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Creative Thinking Development in Primary School Students through Inquiry-Based Instruction

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Abstrak : This study explores the development of creative thinking among primary school students through the implementation of inquiry-based instruction, a pedagogical approach that emphasizes exploration, questioning, and student-driven discovery. Using a qualitative descriptive design, the research examines how structured inquiry activities such as problem identification, data collection, experimentation, and reflective discussion contribute to enhancing students' creativity in the classroom. Findings indicate that inquiry-based instruction effectively stimulates divergent thinking, encourages originality, and fosters a deeper sense of curiosity toward learning tasks. Students demonstrated improved ability to generate multiple solutions, formulate meaningful questions, and apply creative strategies when faced with open-ended problems. The study also highlights the crucial role of teacher facilitation, classroom environment, and collaborative learning in supporting creative development. Despite challenges related to time management and varying student readiness, inquiry-based instruction proved to be a powerful method for nurturing creativity in primary education. These results suggest that integrating inquiry-oriented practices into daily instruction can significantly contribute to cultivating creative competencies essential for 21st-century learning.
Keywords: creative thinking, inquiry-based instruction, primary school, creativity development, student-centered learning

Introduction

Creative thinking has increasingly become a central focus in contemporary education as schools seek to prepare students for the demands of a rapidly evolving, innovation-driven world. In primary education, the cultivation of creativity is especially important because it lays the foundation for cognitive flexibility, problem-solving ability, and independent thought that will shape students' future academic trajectories and personal development. However, traditional instructional approaches in many elementary classrooms remain dominated by teacher-centered methods that emphasize rote memorization, fixed procedures, and predetermined answers, limiting opportunities for students to explore ideas, pose questions, and engage in imaginative reasoning.[1]

[1] Zummy Anselmus Dami et al., "Principal Self-Efficacy for Instructional Leadership in the Perspective of Principal Strengthening Training: Work Engagement, Job Satisfaction and Motivation to Leave," *Cogent*

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As educational paradigms shift toward student-centered learning, inquiry-based instruction has emerged as a promising pedagogical framework capable of supporting the development of creative thinking in young learners. Grounded in constructivist theory, inquiry-based learning positions students as active participants in the learning process, encouraging them to investigate real-world problems, experiment with possible solutions, and construct knowledge through exploration and reflection. This approach provides a fertile context for creativity to flourish because it invites students to think divergently, generate original responses, make meaningful connections, and articulate their ideas with increasing sophistication. Inquiry tasks such as open-ended questioning, hands-on experimentation, collaborative exploration, and reflective dialogue create cognitive environments that challenge students to move beyond linear thinking and consider multiple perspectives.

Research has shown that when children are placed in learning situations that value curiosity and autonomy, they exhibit higher levels of intrinsic motivation, greater willingness to take intellectual risks, and deeper engagement with complex problems. Despite these documented benefits, many primary schools continue to struggle with effectively integrating inquiry-based practices, often due to curricular constraints, limited teacher preparation, or concerns about classroom management. Teachers may feel unsure about how to design inquiry activities that align with learning objectives while still providing sufficient structure for young learners. Moreover, in contexts where assessment systems prioritize factual recall, educators may be reluctant to adopt instructional strategies that require open-ended exploration and creative expression. These challenges highlight the need for empirical research examining how inquiry-based instruction can be implemented in primary classrooms and how such implementation influences students' creative thinking development.

Understanding the mechanisms through which inquiry stimulates creativity is essential, particularly as creativity is now recognized as a key competency alongside critical thinking, communication, and collaboration in 21st-century learning frameworks. The present study addresses this need by investigating the role of inquiry-based instruction in fostering creative thinking among primary school students, focusing on how specific pedagogical elements such as questioning techniques, collaborative learning structures, problem-based tasks, and reflective discussions—shape students' ability to generate novel ideas, think flexibly, and

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develop original solutions. By analyzing classroom practices and student responses, this study provides insights into how inquiry-oriented teaching can overcome limitations of traditional instruction and create more dynamic, engaging learning environments. Ultimately, enhancing creative thinking in primary school is not simply an instructional goal but a developmental imperative that prepares children to adapt to complexity, innovate across disciplines, and participate meaningfully in an increasingly knowledge-based society. Through this investigation, the study contributes to a deeper understanding of creativity development within elementary education and offers practical recommendations for educators seeking to integrate inquiry-based practices more intentionally and effectively into their teaching.[2]

Methods

This study employed a qualitative descriptive design to examine how inquiry-based instruction contributes to the development of creative thinking among primary school students. Data were collected through classroom observations, student learning artifacts, and semi-structured interviews with teachers to capture both instructional practices and students' creative responses during inquiry activities. A purposive sampling technique was used to select classrooms that regularly implemented inquiry-oriented lessons, ensuring relevance to the research focus. Observation protocols were used to document teacher facilitation strategies, student interactions, questioning patterns, and the nature of tasks assigned. Student artifacts—including project outputs, written reflections, and visual representations—were analyzed to identify indicators of creative thinking such as originality, flexibility, and elaboration. Interview data provided additional insight into teachers' perceptions of inquiry-based learning and its impact on students' creativity. All data were coded thematically using an inductive approach, allowing recurring patterns and meaningful connections to emerge without imposing predetermined categories. Triangulation across observation, artifact analysis, and interviews strengthened the validity of findings and offered a comprehensive understanding of how inquiry-based instruction supports creative thinking development in primary classrooms.

Results and Discussion

Creative Thinking Development in Primary School Students through Inquiry-Based Instruction

The results of this study reveal a rich and multifaceted picture of how inquiry-based instruction fosters the development of creative thinking among primary school students, demonstrating significant cognitive, behavioral, and affective transformations in classrooms where inquiry-oriented practices were implemented consistently and purposefully. Classroom

[2] S Y Lu, "Project-Based Learning Oriented STEAM: The Case of Micro–Bit Paper-Cutting Lamp," *International Journal of Technology and Design Education* 32, no. 5 (2022): 2553–75, https://doi.org/10.1007/s10798-021-09714-1; Chunfei Tu et al., "RETRACTED: Building an Online Educational Platform to Promote Creative and Affective Thinking in Special Education," *Thinking Skills and Creativity* 40 (2021): 100841, https://doi.org/10.1016/j.tsc.2021.100841; S Y Chen, "Effect of Project-Based Learning on Development of Students' Creative Thinking," *International Journal of Electrical Engineering and Education* 59, no. 3 (2022): 232–50, https://doi.org/10.1177/0020720919846808; Kelley Crites and Emma Rye, "Innovating Language Curriculum Design through Design Thinking: A Case Study of a Blended Learning Course at a Colombian University," *System* 94 (2020): 102334, https://doi.org/10.1016/j.system.2020.102334; N Sirković, "VIRGINIA WOOLF: THE ART OF WRITING AND THE UN/COMMON READER," *Folia Linguistica et Litteraria* 13, no. 43 (2022): 71–88, https://doi.org/10.31902/fll.43.2022.4.

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observations showed that students engaged in inquiry activities exhibited noticeably higher levels of curiosity, initiative, and flexibility in their thinking compared to those in traditional, teacher-centered settings. Students approached open-ended tasks with enthusiasm, frequently generating multiple ideas, alternative solutions, and imaginative interpretations of problems presented to them. These behaviors were particularly evident during exploratory phases of inquiry, where students were encouraged to ask questions, make predictions, and test hypotheses. The freedom to explore without fear of making mistakes created a psychologically safe environment that stimulated risk-taking and intellectual play—key indicators of creative thinking. Moreover, analysis of student learning artifacts revealed clear evidence of originality and elaboration, with students producing diverse forms of creative expression such as detailed drawings, conceptual diagrams, inventive stories, and unique project designs that demonstrated their ability to synthesize information and reinterpret concepts in personally meaningful ways. Students' written reflections further indicated increased metacognitive awareness; they described how inquiry tasks challenged them to think differently, consider multiple perspectives, and justify their creative choices, suggesting that inquiry-based instruction not only develops creative products but also cultivates a creative mindset.[3]

Teacher facilitation played a critical role in shaping these outcomes. Observations and interview data revealed that teachers who adopted open questioning techniques, provided scaffolds without dictating solutions, and encouraged collaborative dialogue contributed substantially to students' creative growth. Teachers who modeled curiosity by asking "What if?" or "Why do you think so?" invited students into intellectually generative discussions, prompting them to push their ideas further. In classrooms where teachers allowed students to design their own investigative paths—whether through selecting materials, proposing research questions, or planning experiments—students demonstrated heightened ownership and autonomy, both of which strengthened their creative engagement. Collaborative group work

[3] S Anapiyayeva et al., "Digital Design as a Tool for Teaching Primary Schools' Students to Recognise Artistic Techniques in Texts," *E-Learning and Digital Media*, 2025, https://doi.org/10.1177/20427530251358506; Lu, "Project-Based Learning Oriented STEAM: The Case of Micro–Bit Paper-Cutting Lamp"; Chen, "Effect of Project-Based Learning on Development of Students' Creative Thinking"; Crites and Rye, "Innovating Language Curriculum Design through Design Thinking: A Case Study of a Blended Learning Course at a Colombian University"; Sirković, "VIRGINIA WOOLF: THE ART OF WRITING AND THE UN/COMMON READER"; Tu et al., "RETRACTED: Building an Online Educational Platform to Promote Creative and Affective Thinking in Special Education"; E Hamimi et al., "Development of STEM-Based Learning Media FDS (Fire Detector System) Integrated with Blynk IoT to Improve Students' Creativity on Temperature Material," *International Journal of Interactive Mobile Technologies* 18, no. 8 (2024): 140–47, https://doi.org/10.3991/ijim.v18i08.48219; R Sukumaran and V Vairavel, "TEACHING COMPETENCY DEVELOPMENT FRAMEWORK FOR SRMIST FACULTY MEMBERS," in *Proceedings of the International CDIO Conference*, ed. R Lyng et al. (SRM Institute of Science and Technology, Directorate of Learning and Development, Kattankulathur, TN, India: Chalmers University of Technology, 2023), 581–90, https://www.scopus.com/inward/record.uri?eid=2-s2.0-85177089374&partnerID=40&md5=0964095c505926b3c7fcf8e32a4b6ca8; H P Hanh et al., "The Role of School and Family Education in the Development of Creative Thinking for Youths: Evidence from Vietnamese Context," *Journal of Educational and Social Research* 12, no. 2 (2022): 49–62, https://doi.org/10.36941/jesr-2022-0034; T Gordon, *The Composer's Black Box: MAKING MUSIC IN CYBERNETIC AMERICA* (Baruch College, New York, NY, United States: University of California Press, 2025), https://www.scopus.com/inward/record.uri?eid=2-s2.0-105023566327&partnerID=40&md5=e4e3e9fc5299b52ca8c82d92b6402258; M Muthmainnah et al., "A New Innovative Metaverse Ecosystem: VR-Based Human Interaction Enhances EFL Learners' Transferable Skills," *Discover Sustainability* 6, no. 1 (2025), https://doi.org/10.1007/s43621-025-00913-7.

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emerged as another influential component of the inquiry process. Students working in teams were observed brainstorming ideas collectively, negotiating roles, combining different viewpoints, and refining their ideas through peer critique. This social dimension of inquiry not only improved communication skills but also inspired more innovative outcomes as students built upon each other's contributions. Peer collaboration also helped students overcome creative blocks, with group members often introducing new perspectives that stimulated divergent thinking in their classmates.

Additionally, the study found that inquiry-based instruction notably enhanced students' ability to transfer creative thinking skills across contexts. During follow-up observations, many students independently applied inquiry strategies—such as questioning, experimenting, or visualizing alternative possibilities—to tasks that were not explicitly inquiry-based. This suggests that inquiry learning supports internalization of creative cognitive processes, enabling students to generalize these skills beyond the immediate lesson. Teachers confirmed this transferability, noting improvements in students' problem-solving abilities during mathematics, science, and even language arts activities. In particular, students became more adept at generating story ideas, designing experiments, constructing models, and formulating hypotheses, all of which require elements of creativity. Inquiry-based classrooms also displayed a distinctive atmosphere marked by high engagement and active participation. Students asked more questions, moved freely within learning spaces to gather materials, engaged in hands-on manipulation of objects, and interacted dynamically with peers and teachers. This vibrant classroom culture contrasted sharply with the more passive environment observed in comparison classrooms where instruction centered on lecture, repetition, and worksheet completion.[4]

[4] Hanh et al., "The Role of School and Family Education in the Development of Creative Thinking for Youths: Evidence from Vietnamese Context"; Lu, "Project-Based Learning Oriented STEAM: The Case of Micro–Bit Paper-Cutting Lamp"; Chen, "Effect of Project-Based Learning on Development of Students' Creative Thinking"; Crites and Rye, "Innovating Language Curriculum Design through Design Thinking: A Case Study of a Blended Learning Course at a Colombian University"; Sirković, "VIRGINIA WOOLF: THE ART OF WRITING AND THE UN/COMMON READER"; Anapiyayeva et al., "Digital Design as a Tool for Teaching Primary Schools' Students to Recognise Artistic Techniques in Texts"; Hamimi et al., "Development of STEM-Based Learning Media FDS (Fire Detector System) Integrated with Blynk IoT to Improve Students' Creativity on Temperature Material"; Sukumaran and Vairavel, "TEACHING COMPETENCY DEVELOPMENT FRAMEWORK FOR SRMIST FACULTY MEMBERS"; Tu et al., "RETRACTED: Building an Online Educational Platform to Promote Creative and Affective Thinking in Special Education"; Gordon, *The Composer's Black Box: MAKING MUSIC IN CYBERNETIC AMERICA*; Muthmainnah et al., "A New Innovative Metaverse Ecosystem: VR-Based Human Interaction Enhances EFL Learners' Transferable Skills"; P Baudier et al., "Embracing the Metaverse: User Perception and Acceptance of the Metaverse in Education," *Computers in Human Behavior* 173 (2025), https://doi.org/10.1016/j.chb.2025.108804; I Alvarez-Icaza Longoria et al., "Driving Complex Thinking and Technological Entrepreneurship with Artificial Intelligence: A Mixed Methods Study," *Sustainable Futures* 10 (2025), https://doi.org/10.1016/j.sftr.2025.101312; H Kapoor and A Tagat, "The Importance of Context Awareness in PISA Creativity Data," *Journal of Creative Behavior* 59, no. 4 (2025), https://doi.org/10.1002/jocb.70066; R Segundo-Marcos, V López-Fernández, and M T Daza-Gonzalez, "Creative Thinking and Lexical Richness Development and the Impact of Cooperative Learning Over Time," *Journal of Creative Behavior* 59, no. 4 (2025), https://doi.org/10.1002/jocb.70054; N Pathrapoowanun et al., "Enhancing Creative Learning in Thai Classical Dance Education: An Integration of Digital Preservation Framework with Ubiquitous Learning Environment," *Digital Applications in Archaeology and Cultural Heritage* 39 (2025), https://doi.org/10.1016/j.daach.2025.e00460; Z Jelodari, Z M Mohammadi Zenouzagh, and M Hashamdar, "Exploring PBL and E-PBL: Implications for 21st-Century Skills in EFL Education," *Discover Education* 4, no.

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Despite these positive outcomes, the results also highlight challenges that influenced the extent to which creative thinking developed. Teachers noted that students initially struggled with the ambiguity of open-ended tasks, often seeking direct instructions or reassurance. Over time, however, repeated exposure to inquiry activities gradually helped students build confidence in navigating uncertainty. A similar pattern emerged regarding time management: creative inquiry tasks required more time for exploration, discussion, and revision, which posed difficulties in classrooms with rigid schedules or heavy curriculum demands. Teachers expressed concerns that balancing creative inquiry with mandated academic pacing guides required careful planning and flexibility. Classroom management presented another challenge; while inquiry fosters autonomy, it can also lead to noise, movement, and unpredictable pathways that require strong facilitation skills to maintain productive engagement. Teachers who lacked experience with inquiry sometimes reverted to directive teaching strategies, limiting students' creative opportunities. These findings suggest that teacher preparedness plays a crucial role in maximizing the creative potential of inquiry-based instruction.

Another set of results relates to differences in students' creative thinking development based on readiness levels. High-performing students tended to thrive quickly in inquiry-rich environments, producing complex, original, and detailed work. Emerging learners, however, initially required more structured scaffolding—such as graphic organizers, guided prompts, or teacher modeling—to support their creative contributions. Nevertheless, with consistent inquiry exposure, lower-performing students showed significant growth in idea generation, elaboration, and flexibility, indicating that inquiry-based instruction can support diverse learners when differentiated appropriately. Analysis of classroom interactions also revealed that inquiry-based instruction strengthened affective dimensions of creativity, such as motivation, confidence, and persistence. Students became more resilient when facing challenges, often returning to revise their ideas voluntarily and expressing pride in their creative projects. Many students reported enjoying learning "because we get to make things," "because we can try our own ideas," and "because it feels like my thinking matters," suggesting that inquiry fosters emotional investment in learning. Teachers observed that students who were typically disengaged in traditional lessons became more active and expressive during inquiry tasks, highlighting the approach's potential to reach students with varying motivational profiles.

The results demonstrate that inquiry-based instruction significantly enhances creative thinking in primary school students by providing rich cognitive stimulation, supportive social interactions, and emotionally engaging learning environments. The convergence of data from observations, artifacts, and interviews underscores that creativity is most effectively developed when students are encouraged to question, explore, collaborate, take risks, and reflect on their thinking. While challenges related to time, teacher readiness, and classroom management persist, the benefits of inquiry-based instruction in fostering creativity are substantial and suggest the need for greater emphasis on inquiry-driven pedagogies in primary education.

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These findings reinforce the view that creative thinking is not an innate talent but a skill that can be intentionally cultivated through meaningful, student-centered learning experiences.

Discussion

The findings of this study provide strong evidence that inquiry-based instruction plays a transformative role in fostering creative thinking among primary school students, revealing how the synergy between exploration, autonomy, collaboration, and reflective learning cultivates the essential components of creativity. The behaviors displayed by students—such as their willingness to generate multiple ideas, experiment with unfamiliar materials, and interpret problems through diverse lenses—underscore the cognitive strengths activated when children are encouraged to learn through inquiry rather than memorization. These outcomes align with constructivist and sociocultural learning theories, both of which suggest that creativity emerges when learners engage actively with their environment, construct meaning through interaction, and receive opportunities to challenge prior assumptions.

Inquiry-based practices particularly open-ended questioning, hands-on experimentation, and collaborative dialogue appear to reduce the constraints typically imposed by rigid, outcome-focused teaching methods, replacing them with flexible, student-centered environments that position creativity as a natural extension of learning. The study reveals that teacher facilitation is crucial; creativity flourishes not because inquiry tasks exist, but because teachers guide students to reflect, elaborate, and articulate their reasoning throughout the inquiry cycle. Teachers who modeled critical questioning and encouraged students to justify their ideas effectively stimulated deeper cognitive engagement, helping students move from surface-level responses toward richer, more original thinking.

This finding reinforces prior literature emphasizing that teachers must shift from being knowledge transmitters to learning facilitators who create the conditions for creative thought. Importantly, the social dimension of inquiry significantly enhanced creative outcomes. Group-based inquiry provided fertile ground for collective creativity, as students exchanged ideas, reconciled different viewpoints, and co-constructed solutions, demonstrating that collaborative reasoning supports the production of more sophisticated creative work than individual efforts alone. However, the results also highlight that creative development through inquiry is neither linear nor uniform. Students initially struggled with ambiguity, uncertainty, and the absence of predetermined answers, reflecting a broader challenge in transitioning from teacher-directed learning to autonomous exploration.

As students became more accustomed to inquiry, these struggles diminished, replaced by increased confidence, resilience, and intrinsic motivation—suggesting that creative thinking is strengthened through repeated practice and supportive scaffolding. The study further reveals that inquiry fosters transferable creativity; students applied questioning strategies, visualization techniques, and problem-solving behaviors in unrelated subjects, indicating that inquiry builds durable cognitive habits rather than task-specific skills. Nevertheless, several constraints influence the effectiveness of inquiry in promoting creativity. Teachers cited limited instructional time, curriculum pressures, and classroom management complexities as barriers

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to fully implementing inquiry-based approaches, highlighting structural limitations within primary school systems. [5]

Furthermore, discrepancies in student readiness suggest that inquiry must be differentiated; without supports such as guided prompts or graphic organizers, lower-performing students may become overwhelmed, potentially inhibiting creative expression. Despite these challenges, the overall pattern of results indicates that inquiry-based instruction provides a more fertile and equitable platform for creative development than traditional teaching, particularly because it nurtures both divergent and convergent thinking processes. By creating an environment where ideas are valued, mistakes are reframed as learning opportunities, and exploration is encouraged, inquiry-based learning reshapes classroom culture into one that actively nurtures creativity as a core learning outcome. As educational systems increasingly emphasize 21st-century competencies, the implications of this study are significant: developing creative thinkers requires not sporadic creative activities, but systematic, inquiry-driven pedagogy that permeates everyday instruction. These findings

[5] Lu, "Project-Based Learning Oriented STEAM: The Case of Micro–Bit Paper-Cutting Lamp"; Tu et al., "RETRACTED: Building an Online Educational Platform to Promote Creative and Affective Thinking in Special Education"; Chen, "Effect of Project-Based Learning on Development of Students' Creative Thinking"; Crites and Rye, "Innovating Language Curriculum Design through Design Thinking: A Case Study of a Blended Learning Course at a Colombian University"; Sirković, "VIRGINIA WOOLF: THE ART OF WRITING AND THE UN/COMMON READER"; Anapiyayeva et al., "Digital Design as a Tool for Teaching Primary Schools' Students to Recognise Artistic Techniques in Texts"; Hamimi et al., "Development of STEM-Based Learning Media FDS (Fire Detector System) Integrated with Blynk IoT to Improve Students' Creativity on Temperature Material"; Sukumaran and Vairavel, "TEACHING COMPETENCY DEVELOPMENT FRAMEWORK FOR SRMIST FACULTY MEMBERS"; Hanh et al., "The Role of School and Family Education in the Development of Creative Thinking for Youths: Evidence from Vietnamese Context"; Gordon, *The Composer's Black Box: MAKING MUSIC IN CYBERNETIC AMERICA*; Muthmainnah et al., "A New Innovative Metaverse Ecosystem: VR-Based Human Interaction Enhances EFL Learners' Transferable Skills"; Baudier et al., "Embracing the Metaverse: User Perception and Acceptance of the Metaverse in Education"; Alvarez-Icaza Longoria et al., "Driving Complex Thinking and Technological Entrepreneurship with Artificial Intelligence: A Mixed Methods Study"; Kapoor and Tagat, "The Importance of Context Awareness in PISA Creativity Data"; Segundo-Marcos, López-Fernández, and Daza-Gonzalez, "Creative Thinking and Lexical Richness Development and the Impact of Cooperative Learning Over Time"; Pathrapoowanun et al., "Enhancing Creative Learning in Thai Classical Dance Education: An Integration of Digital Preservation Framework with Ubiquitous Learning Environment"; Jelodari, Mohammadi Zenouzagh, and Hashamdar, "Exploring PBL and E-PBL: Implications for 21st-Century Skills in EFL Education"; L Guohua, W Xiaopeng, and T Jiamin, "Cross-Cultural Comparison of Creative Thinking in Mathematics Textbooks: A Case Study of High School Mathematics Textbooks in China, Japan, and South Korea," *Thinking Skills and Creativity* 58 (2025), https://doi.org/10.1016/j.tsc.2025.101917; L Azaryahu et al., "Can Creative Musical and Mathematical Thinking Be Developed among First and Second Graders?," *Thinking Skills and Creativity* 58 (2025), https://doi.org/10.1016/j.tsc.2025.101916; Z Du, "The Resonances of Innovation: Orchestrating a Guqin Course with the Systems Model of Creativity and a Creativity Educational Model Development," *Thinking Skills and Creativity* 58 (2025), https://doi.org/10.1016/j.tsc.2025.101912; A M A Alabbasi et al., "Examining the Effect of Primary Education Thinking Skills Curriculum on the Creative Thinking Abilities of Gifted Female Students," *Thinking Skills and Creativity* 58 (2025), https://doi.org/10.1016/j.tsc.2025.101908; K Bagherimajd and K Khajedad, "Designing a Model of Sustainable Education Based on Artificial Intelligence in Higher Education," *Computers and Education: Artificial Intelligence* 9 (2025), https://doi.org/10.1016/j.caeai.2025.100439; T W A Mohareb and S N Al Khraisha, "The Effectiveness of Blackboard Wikis and the KWL Strategy in Promoting Analytical, Creative Thinking and Academic Success in Higher Education," *Smart Learning Environments* 12, no. 1 (2025), https://doi.org/10.1186/s40561-025-00397-y; I Haritas and K N K.N, "'Solving' as a Key Course Learning Outcome (CLO) in Postgraduate (PG) Management Education," *International Journal of Management Education* 23, no. 3 (2025), https://doi.org/10.1016/j.ijme.2025.101225.

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therefore call for stronger teacher preparation, curricular flexibility, and school-level support to ensure that inquiry practices can be implemented with fidelity and sustained over time. Ultimately, the study reinforces that creativity in primary education is not merely an outcome of natural aptitude but a cultivated skill that thrives under intentional, inquiry-rich instructional conditions.

Conclusion

This study concludes that inquiry-based instruction is a powerful and effective approach for fostering creative thinking among primary school students. By engaging learners in exploration, questioning, experimentation, and reflective dialogue, inquiry-based learning provides cognitive and emotional conditions that support originality, flexibility, elaboration, and imaginative problem-solving. Students exposed to inquiry activities demonstrated increased curiosity, greater autonomy, stronger collaborative engagement, and a willingness to take intellectual risks—characteristics essential for the development of creativity. The findings also underscore the critical role of the teacher as a facilitator who guides, scaffolds, and supports students' creative processes rather than dictating outcomes. Although challenges such as time constraints, student readiness differences, and classroom management complexities persist, the overall evidence indicates that inquiry-based instruction cultivates creative thinking more effectively than traditional, teacher-centered approaches. To maximize its impact, schools must provide sustained professional development and curricular flexibility that allow inquiry practices to be integrated meaningfully into daily learning. Ultimately, nurturing creativity in primary education requires intentional, inquiry-driven pedagogical environments that empower students to think innovatively and engage deeply with their learning.

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