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Evaluation Implementation Differentiation in Learning Mathematics for Students Elementary School

Rina Agustina[1*], Nita Erviana [2], Sowiyah[3]
[1.2]Doctor of Education Faculty of Teacher Training and Education. Universitas Lampung. Lampung
[1]Mathematics Education. Universitas Muhammadiyah Metro. Lampung
[3]The Faculty of Teacher Training and Education. University Lampung. Lampung
Corresponding Address: aasyiqun1212@gmail.com

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ABSTRACT

In implementing curriculum independence, results study show that The, lack of variation methods used by teachers in learning mathematics causes low motivation and interest in students. The fact is a show that in learning mathematics the differentiation Is only in progress in one aspect of the process. Research objectives This is To describe implementation differentiation in learning mathematics for students' school basics. Research This is a type of study qualitative descriptive with a method survey. The subject study was chosen using purposive sampling and assigning 6 people as data sources. The instrument used is a questionnaire with a distribution questionnaire as a data collection technique. Stages Data analysis using Miles and Huberman's steps, namely: data reduction, data presentation, and data extraction. Conclusion. Based on the results data analysis can concluded that in learning mathematics for students school base Already applies aspect differentiation in matter namely : (1) preparation, (2) implementation, and (3) assessment. In the preparation process, the aspects The differentiation used by teachers is in determining the design of learning and questions the test used. In addition, it was also carried out initial diagnostic test For known differentiation that is owned by students. In the implementation process, aspects of differentiation used that is the implementation of the learning process which includes different styles of learning and characteristics of other students. In the assessment process, aspects of differentiation used are question tests that include several type-level difficulties and bait customized returns with characteristics of students.

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INTRODUCTION

Learning differentiation becomes a target main in curriculum independent moment. In the implementation of curriculum independence, the results study show that Still, lack of variation methods used by teachers in learning mathematics causes low motivation and interest in students. Learning process Differentiated mathematics should also be followed by differentiated assessment. Shows that in learning mathematics process differentiation Is only in progress in one aspect of the process. In general, teachers have not carried out an assessment process that refers to aspects of differentiation. In addition, students experience difficulty overcoming problems related to mathematics with life every day, a consequence of the lack of teacher innovation in compiling contextual and meaningful learning (Arisandi, 2024). Others also explain that in learning differentiated, teachers serve material with emphasis on willingness, interest, and learning students. In addition, teachers can modify objective learning, processes, results or products, and the environment Study students. Implementation of the instructions differentiated above allows teachers to teach students by type each character (

Gusteti & Neviyarni, 2022). From the results study, there are several constraints in implementing learning in the eyes lesson mathematics.

Implementation of learning mathematics moment This refers to the implementation curriculum of independent learning. In the curriculum independent learning, the learning process prioritizes implementation differentiated. In the process of differentiated learning, the teachers try To know various differentiation factors that are owned by students. Implementation of differentiated learning This is expected capable of helping students overcome obstacles in Studying mathematics. In implementing learning, teachers should pay attention to a number of aspects interests, or styles of learning that are owned by students. Teachers should before learning, have initial data about the description characteristics of students so that can design interesting learning. Assessment applied diagnostics in learning are very useful, because after the assessment is done, the teacher can design aligned learning with the characteristics, interests, and abilities of participants, good in terms of process, content, product, and environment Study (Wulandari, Putrayasa, & Martha, 2023). Implementation learning is differentiated in terms of long influenced by internal and external factors. Internal factors include intelligence, interests, and motivation that come from self-participant education. Meanwhile, factor external covers the environment of the school, which has an role important in supporting the successful implementation of learning strategies (Rachmadhani & Kamalia, 2023). Learning objectives differentiate to increase motivation and results Study students. With method this, students can reach appropriate results with the level of difficulty material given by the teacher. When learning is customized to the ability of students, motivation Study they will increase (Muliani, Jumroh, & Yuliani, 2024).

In learning mathematics differentiated, very important To do assessments based on the condition characteristics of students. So far, in learning mathematics evaluation results Studies have only been carried out on aspects cognitive. Assessment many have not done in a way differentiation. Research results show Four components important in learning differentiation content, process, product, and environment or climate classroom learning. Instruments used in study learning differentiate more dominant For measure results Study students. The learning outcomes that are measured are generally using an instrument that has not been differentiating (Safarati & Zuhra, 2023). There are three approaches to learning differentiated, namely through content, process, and product. 1) Differentiation content related to what students learn, including curriculum and teaching materials. 2) Process differentiation involves the method students process ideas and information, including the choice of style to learn what they use. 3) Differentiation product is How students show what they have learned during the learning process. From the 3 approaches, the assessment process Lots considers aspect content material only. Assessment Not yet Not yet involving process differentiation in learning (Aprima & Sari, 2022). In learning differentiated in content, the teacher divides group students based on readiness Study, who were identified through results test assessment diagnostic cognitive For understandability Study students. Differentiation content This allows students to obtain a better understanding of Good in the learning process, so objective learning and results Study students can achieved optimally.

Based on the matter said, then need done study This For dig up data about what the assessment process carried out by the teacher. Learning mathematics. In the research, This also reveals the instruments and learning processes. Whether already customized with draft differentiation as desired in curriculum independence. Research results will also load a novelty that reveals empirical data in the field about the implementation of differentiated processes and assessments in learning mathematics. Findings This will become the novelty that makes the results study become a differentiator from discussion articles relevant to others. Research

objectives This is To describe implementation differentiation in learning mathematics for a student school base.

METHODS

Types of research This is a study qualitative descriptive with the use method survey. Subject study This is a school teacher at SDIT Tresna Asih. Selection subject study This uses a purposive sampling technique, namely election subject with consideration is a school teacher the basics of teaching lesson mathematics. Based on this purposive sampling, 6 mathematics teachers were selected as the subject study.

The questionnaire is a technique of data collection carried out with a method that gives a set question or statement written to the Respondent For the answer. The questionnaire can be in the form of a question/statement closed or open, and can given in a way direct or sent via post/internet (Rosidin, 2017). The data obtained from the quiz is quantitative in the form of scoring.

Data collection instruments using a questionnaire with a scale Likert. Questionnaire This covers 4 aspects, namely : (1) Suitability of Material, (2) Preparation Learning, (3) Assessment Differentiating, and (4) Feedback. Aspects material consists of 3 statements that measure conformity Material and Design learning used to Achievements Learning Objectives (CP) and Learning Objectives Flow (ATP). In preparation, learning consists of 3 statements For see aspect differentiation that will used by teachers in learning. Aspects evaluation differentiation consists of 6 statements that measure the use of differentiation in the learning and assessment process results of learning. Aspects bait come back consists of 3 statements that measure types and processes of feed applied back.

The process of collecting data in the study This uses 3 stages of study qualitative namely : (1) data reduction, (2) data presentation, and (3) data extraction. Conclusion. Stages research is used referring to the Milles Huberman stages as in Figure 1 below.

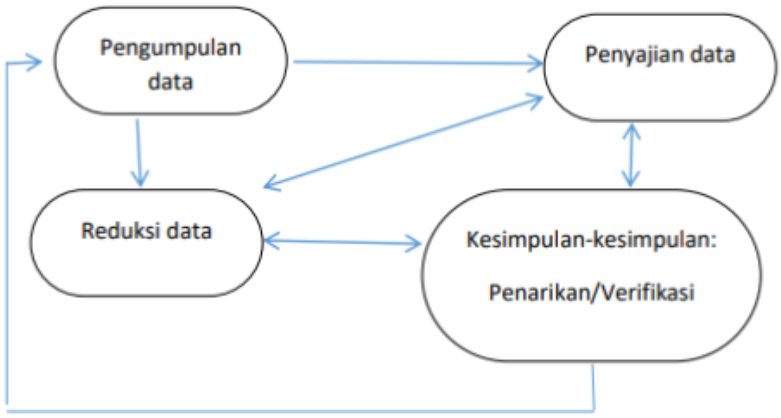

Figure 1. Miles Huberman Process(Agustina & Nurdiyanto, 2023)

Following is an explanation of Miles Huberman's stages in the study:

1. Reduction

   At the stage reduction, this is done data selection based on results questionnaire. The reduction was done by removing data from the descriptive questionnaire about differentiated assessment.

2. Presentation.

   After it is reduced, can see types of data that explain about evaluation of applied differentiation in learning mathematics. Next, this data will explained in the form

of a narrative descriptive which describes the process and assessment carried out in learning mathematics.

3. Drawing Conclusions.
   Withdrawal conclusion done based on results analysis and discussion. This process will categorized into 2 types that is a description of the process of differentiated learning and assessment. In this process will obtain a conclusion about How implementation evaluation differentiation in learning mathematics.

RESULTS AND DISCUSSION

Study This was conducted in November 2024 which a selected location at one of the SDITs in Bandar Lampung. The data collection process was carried out with a distribution questionnaire to 6 teachers who taught lesson mathematics. Furthermore, the 6 teachers were set as data sources with coding S1, S2, S3, S4, S5, and S6. The questionnaires given consist of 4 aspects statement namely : (1) suitability material, (2) preparation learning, (3) assessment differentiated, and (4) feedback. To determine the level of achievement performance students who refer to the formation of student process skills so required rubric evaluation process skills as guidelines in evaluation performance and results Study student (Putri, Nyeneng, & Rosidin, 2017).

On the aspect of conformity material measured relatedness Achievements Learning (CP), flow objective learning (ATP), use design learning, and suitability compilation question test. In general, 6 data sources have been prepared CP and ATP files before starting learning. Preparation document This is done To reach objective learning. In the implementation of learning, teachers have used innovative designs To increase the activity of students. Use innovative design This is customized with the material to be taught. Use innovative design This is supported by the results of research that explains monotonous learning naturally will influence Spirit Study students and achievement Study students. The selection of strategies and relevant learning models with standard competence can also spur ability as well as interest Study students to achieve optimization quality meaningful learning and learning (Zulkurnia, Sowiyah, & Jaya, 2017).

In the preparation question test, there is an S1 does it compilation question test use differentiation? This issue has also been customized with CP, ATP, and indicators that will achieved. Furthermore, 5 other data sources do Not yet use aspect differentiation in making question tests. Aspect preparation learning measured related test beginning differentiation carried out by the teacher. S1 did an initial diagnostic test with the method given question mathematics. S4 and S6 do a diagnostic test with the method tests at the beginning of learning. S2, S3, and S5 do initial diagnostic tests but they do not explain the type of the test used. In this aspect, this is also measured in related question tests used by teachers. In preparing question tests, the teacher considers the types of abilities students with provides questions with levels of difficulty different. In addition, the assessment process is also not let go from the customized implementation process with the characteristics of students. Research results show Lots the ways that can done For learning mathematics specifically the appropriate number of level students. Activities that can be interesting attention and interest child naturally No can separated with media use. The use of internal media activity learning can stimulate children To actively follow activity learning (Khoirunnisa, Rini, & Sofia, 2018). Here is Figure 2. Example results in a questionnaire from S1 on the aspect conformity material.

No.	Pernyataan	Respon				Catatan
		STS	TS	S	SS	
Aspek Kesesuaian Materi						
1.	Saya mengetahui dan memahami Capaian Pembelajaran (CP), Alur Tujuan Pembelajaran (ATP), dan indicator yang ingin di capai dalam pembelajaran.				✓	Saya sudah menyediakan dokumen CP / ATP
2.	Saya menggunakan desain pembelajaran yang inovatif menyesuaikan materi.				✓	untuk meningkatkan keaktifan siswa
3.	Saya Menyusun soal tes menyesuaikan dengan CP, ATP dan indicator yang ingin dicapai.				✓	Soal saya susun berdasarkan berdiferensiasi

Figure 2. Example of S1 Aspect Questionnaire Results Material Suitability

On assessment differentiated, there are 6 statement items. In the assessment process, 6 data sources have been evaluated with consideration of aspect differentiation in students. S1 and S4 explained do differentiation in assessment formative and summative. In addition, S4 also uses various methods of evaluation like test written and oral To see the intelligence of each student. Many benefits can be obtained from an educator who did an assessment. This is due to assessment diagnostic cognitive help teachers know the abilities that each individual has, to find weaknesses and strengths of participants students, seeing how much Good participants educate understand the Topic learning moment this, know sub-material What only those who have and have not understood by them, and monitor progress and development cognitive participant educate (Sulistianingsih & Wismanto, 2024). Research results This is relevant to what the teacher does by applying the method of customized assessment with the characteristics of students.

In general, 6 data sources have been applying aspect differentiation in evaluation results learning. Assessment This is done Well with test write and also oral. In addition, the teacher has also implemented a comprehensive assessment process that covers understanding concepts, skills to solve problems, and capabilities logical. All data sources also understand that participants educate their level of intelligence so that every need is a customized assessment with the characteristics of students. Here is Figure 3. Example Documentation Distribution Teacher Questionnaire

Figure 3. Example Documentation Distribution Teacher Questionnaire

On the aspect bait In return, 3 statement items assess implementation bait return given. The teacher has applied bait feedback that supports the assessment process differentiated. The teacher gives remedial to students in need of evaluation repeat. In addition, the teacher provides bait come back in the form of reflection To understand the strengths and weaknesses of students. With application differentiation in the assessment process, the teacher finds it easier To map intelligent students. Research results This indicates implementation learning differentiates proven increased results learning in the realm of cognitive, psychomotor, and affective. Application This is series unity in the learning process (Agung, 2024). Research result This is relevant to findings that implementation differentiation is not only on the aspect cognitive in learning but also on the bait return given as a remedial process.

The results of the discussion of the 4 aspects of the questionnaire were obtained description of general related implementation teacher differentiation in implementation learning and also assessment. In terms of general, the teacher has to apply aspect differentiation starting from the preparation process, and implementation until assessment. In the preparation process of learning, teachers have to design and question supportive assessment differentiation. The teacher determines the design of learning and questions by the characteristics of materials and students. In the implementation, the teacher applies differentiation with different styles of Study students. In addition, teachers also accommodate the learning process by adjusting to the characteristics of students. Delivery The material is also customized for level intelligence students with choose questions that have levels of difficulty different. In the assessment, the teacher carries out the assessment process in a way comprehensive which includes understanding, skills, and abilities of logical students. Assessment This is customized with level intelligence students. In addition, teachers also provide bait come back For students who have not reached objective learning. The feedback process comes back this, aims To help weak students in the learning process. By applying differentiated assessment, teachers can give motivation that can help students. Feed return can help students overcome weaknesses and difficulties in learning mathematics. Findings This is supported by the results study that a teacher can apply learning differentiation in the classroom to design plan learning with approach differentiation that includes four things to be noted, namely use of different materials, usage of different methods, use of different strategies, and use of different materials. Application learning Differentiation in the Independent Curriculum is expected to give meaningfulness and benefits that can be felt directly by students (Khulisoh, 2022).

Description results in related implementation differentiation in learning mathematics This makes findings differentiator. This is because of the findings of the results study This explains the implementation process differentiation that begins from the preparation, implementation, and assessment processes applied to the lesson mathematics for student school basis. Research results This also provides implications for teachers to apply differentiation that begins from the preparation process, implementation, and assessment. Research results This gives recommendations, for studying more deep related implementation differentiation with the use of more data sources and at a higher level.

CONCLUSION AND SUGGESTION

Based on the discussion, can concluded that in learning mathematics for students school base Already applies aspect differentiation in matter namely: (1) preparation, (2) implementation, and (3) assessment. In the preparation process, the aspects The differentiation used by teachers are in determining design learning and questions tests used. In addition, it was also carried out initial diagnostic test For known differentiation that is owned by students. In the implementation process, aspects of differentiation used that is the implementation of the

learning process which includes different styles of learning and characteristics of other students. In the assessment process, aspects differentiation used is question tests that include several type level difficulties and bait customized return with characteristics student.

Research result This provides suggestions in the form of (1) for teachers, to can do differentiation Good similar from results study This as well as in aspects others, (2) for students, for can consult with the teacher if find obstacle during the differentiated learning process, and (3) for researcher others, for can complete aspect others used in implementation differentiation in learning mathematics.

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AUTHOR CONTRIBUTIONS

Author 1 (RA) contributed to this article in conceptualization, writing, original draft, editing, and data analysis. Author 2 (NE) as data collector, editing, and data analysis. Author 3 (UR), Author 4 (S), and Author 5 (RR) as editorial review, validation, and supervision.

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