

INQUIRY-BASED LEARNING: AN EFFECTIVE APPROACH TO MODERN EDUCATION

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Abstract: Inquiry-Based Learning (IBL) is an educational approach that shifts the focus from traditional teacher-centered instruction to a student-driven learning process. This method encourages curiosity, exploration, and active participation, making learning more engaging and meaningful. IBL has been widely recognized for improving students' critical thinking skills, motivation, and problem-solving abilities. This article explores the principles of IBL, its benefits, challenges, and its role in shaping modern education.

Key words : Inquiry-Based Learning, interactive learning, critical thinking, motivation, problem-solving, student-centered learning.

Аннотация: Обучение на основе исследования (Inquiry-Based Learning, IBL) – это образовательный подход, который переносит фокус с традиционного учителя-центристского обучения на процесс, управляемый студентами. Этот метод способствует любознательности, исследованию и активному участию, делая обучение более увлекательным и значимым. IBL широко признан за его способность развивать критическое мышление, мотивацию и навыки решения проблем у студентов. В данной статье рассматриваются принципы IBL, его преимущества, вызовы и его роль в формировании современной системы образования.

Ключевые слова: Обучение на основе исследования, интерактивное обучение, критическое мышление, мотивация, решение проблем, обучение, ориентированное на студента.

Annotatsiya: Izlanishga asoslangan ta'lim (Inquiry-Based Learning, IBL) – bu an'anaviy o'qituvchi markazlashgan ta'lim usulidan voz kechib, o'quvchilarni o'quv jarayonining bosh markaziga qo'yadigan yondashuvdir. Ushbu usul qiziquvchanlikni oshirish, mustaqil izlanish va faol ishtirokni rag'batlantirib, ta'limni yanada mazmunli va samarali qiladi. IBL o'quvchilarning tanqidiy fikrlash qobiliyatini, motivatsiyasini va muammolarni hal qilish ko'nikmalarini rivojlantirishga yordam beradi. Ushbu maqolada IBLning asosiy tamoyillari, uning afzalliklari, qiyinchiliklari va zamonaviy ta'limdagi o'rni tahlil qilinadi.

Kalit so'zlar: Izlanishga asoslangan ta'lim, interaktiv ta'lim, tanqidiy fikrlash, motivatsiya, muammolarni hal qilish, talabaga yo'naltirilgan ta'lim.

Education is undergoing a significant transformation, with traditional rote memorization methods giving way to more interactive and student-centered learning strategies. Inquiry-Based Learning (IBL) is one such approach that places students at the heart of the learning process, encouraging them to ask questions, explore topics, and construct knowledge through investigation and collaboration.

This article examines the fundamentals of IBL, its impact on student motivation, critical thinking, and engagement, and discusses its challenges and future potential in education.

Inquiry-Based Learning involves students in active problem-solving, fostering their habit of posing questions and discovering answers via investigation and practical trials. Rather than simply absorbing facts from instructors, learners become engaged in their self-education journey.

The core principles of IBL include.

Student-Centered Learning: Learners take responsibility for their education.

Critical Thinking: Encourages analysis, evaluation, and synthesis of information.

Collaborative Exploration: Students engage in discussions and teamwork.

Real-World Application: Knowledge is applied to solve real-world problems

IBL can be categorized into different levels based on the amount of guidance provided by teachers:

1. Structured Inquiry

Teacher's Role: The teacher provides the research question and a clear procedure that guides students through the investigation. The teacher acts as a facilitator, ensuring that students follow the method correctly.

Student's Role: Students analyze and interpret the data they collect, but they do not have to develop the investigative approach themselves. They focus on drawing conclusions from the information presented.

Benefits: This approach offers support for students who are new to inquiry and may need more direction in how to approach research or investigation.

Example: A teacher asks students, "What happens to plants when they are exposed to different light conditions?" The teacher provides the materials, steps for the experiment, and expected observations. Students carry out the procedure, record results, and analyze the data.

2. Guided Inquiry

Teacher's Role: The teacher gives the research question, but students are responsible for designing the procedure and carrying out the investigation. The teacher offers guidance as needed but doesn't directly control the investigation process.

Student's Role: Students engage in the entire process of inquiry, from planning the experiment to drawing conclusions. This encourages critical thinking and the development of research skills.

Benefits: This level promotes greater independence than structured inquiry and helps students develop problem-solving and decision-making skills.

Example: Students are asked to investigate the question, “How does temperature affect the rate of a chemical reaction?” The teacher may provide some resources or prompts, but students decide the specific materials, how they will control variables, and how they will measure the reaction rate.

3. Open Inquiry

Teacher's Role: The teacher's role is minimal in open inquiry, offering only general direction or support. They may encourage exploration, but the students take full ownership of the investigation process.

Student's Role: Students create their own research questions based on their interests, design the investigation, and analyze the results. This level of inquiry allows for a deeper engagement and more creativity in exploring a topic.

Benefits: Open inquiry fosters a high degree of creativity and personal investment in the learning process, encouraging self-direction and intrinsic motivation. It also develops critical thinking and the ability to conduct independent research.

Example: Students choose their own scientific question to investigate, such as “How does the amount of salt in water affect its freezing point?” They design their own experiment, select materials, and determine how they will analyze the results.

4. Problem-Based Learning (PBL)

Teacher's Role: In PBL, the teacher presents a real-world problem that requires students to investigate and collaborate to find solutions. The teacher serves as a facilitator and mentor, providing structure and feedback throughout the process but not dictating the solution.

Student's Role: Students work collaboratively in groups to define the problem, research the necessary background information, design solutions, and present their findings. The process is student-driven, and they take responsibility for both their learning and the application of their knowledge.

Benefits: PBL is highly relevant to real-world issues, making learning more meaningful and applicable to students' lives. It promotes collaboration, critical thinking, and the ability to apply knowledge in practical ways.

Example: A class might be tasked with designing a sustainable urban park for a local community. They must research environmental concerns, consider the needs of the community, and come up with a proposal that addresses these factors. Students might collaborate with local experts or use resources like GIS software to help with the design.

Each level offers a progressively greater degree of independence for students, allowing them to develop deeper skills in research, problem-solving, and critical thinking. The key difference between these levels is the degree of structure and guidance provided by the teacher versus the autonomy given to the students.



REFERENCES:

1. Bell, R. L., Smetana, L., & Binns, I. (2005). Simplifying Inquiry Instruction: Assessing the Inquiry Level of Classroom Activities. *Science Teacher*, 72(7), 30-33.
2. Dewey, J. (1938). *Experience and Education*. Macmillan.
3. Hmelo-Silver, C. E., Duncan, R. G., & Chinn, C. A. (2007). Scaffolding and Achievement in Problem-Based and Inquiry Learning: A Response to Kirschner, Sweller, and Clark (2006). *Educational Psychologist*, 42(2), 99-107.
4. National Research Council. (2000). *Inquiry and the National Science Education Standards: A Guide for Teaching and Learning*. National Academies Press.