

Exploring the Application of Differentiated Learning in Elementary Schools

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Abstract. This study aims to explore differentiated learning in each school and describe the implementation of differentiated learning in the classroom. The method used is qualitative descriptive. Differentiated learning data is learning that accommodates student learning needs. Teachers provide facilities to students according to their needs, because each student has different characteristics, so they cannot be given the same treatment. collected based on the results of interviews with 4 elementary school teachers in Cirebon City, Indonesia. The results of conceptual research reveal that there is a differentiated learning goal is to coordinate learning by paying attention to learning interests, learning readiness and learning preferences, helping all students in learning so that learning goals can be achieved by all students increasing student motivation and learning outcomes establishing harmonious relationships between teachers and students so that students can be more enthusiastic in learning, helping students become independent learners so that Being an individual who is accustomed and also has an attitude of respect for diversity, increases teacher satisfaction because there is a sense of challenge to want to develop their teaching skills so that teachers will become more creative. It can be concluded that differentiated learning provides opportunities for students to be able to learn naturally and efficiently with teachers who are able to collaborate on the methods and approaches needed. This research is important to discuss because we can find out the process of differentiated learning in each elementary school we studied.

Keywords: Differentiated, Efficient, Explore

I. INTRODUCTION

The independent curriculum as a new national curriculum is based on reflections on the implementation of the 2013 curriculum. There are several fundamental changes to the independent curriculum that are quite different when compared to the 2013 curriculum that is already familiar to teachers, one of which is the differentiated learning process. Differentiated learning is currently one of the main focuses in the implementation of the curriculum. [1]. Education is one of the important aspects in national development, good quality education is expected to create quality human resources, able to compete in the global world, and able to advance the nation. [2] Learning is the most important part of educational activities in the scope of educational units, including at the elementary school level.[3]. Education has an important role for individual development, quality education will create an advanced, peaceful society and lead to constructive characteristics. So as to bring up various curriculum change processes carried out to adjust to current conditions. [4].

Differentiated learning is a series of common-sense sensible decisions , made by teachers who are oriented to the needs and learning styles of students, so that in learning students can learn according to their respective learning styles so as to get optimal learning. [5] The basic concept of learning applies a learning approach to students with different abilities in the same class [6]. Differentiated learning is in accordance with the philosophy of dewantara, which explains that education (*opvending*) provides guidance to all the natural forces possessed by children in order to be able to achieve the highest safety and happiness both as a human being and a member of society [7]. Differentiated learning *differentiated instruction* in this academic paper refers to defining differentiated learning as a teaching and learning process where students can learn subject matter according to their abilities [2] Differentiated learning helps students reach the next level of learning, when they have mastered what is taught in class [8].

Differentiated learning is a way or effort made by teachers to meet the needs and expectations of students. This is in line with Tomlinson's opinion (2000), differentiated learning is an effort to adjust the learning process in the classroom to meet the learning needs of each student. Differentiated learning does not mean that teachers have to teach in 32 different ways to teach 32 students. Nor does it mean that teachers have to increase the number of questions for students who work faster than others. [9]. Differentiated learning aims to assist students in achieving learning objectives, increase their learning motivation so that learning outcomes can improve, build harmonious and good relationships during the learning process, stimulate students to be independent and have an attitude of mutual respect for diversity, and increase educator satisfaction because they feel challenged to be more creative and develop teaching competencies [10].

The interesting thing about differentiated learning is that teachers can choose one or more aspects of differentiated learning to be applied in the learning process according to the needs of students. If students learn according to their needs, then students more easily understand the material and are able to obtain learning results [11].

In order for learning to differentiate effectively, teachers need to compile learning materials, activities, daily tasks both done in class and at home, and final assessment in accordance with the readiness of students in learning the learning material, what interests or things students like in learning, and how to deliver lessons that are in accordance with the learning profile of students. [12]

Teachers have an obligation to understand the interests of each student through the skills possessed through initial assessment activities. The results of the initial assessment are used by the teacher in determining the appropriate model, because the success of learning will depend on it. [8]. The concept of differentiated learning is a good and ideal concept, but it challenges teachers to be creative. The potential of students is developed according to their needs, characteristics, and level of achievement [13].

This differentiated learning research is very important because by recognizing student learning styles teachers can design learning activities with a variety of appropriate models, strategies, and methods. These various learning activities will create a conducive, fun learning atmosphere, and in accordance with the needs and abilities of students. With differentiated learning, students can also be responsible for the processes and results they obtain so that optimal learning achievement will be obtained.

The application of differentiated learning helps in knowing the cognitive development of learners. Because it refers to the child's development in thinking and the ability to give reasons. In general, the notion of cognitive development is a change in a child's thinking, intelligence, and language [14]. The process of cognitive development makes children able to remember, imagine how to solve problems, develop creative strategies or connect sentences into meaningful conversations [15]. Learning differentiated by this principle must be applicable to all subjects. Especially regarding learning in elementary schools which often experience problems in its implementation [16].

Learning systems in the world are very diverse, one of which is differentiated learning. Differentiated learning is a way to understand and provide knowledge according to the talents and learning styles of students who have many characters (Wahyuni, 2022). Teachers facilitate their students according to the needs of the students themselves, because each student certainly has different conditions and ways of learning [17] (Ramadan, 2023). Facing the challenges of student diversity and abuse faced by teachers, a solution is needed to meet student learning needs. To achieve learning objectives, teachers can facilitate diversity, differences in potential, so that students' learning needs can be met. Differentiated learning is one of the concepts carried by the independent curriculum to overcome the diversity of learning styles and student characters [18].

[19] in the journal "Differentiated Learning Strategies and Implications for Creating Inclusive Learning at every level of Education" discusses identifying appropriate methods in recognizing individual student needs, evaluating the impact of educational technology in supporting differentiation, the implications are by utilizing technology, one of which is the use of *gineally* To support inclusive learning that has achieved tangible improvements in students' understanding and participation in the classroom.

The focus of the research we chose was on exploring differentiated learning in elementary schools. We examined several elementary schools that use differentiated learning strategies to find out how the application and process of differentiated learning is implemented in the classroom. Differentiated learning means learning that gives freedom to students to develop their potential according to their learning motivation, interests, and learning profile. *Differentiated Learning* does not only focus on learning products, but also on learning processes and content/materials. Looking back at the learning process in the past and maybe until now, education in Indonesia has not changed much. Many still use the old learning system. This system assumes that all children are equal, teacher-focused, and does not provide opportunities for all students to actively participate and collaborate in their learning. Education is not only limited to the transfer of knowledge. The development of a more humane educational paradigm will give birth to independent educational learning and provide opportunities for all children to obtain meaningful education[20].

Differentiated learning can be implemented using three strategies, including content, process, and product differentiation. Content differentiation is what is taught to students. Content can be differentiated by student, interests, learning profile, or a combination of all three. Due to the differentiation of content created by authors, a variety of learning resources are available to students, including books, videos, power points, photos, environments,[21]. Based on this opinion, differentiated learning is a learning process that is carried out adaptively to the individual needs of students. This shows that learning activities must be in accordance with the characteristics and learning styles of each student. In addition, differentiated learning is a learning process that adapts to the talents and learning styles of different students. This opinion expresses the view that there must be differences in the achievement of each student in any class. Based on these differences, different learning methods should be applied, to suit the needs of each student[22].

II. METHODS

This research uses a Descriptive model, with a Qualitative approach. The qualitative approach is an approach to understand, and analyze phenomena with data that is not in the form of numbers or data that cannot be measured by numbers [23]. This study aims to determine the differentiated learning process in the independent curriculum in several elementary schools, including: SDN Bima Kota Cirebon, SDN Karya Mulya 1, SDN Pegajahan and SDN Pulasaren 2, from some of these schools we examined how different learning styles, implementation, and differentiated learning

processes are. In this study using sample determination techniques with certain considerations, the subjects of this study were elementary school teachers. The primary data in this study is information about teachers' perceptions of the application of differentiated learning in each school, as well as factors that contribute to the gap between teacher perceptions and their implementation and the application of differentiated learning resulting from interviews. This study used the interview method. We asked about teachers' perceptions of differentiated learning styles, differentiated learning processes, and the application of differentiated learning in elementary schools. This research uses a data analysis technique called the *Interactive Model of Analysis*, the attractive analysis model is the process of finding and systematically compiling data obtained from interviews, notes and documentation by organizing data into categories and describing them in units and compiling, and making conclusions so that they are easily understood by researchers and others ([24]. The data sources used are teachers in elementary schools as well as teaching material documents, data obtained from class teachers regarding the process and application of differentiated learning through interviews tested with supporters and observations. Data validation using *Expert Judgment* models and asking experts for opinions. Technical interactive data consists of 3 components, namely: interviews, observations and documentation, to obtain basic data data presentation is done by compiling data and obtained after the data is compiled so that the data is easily understood.

III. RESULTS AND DISCUSSION

A. Research Results

The results are not all directly in one class but, it has an impact on children who already have different intelligences. There are changes, especially for children who may lack focus, when they are involved in having different learning styles.

NO	Question	Teacher 1	Teacher 2	Teacher 3
1.	Is this school already using an independent curriculum?	Already	Already	Already
2.	Is the independent curriculum applied in any class?	The independent curriculum is applied only in a few classes, namely in grades 1, 2, 4, and 5.	The new independent curriculum is applied in several classes, including classes 1, 2, 4, 5	The independent curriculum is applied only in some classes, namely 1, 2, 4, 5
3.	With the existence of an independent curriculum, have some of these classes implemented differentiated learning	Already, differentiated learning has been applied but not specifically but still globally or generally.	Already, differentiated learning has been applied but not yet according to assessment.	Already, differentiated learning has been applied in the independent curriculum class
4.	Is differentiated learning also applied in classrooms that still use the 2013 curriculum?	Yes, it has been implemented since using the 2013 curriculum but it is still fundamentally not as deep as an independent curriculum that must apply differentiated learning.	Yes, of course, it is also applied, since the existence of an independent curriculum but still the stage is not in accordance with the independent curriculum which is in accordance with the assessment of differentiated learning.	Yes, it has been implemented since using the 2013 curriculum It's just not too prominent because it's not haillaight especially using the old one. But for now the independent curriculum is more emphasized using differentiated learning.
5.	How do you apply the differentiated learning process?	The way of applying in our school is not too specific globally, that is, the learning has not been grouped according to the abilities and character of each student.	NO	Question
Teacher 1	Teacher 2	Teacher 3	1.	Is this school already using an independent curriculum?
Already	Already	Already	2.	Is the independent curriculum applied in any class?
The independent curriculum is applied only in a few classes, namely in grades 1, 2, 4, and 5.	The new independent curriculum is applied in several classes, including classes 1, 2, 4, 5	The independent curriculum is applied only in some classes, namely 1, 2, 4, 5	3.	With the existence of an independent curriculum, have some of these classes implemented differentiated learning

Already, differentiated learning has been applied but not specifically but still globally or generally.	Already, differentiated learning has been applied but not yet according to assessment.	Already, differentiated learning has been applied in the independent curriculum class	4.	Is differentiated learning also applied in classrooms that still use the 2013 curriculum?
Yes, it has been implemented since using the 2013 curriculum but it is still fundamentally not as deep as an independent curriculum that must apply differentiated learning.	Yes, of course, it is also applied, since the existence of an independent curriculum but still the stage is not in accordance with the independent curriculum which is in accordance with the assessment of differentiated learning.	Yes, it has been implemented since using the 2013 curriculum It's just not too prominent because it's not haillaight especially using the old one. But for now the independent curriculum is more emphasized using differentiated learning.	5.	How do you apply the differentiated learning process?
The way of applying in our school is not too specific globally, that is, the learning has not been grouped according to the abilities and character of each student.	How to apply in our schools is still non-formal diagnostics not in accordance with the direction of differentiated learning.	The first way to apply in our school is cognitive and noncognitive diagnostics and tesnay tests after the teacher has at least a handle on the child to map the interests of each student's talents.	6.	Do you think differentiated learning is important to apply or not?
In my opinion, differentiated learning is very important to apply because we as teachers must be able to know the character, interests, talents and abilities of these students. Therefore, with differentiated learning, I as a teacher can more easily know these things.	I think differentiated learning is very important because I and the student are taught to understand where the teacher must know where the student's learning interests are, and what kind of background words.	In my opinion, differentiated learning is very important to apply because we as teachers must be able to know the character of children, their interests, and abilities, therefore with differentiated learning, I as a teacher must have a quick solution because everything must be planned.	7.	How do you group students in the class, whether they have used differentiated learning or not?
Incidentally, in our class, which has applied differentiation learning, still uses groups as usual, not using groups that suit the	Already applied differentiated learning, but love to use groups according to the direction of the group teacher I use, that is, we can see the interest in the learning style of the student like what.	Incidentally, in our class, the way of grouping it is seen from the results of dignosa first, for example, the results of the child's oral test of what type of visual pleasure means entering into a visual learning style, meaning amsuk to grouping visual	8.	When applying differentiated learning, what model do fathers / mothers use?

character and interests of these students.		learning styles and their interests according to the character and interests of the student.		
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Teachers coordinate with other teachers and create schedules for using school facilities that support differentiated learning

The models we use are PBL and PJBL, but we can adjust to the subjects.	The model used by PBL and PJBL is more dominant.
The model we use adapts to the subjects.	9.
When it comes to differentiated learning, what strategies do fathers use?	The strategy of group lectures, discussions, and presentations.
The strategies used are in accordance with the subjects that will be in the classroom.	Strategies adapt to the subjects we teach students.
10.	When applying differentiated learning, what practical tools are used by you / mother?
The praga tool used was adapted to the model and subjects used at that time.	The praga tools that we use are objects that have been provided from school but our elementary school depends on the initial assessment. Such as formal and non-formal assessments.
The praga tools used are adapted to the model and subjects	11.
When applying differentiated learning, did the teacher find obstacles or difficulties in the classroom?	The obstacle is more to school facilities, praga equipment and media, for example, when applying audio and visual media using power points or displaying video, there are limitations to using projectors.
The obstacle is that when the teacher provides visuals there are some children who do not like visuals and the child will not vokus and the child will not focus because he prefers audio. And it is more difficult to distinguish between students and others even though they have used dignostic assessment.	The fact is that when pripare provides everything, for example, kinesthetic children, he comes out, the term is told to get out while the children in the class protest, so that social jealousy occurs.
12.	How to deal with these obstacles or difficulties?

Based on these data as a matter of discussion, every elementary school at SDN Karya Mulya 1 has used differentiated learning but is still globally or still undivided according to the group of abilities and characters of each student, in these elementary schools have implemented differentiated learning in grades 1, 2, 4, and 5. The basis says that differentiated learning is very important to apply because we as teachers find it easier to find out the character and interests and talents of these students.

SDN Pegajahan 1 has used differentiated learning but has not been assessed, in elementary schools it has certainly been applied in several classes including grades 1, 2, 4, and 5. Differentiated learning is of course also applied since the existence of an independent curriculum but still the stages are not in accordance with the independent curriculum which is in accordance with the assessment of differentiated learning. Differentiated learning is also very important because teachers and students are taught to both understand where the teacher must know where the student's learning interests are, and what kind of character and background.

SDN Pulasaren 2 already uses differentiated learning in only a few classes, namely grades 1, 2, 4 and 5. Differentiated learning has also been applied in the independent curriculum but in the 2013 Curriculum it has only tried but not completely because it is still the old curriculum, in the elementary school said that differentiated learning is very important to be applied because teachers must know the character of children, as well as the interests of children's talents and also the abilities of these students. Therefore, with differentiated learning, I as a teacher must have a quick solution and everything must be planned well.

SDN Bima has used differentiated learning only in a few classes, namely grades 1, 2, 4 and 5. Differentiated learning has been applied in classes that have used an independent curriculum, in elementary schools said that differentiated learning is very important, because this learning is to make it easier for teachers to know the character and talents of their own students, even though teachers must have extra energy to prepare for differentiated learning. By using diagnostic tests, distributing questionnaires to students through parents after knowing the results, I group them according to the students' abilities.

Differentiated learning is an attempt to adjust the learning process in the classroom to meet the individual learning needs of each student. The adjustments in question are related to interests, learning profiles, student readiness in order to achieve improved learning outcomes [25]. Differentiated classes provide different pathways for students to acquire content to process information and ideas, as well as to develop products or learning outcomes that demonstrate the extent to which students can understand what they have been learning. [26] and the teacher facilitates students according to their needs, because each student has different characteristics, so they cannot be given the same treatment. In applying differentiated learning teachers need to think about reasonable actions that will be taken later, because differentiated

learning does not mean learning by giving different treatment or actions for each student, nor learning that distinguishes between smart and less intelligent students.

This study aims to find out how the application of differentiated learning in several schools that we researched including SDN Karya Mulya 1, SDN Pegajahan 1, SDN Pulasaren 2, and SDN Bima. Each has different ways of application and models but has the same goal, namely applying differentiated learning in accordance with the procedures in the independent curriculum.

Differentiated learning preparation involves a deep understanding of students' needs and interests as well as the ability to provide appropriate materials, resources, and learning experiences for each individual. This involves careful planning, the use of a variety of teaching strategies, as well as ongoing evaluation to ensure that each student can reach their maximum potential. [27] Differentiated learning is a solution for teachers to better understand student needs, as well as facilitate media and teaching aids needed for learning to take place.

The process of implementing content-differentiated learning is related to what is taught by the teacher to students and considers mapping learning needs in aspects of student learning readiness, aspects of student interests and aspects of student learning profiles or a combination of the three. In process differentiated learning, teachers need to understand how students will learn in groups or individually/independently. The teacher determines who are the students who need scaffolding / assistance and who are the students who need guiding questions and can then learn independently. In product-differentiated learning, more emphasis is placed on results.[28] So the differentiated learning process is that the teacher prepares the needs for learning both material and suggestions and learning infrastructure, then students are divided into three groups to determine the character and learning style of each student, namely the Audio group, Visual group, and kinesthetic group to learn according to their respective groups but learn the same material with different styles.

Evaluation of differentiated learning in elementary schools. Differentiated learning, when carried out effectively, can provide a more immersive and personalized learning experience for students. Understanding concepts becomes more meaningful when applied in everyday life. In this case, differentiated learning methods allow for better adjustment to students' levels of understanding and interest, while accommodating variations in their learning styles.[29]. Evaluation after differentiated learning is getting satisfactory results because students learn to use their own learning styles and characters, so that a fun learning atmosphere will get optimal results.

IV. CONCLUSION

Based on the literature review that has been carried out, it can be concluded that differentiated learning is learning that fulfills, serves, and recognizes the diversity of students in learning in accordance with the readiness, interests, and learning preferences of students. Differentiated learning is very important to be applied in elementary schools because it makes it easier for teachers to understand the character and interests of students in each lesson. Based on the results of article analysis and observations in several schools that we explore, differentiated learning has different strategies and applications of differentiated learning in each school. Differentiated learning can improve students' learning understanding. This is evidenced by the results of observations on the learning process with differentiated learning strategies.

The suggestion that we can convey is that differentiated learning is not only applied in the independent curriculum, but should also be applied in the 2013 curriculum, because in some schools that we researched there are still not all classes using the independent curriculum so they have not implemented differentiated learning, therefore classes that still use the 2013 curriculum must know differentiated learning for the introduction of differentiated learning how. But the differentiated learning strategy is more difficult to apply because the learning must be adjusted to the interests and character of the students themselves. And in every learning Differentiated that applies in the classroom cannot be only 1 teacher because learning will not be conducive, it must be with 2-3 teachers in the class, because when differentiated learning teachers must monitor student activities that use their respective learning styles, namely audio, visual and kinesthetic.

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