DEVELOPING CRITICAL THINKING OF STUDENTS BY USING PLOBLEM-BASED LEARNING IN CLASSES

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Annotation. This article analyses the benefits and effectiveness of problem-based learning for improving social and communication skills, problem-solving, critical thinking skills, and self-learning skills, higher order thinking, self-directed learning skills, promotes collaboration of students and motivate teachers to teach new information. Besides this article describes developing critical thinking of students by using ploblem-based learning in classes.

Key words: problem-based learning (PBL), solution, acquisition, collaboration, a group to conceptualize, acquire knowledge, communication, cooperation.

DARSLARDA MUAMMOGA ASOSLANGAN O‘QITISHDAN FOYDALANISH ORQALI O‘QUVCHILARNING TANQIDIY FIKRLASHINI RIVOJLANTIRISH

Annotatsiya. Ushbu maqola ijtimoiy va kommunikativ ko‘nikmalarni, muammolarni hal qilish, tanqidiy fikrlash ko‘nikmalarini va o‘z-o‘zini o‘rganish ko‘nikmalarini, yuqori darajadagi fikrlashni, o‘z-o‘zini boshqarish ko‘nikmalarini yaxshilash uchun muammoli ta’limning afzalliklari va samaradorligini tahlil qiladi, talabalarning hamkorligiga yordam beradi va o‘qituvchilarni yangi ma’lumotlarni o‘rgatish uchun rag‘batlantiradi. Bundan tashqari, ushbu maqolada darslarda muammoli ta’limdan foydalanish orqali o‘quvchilarning tanqidiy fikrlashini rivojlantirish tasvirlangan.

Kalit so‘zlar: muammoga asoslangan ta'lim (PBL), yechim, egallash, hamkorlik, kontseptsiyalash uchun guruh, bilim olish, muloqot, hamkorlik.

РАЗВИТИЕ КРИТИЧЕСКОГО МЫШЛЕНИЯ У СТУДЕНТОВ С ПОМОЩЬЮ ПРОБЛЕМНОГО ОБУЧЕНИЯ НА ЗАНЯТИЯХ

Аннотация. В этой статье анализируются преимущества и эффективность проблемного обучения для улучшения социальных и коммуникативных навыков, решения проблем, навыков критического мышления и навыков самообучения, мышления более высокого порядка,

навыков самостоятельного обучения, содействия сотрудничеству учащихся и мотивации учителей преподавать новую информацию. Помимо этого, в статье описывается развитие критического мышления студентов посредством обучения на основе решения проблем в ходе занятий.

Ключевые слова: проблемно-ориентированное обучение (ПОБ), решение, приобретение, сотрудничество, группа концептуализации, приобретения знаний, общение, сотрудничество.

Introduction Challenges and problems are important parts of life that give you experiences, make you learn and help you to become wiser and stronger. Problems make us grow and shape us.

Everyday problems are the circumstances that we find ourselves in on a daily basis that involve using the skills, accumulated knowledge, and resources (e.g., time, money, and friends) that we have available to us to reach our goals and to side step obstacles to these goals.

Problem-based learning or Problem Method of teaching is a teaching or training method regarded as teaching by the use of "real world" problems. It is as a situation prepared for individuals to learn 'critical thinking' and develop 'problem solving skills' and 'acquire knowledge'. It involves both knowing and doing.

For example, a problem-based learning project could involve students pitching ideas and creating their own business plans to solve a societal need. Students could work independently or in a group to conceptualize, design, and launch their innovative product in front of classmates and community leaders.

Problem solving is the act of defining a problem; determining the cause of the problem; identifying, prioritizing, and selecting alternatives for a solution; and implementing a solution. In the problem-based learning process, the teacher prepares the problem or scenario, motivates the students, checks the students' solutions, and helps the students to overcome these problems when they have problems at the point of progress for the solution.

The goals of Problem-based learning (PBL) include helping students develop 1) flexible knowledge, 2) effective problem-solving skills, 3) SDL skills, 4) effective collaboration skills, and 5) intrinsic motivation. This article discusses the nature of learning in PBL and examines the empirical evidence supporting it.

The process of problem-solving in the classroom involves four basic stages:
1. Problem identification.
2. Information gathering and the acquisition of new knowledge.
3. Debate and discussion.
4. Decision making.

The Five Steps of Problem Solving
- Define the Problem. What are you trying to solve? ...
- Brainstorm Ideas. What are some ways to solve the problem? ...
- Decide on a Solution. What are you going to do? ...
- Implement the Solution. What are you doing? ...

- Review the Results. What did you do?

How to Use Problem-Solving Skills in the Workplace

- Step 1: Thoroughly understand the problem.
- Step 2: Define the problem.
- Step 3: Strategize a solution.
- Step 4: Find alternate solutions.
- Step 5: Evaluate solutions and document everything.
- Step 6: Choose a solution.
- Step 7: Implement.

It helps students distinguish between solvable issues and problems that cannot be solved. It is necessary for preparing school students to face complex interpersonal and academic problems. Students who learn problem-solving skills often have a deeper understanding of causality.

In this class format, students work in small groups to solve problems, with professors present during each class to: provide a structured, guided context for solving problems. encourage students to shift from learning by memorizing to learning by doing.

In addition to course content, PBL can promote the development of critical thinking skills, problem-solving abilities, and communication skills. It can also provide opportunities for working in groups, finding and evaluating research materials, and life-long learning.

PBL is more effective than traditional methods (based mainly on lectures) at improving social and communication skills, problem-solving and self-learning skills, and has no worse results (and in many studies better results) in relation to academic performance.

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A general conclusion from these empirical studies was that PBL is effective in alleviating students' problems of inert knowledge as well as enhancing students' problem solving, higher order thinking, self-directed learning skills, and motivation to learn.

The Seven Steps of the PBL Process

1. Identifying, clarifying of terms in the scenario.
2. Defining the problem.
3. Brainstorming.
4. Restructuring the problem.
5. Formulate learning objectives/ goals.
6. Independent study.
7. Regrouping/ Synthesis.

The problem-solving method is a highly effective teaching strategy that is designed to help students develop critical thinking skills and problem-solving

abilities. It involves providing students with real-world problems and challenges that require them to apply their knowledge, skills, and creativity to find solutions. This method encourages active learning, promotes collaboration, and allows students to take ownership of their learning.

Problem-solving is a process of identifying, analyzing, and resolving problems. The problem-solving method in teaching involves providing students with real-world problems that they must solve through collaboration and critical thinking. This method encourages students to apply their knowledge and creativity to develop solutions that are effective and practical.

The problem-solving method has several benefits for both students and teachers. These benefits include:

- **Encourages active learning:** The problem-solving method encourages students to actively participate in their own learning by engaging them in real-world problems that require critical thinking and collaboration

- **Promotes collaboration:** Problem-solving requires students to work together to find solutions. This promotes teamwork, communication, and cooperation.

- **Builds critical thinking skills:** The problem-solving method helps students develop critical thinking skills by providing them with opportunities to analyze and evaluate problems

- **Increases motivation:** When students are engaged in solving real-world problems, they are more motivated to learn and apply their knowledge.

- **Enhances creativity:** The problem-solving method encourages students to be creative in finding solutions to problems.

The problem-solving method involves several steps that teachers can use to guide their students. These steps include:

- **Identifying the problem:** The first step in problem-solving is identifying the problem that needs to be solved. Teachers can present students with a real-world problem or challenge that requires critical thinking and collaboration.

- **Analyzing the problem:** Once the problem is identified, students should analyze it to determine its scope and underlying causes.

- **Generating solutions:** After analyzing the problem, students should generate possible solutions. This step requires creativity and critical thinking.

- **Evaluating solutions:** The next step is to evaluate each solution based on its effectiveness and practicality

- **Selecting the best solution:** The final step is to select the best solution and implement it.

The solution arrived at or the conclusion drawn must be further verified by utilizing it in solving various other likewise problems. In case, the derived solution helps in solving these problems, then and only then if one is free to agree with his finding regarding the solution. The verified solution may then become a useful product of his problem-solving behavior that can be utilized in solving further problems. The above steps can be utilized in solving various problems thereby fostering creative thinking ability in an individual.

Conclusion. The problem-solving method is an effective teaching strategy that promotes critical thinking, creativity, and collaboration. It provides students with real-world problems that require them to apply their knowledge and skills to find solutions. By using the problem-solving method, teachers can help their students develop the skills they need to succeed in school and in life.

References

1. Jonassen D. (2011). Learning to solve problems: A handbook for designing problem-solving learning environments. Routledge.

2. Pirnazarovna, D. F. (2022). Digital technologies in studying English at university: traditions and innovations. *EPRA International Journal of Multidisciplinary Research (IJMR)*, *8*(3), 97-100.

3. Pirnazarovna, D. F. (2022). WAYS OF FORMING DIGITAL LITERACY IN THE CONTEXT OF TEACHING ENGLISH. *EPRA International Journal of Research and Development (IJRD)*, *7*(3), 55-57.

4. Davronova, F. (2022). PEDAGOGICAL ASPECTS OF DIGITAL TECHNOLOGIES IN RAPID ACQUISITION OF ENGLISH. *Innovative Development in Educational Activities*, *1*(2), 44-47.

5. Davronova, F. (2022). EXPERIMENT-TESTING METHODOLOGY OF ON RAPID TEACHING OF ENGLISH TO STUDENTS IN THE CONDITONS OF DIGITAL TECHNOLOGIES. *Innovative Development in Educational Activities*, *1*(2), 72-76.

6. Davronova, F. P. (2022). THE USAGE OF ICT TOOLS INTENDED TO ACQUIRE KNOWLEDGE BY STUDENTS IN ENGLISH CLASSES. *AGROBIOTEXNOLOGIYA VA VETERINARIYA TIBBIYOTI ILMIY JURNALI*, 1132-1136.