THE ROLE OF INQUIRY-BASED LEARNING TECHNOLOGY IN SELF-STUDY EDUCATION

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Abstract. This article explores the role and effectiveness of Inquiry-Based Learning (IBL) technology in self-study education. It highlights the theoretical foundations of IBL, its forms, key dimensions, and specific applications in higher education. The study emphasizes how IBL fosters students' independent thinking, research skills, and problem-solving abilities. Furthermore, it contrasts the advantages of inquiry-driven education over traditional teaching methods based on scholarly sources. The phases of the IBL process – orientation, conceptualization, investigation, conclusion, and discussion – are clearly explained. This article serves as a valuable theoretical and practical guide for educators and researchers seeking to enhance independent learning practices.

Keywords: Inquiry-Based Learning, self-study education, research skills, question-driven instruction, IBL phases, student-centered learning.

In today's education system, fostering students' autonomy and research competence is becoming increasingly crucial. Inquiry-Based Learning (IBL) technology has been recognized as a leading method for achieving these objectives. Particularly in Uzbekistan, national reforms such as the "New Uzbekistan Development Strategy for 2022–2026" and educational decrees emphasize the necessity to implement innovative educational methodologies. This article thoroughly examines the significance of IBL technology in self-study education, its theoretical foundations, forms, dimensions, and practical applications in higher education institutions.

Theoretical Foundations of Inquiry-Based Learning

IBL is a pedagogical approach where learning is driven by posing questions, investigating, and constructing new knowledge. As defined by Healey (2005) and Spronken-Smith et al. (2007), IBL moves beyond rote memorization, encouraging students to become active participants in their learning journey. According to Prince and Felder (2006), it encompasses various strategies like problem-based, project-based, and case-based learning, all focusing on exploration and discovery.

Oliver (2008) describes IBL as an instructional strategy that motivates students to engage deeply through real-world problems, enhancing not only their cognitive but also their affective and social skills. Justice et al. (2007) emphasize that inquiry fosters critical thinking, independent research skills, and deeper engagement with learning material.

Mills and Treagust (2003) categorize IBL into three main forms:

1.Problem-Based Learning: Students confront real-life unstructured problems

2.Project-Based Learning: Students develop tangible outcomes through structured projects.

3.Case-Based Learning: Students analyze and discuss real-world scenarios to apply theoretical knowledge.

Spronken-Smith et al. (2007) propose two critical dimensions:

1. Inquiry tasks can be short-term, medium-term, or long-term, based on their complexity.

2.Varying from highly structured inquiries directed by instructors to open-ended inquiries led by students themselves.

IBL in Self-Study Contexts

In the self-study environment, IBL acts as a catalyst for student-centered education. Students independently formulate research questions in Orientation and Conceptualization phases. After that, they conduct explorations and experiments Investigation phase. Finally, they derive conclusions and discuss findings in Conclusion and Discussion phase.

Research highlights (Justice et al., 2007; Minner, Levy & Century, 2010) that IBL significantly improves students' self-study skills, research skills, and learning motivation, leading to superior academic outcomes compared to traditional methods.

Advantages of IBL in Self-Study

Studies such as those by Alfieri et al. (2011) and Minner, Levy & Century (2010) confirm that inquiry-based methods:

Enhance critical and analytical thinking skills.

Foster independence and responsibility in learners.

Promote the development of problem-solving competencies.

Increase motivation and engagement.

Additionally, structured IBL phases (Healey, 2005) provide a clear framework for independent study, allowing students to navigate complex problems systematically and creatively.

Conclusion

Inquiry-Based Learning technology significantly contributes to advancing self-study education. By empowering students with the skills to investigate, analyze, and reflect independently, IBL aligns educational practices with the demands of the modern knowledge society. The systematic incorporation of IBL into self-study curricula fosters lifelong learning, innovation, and academic excellence. Future educational reforms should prioritize expanding IBL integration to prepare learners for the complexities of the 21st-century world.

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