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The Effectiveness of a Differentiated Learning Approach: Creativity and Elementary School Students' IPAS Learning Outcomes

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ABSTRACT

This research is motivated by the low level of creativity and student learning outcomes in Natural and Social Sciences (IPAS) subjects in grade V at Elementary School Lantebung, Makassar City, which is caused by conventional learning processes that have not accommodated the diversity of student characteristics. The purpose of this study is to test the effectiveness of the implementation of a differentiated learning approach in improving students' creativity and learning outcomes in IPAS. The research method used is a quasi-experimental design with the one-group pretest-posttest design on 37 grade V students. Data collection techniques were carried out through learning outcome tests, observations of teacher and student activities, and creativity assessments. Data was analyzed using descriptive statistics and paired sample t-tests. The results showed a significant transformation in the classroom ecosystem, marked by a progressive increase in teacher pedagogical competence (64% to 93%) and student learning activities (60% to 89%). Academically, the average value of learning outcomes increased sharply from 47.43 to 76.89 ($t = 18.073$; $p < 0.000$), with a drastic decrease in standard deviation from 11.99 to 6.38, proving a reduced understanding gap among students. Furthermore, this strategy significantly stimulated all aspects of divergent thinking ($t = 26.760$; $p < 0.000$), with optimal development in flexibility and elaboration. In conclusion, differentiated learning is an empirically valid, effective, and inclusive model that is highly adaptive to students' characteristics, interests, and learning readiness in maximizing both cognitive potential and creativity in elementary schools.

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1. INTRODUCTION

Education in the modern era demands a paradigm shift from teacher-centred to student-centred learning (Eksangkul et al., 2024). At the elementary school level, particularly in Natural and Social Sciences (IPAS), students are expected not only to memorize facts but also to think critically and creatively to understand natural and social

phenomena in their environment (Komariah et al., 2023; Hardiansyah & Hidayatillah, 2022; Nisa et al., 2025). However, the reality on the ground shows that achieving these competencies is often hampered by a classical approach that equates all students' abilities.

Objective conditions at the Elementary School Lantebung Makassar City demonstrate a similar challenge, where fifth-grade students' learning outcomes in IPAS have not yet reached the expected standard of completion. This low learning outcome is directly related to the lack of space for students to explore their creativity. The monotonous learning process causes students with high learning speeds to feel bored, while students with low learning speeds feel left behind, thus preventing each individual's unique potential from being optimally developed.

The Independent Curriculum (Curriculum Merdeka) is a solution to this problem, embracing the concept of flexibility. However, its implementation in coastal or suburban schools like the Lantebung area requires a specific approach. One strategy deemed most relevant is a differentiated learning approach (Goyibova et al., 2025; Ratnawati et al., 2025). This approach is a teacher's effort to adapt the classroom learning process to meet each student's individual learning needs, including their readiness to learn, interests, and learning profiles (Angreni et al., 2026).

The application of differentiated learning in IPAS subjects is crucial because the material covers a broad range of topics and requires visualization and practice (Haq & Arifin, 2024; Musfita et al., 2025). By differentiating content, process, and product, students are given the option to explore the material according to their cognitive style (Lestari et al., 2024). For example, visually inclined students can learn through infographics, while kinesthetic learners can conduct simple experiments, ultimately sparking creativity in problem-solving.

The importance of creativity in IPAS learning should not be underestimated. Creativity is the driving force behind students' innovations and solutions to the social and natural phenomena they study (Aminah & Setyowati, 2024; Wang et al., 2023). While creativity is often considered an innate talent, it is actually a skill that can be developed through the right learning environment. Differentiated learning provides a "safe space" for students to be creative without fear of making mistakes because the assignments are tailored to their abilities (Aisah et al., 2023).

Several previous studies have examined the effectiveness of differentiated learning generally in large urban areas (Akhiruddin et al., 2024; Padmore & Ali, 2024; Ziernwald et al., 2022), but few have specifically addressed its effectiveness in fifth-grade elementary school students in the Makassar suburbs, focusing on both cognitive and creative learning outcomes. Most studies focus on only one aspect, while this study attempts to integrate both within a quasi-experimental intervention framework.

The uniqueness of this study lies in the integration of differentiated learning contextualized within the local environment at the Lantebung Elementary School. Unlike previous studies that employed a control group design, this study employed a one-group pretest-posttest design to examine the longitudinal developmental transformation of each individual student within a single experimental class. Another

novel focus is the development of a creativity instrument tailored to the learning outcomes of the recently implemented Phase C of the IPAS program.

Building upon the description above, the purpose of this study is to test the effectiveness of the implementation of a differentiated learning approach in improving students' creativity and learning outcomes in IPAS. This research is expected to serve as a practical reference for teachers in Makassar City in optimizing the implementation of the Independent Curriculum through targeted differentiation strategies.

2. METHOD

This study used a quantitative approach with a quasi-experimental design. The applied research design was the one group pretest-posttest design, where the effectiveness of the treatment was measured by comparing the subjects' conditions before and after the intervention. In this design, there was no control group for comparison, so the focus of the study was on the transformation of creativity achievements and individual learning outcomes within the same experimental group through systematic observation.

The population in this study was all fifth-grade students at Elementary School Lantebung, Makassar City. The sampling technique used was non-probability sampling with saturated sampling. Given the limited number of fifth-grade students, the entire population was used as research subjects. This aimed to obtain a comprehensive picture of the effectiveness of the differentiated approach on the heterogeneous characteristics of students at the school without reducing the number of research subjects.

The research instruments used consisted of two main types: a learning achievement test and a creativity observation sheet. The learning achievement test consisted of multiple-choice questions and essays that have been logically and empirically validated to measure cognitive aspects in IPAS subjects. Meanwhile, to measure creativity, the researchers used a rubric-based performance assessment instrument that included indicators of fluency, flexibility, originality, and elaboration as students worked on product differentiation tasks.

The research procedure began with a pre-experimental stage, which involved administering a pretest to map students' initial abilities. Next, the intervention phase involved implementing differentiated learning, encompassing differentiation of content, process, and product based on students' learning profiles over a specified period. The final phase of the study concluded with a posttest and a final creativity assessment to assess the extent of changes that occurred after implementing the strategy in the classroom.

The data analysis techniques used descriptive and inferential statistics. Descriptive analysis presented the average, minimum, and maximum scores for creativity scores and learning outcomes. To test the hypotheses, a paired sample t-test was used to determine whether there was a significant difference between pre- and post-treatment scores. Furthermore, an N-Gain Score was calculated to measure the effectiveness or degree of improvement in students' learning outcomes and creativity, categorizing them as low, medium, or high.

3. RESULTS AND DISCUSSION

Results

Description of Research Implementation at Each Meeting

This research was conducted over six meetings during the odd semester of the 2025 academic year, from November 5th to 28th, 2025, in a fifth-grade class at the Lantebung Elementary School, Makassar City. The initial phase involved 37 students, and involved strategic coordination with the principal to align implementation plans and technical support in the field. Comprehensive preparation included developing differentiated teaching modules and valid evaluation instruments, beginning with a pretest in the first meeting. This step was crucial for mapping students' initial abilities and empirical conditions, which then served as the basis for determining intervention strategies and benchmarking learning outcomes.

The implementation of the differentiated learning approach took place in the second through fifth meetings, emphasizing adjustments to content, process, and product through methods such as experiments, role-playing, and mini-projects. During this phase, intensive observations were conducted to monitor the consistency of classroom management and the development of students' independence and creativity in IPAS. The research concluded in the sixth meeting with a posttest and reflection on learning experiences to ensure the validity of the data comparison. All cognitive and behavioral data collected were then analyzed in depth to measure the effectiveness of the learning model in significantly improving student learning outcomes and creativity.

Observation Results

Observation Results of Teacher Activities

Observation results of teacher activities in implementing differentiated learning.

Table 1. Observation Results of Teacher Activities

Description	Meeting-I	Meeting-II	Meeting-III	Meeting-IV	Meeting-V	Meeting-VI
Achieved Score / Maximum Score	Pretest	29/45	33/45	38/45	42/45	Posttest
Percentage (%)	Pretest	64%	73%	84%	93%	Posttest
Qualifications	Pretest	Low	Moderate	High	Very High	Posttest

Teacher effectiveness in implementing differentiated learning showed a progressive and significant upward trend with each meeting. In the initial stage (meeting II), teacher activity was in the low category at 64%, due to challenges in managing activity diversity and the dominance of one-way instruction. However, with the strengthening of the learning structure and activity variation in meeting III, teacher performance improved to the medium category (73%), and continued to experience rapid escalation in meeting IV, reaching the high category (84%) through the successful integration of process and product differentiation. Peaking in meeting V, teachers achieved a very high category with a score of 93%, reflecting proficiency in delivering adaptive instruction and creating a collaborative, independent learning ecosystem.

Cumulatively, this transformation confirms that the consistent implementation of a differentiated approach can improve teachers' pedagogical competence in dynamic classroom management, ultimately contributing positively to stimulating creativity and maximizing students' IPAS learning outcomes.

Student Activity Observation Results

Observation results of teacher activities in the differentiated learning process.

Table 2. Student Activity Observation Results

Description	Meeting-I	Meeting-II	Meeting-III	Meeting-IV	Meeting-V	Meeting-VI
Achieved Score / Maximum Score	Pretest	27/45	31/45	36/45	40/45	Posttest
Percentage (%)	Pretest	60%	68%	80%	89%	Posttest
Qualifications	Pretest	Low	Moderate	High	Very High	Posttest

The development of student activity shows a positive and significant transformation of learning behavior through the implementation of a differentiated learning approach. In the initial stage (meeting II), student activity was in the low category with a percentage of 60% characterized by a passive attitude and high dependence on teacher instructions, but began to adapt adaptively in meeting III to reach the medium category (68%). The escalation of learning independence reached its peak in meetings IV and V with scores increasing sharply from 80% to 89% (very high category), where students were able to collaborate effectively and choose learning activities according to their interests and learning styles responsibly. This increase in activity linearly accelerated student creativity in the aspects of fluency, flexibility, originality, and elaboration, which proves that the flexible learning ecosystem successfully transformed the role of students into active learners who are able to explore creative ideas independently and meaningfully in IPAS subjects.

Effectiveness of Differentiated Learning Approaches

Pretest of IPAS Learning Outcomes

The results of the study conducted by researchers at Elementary School Lantebung Makassar City, obtained data collected through instruments to determine the IPAS learning outcomes in the form of grades for fifth-grade students at Elementary School Lantebung. The data on the IPAS learning outcomes of fifth-grade students at Elementary School Lantebung are as follows.

Table 3. Pretest Score Results

Category	Frequency	Percent	Valid Percent	Cumulative Percent
Very Low	5	13.5	13.5	13.5
Low	20	54.1	54.1	67.6
Fair	11	29.7	29.7	97.3
High	1	2.7	2.7	100
Total	37	100	100	

The pretest analysis results listed in Table 3 indicate that students' initial abilities before the implementation of differentiated learning were predominantly in the low category. Based on the frequency distribution, the majority of students were at an inadequate competency level, with 5 students (13.5%) in the very low category and 20 students (54.1%) in the low category. Meanwhile, only 11 students (29.7%) reached the sufficient category, and 1 student (2.7%) reached the high category, with no students in the very high category. These data confirm the existence of significant gaps in understanding among students before the intervention.

This diversity in initial abilities provides a strong empirical basis for the urgency of implementing a differentiated learning approach in grade V at the Lantebung Elementary School. The dominance of students at the low and very low levels requires intervention in the form of intensive mentoring and reinforcement of basic concepts, while students in the higher categories require more complex academic challenges. Therefore, these pretest results serve as a mapping instrument for designing adaptive differentiation of content, processes, and products, so that each student receives educational services appropriate to their level of learning readiness, achieving overall improvements in learning outcomes.

Table 4. Categories of Student Learning Outcomes

Category	Number of Pre Tests	Number of Post Tests
Very low	5	
Low	20	
Fair	11	
High	1	33
Very high	0	4

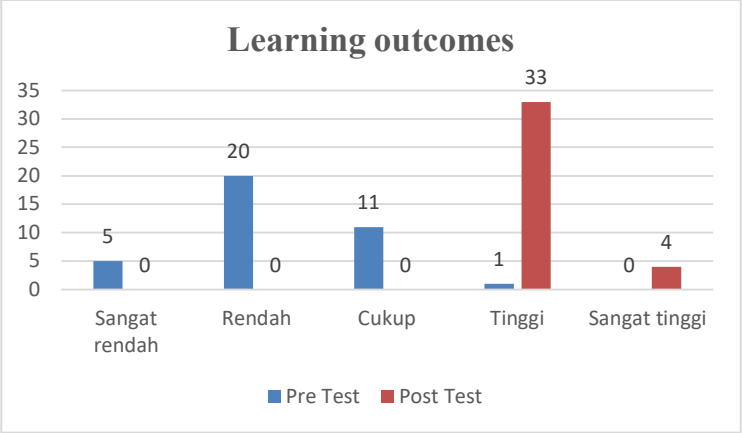

Figure 1. Pretest and Posttest Bar Diagram

Analysis of pre-test data showed that before the implementation of differentiated learning, the learning outcomes of fifth-grade students of Elementary School Lantebung were dominated by the low and very low categories, namely 25 students (67.6%), while only 11 students reached the sufficient category and 1 student in the high category. These initial findings indicating suboptimal student academic abilities

were then intervened through a differentiated learning approach, which after being implemented, succeeded in bringing about a significant and even transformation of post-test learning outcomes. All students were recorded as successfully moving out of the low category, with a final distribution of 33 students reaching the high category and 4 students in the very high category. This holistic improvement which also had a positive impact on the affective and psychomotor aspects confirmed that empirically, differentiated learning is effective in improving learning outcomes of IPAS by providing a fair opportunity for each student to achieve maximum competence according to their individual potential.

Posttest of IPAS Learning Outcomes

In the posttest of IPAS learning outcomes during the study, changes were observed in the class after the treatment. These changes were in the form of learning outcomes, data obtained after the posttest. These changes can be seen in the following data: Fifth-grade IPAS learning outcomes of Elementary School Lantebung students are as follows:

Table 5. Posttest Results

Category	Frequency	Percent	Valid Percent	Cumulative Percent
High	33	89.2	89.2	89.2
Very High	4	10.8	10.8	100
Total	37	100	100	

The frequency distribution analysis of posttest results in Table 5 shows a significant escalation in competency after the implementation of the differentiated learning approach, where all research subjects (100%) have surpassed the low and sufficient categories. Of the total 37 students, 33 respondents (89.2%) successfully achieved the high category and 4 respondents (10.8%) were in the very high category, indicating a deep and even mastery of the IPAS material. This success proves that learning strategies adapted based on readiness, interests, and learning profiles can optimize academic achievement by providing precise pedagogical support for each individual. Thus, these posttest results reinforce the urgency of implementing differentiated learning as an effective solution to accommodate the diversity of student characteristics while accelerating the quality of learning outcomes overall in elementary schools.

Table 6. Descriptive Statistics

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Pre-Test Learning Outcomes	37	20.00	75.00	474,324	1,199,662
Post-Test Learning Outcomes	37	70.00	95.00	768,919	638,481

The descriptive statistical analysis in Table 6 provides empirical evidence that the implementation of a differentiated learning approach has a significant positive impact on student learning outcomes, as indicated by a substantial increase in the mean score

from 47.43 to 76.89. This transformation is reinforced by a sharp shift in the minimum score range from 20.00 to 70.00, and a maximum score reaching 95.00, indicating the effectiveness of adapting the method to individual characteristics in improving understanding of IPAS material. Furthermore, the significant decrease in the standard deviation from 11.99 to 6.38 indicates that the distribution of student abilities has become much more concentrated, consistent, and equitable. These findings confirm that strategies that adapt to diverse learning styles are not only capable of boosting collective academic achievement but are also effective in minimizing gaps in understanding among students in the classroom on a sustainable basis.

Improving Differentiated Learning on Student Creativity

Table 7. Student Creativity Results

Variables	N	Minimum	Maximum	Mean	Std. Deviation
pre-fluency	37	7.00	16.00	12.1351	228,719
pre-flexibility	37	6.00	17.00	11.8108	222,158
pre-authenticity	37	6.00	17.00	11.6757	234,585
pre-elaboration	37	8.00	17.00	12.4324	180,340
post-fluency	37	12.00	25.00	176,216	304,915
post-flexibility	37	10.00	22.00	171,622	284,325
post-authenticity	37	10.00	23.00	171,622	302,318
post-elaboration	37	13.00	23.00	180,541	265,566

The results of the analysis of student creativity indicate that the differentiated learning approach has a positive impact on all aspects of creativity. The average values of fluency (from 12.13 to 17.62), flexibility (from 11.81 to 17.16), originality (from 11.67 to 17.16), and elaboration (from 12.43 to 18.05) indicate that students can generate ideas fluently, flexibly, and originally, and develop ideas quite well. The relatively low standard deviations in these four aspects indicate a homogeneous level of student creativity. Thus, differentiated learning is proven to be able to facilitate the development of student creativity comprehensively in IPAS subjects.

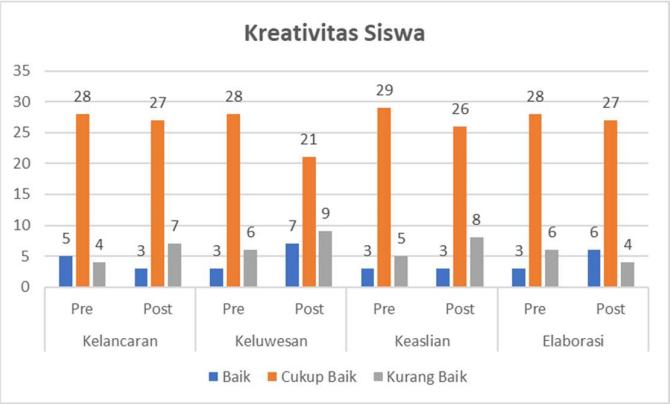

Figure 2. Bar Chart of Student Creativity Results

The implementation of a differentiated learning approach in fifth grade at the Lantebung Elementary School Technical Implementation Unit (UPT SDI Lantebung) has been shown to have a positive impact on improving student creativity, particularly in flexibility and elaboration. The data shows a significant shift in the "Good" category, with the number of students in flexibility increasing from 3 to 7, while the number of students in elaboration increased from 3 to 6 after the treatment. However, the frequency distribution for fluency and originality tended to remain stable in the "Fair" category.

Normality and Homogeneity Tests

Data analysis showed that the sig values from the Shapiro-Wiljk test for the pre-test and post-test were 0.237 and 0.074, respectively, or a sig value > 0.05, indicating that the data used in the study were considered normal. Meanwhile, the data analysis results for the homogeneity test showed that the sig value based on the mean in the homogeneity test was 0.090 (sig>0.05), indicating that the data used in the study were classified as homogeneous.

Hypothesis Testing

The hypothesis testing in this study was conducted using a One Sample t-Test. This test aims to determine whether the average student creativity score is significantly different from a specific benchmark score. The benchmark score is determined based on certain criteria, such as the theoretical average score or the minimum limit for the categories used in the study.

Table 8. Sample T Test

Paired Test	t	sig
Pre-post (Learning Outcomes)	18,073	0,000
Pre-post (Student Creativity)	26.760	0,000

The results of the inferential analysis using a paired sample t-test showed a significant increase in student learning outcomes and creativity after the implementation of differentiated learning. For learning outcomes, the t-value was 18.073 with a significance level of 0.000 ($p < 0.05$), indicating a significant difference in academic performance before and after the intervention. This finding confirms that learning strategies adapted to students' needs, interests, and abilities can facilitate cognitive processes more optimally and strengthen the understanding of IPAS concepts.

In addition to academic achievement, student creativity also experienced a significant increase, with a t-value of 26.760 and a significance level of 0.000. These statistical data demonstrate that a differentiated learning environment is not only effective in facilitating information absorption but also empirically stimulates students' creativity, flexibility of thinking, and innovative problem-solving abilities. Overall, this study validates that differentiated learning is a superior model for creating an

inclusive classroom ecosystem while simultaneously improving the quality of education at the Lantebung Elementary School in Makassar City.

Discussion

The implementation of a differentiated learning approach in fifth grade at the Lantebung Elementary School Lantebung has been empirically proven to have a significant and holistic positive impact on teacher pedagogical competence, student learning activities and behavior, and student learning outcomes and creativity in IPAS. The success of this intervention was supported by accurate initial mapping through pre-tests and the design of adaptive teaching modules.

Teacher Pedagogical Transformation and Student Learning Activities

The findings of this study indicate a strong linear interdependence between teacher pedagogical transformation and the escalation of student learning activities. In the initiation phase, limited classroom management with one-way instruction correlated with low student engagement, which was in the low category (60%–64%). However, the implementation of a differentiation strategy—whether in content, process, or product—gradually transformed the teacher's role from a sole instructor to a facilitator in a collaborative learning ecosystem. Theoretically, this dynamic aligns with Vygotsky's Zone of Proximal Development (ZPD) concept and scaffolding theory, where adaptive adjustments in instructional support from educators effectively foster student learning independence (Raslan, 2024; Yumiarty et al., 2025). Previous studies have also confirmed that differentiated learning acts as a key catalyst in creating an inclusive environment that accommodates diverse learning styles, thus optimizing teacher performance in the classroom (Jaelani, 2025; Joanan & Rahmadani, 2025).

The sharp increase in teacher performance, which peaked at 93% in the fifth session, simultaneously impacted student behavior reconstruction, reaching a very high level (89%). The classroom flexibility provided by this differentiation model successfully stimulated the emergence of student agency, transforming students from passive, dependent learners into active, independent learners who take responsibility for their own cognitive processes. This phenomenon reinforces Deci and Ryan's self-determination theory, which states that fulfilling the need for autonomy and relatedness in classroom social interactions significantly increases intrinsic motivation (Alamer et al., 2025; Brenner, 2022). Consistent with contemporary research on pedagogical reform, these findings demonstrate that when teachers successfully shift their teaching paradigm to a more student-centered learning model, students' capacity to collaborate, make decisions, and internalize the subject matter will develop optimally (Tang, 2023).

Significant and Equivalent Improvement in IPAS Learning Outcomes

Pre-intervention data (pre-test) reflected a significant disparity in understanding among students, with the majority (67.6%) falling within the low and very low academic ability categories, with an average class score of only 47.43. This baseline confirms the limitations of conventional, one-size-fits-all learning models in accommodating the

diversity of students' learning readiness and cognitive modalities. Theoretically, the inability of the classical approach to bridge individual needs aligns with criticisms in Tomlinson's Differentiated Instruction Framework, which states that imposing a single instructional method on a heterogeneous class will alienate slow learners and hinder fast learners (Bondie et al., 2019; Dack, 2018). This gap phenomenon also aligns with previous pedagogical studies showing that ignoring the starting point of students' learning readiness leads to the accumulation of misconceptions and low intrinsic motivation to master IPAS concepts (Muyassaroh et al., 2023).

Following the implementation of differentiated learning, a highly descriptive shift in the cognitive achievement curve occurred, with the average score jumping to 76.89, with the lower limit (minimum score) rising from the critical range of 20.00 to 70.00, and the maximum achievement reaching 95.00. The most crucial indicator of the success of this adaptive intervention is the drastic decrease in the standard deviation from 11.99 to 6.38. This decrease in the distribution (variability) empirically proves that student competencies are moving towards becoming more homogeneous and equitable. This equitable pattern reinforces Vygotsky's Zone of Proximal Development (ZPD) theory, which asserts that providing scaffolding or instructional support tailored to students' actual capacities effectively improves the academic performance of those who previously lagged behind, thereby narrowing the gap in understanding within the classroom (Ness, 2023).

Inferentially, the effectiveness of this individual needs-based intervention was validly confirmed through the results of the paired sample t-test which produced a statistical value of $t = 18.073$ with a significance of 0.000 ($p < 0.05$). The rejection of the null hypothesis (H_0) provides strong statistical legitimacy that classroom transformation through differentiation of content, process, and product significantly optimizes students' cognitive processes and mastery of Natural and Social Sciences (IPAS) concepts. This finding is consistent with contemporary research results on inclusive reform and student-centered learning models, which conclude that adaptive curriculum flexibility based on mapping student needs is always positively correlated with increased gain scores in learning outcomes and long-term retention of understanding (Bernard et al., 2019; Sibley et al., 2025).

Comprehensive Stimulation of Student Creativity

A flexible learning ecosystem through the integration of experimental methods, role-playing, and mini-projects has proven to be a fertile stimulus for the development of student creativity beyond purely cognitive aspects. Quantitatively, the effectiveness of this intervention is demonstrated by an increase in average scores across all dimensions of creativity, including fluency (from 12.13 to 17.62), flexibility (from 11.81 to 17.16), originality (from 11.67 to 17.16), and elaboration (from 12.43 to 18.05). Theoretically, this multifaceted development aligns with Kaufman and Beghetto's Four-C Model of Creativity, particularly in the realm of mini-C creativity, where transformative and meaningful interpretations are constructed by students through personalized learning experiences (Glăveanu & Kaufman, 2020; Mullen, 2020). Providing this exploratory

space also supports Guilford's theory of divergent thinking, which states that the ability to generate multiple alternative solutions is stimulated by an open and non-restrictive learning environment (Barbot et al., 2026).

The most significant qualitative improvement was seen in the flexibility and elaboration aspects, where the number of students in the "Good" category increased to 7 and 6, respectively. Through product and process differentiation, students were given full autonomy to explore new perspectives, solve problems using alternative methods, and elaborate on their own scientific ideas. This dynamic confirms the theoretical foundation of social constructivism, which asserts that the tightening of scientific thinking structures combined with freedom of expression allows students to deconstruct and reconstruct ideas in greater detail (Mishra, 2023). Consistent with previous studies on differentiated instruction, flexibility in choosing learning paths proved to be a catalyst for boosting cognitive elaboration abilities, as the tasks assigned were adaptive to each student's specific learning profile and interests (Nurmala et al., 2025).

On the other hand, although the average scores for fluency and originality increased, their distribution tended to remain stable in the "Fair" category. This phenomenon indicates that to produce truly novel (original) ideas and generate a large volume of spontaneous ideas, elementary school-aged students still require sustained stimulation and more intensive divergent thinking habits. Nevertheless, the overall effectiveness of this intervention has been empirically validated through a paired sample t-test with a t-value of 26.760 and a significance level of 0.000 ($p < 0.05$). This rejection of the null hypothesis (H_0) provides robust statistical evidence consistent with contemporary research that creating a learning environment that values individual uniqueness significantly optimizes flexible thinking skills and innovative problem-solving capacity.

Overall, the findings of this study validate the differentiated learning model as a superior pedagogical strategy capable of realizing inclusive classrooms in elementary schools. By integrating differentiation between content, process, and product, teachers at the Lantebung Elementary School not only succeeded in increasing the equitable absorption of academic information but also in igniting adaptive, creative potential in students. This research strongly implies that fulfilling the right to learn according to individual readiness and characteristics is a key factor in accelerating the quality of national education.

4. CONCLUSION

The consistent implementation of differentiated learning has been proven to be effective in transforming the classroom ecosystem holistically through the progressive increase of teachers' pedagogical competence (from 64% to 93%) which is directly proportional to the escalation of student learning activities (from 60% to 89%), while changing the learning paradigm from passive to independent and collaborative. The effectiveness of this model is confirmed academically and statistically through the achievement of social studies learning outcomes which have increased significantly with an average score from 47.43 to 76.89 ($t = 18.073$; $p < 0.05$), and is supported by a drastic decrease in standard deviation from 11.99 to 6.38 which proves the success of

reducing the understanding gap in order to realize equal cognitive justice. In addition to boosting the academic dimension, this intervention empirically significantly stimulated all aspects of students' divergent thinking ($t = 26.760$; $p < 0.05$), with optimal results in flexibility and elaboration through flexible product and process exploration. Thus, these findings confirm that the differentiated approach is a superior and inclusive solution that is not only adaptive to the diversity of student characteristics, interests, and learning readiness, but also maximizes cognitive potential and creativity at the elementary school level.

As a recommendation, schools and teachers are advised to implement this approach sustainably by regularly mapping students' learning readiness, interests, and learning profiles from the beginning of the semester. To support this success, principals need to facilitate training programs, workshops, or Teacher Working Group activities to improve teachers' pedagogical competence in designing adaptive teaching modules and consistently managing variations in content, process, and product differentiation in the classroom. In addition, because the creativity aspects of fluency and originality of students still tend to be stable, teachers are expected to intensify the stimulation of divergent thinking through problem-based learning models or mini-projects that challenge students to produce more independent, original, and varied scientific ideas in IPAS subjects.

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