

INQUIRY-BASED LEARNING IN MATHEMATICS

by:

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A student-centered educational strategy called inquiry-based learning encourages students to actively investigate and build their own knowledge via questions, research, and problem-solving. In several fields, particularly mathematics education, this strategy has acquired a lot of acclaim. Inquiry-based learning cultivates a favorable environment for improving mathematics comprehension by encouraging learners to investigate, discover, and draw connections.

IBL, or inquiry-based learning, is a learning-focused approach to teaching math. Instead of providing information or a direct, easy route to a solution, the teacher leads students on an exploration of mathematics through carefully created challenges. Students are assigned activities that call for problem-solving, conjecturing, experimentation, exploration, creation, and communication – abilities and ways of thinking that mathematicians frequently employ (California Polytechnic State University, n.d.)

Engaging students in active learning is one of the key advantages of employing inquiry-based learning in mathematics classes. Students actively participate in the learning process rather than just passively absorbing information. They immerse themselves in the material through practical exercises, inquiries, and open-ended issues, arousing curiosity and creating a need for knowledge. This strategy allows students to use critical thinking skills and develop a deeper comprehension of mathematical ideas.

The development of critical thinking and problem-solving abilities through inquiry-based learning is crucial for success in math and other subjects. Students gain knowledge of information analysis, logical thinking, and the evaluation of various

problem-solving approaches through inquiry-based learning. This not only improves their mathematical abilities but also gives them useful skills that they may apply to different facets of their lives, preparing them for new challenges.

The emphasis on procedural fluency in traditional math training frequently leaves little room for students to build a thorough conceptual comprehension of mathematical ideas. Students are encouraged to investigate the "why" behind the "how" of mathematics in inquiry-based learning, though. Students can gain a greater understanding of the underlying concepts by actively investigating and experiencing mathematical concepts. This helps learners comprehend mathematical concepts rather than just memorizing formulas, which makes learning more meaningful and long-lasting.

The use of inquiry-based learning encourages student collaboration. They converse, exchange ideas, and work as a team to find solutions as they tackle mathematical problems together. They can learn from the perspectives of their peers in this collaborative setting, which also improves their communication abilities. Students thus gain more self-assurance in communicating their thoughts, justifications, and mathematical thinking, establishing a positive and helpful classroom environment.

Additionally, inquiry-based learning gives students the freedom to take charge of their education. Their sense of accountability and motivation to investigate mathematical ideas on their own are increased since they become active agents in choosing the course of their inquiry. Students become more self-directed learners as a result of making decisions and dealing with the results of those decisions, which helps them develop a passion for mathematics and an inner drive to learn more about it.

Bridging the gap between mathematics and the actual world is inquiry-based learning. Students can understand the relevance of mathematical concepts outside of the classroom by investigating issues that have practical value and real-world implications. Students' grasp and enjoyment of how mathematics is essential to daily life are enhanced

by the connection between theory and application, which makes the subject more approachable and engaging.

References:

California Polytechnic State University (n.d). Inquiry-Based Learning Builds Mathematical Confidence. Retrieved from <https://liberalstudies.calpoly.edu/inquiry-based-learning-builds-mathematical-confidence>