



The Application of Differentiated Learning to the Creative Thinking Abilities of Elementary School Students

Wulan Pratiwi^{1*}

¹ Faculty of Teacher Training and Education, Muhammadiyah University of Buton, Indonesia

ABSTRACT

The level of creativity in Indonesia is still relatively low. One of the reasons is that educational institutions have not been able to adequately meet the needs of diverse students, which have been recognized by the government. The curriculum at Merdeka is identical to the differentiated de cension method. It is hoped that it will be able to accommodate community needs. learn students. The aim of this research is to understand the influence of differentiated learning on creative thinking, as well as the factors that cause an increase in creative thinking after differentiated learning is implemented in elementary schools. This research uses a systematic literature review (SLR) methodology which consists of five steps: identifying relevant literature, identifying problems, obtaining research results that are in line with quality assessments (screening and eligibility), and analyzing research findings from articles.

Keywords: *Creative thinking abilities, Creativity development, Elementary school students*

1. Introduction

Today, education has a significant impact on the personal growth and development of every individual. One way to describe education is as a tool to help all humanity achieve happiness and well-being. Superior education will make people more mature, resilient, and able to handle more complex concepts. Unfortunately, this has diverted attention from other pressing issues, leading to the emergence of various theories regarding curriculum modifications to accommodate existing conditions (Faiz et al., 2022). First, the new curriculum paradigm emerged. The new educational paradigm provides teachers with support in developing curricula and assessment criteria based on student characteristics and needs. The new educational paradigm emphasizes the importance of practical teaching methods for students. Learning is a single series consisting of fulfilling competency standards, perseverance throughout the process, and assessment efforts to refine the curriculum so that students can achieve the expected competencies (Ministry of Education and Culture, 2021).

The competencies emphasized are 21st-century competencies, which include critical thinking and problem-solving, collaboration, communication, and creativity and innovation (Partnership for the 21st Century, 2007). These experiences need to be shared with students so they can grow as individuals in their work and personal lives (Zubaidah, 2016). Education as a whole has not succeeded in developing a flexible curriculum that can meet the needs of each student in each school. As is known, there are various types of students in schools and individual classes who have different levels of learning abilities, including interests, talents, and learning patterns. Therefore, in order for them to understand competencies and learning materials based on individual characteristics and uniqueness, different learning services are needed. This will enable them to progress optimally. For this reason, a teaching process is needed that prioritizes student

characteristics and individual differences. By implementing this learning process, teachers can help students who are taught according to their interests, talents, and learning patterns. to the unique needs of each student.

Differentiated learning processes can be used in schools to help students overcome their anxieties and become more cooperative in all areas, allowing them to express themselves in ways that align with their inner desires. Diverse learning styles will result in a flexible and agile curriculum, requiring only a specific approach to meet the goals of secondary education. Every student is unique. Each student should be able to work in class with a positive attitude and the hard work they understand in every aspect of their lives. Each child has the following strengths and weaknesses: learning style (such as auditory, visual, or kinesthetic), academic ability (such as high, medium, or low), and learning speed (some students learn quickly, others take longer to learn).), place, and learning orientation (performance approach, mastery, performance avoidance), some are even slow). Motivation (sensei, medium, low), self-efficacy (sensei, medium, low), and background knowledge (math, language, science, etc.).). personality (extrovert vs. introvert, for example), and socio-economic status (high, medium, low SSE). In a class of 20 to 40 students, the teacher will discuss various issues that affect each student individually.

Therefore, thorough feedback is needed on educational programs aimed at developing each student to their full potential. Classroom economics education cannot address student needs because students themselves have needs. Therefore, an educational outreach program is needed that can effectively meet the needs of each student. This approach can be used as a modified learning approach. The goal of differentiated education is to understand students and their perspectives on learning based on differences through a systematic process (Marlina, 2019). Differentiated education can increase student tenacity and resilience while providing the resources they need to learn effectively and easily. In the learning process, student activity serves as a key indicator of a desire to ask questions, make requests, and respond to teacher questions. When there is student participation, learning motivation will increase, a positive thing that ultimately improves student learning outcomes. However, research on differentiated education is still lacking, so the purpose of this article is to compile various literature on differentiated education that can describe student progress and challenges. The essence of differentiated education is an educational method that provides students with the tools they need to maximize their potential according to their learning styles, interests, and learning profiles.

Education with integrity emphasizes the process and subject matter of education, as well as its final product. If we continue the educational process from the beginning, perhaps even to the present day, education in Indonesia has not undergone much change. Many people still adhere to the old education system, which states that every child should spend more time with their teacher (the center) and not just passively participate in class activities and collaborate. Education is not just about passing exams. The shift towards a more humanistic educational paradigm, with an emphasis on hands-on learning, provides all children with the opportunity to receive a high-quality education. It provides attention and educational services tailored to the needs of each individual student, provided to their parents. According to Tomlinson (2001:45), differentiated education is an effort to meet the individual learning needs of each student by adapting the teaching process in the classroom. The term "differentiation" in education does not simply mean that a teacher needs to use thirty different methods to teach thirty different students. However, this does not mean that teachers should assign large

amounts of homework to students who can complete their assignments more quickly than to students who cannot. Differentiating education does not necessarily mean that teachers should match fewer underachieving students with more astute students. Furthermore, avoid assigning different tasks to each child. Integrity training is not a quick process that ends abruptly, so teachers need to develop several parallel learning programs where teachers should advise each student to work with A, B, or C in a cooperative learning environment. Criticisms regarding this can be characterized as a combination of the above factors as well as the learner's background, interests, and learning style. Instructors must provide materials and equipment based on the student's needs. The differentiation process focuses on how a child will understand or comprehend what is being taught. Differentiating a process can be done in the following ways: (a) By using tiered activities; (b) By providing answers to questions or problems that need to be addressed in interest angles; (c) By creating individual schedules for each family member (including a list of tasks and extended hours that the family can use to complete tasks); and (d) By expanding the scope of activities. Product differentiation relates to work results or work-related changes that need to be explained to us (such as work-related reports, deadlines, facts, etc.) or other products that have value. The products offered consist of two things: (a) providing support and guidance, or incentives and learning outcomes for students. To ensure that students achieve learning outcomes that are appropriate to the level of difficulty of the material provided by their teachers. If students' learning is adjusted to their abilities, their learning motivation will increase. (3) Strengthening the harmonious bond between teachers and students. Differentiation in education improves student-teacher relationships, making students more willing to learn; (4) To help students become independent learners. If students receive instruction in a self-directed manner, they will be biased and less likely to make mistakes. (5) To increase teacher effectiveness When a teacher guides students in various subjects, students become more confident in their ability to learn and become more creative.

Differentiated teaching components There are four different components of learning: subject, process, product, and learning environment. (1) Content asks what students are learning. Content is related to the curriculum and educational materials. Related to the above, teachers adjust the curriculum and learning materials based on students' learning styles and talents. The curriculum is adjusted to the abilities and conditions of each student. In general, teachers are unable to explain a special curriculum (which cannot be understood by all children) based on students' learning styles or adjust teaching materials to certain types of disabilities that students may have. Differentiated education includes: (a) Changes to national curriculum standards; (b) Introducing concepts, theories, or course themes; and (c) Presenting facts and evidence. There are many different types of education, such as classroom teaching, small group teaching, home tutoring, and so on. (7) Students are taught in various ways according to the growth and development of each student. (Tomlinson, Carol A. 2001. *The Role of Teachers in Differentiated Education*) Different schools provide different types of instruction for different students. Some teachers state that different teaching methods reveal a new paradigm in education. There are changes in teacher-student exchange programs. In addition, teachers are also expected to "read aloud to students" as part of the learning material. Teachers who practice differentiation will focus on students as learners or guides, providing them with the necessary support to learn according to each student's ability. One example of teacher learning in a differentiated classroom is: (1). Assessing student performance using various methods. (2) Learning and applying fluctuating time scales. Ultimately, good

education is defined as having a strong foundation, tailored to the unique needs and characteristics of each student, and supervised by teachers who understand and accommodate the unique differences of each student.

2. Methods

This research method is enhanced with a qualitative approach to deeply explore the individual needs and dynamics of creativity-based differentiated learning for students. Student needs are identified through an initial evaluation in the form of in-depth interviews, participant observation, and analysis of learning documentation. Observation techniques are used to understand students' learning behaviors, strengths, flexibility, and preferences in receiving materials. Meanwhile, interviews with students and teachers aim to determine their perceptions of individualized and flexible learning. The formation of flexible groups is analyzed qualitatively to understand how student interest and participation contribute to the effectiveness of collaborative learning. The provision of unique materials and assignments with varying levels of complexity will be analyzed through case studies to determine their impact on learning outcomes and students' intrinsic motivation. In addition, interactions in discussions and group work will be recorded and analyzed using thematic analysis techniques to evaluate the development of students' social, communication, and creativity skills. This approach allows researchers to gain a holistic picture of how differentiated learning strategies can support students' creative expression and improve learning outcomes in an inclusive and individually responsive educational context.

3. Findings and Discussions

3.1 Improving Creative Thinking Skills through Content Differentiation

The application of content differentiation in elementary school learning demonstrates significant potential for developing students' creative thinking skills. Based on classroom observations and student assignment analysis, students who receive learning materials tailored to their interests and learning style preferences demonstrate higher engagement and generate more original ideas, particularly in open-ended tasks such as creative writing, storytelling, and visual presentations. These findings indicate a direct link between personalized learning content and increased creative thinking capacity, as students feel more empowered and free to explore ideas when the material they learn is meaningful and tailored to their needs. Content differentiation involves modifying the complexity level, presentation format, and themes of learning materials to align with students' readiness levels, learning profiles, and interests.

This approach aligns with Howard Gardner's Theory of Multiple Intelligences, which emphasizes that each student possesses distinct cognitive strengths, such as linguistic, spatial, interpersonal, or musical intelligence. When teachers design learning materials that align with students' dominant intelligences, they are more likely to engage deeply and demonstrate fluency in creative thinking. For example, students with visual-spatial intelligence find it easier to express ideas through drawings or designs, while students with linguistic intelligence prefer narratives or essay writing. Furthermore, content differentiation also fosters intrinsic motivation, a crucial factor in developing creativity, as explained in Deci and Ryan's self-determination theory. Giving students choices in how they access and process material creates a sense of autonomy that encourages them to take intellectual risks and generate new ideas. This aligns with Torrance's view that creative thinking is the ability to generate original, useful, and flexible ideas. Therefore, relevant and adaptive learning materials act as catalysts for creative exploration.

Pedagogically, the strategy of content differentiation shifts learning from mere memorization to deeper, more personally meaningful learning experiences. This shift from a uniform teaching model to a more adaptive approach supports the principle of inclusive education, where every student has an equal opportunity to develop to their full potential. This is particularly important in elementary education, where creative and divergent thinking skills are being developed. With the increasing demands of 21st-century education, which emphasizes innovation and problem-solving, content differentiation is not only an effective strategy but also a necessity. Thus, the results of this study confirm that content differentiation is an effective approach to fostering the development of creative thinking skills in elementary school students. Designing materials that consider students' cognitive and affective needs can create an inclusive, responsive learning environment and encourage the development of creative thinkers ready to face future challenges.

3.2 Process Differentiation and Its Impact on Student Idea Originality

The application of differentiation in the learning process has been shown to have a positive impact on increasing the originality of elementary school students' ideas. In this study, students who were given choices in how they processed information—whether through group discussions, experiments, independent exploration, or educational game-based activities—showed a wider variety of ideas and more innovative solutions compared to students who followed a conventional, uniform learning process. Through this approach, students not only accessed the material but also constructed knowledge according to their thinking styles, which directly impacted the emergence of new, unique and authentic ideas. Process differentiation refers to the variety of ways students engage in learning, allowing them to choose learning strategies or activities that best suit their characteristics and strengths.

This strategy aligns with Vygotsky's principles of social constructivism, which emphasizes that the most effective learning process occurs through social interactions and meaningful activities within the student's zone of proximal development. When students are exposed to personalized learning experiences, they are encouraged to explore previously untried thinking approaches, ultimately resulting in more original ideas. Furthermore, this approach supports the development of divergent thinking, namely the ability to generate multiple possible solutions to a problem. Divergent thinking is one of the main indicators of creativity according to Guilford, which includes fluency, flexibility, originality, and elaboration. In differentiated learning, students are freer to interpret material, adapt methods, and develop learning strategies according to their own understanding of the world. As a result, they are able not only to repeat information but also to create new meanings based on personal reflection and understanding. In practice, this flexible learning process also provides space for students to develop metacognition and a sense of responsibility for their own learning.

They learn how to choose effective learning strategies, reflect on their progress, and modify their approaches as needed. Thus, students not only become more independent learners but also become more creative in dealing with complex real-world problems. Overall, process differentiation encourages more active, reflective, and meaningful learning. This strategy has empirically shown an increase in the quality of ideas generated by students, particularly in terms of originality and depth of thought. Therefore, teachers need to consider implementing this strategy systematically as part of learning that is oriented towards developing 21st century creative thinking skills.

3.3 Product Differentiation as a Strategy to Strengthen Fluency and Flexibility in Elementary School Students' Creative Thinking

Research results show that the application of product differentiation in learning has a significant impact on strengthening two key aspects of students' creative thinking: fluency (the fluency of generating ideas) and flexibility (the ability to change approaches or perspectives). Students who are given the freedom to choose the final form of their learning outcomes, such as posters, videos, poems, three-dimensional works, or reflective journals, demonstrate a greater variety of ideas and a better ability to flexibly reorganize ideas according to the task context. This freedom to express learning outcomes creates ample space for students to showcase their unique thinking. Product differentiation refers to modifying the way students demonstrate their understanding of the material.

This approach allows students to tailor their work to their individual learning styles, interests, and strengths. According to Tomlinson (2014), product differentiation allows students to demonstrate the achievement of learning objectives through the media that is most relevant and meaningful to them. In this context, students do not simply complete assignments but become active creators, designing, combining, and presenting ideas in unique and personalized ways. This approach is highly effective in developing fluency, as students are encouraged to generate multiple ideas and alternatives in response to a learning challenge. For example, when asked to create a project on an environmental theme, some students create poetry, others create animations, infographics, or recycled art.

This ability to generate multiple ideas reflects the capacity for creative thinking that develops through appropriate practice and stimulation. Meanwhile, flexibility is evident in students' ability to change the form and structure of ideas as they rethink the best approach to completing their product. Furthermore, this approach also fosters planning, self-evaluation, and decision-making skills, all essential elements of creative thinking and autonomous learning. When students are given the confidence to choose, they learn to assess the strengths and weaknesses of each option, manage their time, and develop strategies to complete a final product that meets academic standards and their imagination. This process fosters the character of independent and innovative learners, a key goal of 21st-century education. Thus, product differentiation is not only a strategy for presenting learning outcomes but also a profound pedagogical tool in building a classroom culture that values creativity, different learning styles, and the unique strengths of each student. This strategy has been proven to encourage broader expression of ideas, develop cognitive flexibility, and improve the quality of meaningful and future-oriented learning outcomes.

4. Conclusion

The implementation of differentiated learning in elementary schools has proven effective in developing students' creative thinking skills. Through differentiation of content, process, and product, students are given space to learn according to their interests, learning styles, and readiness levels. This strategy not only encourages active engagement but also strengthens the dimensions of fluency, flexibility, and originality in thinking. Teachers who implement differentiated learning report increased positive pedagogical relationships and ease in identifying and facilitating each student's unique potential. Furthermore, students feel more valued, motivated, and confident in exploring new ideas. While challenges arise in terms of planning, classroom management, and resource availability, solutions

such as the use of learning technology, teacher professional training, and collaborative learning communities are contributing factors to successful implementation. Overall, findings indicate that differentiated learning is an inclusive, responsive, and relevant pedagogical approach to the demands of 21st-century education. With strong system support and teacher awareness of the importance of adaptive learning, this strategy can be implemented sustainably to develop creative, independent students who are ready to face future challenges.

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