

DIFFERENTIATED LEARNING TO IMPROVE STUDENTS' CREATIVE THINKING ABILITY

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Abstract. Learning should be carried out interactively, inspiring, challenging, motivating, fun and meaningful, as well as accommodating the development of students' creativity, talents and potential. Students can develop physically and psychologically according to their stages. This is in accordance with the concept of differentiated learning. Differentiated learning is an attempt to harmonize the learning process in meeting the learning needs of each learner. However, the implementation of differentiated learning, especially in social studies learning, is still limited. For this reason, researchers are interested in conducting a literature review related to this, both in terms of content, process, product and learning environment. Writing this literature review aims to (1) describe the application of differentiated learning, (2) the principles and characteristics of implementing differentiated learning, (3) analyze opportunities for implementing differentiated learning in social studies learning. This literature review was obtained from scientific research articles from the 2010-2022 range using Google Scholar and obtained 50 articles with the keyword differentiated learning. From 50 articles, identification, screening, and eligibility were carried out, then 15 articles were obtained that were in accordance with the objectives of the literature review. Based on the results of the analysis of the literature review, it can be concluded that (1) the differentiated approach can be integrated with several learning models such as Problem Based Learning (PBL), Project Based Learning (PjBL) which are adapted to student learning styles; (2) differentiated learning is more interesting and can improve students' creative thinking; (3) differentiated learning can be used in social studies learning because it can accommodate students' learning needs that are tailored to students' interests, learning styles, profiles and learning readiness.

Keywords: *Differentiated Learning; Creative Thinking*

A. INTRODUCTION

The progress of a nation is largely determined by the quality of human resources, while the quality of human resources depends on the quality of education. The Role of Education Is Very Important to Create an Intelligent, Peaceful, Open and Democratic Society (Marzoan, 2023). Therefore, Education Renewal Must Always Be Done to Improve the Quality of a Nation's Education. The Progress of the Indonesian Nation Can Be Achieved Through Good Educational Management, With Various Efforts to Improve the Quality of Education It is Expected to Raise the Dignity and Dignity of Indonesian Humans.

Education plays an important role for the development and realization of each individual. Education can be said as a tool to achieve happiness and prosperity for all mankind. Quality education

will reflect a society that is advanced, peaceful and leads to constructive traits. Nowadays education is experiencing a very surprising change with the co-19 pandemic. This is of course the focus of all stakeholders, giving rise to various concepts of curriculum changes that are made to adapt to existing conditions (Sulistiyosari et al., 2022; Tinggi, 2019). One of them is the emergence of a new educational paradigm curriculum.

The new paradigm learning provides flexibility for educators to formulate learning designs and assessments according to the characteristics and needs of students. The new paradigm learning ensures student-centered learning practices. Learning is a cycle that begins with mapping competency standards, planning the learning process, and implementing assessments to improve learning so that students can achieve the expected competencies (Hassan et al., 2011; Utami, 2019). The competencies in question are 21st century skills, namely Communication, Collaboration, Critical thinking and Problem Solving, and Creativity and Innovation skills (Loyens et al., 2008; Rahayu & Hartono, 2016). These skills must be mastered by students in order to prepare themselves to enter the world of work and real life (Boyer et al., 2014; Rashid & Asghar, 2016). On the other hand, the learning process in the classroom must also be supported by adequate infrastructure, approaches and learning models used by the teacher must be able to accommodate the needs of each student. Educators play a role in facilitating the process of achieving educational goals. It is important for educators to have the ability to design learning, in order to be able to design and carry out learning according to the characteristics of their students (Sulistiyosari et al., 2022; Tinggi, 2019).

However, the results of the study show that the implementation of education has not changed much, teachers are still implementing a learning system that considers all children to be the same regardless of the diversity of their abilities. The teacher seems to be teaching one student in one class, while in one class it is estimated that there are approximately 20-30 students who have uniqueness, abilities and a variety of learning experiences, so it is not uncommon for students to feel bored and ultimately do not have good learning motivation (Amin, 2017; Murdock & Anderman, 2006). It's not uncommon for children to feel frustrated and ultimately have no motivation to study, because they only come to school for exams, exams and exams.

It should be realized that the potential possessed by each student is very diverse. Every student is unique. Every student comes to school with the uniqueness and diversity inherent in each of them. The uniqueness and diversity inherent in each child include: learning styles (for example auditory learning styles, visual learning styles, kinesthetic learning styles), academic ability (high, medium, low), speed in understanding lessons (there are students who are fast in understanding learning, some are moderate, even slow), learning orientation (mastery, performance approach, performance avoidance) motivation (high, medium, low), self-efficacy (high, medium, low), interest (interest in certain subjects, for example mathematics, language, or science) personality (eg introverted or extroverted), including socioeconomic status (high, medium, low socioeconomic status). In one class which may consist of 20 to 40 students, the teacher will find a number of variations inherent in each student. With this fact, the teaching approach that equates every student actually needs to be reviewed. A teaching approach that generalizes for every student certainly cannot meet the needs of every student, because their needs are also diverse. Therefore, we need a teaching approach that is able to meet the needs of each student. This approach can be a differentiated learning approach. Differentiated learning is a cyclical process of finding out about students and responding to their learning based on differences (Stavrou & Koutselini, 2016).

The term definition of differentiation is specific to each domain as is the case in education where differentiation basically means tailoring teaching to meet the needs of particular students and their way of learning (Assouline et al., 2015). In essence, differentiation is a way of thinking about teaching and learning (C. A. Tomlinson, 2000). The premise is that schools should not insist on

students achieving set norms, but should aim to enable them to maximize their potential. In addition, students should be facilitated to develop as rapidly as possible, not only learning the required content, but also taking responsibility for their own lives as learners. The aim is that agreeing on each student's individual needs will enable them to progress at or beyond the standards expected. In this case the teacher in the learning process needs to be a teacher who understands learning and teaching in order to meet the needs of students and the demands of their discipline, and be able to bridge between student experience and curriculum goals (Taylor, 2017).

This is in line with the results of the study (Lukitaningtyas, 2022; Merliza et al., 2023; Partami, 2019; Wulandari, 2022) states that the application of differentiated learning can increase student activity and learning outcomes and is able to provide opportunities for students to be able to learn naturally and efficiently. Student learning activities in the learning process are an indicator of a desire to ask questions, submit opinions, do assignments and answer teacher questions. With the activeness of students will lead to better learning motivation which will ultimately improve student learning outcomes. The ability to think creatively is one of the higher order thinking processes that is rarely trained. This is evident in the field of education, especially in mathematics subjects which emphasize more on memorization and reasoning concepts as well as finding the correct answers to social studies questions. (Lukitaningtyas, 2022; Sulistyosari et al., 2022). Creative thinking is a mental activity associated with being sensitive to problems, considering new information and unusual ideas with an open mind, and being able to make connections in solving the problem. Often, individuals who are considered creative are really good synthetic thinkers who make connections between things that other people don't realize spontaneously.

Many Students Experiencing Difficulties in Efforts to Improve Their Creative Thinking Patterns. There are several important reasons why learning focuses on creative thinking, not only as a tool for finding patterns or solving problems in learning, but also as a tool for creative thinking not only in learning, but can also be applied in everyday life. To achieve these thinking abilities, it is necessary to design a learning process that can lead students to achieve these goals. Differentiated Learning Is an Adjustment to Interests, Learning Preferences, Student Readiness to Achieve Improved Learning Outcomes. However, it is more inclined to learning that accommodates the strengths and learning needs of students with independent learning strategies (Ferrari & Schoolnet, 2009). In the Differentiated Learning Method, the learning is shown to increase the interest and readiness of students to learn, from the interest and readiness of students to learn, it will increase students' creative thinking abilities. The focus of the literature review conducted is research that has been conducted by previous researchers regarding the method/type of research used, the type of research conducted and the expected results in differentiated learning.

B. METHODS

This study uses a literature review method through a literature search related to the research topic (Darmalaksana, 2020; Gumanti & Syahrudin, 2016) Literature review is an important step for researchers to determine the topics discussed in research. Next, conduct an assessment of the theory related to the research topic. Researchers conducted studies that sourced from trusted literacy, namely books, articles and research results of experts. The method used in writing this article is a systematic literature review. The research begins by looking for articles related to the research topic to be carried out. The criteria for scientific articles used as data are in the form of scientific articles sourced from national and international journals with updates in the last 10 years, namely from 2013-2023. In the early stages of searching for journal articles, 50 articles were obtained using the search keywords "differentiated learning", "differentiation learning motivation". The next stage is

validating scientific articles by eliminating scientific articles based on the title of the article that matches the idea of the topic raised. Scientific article data obtained in this process are as many as 50 articles. Furthermore, a review of the quality of scientific articles relevant to the research topic was carried out by reading the entire contents of scientific articles with the aim of seeing suitability with the research topic and obtained a total of 15 scientific articles relevant to the research topic.

C. RESULT & DISCUSSION

Differentiated learning applied in Indonesia is the same as applied abroad. The implementation of differentiated learning that has been carried out by social studies teachers can create an interesting learning atmosphere for students. This differentiated learning is carried out by social studies teachers because they see students who are not focused and there is a decrease in student learning outcomes. Until now, students have a strong mindset that social studies education is a subject that is memorized and boring.

Students do not fully understand the objectives of IPS Education. Social studies education has a noble goal, namely to create students who have good character and are able to solve social problems in society. Given the importance of Social Studies Education in supporting the lives of students, teachers are called upon to make learning with more attention to the needs of students. So that students get meaningfulness from learning in class and achieve the expected social studies educational goals.

The existence of PIPS has an important role in realizing students who have noble personalities and care about the problems that exist in the community. This is formulated in the purpose of PIPS is to prepare students to become good citizens, have the ability to solve personal problems or social problems that exist in society, and have the ability to make decisions and participate in various community activities(Jumiarti & Kurniawati, 2023)

The current development of IPS as a subject in schools plays a role in helping solve individual and group problems. According to (Nurazijah et al., 2023). Social science is useful for providing knowledge so that humans can deal with problems in society. It is undeniable that problems in social life are increasingly complex and developing. So, it is very necessary for students to be provided with provisions so that they are sensitive to existing problems and are able to solve them. In order to explain the meaning of the IPS idea, it is not easy to just explain theory, but teachers need the right strategy so that the material provided can be accepted and internalized in students.

According to (C. A. Tomlinson, 2000) Differentiated learning is learning that accommodates, serves, and recognizes the diversity of students in learning according to students' learning needs and preferences. Differentiated learning is not a new learning approach, but has long been applied in the United States. According to (Martiana, 2023) The focus of attention in this differentiated learning lies in the way the teacher pays attention to the strengths and needs of students. Differentiated learning is very suitable to be applied in social studies subjects, because social studies subjects have various learning sources so that teachers can develop social studies material according to students' interests and learning profiles. According to(Ferrari & Schoolnet, 2009) Differentiation can be a solution to solving problems regarding the diversity of students' abilities when studying in one class, namely a fun learning atmosphere, speaking practice, collaborative learning and selection of material and learning processes. The differentiation learning process has several stages in applying it.

According to (Din, 2017) differentiated learning includes 1) content differentiation; 2) process differentiation; 3) product differentiation. This content differentiation includes learning readiness, student interests, and student learning profiles. Mapping learning readiness there are several perspectives that can be used as indicators(Firat & Bozkurt, 2020). introduces equalizer buttons that can determine the level of readiness of students. Based on the type of equalizer that is

offered, researchers focus on the concrete-abstract and slow-paced perspectives. The researcher took these two key perspectives on the basis that in social studies learning it is necessary to apply the contextual method, meaning that the teacher can explain the material by connecting it to concrete conditions in society. Likewise, the choice of perspective is slow-fast, because it cannot be denied that in a class there must be students who have the ability to think fast, there are those who need time to understand an instruction.

The teacher has an important role in exploring the interests of students, so that they can support the achievement of a meaningful learning. (Stavrou & Koutselini, 2016; Taylor, 2017) explained that teachers should be able to explore motivation within students and maximize it so that students have the desire and enthusiasm to learn well. According to (Mertoğlu, 2023) in differentiated learning, the teacher must have innovation in choosing learning methods, models and strategies so that students are more motivated in participating in the learning process, so that the teacher's role is very important in determining success in learning. The teacher makes a mapping of learning needs based on learning profile indicators which can provide opportunities for students to convey the desired method of learning. In this mapping the teacher obtains student learning profile data through place of residence, culture, and learning style. In this study the teacher made a questionnaire which contained a choice of students' learning styles including auditory, visual and kinesthetic. Auditory learning style is able to process information well by listening. In contrast to the visual learning style, students more easily receive information through illustrated pictures, diagrams, videos, posters, animations, colors, symbols and graphics. Meanwhile, kinesthetic learning styles tend to be easier to receive information through direct practice, using the five senses to understand information. These diverse learning styles really need to be accommodated through differentiated learning. According to the student's learning profile, it is the approach preferred by students for learning that is influenced by learning styles. Intelligence and culture. This learning profile becomes important for the teacher to cover, so that in creating learning it can be adjusted to the needs of students.

To prevent students from getting discouraged and feeling like they have failed in their educational endeavors, differentiated learning is a learning process where students can learn content based on their talents, what they like, and their special needs. (Beck & Beasley, 2021; C. A. Tomlinson et al., 2003). Teachers must realize that there are various approaches to studying a subject when distinction is made. The content, process, and product parts of differentiation learning are three things that must be implemented by the teacher. In differentiation learning the teacher must use various methods when studying a lesson. The teacher plans and arranges materials, activities, assignments to be done at school or at home and the final evaluation is adjusted to students' readiness, interests and preferences (Jauhar, 2018). Differentiated learning views students differently and dynamically, where the teacher sees learning from various perspectives. Differentiated learning does not mean individualized learning. However, it is more directed at learning that accommodates student needs through independent learning and maximizing student learning opportunities (Beck & Beasley, 2021; Erickson, 2006; Taylor, 2017; C. Tomlinson, 2001; C. A. Tomlinson, 2000) states the importance of differentiation learning, namely as follows: 1) Differentiation learning challenges students to learn more deeply. 2) Provide opportunities for students to become peer tutors. 3) Teachers must recognize that a one-size-fits-all approach to teaching does not meet the needs of all, or even most, students, just as the sizes of clothes sold in stores do not necessarily match consumers' sizes.

The principles of Differentiated Learning are: (1) Learning Environment Learning environment is a physical environment such as a classroom where student's study. The teacher must arrange the class arrangement so that students are comfortable learning, such as arranging chairs

and all the elements in the class neatly and orderly. The learning climate seeks mutual respect and respect for one another and the teacher provides equal opportunities for all students. (2) Quality curriculum. A good curriculum must have specific learning objectives that the teacher can use as a roadmap to help students achieve their academic goals. In addition, the main goal of a teacher when teaching is to understand his students, not to make them memorize facts. The ability to understand students' problems and apply that knowledge in their daily lives is of the utmost importance. (3) Continuous Assessment Before the subject matter is delivered, the teacher conducts an evaluation as the first step in the learning process. The initial assessment measures student preparation and closeness to learning objectives as well as students' depth of understanding of the subject to be studied. Therefore, instead of being influenced by intellectual intelligence, students' prior knowledge determines how much they want to learn. The second assessment, namely the formative assessment, is to assess whether there is unclear material that is difficult for students to understand. the teacher observes how each student learns, who needs help with a particular task, and whether any instructions in the assignment need clarification. The teacher re-evaluates learning outcomes at the end of the lesson. Teachers do not rely solely on repetition as is usually the case, but teachers have access to a variety of methods for assessing student learning outcomes. (4) Responsive teaching Final assessment in each lesson allows teachers to find deficiencies in guiding their students to understand the content of the lesson. Consequently, based on the findings of the final evaluation that was carried out previously, the teacher can adjust the lesson plan made to the conditions and situation in the field at that time. (4) Leadership and routine in the classroom A good teacher can manage the class effectively. Here, leadership is referred to as a technique for teachers to guide their students so that they comply with the lessons and norms that have been set. While the ability of teachers to properly direct instruction through the daily practices and routines they follow to ensure effective and efficient learning is referred to as teaching routines. The following is an analysis of 8 articles that explain the practice of implementing differentiated learning shown in Table 1.

Table 1. Articles that explain the practice of implementing differentiated learning

No	Research & Year	Research Title	Research methods	School level	Measured variable	Research result
1	(Haelermans, 2022)	<i>The Effects of Group differentiation by students' learning strategies</i>	Eksperimen	Secondary school	Diferentiation Motivated strategies for learning	Student performance was higher in classes where the distinction was made
2	(Sulistiyosari et al., 2022b)	<i>Application of Differentiated Social Studies Learning in the Independent Learning curriculum</i>	Qualitative	Secondary school	IPS Learning; Differentiation Strategy	Through differentiated learning in the independent curriculum gives students autonomy to be able to express their learning abilities based on their potential and interests
3	(Evans & Waring, 2011)	<i>How can an understanding of cognitive style enable</i>	Quantitative	University	Differentiation, Cognitive style,	Differentiation, learning concepts and

		<i>trainee teachers to have a better understanding of differentiation in the classroom?</i>			Personal learning styles pedagogy, Initial teacher education	learning preferences.
4	(Shedly, 2014)	<i>The use of Project-Based Learning as a Viable Differentiation Technique to Enhance Gifted and nonGifted Students' Creative Writing Skills</i>	Mixed (Quantitative & Qualitative)	Secondary school	Creativity Using PBL	all students showed improvement in their creative writing
5	(Erotocritou, 2020)	<i>The Impact of Using Effective Differentiation Strategies on Students' Learning: A case study of an Elementary School in Dubai</i>	Metode Campuran	Elementary school	Performance and learning outcomes	Using differentiation is an effective strategy and has a positive impact on student performance and their learning outcomes
6	(Menekse et al., 2013)	<i>Differentiated Overt Learning Activities for Effective Instruction in Engineering Classrooms</i>	Experiment	University	Concept Knowledge and Understanding	Classifying learning activities can help researchers, instructional designers, and instructors determine which activities are appropriate for their intended research or instruction.
7	(Brungel et al., 2020)	<i>Project-Based Learning in a Machine Learning Course with Differentiated Industrial Projects for Various Computer Science Master Programs</i>	Experiment	University	Practical and social skills	Differentiated project-based learning has a positive effect on student perception, encouraging self-identification with so far disliked coursework.
8	(Demir, 2021a)	<i>Effects of learning style based differentiated activities on</i>	Quantitative/Experimental Pre-test and posttest	Elementary school	creativity	Positive effect on disclosure and development of creative thinking

<i>gifted students' creativity</i>	experiment control group quasi-experimental	skills in gifted children.
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Characteristics of Differentiated Learning, the Association for Supervision and Curriculum Development (ASCD) explains the characteristics of differentiated learning from Tomlinson's adaptation described in Table 2:

Table 2. Characteristics of Differentiated Learning

No	Characteristic features	Explanation
1	Be proactive	From the start, teachers proactively anticipate lessons to be taught by scheduling lessons for different students. So instead of adapting their learning to students in response to an evaluation of previous learning failures.
2	Putting focus on quality over quantity	The quality of homework is more in line with the demands of students in different learning. Smart kids don't necessarily get the same additional task after completing the first task; instead, he will receive assignments that will help him develop his skills.
3	Rooted in assessment	Teachers always evaluate students in different ways to find out their conditions in each lesson.
4	Provide content, process, product and learning climate approaches	There are four learning components that can be adjusted according to the level of readiness, aptitude, interests, and learning preferences of each student.
5	Learning	Homework is given based on the level of students' prior knowledge of the subject to be taught, which allows the teacher to adapt learning to the level of student needs.
6	Combining individual and traditional learning	Teachers offer students the opportunity to study regional traditional music together or individually.
7	Is alive	Teachers work continuously with students, including to develop class and individual goals for students. Teachers monitor how lessons adapt to students and how changes are implemented.

C. Tomlinson, 2001, 2015; C. A. Tomlinson (2014) explains the diversity of students based on 3 different aspects, namely: 1) Readiness The extent to which students' knowledge and skills are able to achieve learning objectives is what is meant by being ready in this context. For students to be successful in their studies, teachers must find out what they need. The teacher's mentality that every student has the potential to grow physically, psychologically, and intellectually must be closely related to student preparation. Teachers can then investigate the interests of their students. 2) Interest To motivate students to learn, interest is very important. Teachers can ask students about their hobbies, interests or favorite subjects at school. Naturally, students work diligently to study topics that interest them. 3) Study Profile The technique or method that students prefer to

understand the lesson as a whole is called the student learning profile. Elements that Differentiate Content, process, product, and learning environment or climate in the classroom are four different aspects of learning that can be mastered or controlled by the teacher. The following describes the four aspects.

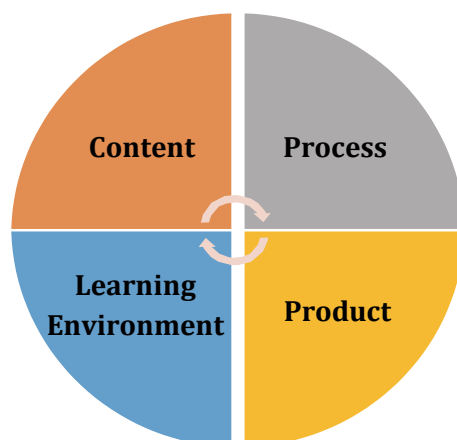


Figure 1. Aspects of Differentiated Learning Source: (Merliza et al., 2023)

Aspects of Differentiated Learning which include content, process, Product, Resource Environment: (Tomlinson, Carol Ann 2014) are as follows: 1) Content Content is learning material delivered by the teacher. Strategies that teachers can apply to differentiate content that students learn include: a) presenting various materials; b) use of learning contracts; c) offer mini-learning; d) present material with different learning modalities; and e) providing various support systems. 2) Process Student class activities are discussed in this section. These student efforts were not evaluated quantitatively in terms of numbers but qualitatively in terms of feedback records regarding attitudes, knowledge, and skills that had not been achieved and needed improvement. 3) Product Usually, this product is the culmination of instruction to show students' knowledge, ability, and understanding after completing one learning unit or even after debating a subject for one semester. The summative results require evaluation. Product creation requires more time and deeper understanding from students. Products can be produced individually or in teams. 4) Learning environment, the learning environment includes lessons on personal, social, and physical development. In order for students to be motivated to learn, the learning environment must also be adapted to their learning preferences, interests, and willingness to learn.

Based on the explanation above it is clear that the role of the teacher determines the creation of the expected learning in the independent curriculum, especially in social studies learning. The teacher in implementing differentiated learning must begin with the teacher's understanding of the concept of differentiated learning. Socialization related to the implementation of this curriculum needs to be increased, especially for schools in the regions. Teachers need to be assisted directly in implementing it. After understanding, the new teacher can apply it independently in learning. This process continues to be carried out continuously, evaluated and improved until the teacher is skilled at practicing it. In addition, the support and guidance of all relevant parties, such as school principals, supervisors, education offices and the government, also determines the achievement of this curriculum development goal.

The purpose of learning is to develop critical thinking skills, analytical, logical, communication skills and problem-solving skills. The strategy that is usually used in learning is to provide opportunities for students to participate actively, ask questions, express opinions. Utilization

of various types of models, learning strategies and methods, media, adapted to the material, needs, learning styles, and student characteristics. In the independent curriculum, one of the models that can be used is a problem- and project-based learning model which will later produce a Pancasila student profile.

D. CONCLUSION

Based on the literature review that has been done, it can be concluded (1) differentiated learning can be integrated with several learning models such as Problem Based Learning (PBL), Project Based Learning (PjBL) and other models that are adapted to student learning styles; (2) the application of a differentiated approach can improve student learning outcomes; (3) a differentiated approach can be applied in social studies learning because it is able to accommodate students' learning needs by taking into account students' interests, profiles, learning styles and learning readiness.

Differentiated learning is learning that gives students the freedom to increase their potential according to their learning readiness, interests, and learning profile. Three strategies in differentiation learning are content differentiation, process differentiation, and product differentiation. In its implementation, we can choose one strategy or use all three. As teachers we must carry out learning by paying attention to the learning needs of students, so that learning objectives can be achieved effectively and efficiently.

As for the suggestions that the author can convey, namely: (1) looking at the data from the literature study which shows that there is still limited research on a differentiated approach in Indonesia, it is deemed necessary to carry out further research on the effect of a differentiated approach on creativity, critical thinking, collaboration or problem solving abilities specifically in social studies learning at other educational levels; (2) teachers need to carry out a diagnostic assessment first to find out students' interests, profiles, learning styles, and learning readiness before implementing differentiated learning.

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