



MODERN PROBLEMS IN EDUCATION AND THEIR SCIENTIFIC SOLUTIONS

**DEVELOPING CRITICAL THINKING IN FUTURE EDUCATORS:
STRENGTHENING PROFESSIONAL SKILLS**

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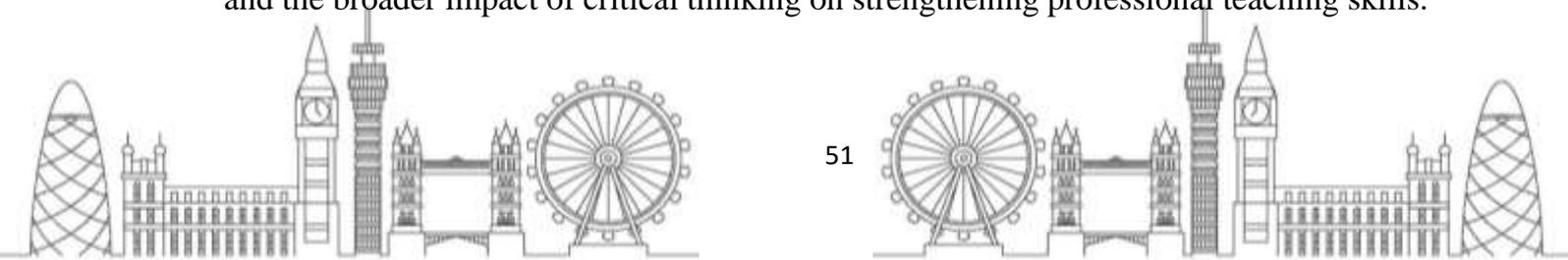
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Annotation. *This article explores the critical role of developing critical thinking skills in future educators as a means to strengthen their professional competencies. It discusses the theoretical foundations of critical thinking in education and reviews effective pedagogical strategies such as problem-based learning, collaborative activities, reflective practice, and technology integration. The paper highlights the impact of these approaches on enhancing pre-service teachers' analytical abilities, decision-making, and adaptability in diverse classroom settings. Challenges in fostering critical thinking and emerging opportunities for improvement are also examined. Ultimately, the article underscores the necessity of embedding critical thinking development within teacher education programs to prepare educators capable of navigating the complexities of modern teaching and promoting lifelong learning among students.*

Keywords: *critical thinking, future educators, professional skills, reflective practice, problem-based learning, collaborative learning, educational technology, pre-service teachers, pedagogical strategies.*

Introduction. In today's complex and ever-changing educational landscape, the role of teachers extends far beyond simply delivering content. Educators are expected to be innovators, problem-solvers, and lifelong learners who can navigate diverse classroom environments and meet the needs of a wide array of students. Central to fulfilling these expectations is the development of critical thinking skills — the ability to analyze, evaluate, and synthesize information to make informed decisions and solve problems effectively. For future educators, cultivating critical thinking is not just an academic goal but a vital professional competency that underpins their ability to teach effectively and adapt to the dynamic demands of the profession. As education systems worldwide strive to prepare students for a future defined by rapid technological advancements and global challenges, the pressure on teachers to foster critical thinking in their students intensifies. Consequently, the professional training of educators must also emphasize the development of critical thinking in teachers themselves. Equipping future educators with strong critical thinking skills enhances their professional capabilities, enabling them to reflect thoughtfully on their practice, respond creatively to challenges, and contribute meaningfully to educational innovation. This article explores the importance of critical thinking for future educators, strategies to nurture this skill during teacher preparation, and the broader impact of critical thinking on strengthening professional teaching skills.





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Critical thinking involves the ability to analyze information objectively, evaluate arguments, identify biases, and develop well-reasoned conclusions. For educators, it is essential not only to apply critical thinking to their own pedagogical decisions but also to model this cognitive skill for their students. By doing so, teachers help nurture a generation capable of independent thought, problem-solving, and informed decision-making.

In future educators, strong critical thinking skills enable:

- **Effective problem-solving:** Addressing classroom challenges and student needs with creativity and insight.
- **Reflective practice:** Continuously evaluating and improving teaching methods based on evidence and feedback.
- **Adaptability:** Responding to educational changes, including new technologies, policies, and diverse learner profiles.
- **Ethical decision-making:** Navigating complex moral and professional dilemmas responsibly.

Analysis of literature. The development of critical thinking skills in future educators has garnered increasing attention in educational research, emphasizing its pivotal role in shaping effective teaching practices and improving student outcomes. A broad spectrum of literature highlights critical thinking as an essential component of teacher professional competence, linking it closely to reflective practice, decision-making, and problem-solving abilities. Several foundational theories underpin the emphasis on critical thinking in teacher education. Dewey's (1933) concept of reflective thinking posits that educators must actively engage in evaluating their assumptions and experiences to improve practice. Likewise, Bloom's Taxonomy (Bloom, 1956) elevates higher-order thinking skills—analysis, synthesis, and evaluation—as critical to both teaching and learning processes. These frameworks establish that critical thinking is not innate but can be cultivated through intentional educational strategies.

Numerous empirical studies confirm that targeted interventions can significantly enhance critical thinking in pre-service teachers. For instance, Tsui (2002) found that integrating problem-based learning (PBL) and case studies in teacher training curricula improves analytical skills and the ability to apply theory to practice. Similarly, Facione (2011) emphasizes that systematic instruction in reasoning and argumentation equips future educators to navigate complex classroom scenarios effectively. Collaborative learning also emerges as a recurrent theme. Research by Gokhale (1995) suggests that peer interaction fosters critical dialogue, leading to deeper cognitive engagement. This aligns with Vygotsky's social constructivist theory (1978), which argues that learning is mediated through social interaction, reinforcing the need for group-based critical thinking activities in teacher education.

Reflective practice is widely acknowledged as a key mechanism for developing critical thinking in educators. Schön (1983) introduces the notion of the “reflective practitioner,”





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who continuously evaluates their actions and decisions to adapt and improve. Studies such as Loughran (2002) demonstrate that reflective journaling and self-assessment not only deepen teachers' understanding of their pedagogical choices but also cultivate metacognitive skills essential for critical thinking. Despite consensus on its importance, literature also identifies challenges in effectively fostering critical thinking among future educators. These include variability in the conceptualization of critical thinking, the tendency for teacher education programs to emphasize content knowledge over cognitive skills, and limited longitudinal studies assessing the sustainability of critical thinking gains (Paul & Elder, 2014). Additionally, the integration of technology as a tool to enhance critical thinking is an emerging but underexplored area. Recent studies (e.g., Tsai & Tsai, 2019) suggest that digital platforms offer promising opportunities for engaging pre-service teachers in critical discourse, yet more research is needed to identify best practices.

Materials and methods. The study involved 60 future educators enrolled in a teacher preparation program at [University/Institution Name]. Participants were primarily undergraduate students majoring in education, aged between 20 and 25 years, with diverse academic backgrounds and teaching interests. Participation was voluntary, and informed consent was obtained from all participants.

- **Critical Thinking Assessment Tools:** To evaluate the baseline and post-intervention critical thinking skills, the Watson-Glaser Critical Thinking Appraisal (WGCTA) was utilized. This standardized instrument measures key aspects of critical thinking, including inference, recognition of assumptions, deduction, interpretation, and evaluation of arguments.
- **Reflective Journals:** Participants maintained weekly reflective journals throughout the intervention period, documenting their learning experiences, problem-solving approaches, and self-assessment of their critical thinking development.
- **Instructional Materials:** The intervention included case studies, problem-based learning (PBL) scenarios relevant to classroom challenges, and digital resources such as online discussion forums and multimedia content designed to promote analytical thinking.

Teacher preparation programs should embed critical thinking into the curriculum through interdisciplinary approaches. Encouraging future educators to engage with complex problems, case studies, and real-world scenarios enhances their analytical skills and promotes deeper understanding beyond rote memorization. Group discussions, peer reviews, and collaborative projects foster diverse perspectives and stimulate reflective thinking. Future teachers benefit from interacting with colleagues who challenge assumptions, share insights, and co-construct knowledge, mirroring the collaborative nature of modern classrooms.





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Encouraging future educators to maintain reflective journals and engage in self-assessment promotes metacognition — thinking about one’s own thinking. This practice helps identify biases, areas for improvement, and strategies for growth, laying a foundation for lifelong professional development. Implementing PBL tasks where future teachers must solve authentic educational problems sharpens critical analysis and decision-making skills. This hands-on approach aligns theory with practice and prepares educators for the unpredictability of real classroom dynamics. Digital platforms and resources can enhance critical thinking by providing access to diverse viewpoints, interactive simulations, and opportunities for research and analysis. Training future educators in digital literacy also equips them to guide students effectively in the digital age.

Developing critical thinking does more than improve individual competencies; it transforms the professional identity of future educators. Teachers with strong critical thinking skills are better equipped to:

- Design inclusive curricula that address diverse learner needs.
- Employ evidence-based teaching strategies and assessment methods.
- Engage in professional collaboration and leadership roles.
- Advocate for educational equity and innovation.

Ultimately, these skills contribute to higher teaching quality, improved student outcomes, and a more dynamic and responsive education system.

Conclusion. The cultivation of critical thinking skills in future educators is fundamental to strengthening their professional competencies and enhancing the quality of education they deliver. As the demands of modern classrooms become increasingly complex and diverse, teachers must be equipped not only with content knowledge but also with the ability to analyze, reflect, and make informed decisions. This article highlights that deliberate integration of critical thinking development—through problem-based learning, collaborative activities, reflective practice, and the use of technology—can significantly empower pre-service teachers to become thoughtful, adaptable, and effective professionals. Moreover, the ability to think critically enables educators to model these vital skills for their students, fostering a culture of inquiry and lifelong learning. Teacher preparation programs thus play a crucial role in embedding critical thinking into their curricula to prepare educators who can confidently navigate educational challenges and contribute to innovation and equity in teaching. Moving forward, continued research and innovative practices are essential to refine strategies that support sustained critical thinking growth, ensuring future educators are well-prepared to meet the evolving needs of learners and society.





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