



The Role Of Information Technologies In Developing Critical Thinking Skills Of Primary School Students Based On An Integrative Approach

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ABSTRACT

This article examines the role of information technologies in developing critical thinking skills among primary school students through an integrative approach. In the context of modern education, the effective use of digital technologies has become an essential factor in enhancing learners' analytical, evaluative, and problem-solving abilities. The integrative approach combines knowledge, skills, and competencies from different subject areas, creating opportunities for students to apply critical thinking in real-life situations. The study highlights the pedagogical potential of information technologies, including multimedia resources, educational software, interactive platforms, and digital learning environments, in fostering critical thinking among young learners. The article also discusses practical strategies for integrating information technologies into primary education and provides recommendations for teachers seeking to improve educational outcomes through innovative approaches.

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Introduction

The rapid development of information and communication technologies has significantly transformed educational processes worldwide. Modern society requires individuals who can think critically, analyze information, make informed decisions, and solve complex problems. Therefore, developing critical thinking skills has become one of the primary objectives of contemporary education.

Primary school years represent a crucial period for cognitive development. During this stage, students begin to form logical reasoning, analytical abilities, and independent thinking habits. Consequently, educators must employ innovative teaching methods and technologies that encourage active learning and critical engagement.

An integrative approach to education facilitates the connection of knowledge across different disciplines and enables students to understand the relationships between various concepts. When combined with information technologies, this approach creates a dynamic learning environment that promotes critical thinking and meaningful learning experiences.

Literature Review

Many scholars have emphasized the importance of critical thinking in education. According to John Dewey, critical thinking involves reflective and active consideration of beliefs and knowledge. Similarly,

Robert Ennis defines critical thinking as reasonable and reflective thinking focused on deciding what to believe or do.

Research has demonstrated that digital technologies can support critical thinking by providing opportunities for inquiry-based learning, collaboration, and problem-solving. Educational researchers argue that technology-enhanced learning environments encourage students to evaluate information, compare different perspectives, and construct knowledge independently.

The integrative approach has also gained attention in educational research. It promotes interdisciplinary learning and enables students to connect concepts from different subjects, thereby enhancing cognitive flexibility and critical analysis.

Discussion And Results

The integrative approach is based on the principle that learning becomes more effective when students can relate knowledge from various disciplines to real-life situations. Rather than studying subjects in isolation, learners engage in activities that combine elements of language, mathematics, science, technology, and social studies.

Videos, animations, interactive presentations, and virtual laboratories enhance understanding by presenting information in various formats. Multimedia tools encourage students to interpret data, draw conclusions, and connect concepts across disciplines.

Teachers can integrate information technologies into primary classrooms through various activities:

1. Digital Storytelling – Students create digital stories that require planning, analysis, and creative interpretation.
2. Web-Based Research Projects – Learners investigate specific topics using online resources and evaluate information from different sources.
3. Educational Games – Interactive games promote logical reasoning and decision-making skills.
4. Virtual Experiments – Digital simulations allow students to test hypotheses and analyze results.
5. Collaborative Online Projects – Students work in groups using digital platforms to solve real-world problems.

These activities not only improve technological literacy but also foster critical thinking competencies.

To address these challenges, educational institutions should:

- Provide continuous professional development for teachers;
- Improve access to digital infrastructure;
- Develop age-appropriate digital learning materials;
- Encourage responsible and purposeful technology use;
- Promote interdisciplinary project-based learning.

Conclusion

Information technologies play a significant role in developing critical thinking skills among primary school students within an integrative educational framework. By combining digital tools with interdisciplinary learning experiences, educators can create meaningful learning environments that foster analysis, evaluation, creativity, and problem-solving abilities. The integrative approach supported by information technologies contributes to the formation of competent, independent, and critically thinking individuals capable of meeting the demands of the twenty-first century.

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