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Implementing Differentiated Learning to Foster Learning Interest and Creative Thinking among Diverse Elementary School Students

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Abstract
The quality of an abstract significantly influences readers' decisions to engage with a scholarly article in its entirety. A well-structured abstract should encompass several key elements. The background of this study highlights the relevance and urgency of instructional approaches that can accommodate student diversity in primary education, where uniform teaching methods often overlook individual differences and risk diminishing both student engagement and academic achievement. The objective of this research is to identify and synthesize effective strategies for implementing differentiated instruction that simultaneously enhances learning interest and creative thinking skills among primary school students. Employing a descriptive qualitative approach through a literature review design, data were systematically collected from various academic databases, including Google Scholar, ResearchGate, and DOAJ, resulting in the selection of 13 studies based on stringent inclusion criteria. The findings indicate that differentiated learning strategies exert a significant positive impact on the development of creative thinking skills and the enhancement of students' learning interest. A reciprocal relationship was identified, wherein heightened interest fosters creativity, and creative activities, in turn, stimulate interest in learning. In conclusion, this study proposes a conceptual framework to guide educators in implementing differentiated instruction within heterogeneous classrooms. The practical implications underscore the need to adopt flexible and responsive instructional models to maximize the potential of every learner.

INTRODUCTION

Education is widely acknowledged as a fundamental driver of human development and a crucial determinant of quality of life, influencing both individual capabilities and societal progress (Alla-Mensah & McGrath, 2023; Zhan et al., 2022). Within this continuum, basic education constitutes a critical foundation for shaping students' character, moral values, attitudes, and intellectual skills, thereby preparing them for lifelong learning and active citizenship (Newman & Newman, 2022; Indriani & Asfia, 2023). Teachers occupy a strategic role in this process as facilitators who design and sustain learning environments that stimulate curiosity, promote engagement, and foster higher-order thinking (Ansori et al., 2024). Such environments not only enhance cognitive development but also cultivate a strong and enduring interest in learning. Among the essential competencies developed, critical thinking is increasingly regarded as central to achieving meaningful learning outcomes, enabling students to analyze complex problems, make informed decisions, and adapt to the demands of an ever-changing world (Hersche et al., 2022).

Despite its significance, the prevailing educational landscape in many primary schools continues to apply uniform teaching approaches, treating students as though they learn in identical ways and at the same pace. This assumption neglects the fact that each learner possesses distinct characteristics shaped by prior knowledge, learning styles, and motivational levels (Li, 2022; Abouzeid et al., 2021).

Such diversity is not confined to cognitive aspects but also encompasses social, cultural, and emotional dimensions, all of which substantially influence learning experiences and outcomes (Nugraha et al., 2025; Attakhidijah, 2022). Research highlights that addressing these differences requires instructional practices tailored to accommodate varied academic abilities, such as differentiated instruction, which fosters more equitable and effective learning environments (Somantri et al., 2024). Ignoring learner diversity risks perpetuating disengagement, reduced participation, and uneven academic achievement. Consequently, pedagogical models that recognize and respond to individual variations are essential for ensuring that primary education nurtures the full potential of every student (Nathan et al., 2021).

Addressing the heterogeneity among students in primary classrooms remains a critical challenge, as differences in abilities, backgrounds, and learning needs often shape the dynamics of teaching and learning (Dotzel et al., 2022; Ecton & Dougherty, 2023). When such diversity is not adequately accommodated, the result may be unequal learning opportunities, which compromise educational equity and hinder students' right to fully engage in the learning process (Bennett, 2025). Moreover, insufficient responsiveness to learner differences can diminish school engagement, reducing students' motivation and active participation in classroom activities (Martins et al., 2022). In the long term, this neglect may also impede the development of higher-order thinking skills—such as creativity, critical analysis, and problem-solving—that are essential for success in the 21st century (Kosasih et al., 2022). To address these risks, educators must demonstrate creativity and flexibility in designing instructional programs that foster diversity, inclusion, and a sense of belonging in the classroom (Al-Bahrani, 2022).

Although differentiated learning has been widely recognized as a practical and theoretically robust approach to addressing student diversity in various educational contexts (Qorib, 2024; Palieraki & Koutrouba, 2021), there remains a scarcity of empirical studies examining its dual impact on both learning interest and creative thinking in primary education. Existing research tends to focus on singular outcomes, emphasizing either cognitive gains or motivational aspects, without fully integrating these two dimensions into a unified instructional framework (Agoestanto & Masitoh, 2021; Dan, 2021). Moreover, studies have often overlooked the importance of adapting differentiated learning strategies to heterogeneous classrooms in diverse socio-cultural environments, where variability in student backgrounds can significantly influence teaching and learning processes (van Geel et al., 2022; Widayanti et al., 2024). While some investigations highlight the role of differentiated instruction in fostering student engagement (Moallemi, 2024) and enhancing higher-order thinking skills (Rahim et al., 2022), a research gap remains in exploring how tailored differentiation can simultaneously cultivate interest in learning and creative thinking among primary school students across diverse educational settings.

This study makes a novel contribution by integrating theoretical and empirical insights to develop a differentiated learning framework specifically designed to foster learning interest and creative thinking among diverse elementary school students. Unlike prior works that address these variables separately, this research positions them as interrelated and mutually reinforcing outcomes in education. The novelty also lies in its emphasis on applicability within diverse classroom contexts, making it relevant for educators seeking inclusive and adaptive instructional models.

The primary objective of this research is to identify and synthesize effective strategies for implementing differentiated learning in primary education, thereby simultaneously enhancing students' learning interest and creative thinking. Specifically, the study aims to:

1. Examine existing empirical and theoretical evidence on the application of differentiated learning in elementary school contexts.
2. Analyze the relationship between differentiated instructional strategies and students' engagement, motivation, and creative thinking.
3. Develop a conceptual framework for differentiated learning tailored to diverse primary classrooms.

To achieve these objectives, this study employs a descriptive qualitative approach with a library research design, enabling an in-depth synthesis of empirical findings and theoretical perspectives across diverse educational settings. The following section outlines the methodological procedures adopted in conducting the research.

METHODS

This study employed a descriptive qualitative research design utilizing a library research approach. The choice of library research was deliberate, given that the primary objective of this study is to explore and analyze existing scholarly works and empirical findings concerning the influence of differentiated learning approaches on elementary school students' creative thinking abilities and learning interest. This approach enables a systematic synthesis of diverse theoretical perspectives and research outcomes relevant to the domain of basic education. Library research, as defined by Zied (2008), involves a series of systematic activities, including the collection, reading, documentation, and critical analysis of research materials sourced from various academic outlets, such as books, peer-reviewed journal articles, conference proceedings, research reports, and credible online databases. Through this process, the study aims to deepen understanding of theories and practical implementations of differentiation in educational settings, particularly those targeting elementary education. The data collection process involved conducting comprehensive searches across multiple academic databases, including Google Scholar, ResearchGate, the Directory of Open Access Journals (DOAJ), and Garuda. The keyword strategy was carefully formulated to encompass relevant terms such as "differentiated instruction," "creative thinking in elementary school," and "core learning in primary education," ensuring broad yet focused retrieval of pertinent literature.

To maintain rigor and relevance, inclusion criteria were established as follows: (1) studies and articles addressing differentiated learning approaches within the context of primary education; (2) research investigating the relationship between differentiated instructional strategies and students' creative thinking skills or learning interest; and (3) sources demonstrating methodological robustness, including clear validation and reliability in their research designs and findings.

Table 1. Inclusion Criteria for Selecting Studies on Differentiated Learning and Its Impact on Creative Thinking and Learning Interest in Primary Education

Hierarchy Level	Description	Details
Main Topic	Inclusion Criteria for Study Selection.	Standards are applied to determine the eligibility of studies for inclusion in the literature review.
Criterion 1	Focus on Differentiated Learning Approaches in Primary Education.	Studies explicitly addressing differentiated instructional strategies tailored to individual learner needs in elementary education.
Criterion 2	Examination of the Relationship with Creative Thinking and Learning Interest.	Research investigating the impact or correlation between differentiated approaches and students' creative thinking skills or learning interests.
Criterion 3	Methodological Rigor.	Studies demonstrating clear validation and reliability with robust and replicable research designs.
Purpose of Criteria	To ensure the relevance, focus, and credibility of the analyzed literature.	To guarantee that the synthesized findings represent valid, current, and contextually appropriate evidence for primary education.

The variables under consideration —differentiated learning, creative thinking ability, and learning interest —were operationally defined based on their conceptualization in the reviewed literature. Differentiated learning refers to the pedagogical practice of modifying content, process, product, and learning environment to cater to individual learner differences. Creative thinking was characterized as the capacity to generate novel and valuable ideas, while learning interest was

conceptualized as the intrinsic motivation and engagement exhibited by students during educational activities.

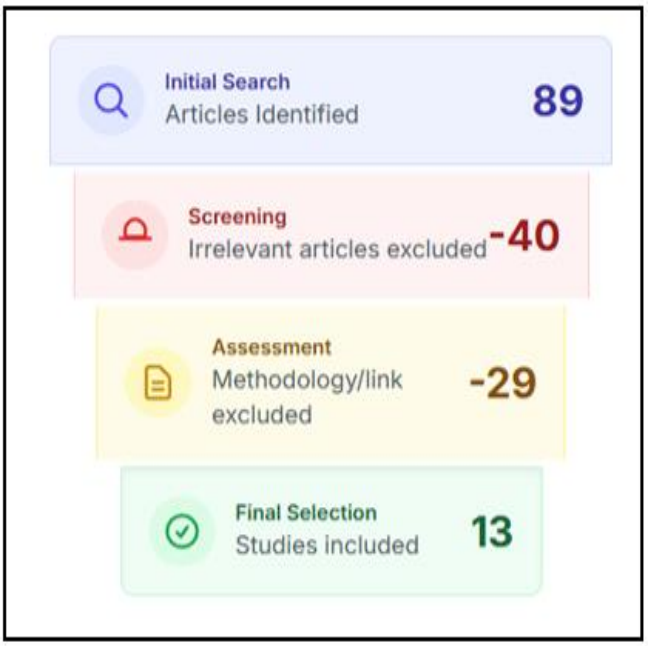

Figure 1. Article Selection Funnel Infographic

Data analysis entailed a thematic synthesis of the selected studies, focusing on identifying patterns, contradictions, and gaps within the existing body of knowledge. This process involved a critical evaluation and categorization of findings to elucidate the effectiveness and implementation of differentiation strategies in enhancing creative thinking and interest in learning among elementary students. Ethical considerations were upheld by ensuring the use of only publicly available and properly cited academic sources. The study refrained from any manipulation or misrepresentation of the original data, thereby maintaining academic integrity and respect for intellectual property. In summary, the methodology employed in this study reflects a rigorous, transparent, and systematic approach to literature exploration, providing a credible foundation for understanding the role of differentiated instruction in primary education contexts. This approach facilitates replication by future researchers and makes a meaningful contribution to the educational research discourse.

RESULTS AND DISCUSSION

Results

Overview of Selected Studies

From an initial pool of 89 articles identified through academic databases, 13 studies met the established inclusion criteria (see Table 1). These studies encompassed diverse geographical, socio-cultural, and educational contexts, with a predominant representation from Indonesia, alongside contributions from Turkey, Ethiopia, Croatia, and other international settings. The selected literature comprised both empirical research, ranging from experimental and quasi-experimental designs to needs analyses and research and development studies, as well as theoretical or conceptual analyses, including a systematic literature review. Collectively, these studies provide a balanced synthesis of evidence on the application of differentiated learning in primary education. Thematically, they address multiple dimensions of differentiation, including modification of content, adaptation of the instructional process, differentiation of learning products, and adjustments to the learning environment to accommodate students' diverse needs, abilities, and learning preferences.

Table 1. Library Research Matrix on Differentiated Learning in Primary Education

No.	Authors & Year	Title	Focus of Study	Relation to Creative Thinking / Learning Interest	Methodological Rigor
1	Rijal & Waluyo (2025)	Effectiveness of Differentiated Learning in Mathematics: Insights from Elementary School Students	Examines the effectiveness of differentiated learning in mathematics for elementary students.	Indirect link to learning interest through improved engagement in mathematics.	Quantitative design; precise statistical analysis.
2	Wibowo et al. (2025)	The Relevance of Vygotsky's Constructivist Learning Theory to Differentiated Learning in Primary Schools	Connects Vygotsky's theory with differentiated learning practices in primary schools.	Theoretical basis for fostering student engagement and motivation.	Conceptual analysis supported by literature; moderate empirical basis.
3	Ochtafiya et al. (2025)	The Needs Analysis for Developing Differentiated STEAMS Learning Design Based on Design Thinking to Increase Creativity in Primary School	Needs analysis for STEAMS-based differentiated design aimed at creativity enhancement.	Direct link: targets the improvement of creativity in primary students.	Qualitative needs analysis; strong contextual relevance.
4	Indrawatiningsih et al. (2024)	Effectiveness of differentiated learning in improving literacy and numeracy of primary school students	Measures the effect of differentiated learning on literacy and numeracy skills.	Indirect link to learning interest via skill improvement.	Quantitative method with pre- and post-test design.
5	Geletu & Mihiretie (2024)	The effects of primary school teachers' professional development activities on differentiated instructional practices	Examines PD impact on teachers' differentiated instruction and student engagement.	Directly linked to learning engagement.	Mixed-methods with a robust sample and validated instruments.
6	Lestari et al. (2024)	Implementation Of Differentiated Learning To Enhance Elementary School Students' Mathematical Critical And Creative Thinking Skills	Investigate differentiated learning to boost critical and creative thinking in mathematics.	Strong direct link to creative thinking.	Quantitative experimental design; clear measurement tools.
7	Hardiansyah et al. (2024)	The Use of Differentiated Digital Learning Models to Enhance Science Problem-Solving in Elementary Schools	Applies digital differentiated models to science problem-solving.	Indirect link through problem-solving and motivation enhancement.	Quasi-experimental; well-documented procedures.
8	Taş & Minaz (2024)	The effects of learning style-based differentiated instructional activities on academic achievement and retention.	Focus on learning styles in differentiated instruction and retention in social studies.	Potential link to interest and engagement through personalized strategies.	Quantitative with control and experimental groups.
9	Iriawan et al. (2024)	Development of A Differentiated Learning Media Model based on Micro Learning in Mathematics	Develops micro learning media for differentiated mathematics instruction.	Indirect link through improved learning accessibility and engagement.	R&D approach: prototype tested for feasibility.
10	Mulyawati et al. (2022)	Differentiation learning to improve students' potential in elementary school	General exploration of differentiation to optimize student potential.	Implicit link to motivation and interest.	Qualitative descriptive; context-specific findings.
11	Anggareni &	Students' creative	Examines creative	Direct link to	Quantitative

	Hidayat (2022)	thinking skills on differentiated instruction	thinking skills in the context of differentiated instruction.	creative thinking.	descriptive; uses validated creativity rubric.
12	Parasti & Murwaningsih (2025)	Creative Thinking Skills In Social Sciences With Differentiated Learning: A Systematic Literature Review	SLR on differentiated learning and creative thinking in social sciences.	Explicit focus on creative thinking.	Systematic review; transparent inclusion/exclusion criteria.
13	Letina (2021)	Using differentiation strategies for gifted pupils in primary school science classes	Strategies for differentiation with gifted pupils in science.	Related to fostering engagement and intellectual challenge.	Qualitative case study with practical classroom

Impact on Creative Thinking

The reviewed studies consistently demonstrate that differentiated learning strategies have a significant and measurable positive impact on fostering creative thinking skills among primary school students. For instance, Lestari et al. (2024) implemented differentiated mathematics lessons designed to stimulate students' divergent thinking through open-ended tasks and project-based activities that required idea generation, hypothesis testing, and flexible problem-solving approaches. Similarly, Anggareni and Hidayat (2022) utilized creativity rubrics to quantitatively assess gains in creative thinking, finding that differentiated instruction led to marked improvements in students' ability to generate novel ideas, make connections across concepts, and approach problems from multiple perspectives.

Parasti and Murwaningsih (2025) reinforced these findings through a systematic literature review, highlighting how differentiated tasks that promote autonomy and choice enhance learners' motivation to engage in creative exploration. Approaches that integrate STEAMS-based differentiation, as documented by Ochtafiya et al. (2025), provided structured yet flexible learning environments where students engaged in interdisciplinary projects combining science, technology, engineering, arts, mathematics, and social studies. This integrative framework nurtured creativity by encouraging experimentation, collaboration, and transfer of concepts across domains.

Furthermore, the microlearning media developed by Iriawan et al. (2024) facilitated incremental learning opportunities through bite-sized content and adaptive challenges, which helped maintain students' cognitive engagement and allowed for the iterative refinement of ideas. These media tools supported creative thinking by scaffolding complex tasks into manageable steps, fostering metacognitive awareness, and encouraging reflection on problem-solving processes. Collectively, the evidence suggests that differentiated learning not only meets learners' readiness and interest levels but also creates fertile conditions for originality, divergent thinking, and innovative application of knowledge. By providing multiple entry points and flexible pathways to learning, differentiation empowers students to explore unique solutions, take intellectual risks, and develop higher-order thinking skills essential for creativity.

Impact on Learning Interest

The reviewed literature provides consistent and converging evidence of a strong positive relationship between differentiated instruction and students' learning interest across varied primary education contexts. For example, Rijal and Waluyo (2025) designed mathematics lessons in which students were grouped according to their mastery levels, with each group receiving tasks of varying complexity, from basic computational drills to open-ended problem-solving scenarios. This readiness-based grouping allowed lower-achieving students to build confidence through attainable goals while enabling advanced learners to stay challenged, thereby sustaining motivation across the class. Similarly, Geletu and Mihiretie (2024) reported that professional development programs for teachers emphasized adapting lesson plans to individual learning profiles, resulting in higher participation rates, especially among students who had previously been reluctant to engage in whole-class discussions.

In a broader qualitative study, Mulyawati et al. (2022) illustrated how tailoring activities to preferred learning modalities—such as incorporating role-play for kinesthetic learners, visual aids for visual learners, and storytelling for auditory learners—significantly increased attentiveness and enthusiasm. Technology-supported differentiation, as applied by Hardiansyah et al. (2024), included interactive digital simulations in science lessons, gamified quizzes with immediate feedback, and adaptive learning platforms that adjusted difficulty levels in real time. These features maintained students' attention and provided an element of novelty that kept them engaged.

Learning style-based strategies investigated by Taş and Minaz (2024) offered students the option to select learning activities aligned with their preferences, such as creating posters, composing short essays, or conducting mini-experiments. This choice-based approach not only enhanced participation but also reduced behavioral disruptions, as students were more invested in tasks they had chosen themselves. In contexts with high student diversity—including classrooms with significant disparities in academic readiness, multilingual backgrounds, and socio-economic conditions—differentiated instruction ensured that every student encountered personally relevant and appropriately challenging material. Collectively, these approaches prevented disengagement, fostered a sense of ownership in learning, and built learners' autonomy and self-efficacy over time.

Integrated Outcomes

Studies investigating both creative thinking and learning interest consistently reveal a dynamic and reciprocal relationship between these two critical domains. For instance, Lestari et al. (2024) and Anggareni and Hidayat (2022) found that heightened interest and intrinsic motivation in learning activities fostered deeper cognitive and emotional engagement, which subsequently enhanced students' creative thinking abilities. This engagement manifested through increased willingness to explore alternative solutions, take intellectual risks, and sustain attention during complex tasks. Conversely, opportunities for students to engage in creativity-driven activities, such as open-ended problem-solving, design-based projects, and interdisciplinary tasks, as exemplified by Ochtafiya et al. (2025), not only stimulate originality but also elevate learners' enjoyment and perseverance in the learning process.

This bidirectional reinforcement highlights the effectiveness of a dual-focus, differentiated learning framework that intentionally integrates strategies designed to simultaneously foster creative thinking and sustain learner motivation. Such a framework leverages the synergy between affective and cognitive domains, ensuring that motivation fuels creativity and that creative engagement, in turn, reinforces motivation. By embedding this reciprocal dynamic within instructional design, educators can more effectively address diverse learner needs and optimize educational outcomes in primary education settings.

Conceptual Framework for Differentiated Learning in Diverse Primary Classrooms

Drawing on an integration of empirical findings and theoretical perspectives from the reviewed literature, this study proposes a comprehensive conceptual framework designed to effectively guide the implementation of differentiated learning within heterogeneous primary school classrooms. The framework is structured around four interconnected components that collectively address the multifaceted nature of differentiation in diverse educational settings:

1. Core Differentiation Dimensions: This component encapsulates the fundamental pedagogical adjustments necessary to meet individual learner differences. It involves tailoring the *content* (what is taught), *process* (how students engage with learning), *product* (how learning is demonstrated), and *learning environment* (the physical and psychological context) to accommodate diverse readiness levels, learning styles, interests, and abilities. These dimensions ensure that instruction is flexible, student-centered, and responsive to variability among learners.
2. Contextual Adaptation Factors: Recognizing that educational practices do not occur in isolation, this element highlights the importance of socio-cultural diversity, teacher competence and beliefs, and the availability of material and technological resources. It underscores the necessity for

educators to adapt differentiation strategies based on the unique cultural backgrounds, community values, and infrastructural constraints present within their classrooms.

3. Mediating Engagement Variables: Central to the framework are affective and behavioral variables, including student interest, intrinsic motivation, and active participation. These mediators are identified as critical drivers that influence the effectiveness of differentiated instruction by fostering sustained cognitive and emotional investment in learning activities.
4. Outcome Domains: The ultimate goals of the framework focus on the dual enhancement of *creative thinking* skills and *sustained learning interest*. These outcome domains reflect both cognitive and affective educational objectives, emphasizing the development of higher-order thinking abilities alongside continuous learner engagement and enthusiasm.

Collectively, this framework provides a comprehensive model for educators and policymakers seeking to optimize differentiated learning practices in culturally and academically diverse primary education contexts, thereby ensuring equitable and meaningful learning experiences for all students.

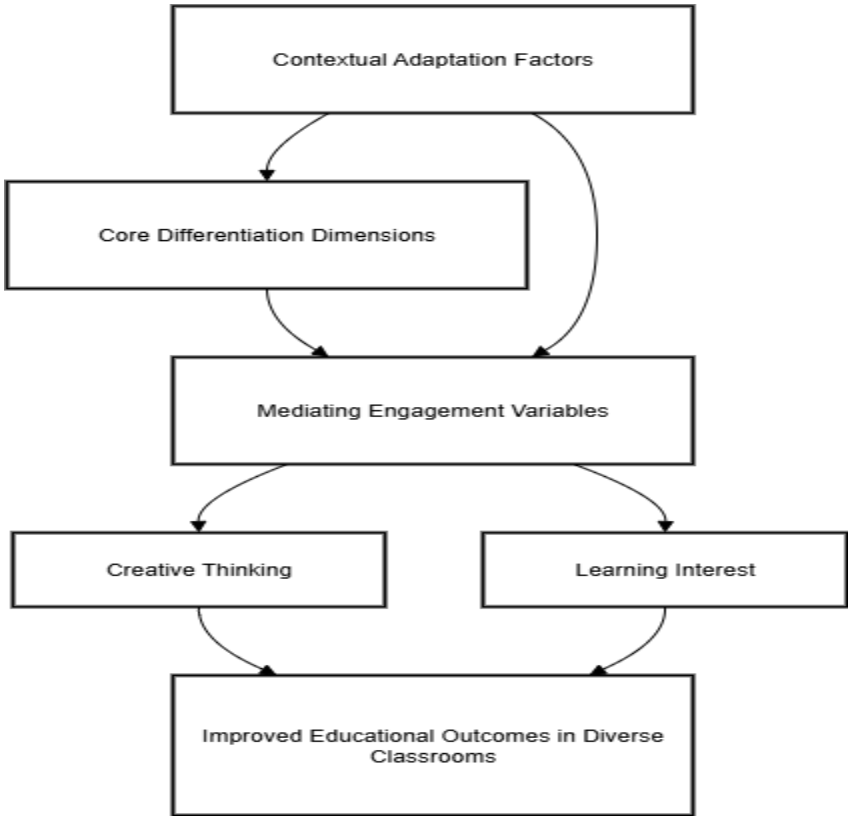

Figure 2. Conceptual Framework for Differentiated Learning

Summary of Findings

In alignment with the primary objectives of this study, the findings comprehensively address the intended research aims. First, the review successfully examined empirical and theoretical evidence on the application of differentiated learning in primary school contexts, as demonstrated by the systematic synthesis of 13 selected studies encompassing diverse geographical and socio-cultural settings. Second, the analysis revealed a positive relationship between differentiated instructional strategies and students' engagement, motivation, and creative thinking, as reflected in the thematic sections on "Impact on Creative Thinking," "Impact on Learning Interest," and "Integrated Outcomes." Third, the development of a conceptual framework for differentiated learning tailored to diverse primary classrooms provides a structured model that integrates content, process, product, and learning environment adjustments with contextual adaptation factors and mediating engagement variables. Collectively, these outcomes confirm that the research objectives were achieved, while also

identifying future research opportunities, particularly in integrated empirical investigations measuring both creative thinking and learning interest within culturally diverse educational settings.

Discussion

This review systematically synthesized evidence from 13 rigorously selected studies to elucidate the role of differentiated learning in enhancing creative thinking and interest in learning among primary school students. This discussion critically integrates the findings to provide a coherent understanding of the empirical relationships, theoretical implications, and practical considerations underlying differentiated instructional strategies in diverse educational contexts.

The collective empirical evidence indicates that differentiated learning effectively fosters creative thinking skills in primary education students (Utaminingsih et al., 2025; Eikeland & Ohna, 2022). Instructional approaches that incorporate differentiation, primarily through open-ended and project-based tasks, stimulate divergent thinking, enhance problem-solving flexibility, and encourage the generation of original ideas (Bobi & Ahiavi, 2023; Cahyani, 2021). Such approaches align with learner-centered pedagogies that emphasize autonomy and scaffolded support throughout the learning process (Boyadzhieva, 2016; Goyibova et al., 2025). Furthermore, interdisciplinary learning frameworks provide authentic and meaningful contexts that promote experimentation and collaboration, thereby nurturing creativity through the integration and transfer of knowledge across domains (Dousay, 2017). Innovative instructional media, such as microlearning modules, further support this process by breaking down complex creative tasks into manageable segments, enabling incremental cognitive engagement and reflection on problem-solving strategies (Iriawan et al., 2024; Lopez, 2024).

This approach is consistent with cognitive load principles, which suggest that segmenting information into smaller units supports working memory capacity and metacognitive awareness, thus facilitating higher-order thinking skills (Paas & Ayres, 2014). Consequently, the combination of differentiated instruction with technology-enhanced learning resources enhances the development of creative thinking by balancing cognitive challenge and accessibility for diverse learners (Sutrianto et al., 2025; VanTassel-Baska et al., 2021). In parallel, the evidence converges to indicate that differentiated instruction substantially elevates students' learning interest, motivation, and engagement. Studies focusing on readiness-based grouping and learning style adaptations have revealed that personalizing learning tasks according to students' current abilities and preferences sustains motivation by reducing frustration and boredom (Prast et al., 2015; Tulbure, 2011). This finding supports Self-Determination Theory, which posits that autonomy and competence are fundamental to intrinsic motivation and engagement in learning (Reeve, 2012).

Professional development interventions targeting teachers' capacity to implement differentiation also significantly enhance student participation, underscoring the critical role of educator preparedness and belief systems in effectively operationalizing differentiated instruction (Smets & Struyven, 2020; Whitley et al., 2019). Furthermore, the use of interactive and gamified digital tools adds a layer of novelty and provides immediate feedback, which maintains students' attention and fosters positive affective responses (El-Sabagh, 2021). These findings highlight that differentiated learning strategies must not only adjust cognitive demands but also attend to affective dimensions to sustain interest and motivation in learning (Gualbertus & Made, 2013; Sapan & Mede, 2022; Tomlinson, 2017).

A salient contribution of this review is the clear identification of a reciprocal and dynamic relationship between creative thinking and learning interest, which mutually reinforce one another in primary education contexts. Increased student engagement and intrinsic motivation serve as catalysts for deeper cognitive investment, thereby enhancing creative capacities and the ability to generate novel ideas (Adawiyah et al., 2023; Lestari et al., 2024; Anggareni & Hidayat, 2022). Conversely, when learners are given frequent opportunities for creative exploration through open-ended projects, problem-solving tasks, or interdisciplinary activities, their enthusiasm and perseverance grow,

establishing a positive feedback loop that sustains long-term educational development (Tsai et al., 2020; Basri et al., 2024). This synergy highlights the importance of differentiated instruction, which is intentionally designed to nurture both affective and cognitive domains simultaneously. Holistic pedagogical approaches, which integrate emotional engagement with cognitive challenges, have been shown to optimize learning outcomes by fostering motivation and higher-order thinking (Jack, Lin, & Yore, 2014; Hidayat, Basthomi, & Afrilyasanti, 2024). Additionally, innovative instructional models, such as quantum flipped learning, further highlight how the interplay of motivation and cognitive engagement drives the growth of critical and creative thinking (Agustini et al., 2022).

The proposed conceptual framework, which integrates core differentiation dimensions with contextual adaptation and mediates engagement variables, presents a robust model for guiding differentiated learning in heterogeneous primary classrooms (Eysink & Schildkamp, 2021; Reis & Renzulli, 2018). By flexibly addressing content, process, product, and environment, while accounting for socio-cultural diversity and resource constraints, this framework ensures equitable access to meaningful learning experiences (Fuchs, Fuchs, Phillips, & Simmons, 1993; Arcidiacono & Baucal, 2020). The centrality of affective engagement as a mediating factor aligns with contemporary insights from educational psychology, reinforcing the importance of motivation in mediating instructional effectiveness (Chi, 2009). This comprehensive model not only informs practitioners seeking to implement differentiated learning but also provides policymakers with evidence-based guidance for resource allocation, teacher training, and curriculum design tailored to culturally diverse and academically varied settings (Eysink & Schildkamp, 2021; Arcidiacono & Baucal, 2020).

While the reviewed studies offer substantial empirical insights, gaps remain that warrant future investigation. Notably, few studies employed longitudinal designs or integrated measures simultaneously assessing creative thinking and learning interest, limiting understanding of causal pathways and sustained impacts. Additionally, the socio-cultural adaptability of differentiated learning in less-represented regions and among marginalized populations requires further empirical scrutiny. Future research should prioritize mixed-methods and experimental designs that rigorously quantify the interplay between motivation and creativity over time. Moreover, advancing differentiated instructional technologies and their scalability in diverse educational contexts presents a promising avenue for enhancing both creativity and learner engagement.

CONCLUSION

This study aims to address the issue of uniform teaching approaches in primary schools by synthesizing differentiated learning strategies that simultaneously foster students' learning interests and creative thinking abilities across diverse learners. Using a descriptive qualitative method with a literature review approach, the research analyzes empirical and theoretical evidence to develop a comprehensive conceptual framework. The synthesis of 13 selected studies demonstrates that differentiated instructional strategies—such as open-ended tasks, readiness- and learning style-based adaptations, and the integration of technology—consistently have a positive impact on enhancing creative thinking skills and learning interest among students in various primary education contexts. A key finding of this study is the dynamic reciprocal relationship between learning interest and creative thinking: heightened interest drives deeper cognitive engagement, which in turn promotes creative thinking, while creative activities boost students' enthusiasm and perseverance in learning. A novel contribution of this research is the development of a conceptual framework that integrates the core differentiation dimensions (content, process, product, and learning environment) with contextual adaptation factors and affective engagement variables. This framework not only validates the importance of personalized instruction but also affirms that affective (interest) and cognitive (creativity) domains mutually reinforce each other and must be cultivated simultaneously to achieve optimal educational outcomes. The practical implications of these findings suggest that educators and policymakers can utilize the proposed framework as a model for designing inclusive curricula, teacher training programs, and effective resource allocation to serve diverse classroom settings. Theoretically,

this study strengthens the application of Self-Determination Theory and cognitive load principles within the context of differentiated learning. Future research is recommended to undertake longitudinal or experimental studies capable of measuring the causal and long-term effects of these interventions. Additionally, subsequent investigations should explore the socio-cultural adaptability of these strategies among underrepresented populations to ensure equitable and just educational practices for all students.

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