

## OPTIMIZING THE EDUCATIONAL ENVIRONMENT FOR IMPLEMENTING ACTIVE LEARNING METHODOLOGIES

Irina VÎȘCU, asistent universitar, drd.

<https://orcid.org/0000-0001-7375-4186>

Universitatea de Stat „Bogdan Petriceicu Hasdeu”, Cahul, RM

Universitatea Pedagogică de Stat „Ion Creangă”, Chișinău, RM

**Abstract.** In recent years, there has been a growing emphasis on active learning as a more effective approach to education than traditional lecture-based methods. Active learning involves student engagement in the learning process through activities such as group projects, discussions, problem-solving, and hands-on experiments. This approach has been shown to improve student understanding, retention, and critical thinking skills.

**Keywords:** education, educational environment, active learning, methods, skills.

## OPTIMIZAREA MEDIULUI EDUCAȚIONAL PENTRU IMPLEMENTAREA METODOLOGIILOR DE ÎNVĂȚARE ACTIVĂ

**Rezumat.** În ultimii ani, s-a pus din ce în ce mai mult accentul pe învățarea activă ca o abordare mai eficientă a educației decât metodele tradiționale bazate pe cursuri. Învățarea activă presupune implicarea studenților în procesul de învățare prin activități precum proiecte de grup, discuții, rezolvarea problemelor și experimente practice. S-a demonstrat că această abordare îmbunătățește înțelegerea, rețenția și abilitățile de gândire critică ale studenților.

**Cuvinte-cheie:** educație, mediu educațional, învățare activă, metode, competențe.

### Introduction

Utilizing dynamic educational approaches, such as exploration-based learning, group interactions, joint assignments, and educational activities, boosts comprehension and memory recall. These strategies encourage student participation, promote problem-solving skills, and improve social abilities. By involving students directly in the learning process, they become more enthusiastic and responsible for their academic progress. Engaging in activities that prompt critical thinking, communication with peers, and applying knowledge in real-world situations enable students to connect new information with their existing knowledge. This process of exploration not only enhances academic performance but also instills a sense of ownership and accountability for learning. Group dialogues and cooperative projects offer students the chance to learn from each other, exchange ideas, and build a collective understanding of the subject. This collaborative learning environment not only fosters teamwork and collaboration but also stimulates creative thinking and consideration of diverse viewpoints. Conversely, educational games provide a playful and interactive method for students to enhance their problem-solving abilities, boost memory retention, and reinforce key concepts unconventionally. By integrating active learning techniques into their instructional methods, educators can craft a dynamic,

engaging, and meaningful learning experience for students. These approaches cater to various learning styles and promote critical thinking, communication, and teamwork skills crucial for success in today's fast-paced, interconnected world. Additionally, by nurturing a positive and supportive learning atmosphere, students are more likely to embrace their education and evolve into lifelong learners driven to achieve their full potential.

The ancient scholars and wise men were the first to debate the role of students in the learning process, paving the way for modern pedagogy. Influential figures like Comenius, Hegel, and Dewey introduced forward-thinking ideas that emphasized student engagement and active participation. These concepts challenged the traditional belief that students should be passive recipients of knowledge. Instead, they advocated for a more dynamic approach to teaching, where teachers and students played active roles in the educational experience. This ongoing debate has characterized pedagogy's history, shaping how we understand and approach learning today.

**To successfully implement active learning** methods, it is crucial to prioritize student work and consider them key contributors to the learning process. The communication skills of students need to be honed based on national and international educational policies to achieve optimal outcomes efficiently:

- Recommendation of the European Parliament and of the Council of the European Union of 18 December 2006 on key competencies for lifelong learning [10];
- Council of the European Union Recommendation of 22 May 2018 on key competencies for lifelong learning [6];
- The European Framework of Reference for Key Competences for Lifelong Learning [8];
- Common European Framework of Reference for Languages: learning, teaching, assessment [5].

**Active learning** is an approach to the education process where everything focuses on the maximum involvement of students and their active participation in the learning process. This method is opposed to traditional forms of teaching. In active learning, the teacher plays the role of coordinator, who helps students in all possible and impossible ways and encourages them to participate actively during the hours. In this teaching method, various techniques and tasks can be used to involve students in the learning process and prevent them from remaining passive. Active learning aims to make the teacher able to captivate the student, attract him to the learning atmosphere, and thus make him a participant in his learning process.

**Charles Bonwell and James Eison** considered that active learning suggests that students create cognitive connections that favor deep learning when they can “read, write, discuss, or engage in problem-solving” [2, p. 1; 3, p. 4-7].

The following requirements are needed to implement active learning in the classroom:

- Create a positive learning environment: Promote a classroom atmosphere that encourages risk-taking, collaboration, and respect for diverse opinions.
- Incorporate technology: Use tools such as interactive whiteboards, online quizzes, and collaborative software to enhance active learning.
- Provide clear instruction and support: Make sure students understand the goals and expectations of active learning activities.
- Consistently assess students' progress and motivate them to contemplate their learning experiences.

Research and evidence overwhelmingly support the claim that students learn best when they are co-interested and attracted to the knowledge of the course materials and actively participate in the learning process. Among the student population, there have always been those who can link the concepts of courses, generate significant questions, seek answers, and interact with the learned material through annotations. However, most students need to be offered active learning opportunities to address this ideal; even those who are self-directed will learn more and will be able to apply their knowledge more carefully when the course activities are based on the active learning process.

By actively participating in their education and training, students are doing so; they physically engage in training activities that are as active as possible. This process has shown researchers that they have not only mastered the content of the course equally but that it is no longer worse with traditional teaching techniques. This research seemed to correlate with similar findings regarding lectures and their use in the classroom. In essence, researchers found that many teachers are not sufficiently trained or dynamic when it is time to present the class material, and thus this technique has not been effective in educating most students. As the higher education system continued to grow and develop as quickly as possible, more students were admitted to university, and the number of students in the classroom increased. Reaching larger groups of students by attracting them to the course was often based on resource limitations, ease of information distribution, or teacher comfort. Using a lecture for larger groups can be effective and useful with the help of a well-trained teacher to present the material briefly and on the topic [1]. However, as education administrators have begun to pay more attention to smaller class sizes and student-teacher relationships, more diverse and effective methods of instruction are needed. Active learning fits well with this role, and its proven ability to enhance and retain students' knowledge has led this technique to the forefront of today's academic classes.

**Good practices** in university education are as follows:

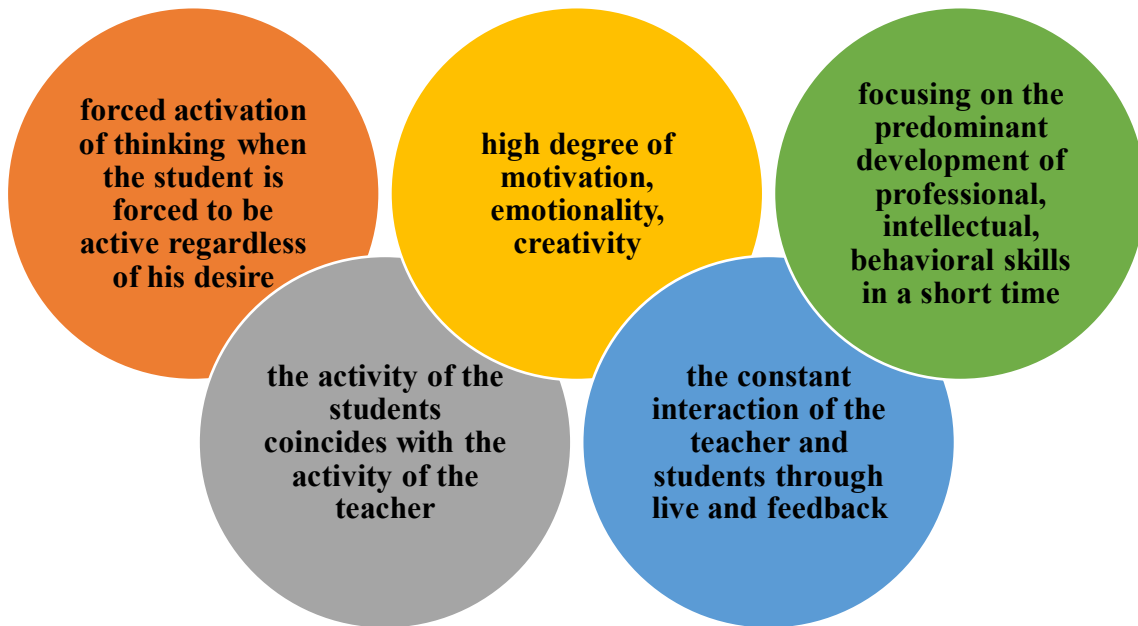
1. encouraging contact between students and teachers;
2. developing interchange and cooperation between students;

3. encouraging active learning;
4. providing prompt feedback;
5. emphasizing the time for the tasks offered;
6. communicating with students about the expectations they will have;
7. observing the learning methods of each student.

Active learning is an instructional approach that engages students in the learning process by encouraging them to participate actively and think critically. Here are the key characteristics of active learning:

- *Student Engagement*: Students are actively involved in their learning. Activities require students to do meaningful learning tasks. Interaction with peers and instructors is emphasized.
- *Collaboration*: learning often occurs in groups or pairs. Students work together to solve problems or discuss topics. Encourages the sharing of diverse perspectives and ideas. Critical
- *Thinking*: students are encouraged to analyze, evaluate, and create. Focuses on higher-order thinking skills rather than rote memorization. Involves questioning assumptions and exploring different viewpoints.
- *Hands-on activities*: use of practical exercises, experiments, and real-world problem-solving. Includes activities like case studies, simulations, and role-playing. Provides opportunities to apply knowledge in practical scenarios.
- *Feedback and Reflection*: continuous feedback is provided to students. Students are encouraged to reflect on their learning process and outcomes. Helps students identify areas for improvement and understand their progress.
- *Personalized learning*: recognizes individual learning styles and paces. Allows for differentiated instruction tailored to student's needs. Encourages self-directed learning and autonomy.
- *Interactive technology*: incorporates digital tools and resources to enhance learning. Uses platforms like online discussions, interactive simulations, and educational software. Technology facilitates engagement and accessibility.
- *Problem-Based Learning (PBL)*: students learn through the experience of solving open-ended problems. Encourages exploration and inquiry. Develops problem-solving skills and the ability to apply knowledge in new situations.
- *Learner-centered approach*: focus shifts from teacher-led instruction to student-centered learning. Teachers act as facilitators or guides rather than sole knowledge providers. Emphasis on student responsibility and active participation.
- *Formative assessment*: regular, informal assessments to monitor student learning. Helps in adjusting teaching strategies based on student needs. Includes quizzes, discussions, peer reviews, and self-assessments.

Active learning fosters a dynamic and engaging classroom environment where students take an active role in their educational journey, leading to deeper understanding and retention of knowledge (Figure 1).



**Figure 1. The characteristics of active learning are as follows [4]**

Active learning methods combine actions and pedagogical techniques that aim to organize the educational process, create learning conditions, and motivate students [7].

Modern active learning methods are methods aimed at improving students' thinking. They are characterized by a high degree of interactivity, motivation, and emotional perception of students during the educational process, which allows:

- activation and cognitive and creative development of students' activities;
- increasing the effectiveness of the educational process;
- training and assessment of professional skills, especially in organizing and executing teamwork.

The use of active learning methods as a main and essential component of modern educational technologies requires the formation of special knowledge and practical approaches for teachers and organizers of the educational process.

The distinctive features of active learning methods are:

- a sufficiently long time for students to be involved in the educational process, as their activity must not be short-term or episodic but largely stable and long-term (for example, throughout the lesson);
- making independent creative decisions; a high degree of motivation and emotion in students;

- active character, i.e., the constant interaction of the subjects of the educational activity (students and teachers) through direct relations and, vice versa, the mutual exchange of opinions on the ways to solve different situations and problems that arise.

The modern quality of higher education is determined by the use of active learning methods, strategies, and techniques that help students and involve them in the educational process. Active learning involves the compulsory activity of students in the direction of obtaining, processing, and using the acquired knowledge.

Active learning is organizing and maintaining the learning process, which aims to improve cognitive activity by studying a wide range of techniques and methods, leading to a well-thought-out and formulated teaching process and means of organizing the training process [11]. The active nature of information technology education is closely linked to self-education. Self-education is impossible without the student's active participation in the educational process. Active participation is determined primarily by internal motivation, expressed as a desire to learn.

The training activity can be achieved both by improving the forms and methods of training and by improving the organization and management of the learning process.

Active teaching methods are methods that stimulate students' cognitive activity.

They are mainly based on a dialogue that involves a free exchange of views on how to solve a particular problem. Active teaching methods are characterized by a high level of student activity. The possibilities of a variety of teaching methods for activating educational and productive processes are different; they depend on the nature and content of the appropriate method used by a well-qualified teacher [9].

The widespread application of information and communication technologies can significantly increase the effectiveness of active learning for all forms of organizing the training process.

The introduction of active teaching methods based on information technologies in higher education involves a comprehensive reform of all elements of the educational process: self-study, lectures, seminars, and practical courses. The forms of use of information technologies will have their particularities for each element of the educational process.

Analyzing various scientific papers on active learning methods, information, and communication technologies in education and the educational process, we can see:

- The greatest difficulties in introducing information and communication technologies and active learning methods in the university appear when designing the appropriate teaching materials for the studied courses.
- The increased interest in the use of active learning methods during classes leads to the motivation and interest of students to learn, participate, and provide information on the topics studied.

Digital skills are needed to participate in and contribute to the digital world. To live, learn, and work in a digital society, teachers and students need to develop their digital skills so that they have the opportunity to get involved and thrive in a digital world. The development of these digital skills will allow students to find, evaluate, create, share, and learn different types of information they will need.

An important feature of active teaching methods is the ability to receive basic knowledge in addition to classroom instruction, with an appropriate provision, through the independent work of students with educational materials. In this case, in addition to traditional teaching materials, an electronic form of presentation of educational information can be applied.

The most prominent features of active learning methods are:

1. *Problem*. The primary objective is to present the student with a problem scenario that requires additional knowledge. The best option for a problematic task is one whose solution is ambiguous, even for a teacher.
2. Adaptation of educational and cognitive activities to the nature of the student's future tasks and practical functions. This is especially true in matters of personal communication and official relations. By incorporating this principle, students have the opportunity to cultivate emotional and personal insights about their professional pursuits. This approach is comprehensively expounded upon in the contextual learning theory. Ideally, the teacher becomes the leader of their independent activity, implementing the principles of pedagogy.
3. *Mutual learning*. Represents the main point in several forms of conducting courses using active learning methods that can lead to collective work and discussions. This feature does not negate the individualization of training but requires a reasonable combination and skillful use.
4. *Individualization*. This feature implies a requirement for the organization of educational and cognitive activities, taking into account the individual skills and abilities of the student. It also involves the development of mechanisms for self-control, self-regulation, self-learning, and self-study of problems and phenomena studied by students during the course.
5. The directive signifies students' autonomy in engaging with educational information. Unlike traditional teaching methods where the teacher acts as a filter for educational content, in this approach, once instruction begins, the teacher transitions to a facilitator role. As a facilitator, the teacher supports students as they engage directly with the educational material.
6. *Motivation*. Individual, educational, and collective cognitive, independent, and regulated activities of students are developed and supported by a system of motivation.

The main task of the teacher in the context of organizing the educational process when using active learning methods is to teach students the following:

- formulating the solution to the problem-solving that reveals the essence of the problem and the topics that help to stimulate active learning;
- effective communication, sharing of experiences, and knowledge about the subject;
- analyzing the sources of information that are used to study a certain topic;
- researching the identified issues;
- analyzing the results and proposing their solutions to solve problems.

**Active learning methods** are based on dialogue between the teacher and the students and between the students. In the dialogue process, the competence of communication, the ability to solve collective problems, and last but not least, the development of students' discourse that helps them form thoughts and solutions. It also helps them explain the solution to the tasks to be solved. Active learning methods aim to attract students to independent cognitive activities, arouse a personal interest in solving cognitive problems, and allow students to apply their knowledge. Active methods aim for all mental processes (speech, memory, imagination, etc.) to participate in the learning process.

**In conclusion**, active learning methods are an essential basis for improving educational settings. Educational institutions promote dynamic learning environments, adapted to the current demands of contemporary society, by involving students directly in the learning process and by using effective methods of implementation. Teachers need support and training to use these methods effectively. Students should be encouraged to actively participate and take responsibility for their education. These efforts can make the education system a more compelling and relevant force for students' futures. The educational landscape has the potential for a revolution through these strategies, shaping a more dynamic and responsive learning experience for all stakeholders.

## Bibliography

1. Teaching and learning in higher education: Active Learning. Disponibil: <https://onq.queensu.ca/shared/TLHEM/active/index.html>
2. BONWELL, C., EISON, J. *Active learning: Creating excitement in the classroom* (AEHEERIC Higher Education Report No.1). Washington, D.C.: The George Washington University, School of Education and Human Development. Jossey-Bass, 1991. ISBN 1-87838-00- 87.
3. BONWELL, C. Building a supportive climate for active learning. In: *The National Teaching and Learning Forum*, 1996. 6(1), p. 4-7.
4. BULANOVA-TOPORKOVA, M.V., DUKHAVNEVA, A.V., KUKUSHIN, V.S., SUCHKOV, G.V. *Pedagogical technologies*. Moscow, Rostov-on-Don. Publishing Center: MarT., 2004.



5. Common European framework of reference for languages: learning, teaching, assessment. Disponibil: <https://rm.coe.int/1680459f97>
6. Council recommendation of 22 May 2018 on key competencies for lifelong learning. Disponibil: [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018H0604\(01\)](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018H0604(01))
7. GRONSKY, A.V., PUSHKINA, T.P. Didactic model of work with a group process. In: *collection "Russian Gestalt"*. Novosibirsk: Научно-учебный центр психологии НГУ, 2002, p. 57–79.
8. Key competencies for lifelong learning. Disponibil: <https://op.europa.eu/en/publication-detail/-/publication/297a33c8-a1f3-11e9-9d01-01aa75ed71a1/language-en>
9. LEWIN, K., HEIDER, F. (Translator), HEIDER, G. M. *Principles of topological psychology*. McGraw-Hill Book Company, Inc., New York, 1936. OCLC Number / Unique Identifier:298917.
10. Recommendation of the European Parliament and of the council of 18 December 2006 on key competencies for lifelong learning. Disponibil: <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:394:0010:0018:en:PDF>
11. TOLMAN, E. C. *Purposive behavior in animals and men*. New York: Appleton-Century-Crofts, 1932. (republished in 1967).