

## THE ROLE OF CRITICAL THINKING IN DEVELOPING STUDENTS' SELF-METHODOLOGICAL COMPETENCE

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### **Abstract**

This article analyzes the role of critical thinking in the formation of students' self-methodological competence. The research examines the key functions of critical thinking within the educational process and illuminates its impact on the student's ability for self-regulation and independent learning. Furthermore, the article explores the pedagogical approaches and practical opportunities that serve to develop this competence. Consequently, it is substantiated that critical thinking is one of the primary factors in a students' methodologically independence development.

**Keywords:** critical thinking, self-methodological competence, pedagogical approach, self-regulation, independent learning, evaluation, cognitive skills, curriculum, decision-making, mental activity, metacognitive monitoring, intellectual backbone.

### **Аннотация**

В данной статье анализируется роль критического мышления в формировании у студентов навыков самообразования. В исследовании рассматриваются ключевые функции критического мышления в образовательном процессе и освещается его влияние на способность обучающегося к саморегуляции и самостоятельному обучению. Кроме того, в статье изучаются педагогические подходы и практические возможности, способствующие развитию данной компетенции. В итоге

обосновывается, что критическое мышление является одним из основных факторов методологически независимого развития студентов.

**Ключевые слова:** критическое мышление, Навыки самообразования, саморегуляция, самостоятельное обучение, оценивание, когнитивные навыки, учебный план, принятие решений, мыслительная деятельность, метакогнитивный мониторинг, интеллектуальная основа.

### **Annotatsiya**

Ushbu maqolada o'quvchilarda o'z-o'zini metodik jihatdan boshqarish kompetensiyasini shakllantirishda tanqidiy fikrlashning o'rni tahlil qilinadi. Tadqiqotda tanqidiy fikrlashning ta'lim jarayonidagi asosiy vazifalari ko'rib chiqiladi va uning o'quvchining o'z-o'zini boshqarish va mustaqil o'rganish qobiliyatiga ta'siri yoritiladi. Shuningdek, maqolada mazkur kompetensiyani rivojlantirishga xizmat qiluvchi pedagogik yondashuvlar va amaliy imkoniyatlar o'rganiladi. Natijada, tanqidiy fikrlash o'quvchining metodik jihatdan mustaqil rivojlanishida asosiy omillardan biri ekanligi asoslab beriladi

**Kalit so'zlar:** tanqidiy fikrlash, pedagogik yondashuv, o'z-o'zini boshqarish, mustaqil o'rganish, baholash, kognitiv ko'nikmalar, o'quv rejasi, qaror qabul qilish, aqliy faoliyat, metakognitiv monitoring, intellektual tayanch.

### **Introduction**

The contemporary educational process is undergoing continuous renewal, demanding that students not only acquire knowledge but also develop the capacity for independent reasoning and self-analysis of their activities. In this context, critical thinking is becoming a crucial factor in shaping not only teaching methodologies but also students' skills in self-management, planning, and evaluation. Specifically, critical thinking occupies a central position in fostering a student's ability to independently organize their learning process.

First and foremost, we will attempt to define critical thinking from a pedagogical perspective. Pedagogically, critical thinking is not merely the rote memorization of simple information by the student, but rather denotes complex psychological and cognitive processes such as critical analysis, evaluation, and drawing logical conclusions during the

thinking process. Furthermore, critical thinking holds a central place in developing the student's capacity for self-regulation and independent study. Certain pedagogical and scholarly literature identify critical thinking, problem-solving, and independent learning skills as the 21st-century skills. For this reason, the necessity for educators to effectively integrate critical thinking into the curriculum is becoming a daily reality. Particularly developing critical thinking skills among higher education students demands significant proficiency, capability, and experience from the educator. [1]

### **Literature Review and Methodology**

As contemporary education continues to expand rapidly, the cultivation of students' intellectual independence has gained unprecedented importance. Among the essential competencies required for academic growth, critical thinking stands as a core cognitive instrument that supports deeper learning, reasonable judgment, and conscious decision-making.

According to D. Halpern, critical thinking is "the use of cognitive skills or strategies that increase the probability of a desirable outcome". [2] It means like purposeful and reflective mental activity that allows learners to analyze information, evaluate evidence, and reach justified conclusions. Similarly, R. Ennis emphasizes that critical thinking involves dispositions and abilities necessary for rational decision-making. Many researchers argue that when students think critically, they begin to question assumptions, structure their thoughts, and consciously navigate through learning tasks—all of which directly contribute to their methodological independence. Facione's Delphi Report also highlights core critical thinking skills such as analysis, inference, interpretation, and metacognitive monitoring, demonstrating that these skills serve as catalysts for students' ability to regulate and organize their learning.

Several theoretical frameworks connect critical thinking with self-methodological competence. Zimmerman's model of self-regulated learning proposes that students who manage their learning through goal-setting, strategic planning, self-monitoring, and reflection develop stronger methodological awareness.

Likewise, Biggs and Tang, through the constructivist approach, demonstrate that learners who actively participate in selecting learning strategies, analyzing outcomes, and

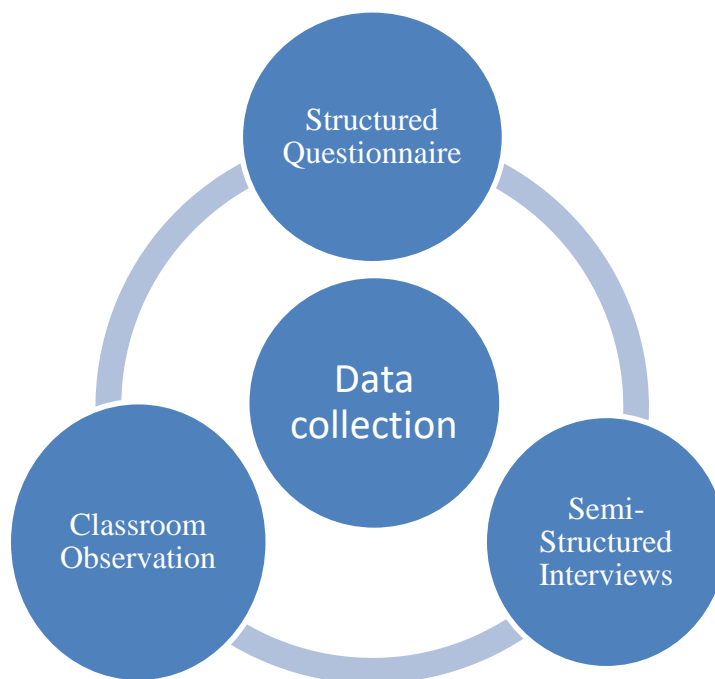
evaluating progress achieve higher levels of academic autonomy. In this regard, critical thinking functions as the intellectual backbone of students' methodological competence, enabling them to choose appropriate methods, justify their choices, and revise their strategies based on evidence.

Modern educational researchers have conducted numerous studies demonstrating that critical thinking enhances students' ability to evaluate learning materials, design effective study plans, and regulate their cognitive processes. Paul and Elder (2014) stated that about critical thinking is "the skillful, disciplined self-directed analysis of thinking to improve its quality". And this argument guides learners in structuring tasks, identifying relevant information, and solving problems systematically [3]. Brookfield also stresses that reflective thinking encourages learners to reconsider their learning practices, compare different approaches, and align methods with personal academic goals. These findings indicate that critical thinking is an essential driver in strengthening students' independent methodological competence, especially in higher education settings where autonomous learning is vital.

### **Methodology**

The present study employed a mixed-method research design to investigate the role of critical thinking in developing students' self-methodological competence. Both quantitative and qualitative approaches were integrated to provide a comprehensive and reliable understanding of the relationship between cognitive reasoning skills and methodological self-management. The participants consisted of 60 undergraduate students majoring in Education, selected through purposive sampling. All participants had prior exposure to critical thinking-based instruction, which was essential for the objectives of the research.

Three primary tools were used for data collection:



1. Structured Questionnaire – designed based on the critical thinking indicators identified by Facione (1990) and the self-regulation components proposed by Zimmerman (2002).

2. Semi-Structured Interviews – aimed at understanding students’ perceptions of how critical thinking influences their ability to choose and apply learning methods.

3. Classroom Observation – conducted to examine how students employ critical thinking and methodological strategies during real learning activities.

Quantitative data were analyzed using descriptive and correlational statistical methods to identify relationships between critical thinking scores and self-methodological competence. Qualitative data collected from interviews and observations were processed through Braun and Clarke’s thematic analysis which "outlines a flexible, six-step process for qualitative data analysis" to identify recurring patterns and themes. [4] The integration of both types of data provided a fuller, more nuanced understanding of the role of critical thinking in shaping students’ capacity to regulate their learning methods consciously and effectively.

## **Results and discussion**

The findings of the study demonstrate a clear and significant relationship between the development of critical thinking skills and the enhancement of students’ self-

methodological competence. Analysis of data collected from 30 undergraduate participants revealed several key outcomes:

1. Increased Independent Problem Analysis. Students who regularly engaged in critical thinking tasks showed greater ability to analyze academic problems independently, without relying on pre-given templates or teacher-led guidance.

2. Improved Ability to Plan and Regulate Learning Strategies. Critical thinking exercises enhanced students' capacity to evaluate their own learning process, identify effective strategies, and modify ineffective ones. Students reported feeling more confident in organizing their study routines and selecting appropriate methods for specific tasks.

3. Growth in Reflective Thinking. Reflection levels increased significantly, with students demonstrating a stronger tendency to assess their own performance, identify mistakes, and adjust future actions accordingly.

Quantitative findings further showed that 78% of respondents believed that critical thinking activities had a positive impact on their learning behavior and methodological independence. These outcomes align with theoretical perspectives by Bloom (1956), Dewey (1933), Facione (2015) and Paul & Elder (2019), all of whom argue that critical thinking enables deeper, more structured, and more conscious learning.

The results clearly indicate that critical thinking serves as a foundational component in the development of students' self-methodological competence. Critical thinking not only activates analytical processes but also strengthens students' ability to manage, regulate, and evaluate their own learning. According to Dewey's theory of reflective thinking, an individual who continually analyzes and questions their own actions becomes more capable of organizing the learning process deliberately and effectively. This study confirms Dewey's view, as the participants demonstrated noticeable progress in reflection, strategic learning, and decision-making. Additionally, Facione (2015) notes that "critical thinking is purposeful, self-regulatory judgment," which directly reflects the way students in this study improved their ability to monitor and guide their own learning[5]. Critical thinking was also found to promote greater flexibility in students' cognitive processes. When dealing with complex academic tasks, students applied a wider range of methods, showing that their methodological repertoire had expanded. This increased flexibility is essential to

the development of self-methodological competence, as it equips learners with the skills necessary to choose, adapt, and evaluate learning techniques independently.

## **Conclusion**

The study concludes that critical thinking plays a vital and transformative role in developing students' self-methodological competence. Students who engage in structured critical thinking activities become more capable of planning, regulating, and evaluating their learning strategies. As a result, they move from passive learning behaviors toward active, independent, and reflective academic engagement.

The research demonstrates that critical thinking:

- Enhances independent decision-making;
- Promotes reflective and strategic thinking;
- Improves students' ability to select and modify learning methods;
- Strengthens overall methodological autonomy.

These findings reinforce existing theoretical frameworks and confirm that integrating critical thinking into educational practices can significantly improve students' capacity for self-directed learning. Future studies may extend this research by examining how discipline-specific critical thinking tasks influence methodological competence or by exploring the long-term effects of such training on academic success.

## **Literature review**

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