communication (Izzati in Amin, 2022) , self-confidence (Martono et al. in Amin, 2022) , and children's independence (Rusmayadi in Amin, 2022) .

Based on the results of a Q&A with one of the eighth grade mathematics teachers at SMP Negeri 18 Medan who said that students' social skills in mathematics are still in the low category.

This can be seen that there are still students who tend to be passive and rarely participate in group or class discussions, students still find it difficult to express their opinions clearly both verbally and in writing, showing an indifferent attitude towards learning activities in the classroom which will affect their learning outcomes. This means that the objectives of mathematics learning have not been achieved properly (SITORUS et al., 2023).

The material on linear equations is a material taught in grade VIII of junior high school that discusses equations, gradients, and linear graphs. In this material, students are required to understand the concept of linear equations. However, not many junior high school students are able to solve problems on linear equations. This fact is supported by research conducted by Astuti and Andi (in Umam et al., 2017) which states that linear equations are difficult material for students, this can be seen from year to year the average class value is still below the KKM and student completion is less than 50% of each class. In addition, students still have difficulty in drawing graphs of linear equations, determining gradients and equations of a linear graph.

This happens because the mathematics learning process still uses ordinary learning dominated by teachers Yusdiana & Hidayat (2018). Many teachers design learning by focusing students on memorizing facts given by the teacher, teachers are considered as sources of information, so that communication only occurs in one direction, namely between teachers and students, which ultimately results in learning becoming monotonous, rigid and lacking enthusiasm Panjaitan (2020) . Mathematics learning is still not optimal, teachers' efforts in teaching are not optimal and the methods, approaches and evaluations mastered by teachers are still in the traditional pattern Simanjuntak & Sihombing (2022) . In line with that, Setyowati et al. (2016) added that the cause of low mathematics learning outcomes is the lack of variation in teaching methods provided by teachers. This makes it difficult for students and has a negative perception of mathematics learning which ultimately leads to a lack of interest and involvement of students during the learning process, and considers mathematics learning to be an uninteresting, difficult and very boring lesson. If this happens continuously, it will affect students' mathematical abilities which can result in less than optimal learning outcomes (Herwina, 2021).

Through the philosophy of Ki Hajar Dewantara (in Sitorus, 2023) and the concept of independent learning whose learning takes into account the characteristics of students and it is necessary to apply the right approach to meet the demands of the independent curriculum, especially at the junior high school level. Teachers, students, and all elements involved in learning activities need to collaborate with each other so that the goals of the independent curriculum can be achieved as expected. Based on this, one solution to meet the demands of the Independent curriculum is differentiated learning. Differentiated learning is learning carried out by teachers by paying attention to the learning needs of each student in the class, including the readiness, interests, and learning profiles of students Faiz (in Sitorus et al., 2023) . The differentiated learning approach is one way for teachers to meet the needs of each student. Differentiated learning includes four aspects, namely differentiation of content, process, product, and learning environment in the classroom. Teachers can choose one or more aspects of differentiated learning to apply in the learning process in the classroom according to the needs of students. If students learn according to their needs, then students will find it easier to understand the material and be able to obtain good learning outcomes Shofwani et al. (2023) . In this study, the main focus that will be studied is the aspect of process differentiation. Process differentiation is the way students process ideas and information that includes needs according to learning styles. Teachers must see which students need help in learning, and teachers must know how ready students are to learn Shofwani et al. (2023). In addition, teachers also act as motivators in the learning process. Students who are less enthusiastic about learning are often due to lack of ability, so that they do not try to utilize their abilities. Therefore, teachers are expected to

Febrianti Br Sitanggang, Simon M. Panjaitan, Lolyta Damora Simbolon, Dame Ifa Sihombing, Lena R. Pangaribuan| Effectiveness Of Differentiated Learning Process On Sociomathematical Skills Of Grade Viii always provide motivation to students so that they can always interact in the teaching and learning process in the classroom Sanjaya (in Busa, 2023) . The process of differentiated learning in this study uses the *Problem Based Learning* (PBL) model. With this learning model, students are expected to be able to increase their self-confidence and become more independent Sri Giarti (in Rambe et al., 2022) . Warsono & Hariyanto (in Rambe et al., 2022) stated that problem-based learning is the type of classroom management needed to support the implementation of the constructivist approach in the learning process (Nawati et al., 2023).

Based on the description above, the author is interested in conducting research with the title "The Effectiveness of Differentiated Process Learning on the Social Mathematical Skills of Class VIII Students at SMP Negeri 18 Medan

METHOD

The type of research used in this study is quantitative descriptive. The type of descriptive research is a method carried out with the main aim of creating a picture or description of a situation (Siregar, 2022). The type of quantitative descriptive research is a research method that aims to describe and explain the conditions that exist in the research object based on the factors and data collected, data analysis is quantitative/statistical. Quantitative descriptive research is research conducted to determine the value of independent variables, either one or more variables (*independent*) without making comparisons or connecting one variable with another (D. P. Lestari et al., 2023).

The location of the research was carried out at SMP Negeri 18 Medan. The research time will be carried out in the Even Semester of the 2024/2025 Academic Year. Population According to Sugiyono (in Lestari & Yudhanegara, 2019) , population is a generalization area consisting of subjects/objects with certain qualities and characteristics that researchers determine to be studied and conclusions drawn. The population in this study were all students in class VIII at SMP Negeri 18 Medan which consisted of 11 classes.

A sample is a part of a population that reflects the number and characteristics of the population Sugiyono (in Lestari & Yudhanegara, 2019). sampling in this study used a *simple random sampling technique* , namely sampling from the population that was carried out randomly without considering the strata in the population. The sample in this study was class VIII-10 of SMP Negeri 18 Medan. According to Kerlinger (in Supriadi et al., 2020) , variables are constructs or properties to be studied. In this study, there are two variables measured, namely differentiated learning processes and social skills.

Research instruments are tools used to collect data in a study Lestari & Yudhanegara (2019) . The instruments used in this study are observation and questionnaires. Before the instrument is used in this study, it needs to be analyzed first (Pane et al., 2022).

Data collection is a process of collecting information in the field that will be used to answer the research problems of Lestari & Yudhanegara (2019) . In this study, there are two tools used for data collection, namely:

Observation is a technique carried out by means of systematic observation. According to Lestari & Yudhanegara (2019) the collection instrument used in the observation technique is an observation sheet in the form of a research activity framework developed in the form of a value scale or in the form of a record of research findings. In this study, the assessment was carried out with the help of the mathematics subject teacher in the class. This observation activity was carried out to record the suitability of the level of learning and the time for implementing differentiated learning processes with the *Problem Based Learning* (PBL) model.

A questionnaire is a data collection method that has been carried out by providing several types of questions related to the research problem. According to Sugiyono (in Prawiyogi et al., 2021)

Febrianti Br Sitanggang, Simon M. Panjaitan, Lolyta Damora Simbolon, Dame Ifa Sihombing, Lena R. Pangaribuan| Effectiveness Of Differentiated Learning Process On Sociomathematical Skills Of Grade Viii , a questionnaire is a data collection method that is carried out by providing a set of written questions or statements to respondents to answer. The student response data obtained will analyzed using the overall average score that has been done the Likert Scale approach, the answers are weighted with a value of 4,3,2,1 for positive statements and 1,2,3,4 for negative statements. This type of questionnaire is used to measure students' perceptions of the quality of learning levels and students' social skills (Ayu Sri Wahyuni, 2022).

The analysis technique in this study is descriptive analysis. The analysis is used to analyze the research data, namely the data analysis technique in this study is descriptive analysis which aims to determine the category of effectiveness of differentiated learning processes with the *Problem Based Learning* (PBL) model on students' social mathematical skills using frequency distribution

RESULT AND DISCUSSION

Place and Time of Research

This research was conducted at SMP Negeri 18 Medan, located on Jl. Kemuning Perumnah, Helvetia, Kec. Medan Helvetia, Medan City, North Sumatra Province . The time of this research was conducted in the Even Semester of the 2024/2025 Academic Year. The research activities were carried out on January 25, 2025 - February 3, 2025. The research activities consisted of several meetings, namely one meeting for testing the questionnaire instrument, two meetings for differentiated learning activities with the *Problem Based Learning* (PBL) model as well as distributing research instruments, namely observation sheets observed and filled in by mathematics teachers and co-authors, and one meeting to distribute research instruments, namely questionnaire sheets filled in by students. The time allocation for each meeting is 2×40 minutes.

Research Instrument Trial Results

Before data collection, the statements on the questionnaire sheet were first tested in class VIII-11. The aim was to determine the validity and reliability of each statement on the questionnaire sheet. Based on the results of the questionnaire sheet statement trial, the calculation of the validity test and reliability test was obtained with the following analysis:

Validity Test of Questionnaire Instrument

The validity test of the questionnaire was conducted using *the Product Moment Correlation formula* . The questionnaire used consisted of 10 statement items. In data processing, the researcher used *SPSS 25.0 for Windows* which can be seen in (attachment 8) . The results of the data analysis are presented in table 4.1 below.

Table 1. Results of the Validity Test of the Learning Quality Questionnaire

Statement Number	r count	r table	Information
1	0.366	0.367	Invalid
2	0.584	0.367	Valid
3	0.276	0.367	Invalid
4	0.663	0.367	Valid
5	0.555	0.367	Valid
6	0.552	0.367	Valid
7	0.434	0.367	Valid
8	0.702	0.367	Valid
9	0.397	0.367	Valid
10	0.543	0.367	Valid

Based on the results of the validity test of the learning quality questionnaire by giving 10 statement items to 29 students, there were 2 statement items that were classified as invalid and there were 8 statement items that were classified as valid with a calculated r value, $> r_{table}$ and a significance level of $\alpha = 5\%$, which means that this questionnaire is suitable for use as a research instrument.

Table 2. Results of the Validity Test of the Social Skills Questionnaire

Statement Number	r_{count}	r_{table}	Information
1	0.461	0.367	Valid
2	0.510	0.367	Valid
3	0.550	0.367	Valid
4	0.651	0.367	Valid
5	0.420	0.367	Valid
6	0.612	0.367	Valid
7	0,501	0,367	Valid
8	0,522	0,367	Valid
9	0,827	0,367	Valid
10	0,331	0,367	Tidak valid

Based on the results of the validity test of the social skills questionnaire by giving 10 statement items to 29 students, there was 1 statement item that was classified as invalid and there were 9 statement items that were classified as valid with a calculated r value of $> r_{table}$ and significance level $\alpha = 5\%$, which means that this questionnaire is suitable for use as a research instrument. In data processing, researchers use the help of *SPSS 25.0 for windows* which can be seen in (attachment 10).

Questionnaire Instrument Reliability Test

After the instrument trial data has been tested for validity, the next step is to test the level of stability and accuracy of the measuring instrument through a reliability test. The researcher uses the help of *SPSS 25.0 for windows* which can be seen in (appendix 8) with the requirement of *Cronbach's Alpha value* > 0.60 . The results of the data analysis are presented in table 4.3 below.

Table 3. Results of the Reliability Test of the Learning Quality Questionnaire

Reliability Statistics	
Cronbach's Alpha	N of Items
.672	8

Based on the results of the reliability test of the learning quality questionnaire, *the Cronbach's Alpha value was obtained* at $0.672 > 0.60$. Thus, the questionnaire was declared reliable. This means that the questionnaire meets good reliability standards so that it can be trusted as a data collection tool.

Table 4. Results of the Reliability Test of the Social Skills Questionnaire

Reliability Statistics	
Cronbach's Alpha	N of Items
.749	9

Based on the results of the reliability test of the social skills questionnaire, *the Cronbach's Alpha value was obtained* at $0.749 > 0.60$. Thus, the questionnaire was declared reliable. This means that the questionnaire meets good reliability standards so that it can be trusted as a data collection

Febrianti Br Sitanggang, Simon M. Panjaitan, Lolyta Damora Simbolon, Dame Ifa Sihombing, Lena R. Pangaribuan| Effectiveness Of Differentiated Learning Process On Sociomathematical Skills Of Grade Viii tool. In data processing, the researcher used *SPSS 25.0 for Windows* which can be seen in (attachment 10).

Research Data Analysis

The data analysis used is descriptive statistical analysis for knowing the effectiveness categories formulated in the problem formulation in Chapter I.

Descriptive Analysis of Learning Quality

The following descriptive analysis aims to determine students' responses to the quality of learning, students' social skills, and teacher observations in managing differentiated learning processes with the *Problem Based Learning* (PBL) model.

Student response data on learning quality was analyzed using frequency distribution and processed using *SPSS 25.00 for Windows*, which can be seen in (attachment) 13). From the data, the average value (*mean*) is 89, the middle value (*median*) is 88, the mode value is 88, the standard deviation value is 4, the number of interval classes is 6, so the length of the interval class for each group is $16:6 = 2.66$ rounded to 3. The frequency distribution of learning quality can be seen in the table.

Table 5. Frequency Distribution of Learning Quality

No.	Class Interval	Frequency (f)	Cumulative Frequency (%)
1	81-83	2	6%
2	84-86	5	16%
3	87-89	10	31%
4	90-92	8	25%
5	93-95	5	16%
6	96-98	2	6%
	Amount	32	100%

Based on the data from table 4.5, the *Mean* and Standard Deviation values can be used to determine the tendency or high or low quality of learning. Based on manual calculations in (attachment 13), the Mean value is 89 and the Standard Deviation is 4. The results of the calculations can be seen in table 4.6 below.

Table 6. Learning Quality Effectiveness Categories

Interval	Frequency	Percentage (%)	Category
$X \leq 83$	2	6%	Very Low
$83 < X \leq 87$	5	16%	Low
$87 < X \leq 91$	18	56%	Currently
$91 < X \leq 95$	5	16%	Tall
$95 < X$	2	6%	Very high

Based on table 4.6, it can be described that the average value of 89 is in the third interval indicating that as many as 18 people or 56% of students are included in the moderate category and are the largest percentage frequency. This shows that the quality of differentiated learning processes with the *Problem Based Learning* (PBL) model is in the moderate category.

The data on students' social skills were analyzed using frequency distribution and processed using *SPSS 25.00 for Windows*, which can be seen in (attachment). 15). From the data, the average value (*mean*) is 92, the middle value (*median*) is 92, the mode value is 92, the standard deviation value is 4, the number of interval classes is 6, so the length of the interval class for each group is $16: 6 = 2.66$ rounded to 3. The frequency distribution of learning quality can be seen in table 4.7 below.

Table 7. Frequency Distribution of Social Skills

No.	Class Interval	Frequency (f)	Cumulative Frequency (%)
1	81-83	2	6%
2	84-86	2	6%
3	87-89	1	3%
4	90-92	12	38%
5	93-95	9	28%
6	96-98	6	19%
Amount		32	100%

Based on the data from the table, the *Mean* and Standard Deviation values can be used to determine the tendency or high or low social skills. Based on manual calculations in (attachment 15) The mean value obtained was 92 and the standard deviation was 4. The results of the calculation can be seen in table 4.8 below.

Table 8. Social Skills Effectiveness Categories

Interval	Frequency	Percentage (%)	Category
$X \leq 86$	4	13%	Very Low
$86 < X \leq 90$	1	3%	Low
$90 < X \leq 94$	21	66%	Currently
$94 < X \leq 98$	6	19%	Tall
$98 < X$	-	-	Very high

Based on the table, it can be described that the average value of 92 is in the third interval indicating that as many as 21 people or 66% of students are included in the moderate category and is the largest percentage frequency. This shows that students' social skills are in the moderate category.

Teacher observation data in managing differentiated learning process with *Problem Based Learning* (PBL) model can be seen in (attachment 16) by considering the predetermined criteria, namely; interval 1.00 - 1.99 category less, interval 2.00 - 2.99 category enough, interval 3.00 - 3.49 category good, and interval 3.50 - 4.00 category very good. Based on the results of observations of teacher activities in managing differentiated learning process with *Problem Based Learning* (PBL) model shows a value of 3.476 or good category.

Descriptive Analysis of Learning Level Suitability

The following descriptive analysis aims to determine the suitability of student learning activities in differentiated learning processes with the *Problem Based Learning* (PBL) model. The calculation of the suitability of student learning activities can be seen in (attachment 16) by considering the predetermined criteria, namely; interval 1.00 - 1.99 category less, interval 2.00 - 2.99 category sufficient, interval 3.00 - 3.49 category good, and interval 3.50 - 4.00 category very good.

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Based on the results of observations of student activities from differentiated learning processes with the *Problem Based Learning* (PBL) model shows a value of 3.039 or a good category.

Descriptive Analysis of Time Allocation

The following descriptive analysis aims to observe the teacher's ability to manage differentiated learning time with the *Problem Based Learning* (PBL) model which can be seen in (attachment 17) by considering the predetermined criteria, namely; $1 \leq \text{time allocation} < 2$ is a bad category, $2 \leq \text{time allocation} < 3$ is a less good category, $3 \leq \text{time allocation} < 4$ is a fairly good category, $4 \leq \text{time allocation} < 5$ is a good category, and time allocation = 5 is a very good category. Based on the results of observations of the allocation of differentiated learning time with the *Problem Based Learning* (PBL) model, it shows a value of 4 or a good category.

Research Discussion

The research conducted at SMP Negeri 18 Medan is a quantitative descriptive study with the aim of determining the effectiveness of the differentiated learning model with *Problem Based Learning* (PBL) on the social mathematical skills of class VIII students of SMP Negeri 18 Medan. This research was conducted with a population of all class VIII students of SMP Negeri 18 Medan and the sample used was class VIII-10.

The questionnaire instrument trial was conducted in class VIII-11 of SMP Negeri 18 Medan with a trial sample of 29 students. The questionnaire instrument trial sample was taken based on a population that was carried out randomly (*simple random sampling*). Based on the two instrument tests, namely the validity test and the reliability test, the researcher used 8 statement items from 10 statement items of the learning quality questionnaire and 9 statement items from 10 statement items of the social skills questionnaire that had met the instrument trial criteria to be used in the next stage. Then continued with learning in class VIII-10, namely differentiated learning processes with the *Problem Based Learning* (PBL) model (SIMANULLANG, 2022).

In accordance with the effectiveness indicators, there are three factors measured to determine the effectiveness of differentiated learning processes with the *Problem Based Learning* (PBL) model on mathematical social skills, namely learning quality, suitability of learning levels, and time. Based on the research that has been carried out, it is shown that students' responses to the quality of learning are in the moderate category, students' social skills are in the moderate category, the suitability of teacher activities in managing learning is in the good category, the suitability of student activities in learning is in the good category and management of learning time is in the good category (Naibaho, 2023).

Differentiated learning process with the *Problem Based Learning* (PBL) model is the answer to the low social skills of students in mathematics learning (Khofshoh et al., 2023). This finding is also supported by several previous studies, one of which is a study conducted by Lestari et al. (2023) which states that social skills with differentiated learning show an average value of 81 (good) with a very effective category

CONCLUSION

Based on the results of the discussion, it is concluded that there is an effectiveness of differentiated learning process with the *Problem Based Learning* (PBL) model on the mathematical social skills of class VIII students at SMP Negeri 18 Medan. This is evidenced by a descriptive analysis of the quality of learning reaching 56% (moderate), social skills reaching 66% (moderate), the suitability of teacher activities with an average of 3.476 (good), the suitability of student activities with an average of 3.039 (good), and time allocation with an average of 4 (good). So it can be

Febrianti Br Sitanggang, Simon M. Panjaitan, Lolyta Damora Simbolon, Dame Ifa Sihombing, Lena R. Pangaribuan| Effectiveness Of Differentiated Learning Process On Sociomathematical Skills Of Grade Viii concluded that differentiated learning process with the Problem Based Learning (PBL) model is effective for students' mathematical social skills.

Suggestion

Based on the conclusions obtained from this study, the researcher makes several suggestions as follows:

1. In implementing mathematics learning, teachers are expected to be able to choose an appropriate learning approach so that students are motivated to participate in mathematics learning.
2. Teachers are expected to be able to apply differentiated learning processes with the Problem Based Learning (PBL) learning model in mathematics learning so that the learning process is more active.
3. Further researchers can use this research as a reference by applying differentiated learning processes to other skills.

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