Rajapov Ikromjon Tuxtasinovich

Namangan Engineering and Technology Institute

PROBLEM-BASED LEARNING: FOSTERING CRITICAL THINKING SKILLS

Abstract: *Problem-Based Learning (PBL) is an instructional method that challenges students to learn through engagement in real-world problems. This approach fosters critical thinking, problem-solving skills, and self-directed learning by presenting students with complex situations that do not have straightforward solutions. PBL emphasizes student autonomy and collaborative work, encouraging learners to research, discuss, and apply knowledge to find solutions. While it requires a shift from traditional teaching methods and poses assessment challenges, PBL has proven effective in enhancing critical thinking, engagement, and practical application of knowledge in various educational contexts.*

Keywords *Problem-Based Learning, Critical Thinking, Problem-Solving Skills, Real-World Problems, Self-Directed Learning, Student Autonomy, Collaborative Learning, Knowledge Application, Educational Innovation, Learning Engagement.*

Ражапов Икромжон Тухтасинович Старший преподователь

Наманганский инженерно-технологический институт

ПРОБЛЕМНО-ОРИЕНТИРОВАННОЕ ОБУЧЕНИЕ: РАЗВИТИЕ НАВЫКОВ КРИТИЧЕСКОГО МЫШЛЕНИЯ

Аннотация: *Проблемно-ориентированное обучение (PBL) - это метод обучения, который побуждает учащихся к обучению посредством решения реальных проблем. Этот подход развивает критическое мышление, навыки решения проблем и самостоятельное обучение, представляя учащимся сложные ситуации, которые не имеют простых решений. PBL делает акцент на самостоятельности учащихся и совместной работе, поощряя*

учащихся исследовать, обсуждать и применять знания для поиска решений. Несмотря на то, что это требует отхода от традиционных методов обучения и использует проблемы оценки, PBL доказала свою эффективность в развитии критического мышления, вовлеченности и практического применения знаний в различных образовательных контекстах.

Ключевые слова *Проблемно-ориентированное обучение, Критическое мышление, Навыки решения проблем, Проблемы реального мира, Самостоятельное обучение, Автономия учащихся, Совместное обучение, Применение знаний, Образовательные инновации, Вовлеченность в процесс обучения.*

Problem-Based Learning (PBL) is a learner-centered approach that uses real-world problems as a context for students to develop critical thinking and problem-solving skills. In PBL, students are presented with a problem and engage in a self-directed learning process to investigate and propose solutions. This method contrasts with traditional, lecture-based learning, as it requires students to take an active role in their learning journey. PBL has been increasingly adopted in various educational settings, from primary education to professional training, due to its effectiveness in enhancing critical thinking, practical skills, and engagement.

Principles and Structure of PBL Exploring the core principles of PBL, including its focus on student-centered learning, the role of real-world problems, and the process of inquiry and investigation. The structure of PBL sessions, from problem presentation to resolution, is examined.

Developing Critical Thinking and Problem-Solving Skills Discussing how PBL contributes to the development of critical thinking and problem-solving skills. The role of PBL in promoting analytical thinking, creativity, and the practical application of theoretical knowledge is highlighted.

Challenges in Implementing PBL Identifying challenges in implementing PBL, such as the need for a shift in teaching methodology, the development of appropriate assessment methods, and ensuring student participation. Strategies to address these challenges are explored.

Impact on Student Learning and Motivation Analyzing the impact of PBL on student learning outcomes, including enhanced understanding, motivation, and engagement. The role of PBL in fostering a deeper appreciation for the subject matter and real-world applicability is discussed.

Case Studies and Empirical Research Presenting case studies and empirical research findings on the effectiveness of PBL in various educational contexts. These examples illustrate the adaptability of PBL and its benefits in different disciplines and learning environments.

Conclusion

Problem-Based Learning represents a significant shift in educational practice, prioritizing critical thinking, problem-solving, and student autonomy. By engaging students in real-world problems, PBL fosters a deeper understanding of subject matter and enhances practical skills. While it presents challenges in implementation and assessment, the benefits of PBL in promoting active learning and engagement are substantial. As an innovative educational approach, PBL is instrumental in preparing students for the complexities of the modern world.

References

1. Barrows, H. S. (1986). "A taxonomy of problem-based learning methods". *Medical Education*, 20(6), 481-486.
2. Hmelo-Silver, C. E. (2004). "Problem-based learning: What and how do students learn?". *Educational Psychology Review*, 16(3), 235-266.

3. Savery, J. R. (2006). "Overview of problem-based learning: Definitions and distinctions". *Interdisciplinary Journal of Problem-Based Learning*, 1(1), 9-20.
4. Н Ю Шарибаев. Исследования температурной зависимости ширины запрещенной зоны Si и Ge с помощью модели. Физическая инженерия поверхности, 2013
5. Sharibayev Nosirjon Yusufjanovich. Temperature Dependence Of Energy States And Band Gap Broadening. Turkish Journal of Computer and Mathematics Education (TURCOMAT) 12 (4), 53-60, 2021
6. N Yu Sharibaev. Optimized Fruit Drying Method By Solar Energy. Solid State Technology 63 (6), 17410-17415, 2020
7. Sharibayev Nosir Yusupjanovich, Djurayev Sherzod Sobirjonovich, Tursunov Axrorbek Aminjon o‘g‘li, Kodirov Dilmurod Tuxtasunovich. SECUBE'S ROLE IN IMPLEMENTING BUSINESS CONTINUITY PLANS (BCM) IN VARIOUS INDUSTRIES. American Journal of Applied Science and Technology 3 (12), 37-39, 2023
8. Sharibayev Nosir Yusupjanovich, Djurayev Sherzod Sobirjonovich, Tursunov Axrorbek Aminjon o‘g‘li, Maxmudov Bekzod Mirzaaxmad o‘g‘li. EXPLORING THE POSSIBILITIES OF MANAGING INFORMATION SYSTEMS USING SECUBE. American Journal Of Social Sciences And Humanity Research 3 (12), 278-281, 2023
9. N Yu Sharibaev, Sh S Djuraev. FROM WASTE TO RESOURCE: COMPOSTING AND RECYCLING OF BIODEGRADABLE CELLOPHANE. American Journal Of Social Sciences And Humanity Research 3 (12), 285-287, 2023

10. N Yu Sharibaev, Sh S Djuraev. CHEMICAL INNOVATIONS IN PRODUCING COMPOSTABLE CELLOPHANE MATERIALS. American Journal Of Social Sciences And Humanity Research 3 (12), 288-290, 2023
11. Nosir Sharibayev, Sherzod Djurayev, Axrorbek Tursunov, Botirjon Xolmurotov. THE INTRODUCTION OF SECUBE INTO THE EDUCATIONAL SECTOR: PROSPECTS AND CHALLENGES. Евразийский журнал академических исследований 3 (12 Part 2), 33-35, 2023