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# The significance of interactive methods in teaching in Higher Education

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**Abstract:** Uzbekistan's integration with modern Euro-Atlantic educational space requires modernization of existing learning methods and the introduction of modern activities in the process of learning that will facilitate the establishment of an active, independent and free person with critical thinking. Western education system became the main focus of the Uzbekistan's educational policy. In this article we shall discuss the impact of modern innovative teaching methods that are proven to improve the quality of educational process.

**Keywords:** education, method, lecture, energize, critical thinking, active learner, passive learner

## *Introduction*

Uzbekistan's educational system has gone through the traditional methods of teaching. One of the main forms of teaching in higher education was a lecture, during which the lecturer was a transmitter and the student was a recipient of knowledge. In recent years, however, experimental and innovative activities in the field of education are being carried out in order to modernize education and they are aimed at the development of new educational technologies and resources, their testing and introduction into the educational process. The procedure and conditions for the implementation of experimental and innovative activities are determined by the Cabinet of Ministers of the Republic of Uzbekistan<sup>1</sup>.

The analysis of the research results shows that interactive teaching best helps students to get maximum involvement in the lecturing process. The student is not only a passive recipient of knowledge, who is constantly in the position of the listener but is actively involved in the lecturing process and gets maximum knowledge. As a result, the information received is remembered for a longer time.

## *Discussion*

Group work that is a common element of interactive learning more closely aligns with the collaborative methods of most occupations and professional academics. Research consistently finds that interactive methods correlate with positive student outcomes, such as higher rates of attention, interest in subject matter,

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<sup>1</sup> Law of the Republic of Uzbekistan on education number 637 dated 23.09.2020

and satisfaction<sup>2</sup>. Students may initially resist interactive learning methods. Lack of experience with interactive learning, the greater effort that is required of students in interactive learning, and the impression that the instructor is abdicating the “teacher” role can factor into students’ resistance. Therefore, it is important for instructors to explain the reasons for interactive learning in general (such as the learning benefits above). Instructors should also explain the specific reasons for each particular interactive learning exercise, provided they have carefully selected methods that are appropriate to learning goals and students’ abilities<sup>3</sup>. There are a number of interactive methods that are used in teaching and have been proven to be of high benefit. In this article we shall discuss some of them.

#### *‘Smiley faces’ method*

In this method the lecturer uses 3 pictures of smiles.



At the end of the lecture the lecturer shows the ‘happy face’ and says to draw this face and write the information from the lecture that was very valuable for you. Then the lecturer continues - orders to draw ‘confused face’ and says to write the information from the lecture that was confusing for you. After that the lecturer says, draw the ‘sad face’ and says to write the information from the lecture that you want to be added. The students get to remember the process of the whole lecture and this way they will be able to revise what has been taught. This method takes 3 minutes but gives a great amount of information to the lecturer about the student learning.

#### *‘The information about my mood’ method*

This method is efficiently used for the purpose of warming up, at the beginning of the lesson. The lecturer asks the students to describe their mood or feelings in the example of animals, weather or plants. For example: Yesterday my mood was cloudy, however, today it is sunny. Or, I am feeling like a tortoise walking slowly. Or, Entering the classroom, I was a small sparrow, but learning the subject I feel like an eagle. The method gives an opportunity to students to broaden their horizons, to warm up and utter their opinions. The lecturer, in turn, gets to know about the students’ mood and lets him/her choose the right approach individually.

#### *The method to improve Logical thinking*

The students are given a question that urges to think about everyday objects, people or events from another angle. For example, “what are 10 usages of a paper clip other than fastening?” Or, “What are 10 activities that we can do in hotels other than staying?”. This method is a perfect way of developing logical thinking by way of

<sup>2</sup> Bonwell, C., & Eison, J. A. (1991). Active learning: Creating excitement in the classroom. ASHE-ERIC Higher Education Reports.

<sup>3</sup> Felder, R. (2007). Sermons for grumpy campers. *Chemical Engineering Education*, 41(3), 183-184.

answering simple and interesting questions. The students broaden their horizons, learn how to react in different and challenging situations.

#### *'Letter' method*

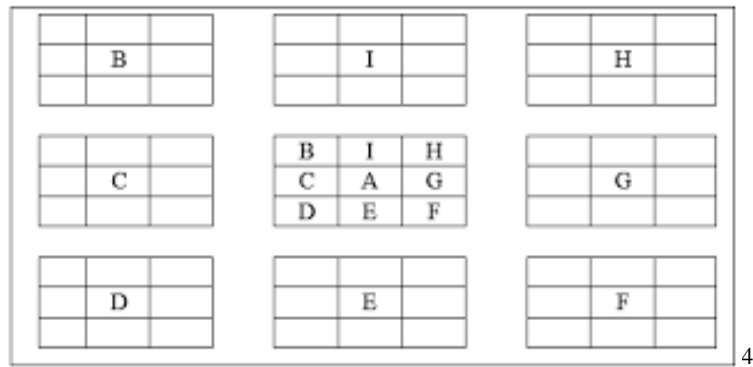
Before entering the classroom the lecturer writes the text of the lecture on sheets of paper dividing the text into small parts. In this case several 'letters' should be formed. Before beginning the lesson the teacher hands out the 'letters' to students (those who are shy and whose ability to speak among public is low). During the process of having the class the teacher asks the students to explain what has been written on the 'letter'. If additions are needed, the teacher explains further. Thus the whole lecture is conducted mainly by students. This method is a great way of involving students to the process. The concentration of them is broadly directed to the teacher.

#### *'Puzzle' method*

In this method, the information to be conveyed to the students is written on a sheet of paper. Taking into account the division of students into groups, 2 or 3 copies are printed according to the number of groups. All copies are divided equally into from 8 to 12 pieces. If the pieces are not divided equally for all groups, misunderstandings will arise among students. It is effective to organize this method mainly in the form of a competition in seminar classes. In this way, students' interest in the lesson increases in a competitive environment and their ability to act quickly increases, as well as the ability to work in a group is formed.

#### *'Lily petal' method*

The problem to be solved is defined. Students will be introduced to the terms of the assignment. Students are put into small groups (or pairs). The members of a group or pair are the main ones in the central rectangle (square, circle). The problem (idea, task) is introduced to the groups. Groups think about the solution of the problem and create eight such additional drawings around the central rectangle (square, circle) (in which specific solutions to the problem are described). The process is generated (in which specific solutions to the problem are described). Ideas in additional drawings lead to the "petals" of the flower, that is, to such a separate complex (each of them takes the form of another problem). Around the leading problem (idea, task) in auxiliary drawings "petals" reflect private issues and solutions. Based on the nature of the issue being studied, this process can be repeated several times. Each group or pair presents their solution to the task in the form of a presentation. The solutions of the groups are discussed and the most correct option is determined. The teacher evaluates the work of each group and ends the lesson. Students are presented with the following scheme as an example:



The surrounding eight squares are filled by students.

An active approach is a form of a teacher-student interaction equally involving both a teacher and students. In this form of learning, students are not passive listeners anymore but they are active participants in the learning process. Because of these advantages, a lot of teachers choose this method of instruction. In some cases, this method is effective if employed by experienced teachers with the learners who have clearly defined learning objective. If passive lessons represent an authoritative style of instruction, the active approach is a democratic style (see Fig.1 and Fig 2)

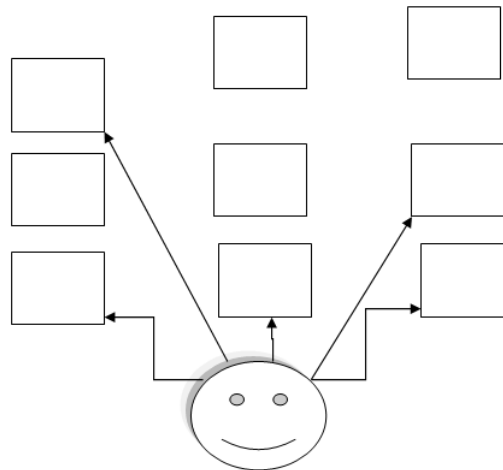


Figure 1. Passive teaching style.

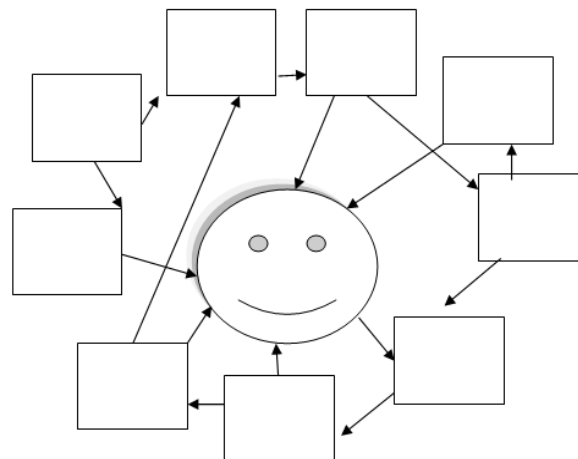


Figure 2. Active teaching style with interactive methods.

<sup>4</sup> [https://sciencecentrum.pl/wp-content/uploads/2021/02/MODERN\\_SCIENTIFIC\\_CHALLENGES%2031%20%28web%29%20s.pdf](https://sciencecentrum.pl/wp-content/uploads/2021/02/MODERN_SCIENTIFIC_CHALLENGES%2031%20%28web%29%20s.pdf)



Recent studies show that interactive learning helps the learner not only to easily acquire new material but to memorize it for a longer period of time. The diagram below shows clearly that through passive learning, the learner can memorize only 30% of the material, while the interactive learning enables us to memorize 90% of the received information.

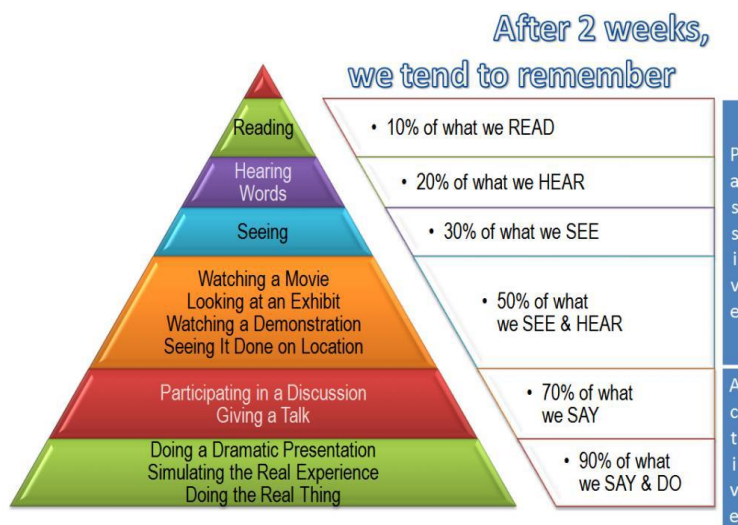


Figure 3. Passive and active learning diagram<sup>5</sup>.

### Conclusion

The instructor often assumes a less overtly authoritative role in an interactive classroom. Some proponents have described this as moving from “sage on the stage” to “guide on the side.” This may be overly simplistic, however. Just as “higher order” thinking builds upon mastery of “lower order” thinking, interactive learning must be supported by clear academic authority. Likewise, while the collaborative nature of many interactive methods can increase student motivation, too much student autonomy can produce uncertainty that can be demotivating. Practically, this may mean giving “just-in-time” mini-lectures when students are struggling with basic terminology or concepts. The instructor should also establish early in a course that he or she welcomes and can appropriately answer pressing questions—unless the instructor has valid pedagogical reasons for *not* providing an answer, in which case the instructor should make the rationale explicit to students. In short, an instructor using interactive methods must balance autonomy with support and be flexible and competent in a range of teaching methods.

### References

1. Law of the Republic of Uzbekistan on education number 637 dated 23.09.2020.
2. Bonwell, C., & Eison, J. A. (1991). Active learning: Creating excitement in the classroom. ASHE-ERIC Higher Education Reports.

<sup>5</sup> <http://teachernoella.weebly.com/dales-cone-of-experience.html>

3. Felder, R. (2007). Sermons for grumpy campers. *Chemical Engineering Education*, 41(3), 183-184.

4. X.J. Xudoyqulov, J.A. Kenjaboyev. "Pedagogik modulli o'qitishda innovatsion ta'lim texnologiyalaridan foydalanish" Toshkent, 2018 y.