SCIENCE AND INNOVATION IN THE XXI CENTURY: CRUCIAL ISSUES, DISCOVERIES AND ACHIEVEMENTS

Published: February 19, 2021 | **Pages:** 104-108

The Six Hat Method In The Educational Process Of The University As A Form Of Development Of The Methodological Competence Of Students

D.I.Yunusova, Mamatkulova M.M

Doctor Of Pedagogical Sciences, Tashkent State Pedagogical University Senior Lecturer, Tashkent State Pedagogical University, Uzbekistan

Mamatkulova M.M

Doctor Of Pedagogical Sciences, Tashkent State Pedagogical University Senior Lecturer, Tashkent State Pedagogical University, Uzbekistan

ABSTRACT

The article describes the experience of working on the development of methodological training for future mathematics teachers using the method of hats.

KEYWORDS

Method, principles, teaching aids, traditional methods, innovative methods, professional pedagogical skills and abilities, teacher-innovator.

INTRODUCTION

The subject of the main activity of a mathematics teacher is teaching mathematics. It includes: the content of the school course in mathematics, the cognitive activity of students and innovative ways of organizing it. The main competencies of future mathematics teachers are: general theoretical knowledge, knowledge of didactic principles, methods and means of teaching and their implementation in teaching mathematics, knowledge of traditional and innovative forms, means and techniques of organizing mathematics teaching and their application. These competencies are the basis and should act as a means of professional development of future teachers, necessary for solving the main problem of teaching mathematics.

The process of professional training of future teachers requires enhanced effective professional and mathematical and methodological training of a mathematics teacher in the system of higher pedagogical education. Effective preparation requires purposeful work to introduce future mathematics teachers to the main types of professional activities of a mathematics teacher.

When preparing a discussion lesson, we are guided by the following basic requirements: the content of the lesson should be adequate to the essence and structure of the innovative

Published: February 19, 2021 | **Pages:** 104-108

pedagogical activity of the mathematics teacher; it is necessary for students to complete special tasks aimed at the formation of innovative professional and pedagogical skills and abilities, as well as professionally significant qualities of the personality of an innovator teacher.

Below is the development of a lesson in organized work according to the six hats method developed by Edward de Bono on the topic "Modular learning technology" for the course "Mathematics teaching technologies and design", introduced into the curriculum of pedagogical higher educational institutions in Uzbekistan.

Lesson objectives: Educational:

- formation of the skill of a varied assessment of the studied material;
- to teach students to better understand the peculiarities of their thinking, control their way of thinking and more accurately correlate it with the tasks set in order to more effectively use the thinking process in solving problems;
- increasing the effectiveness of teaching ways of thinking. Including associative memorization (visual perception, color, role-playing action, emotions), the learner quickly acquires the experience of performing mental actions.

Educational:

- the formation of a psychologically rapid transition from one role to another;
- cultivate the ability to control your emotions, the ability to sort out thoughts, confusion;
- Ability to cooperate and work in a group, culture of communication in a group;

Developing:

- students quickly master the algorithms of thinking activity, and apply them in practice.
- increasing the level of knowledge of students by systematizing the studied;
- development of the ability for independent analytical work.

5.1. Theoretical comprehension of educational material or updating of basic knowledge:

1. What does a module mean?
2. What is the principle of modular training?
3. What is the principle of motivating modular learning?
4. Give a definition to the principle of problematicity of modular training.
5. From the above options, find the principle of adaptability to modular training.

a) Formation of modules in accordance with the content of the specialist's activity.

b) Stimulating the educational and cognitive activity of the student.

c) Increasing the efficiency of mastering the material, due to the introduction of problem situations and the practical orientation of classes.

d) * Implementation of a systematic modular approach to the creation and implementation of the entire process of teaching and learning, ensuring renewability, guaranteeing the achievement of the planned learning outcomes by the student.

Lesson methods: team work, "Two-part diary" method, "6 hats" method.

Lesson control form:

Published: February 19, 2021 | **Pages:** 104-108

Teamwork	Ability to distribute tasks to all team members	5, 4, 3, 2, 1
	Ability to correctly express your thoughts and respectfully listen to others	5, 4, 3, 2, 1
	Choose the right facts and present the report	5, 4, 3, 2, 1
"Two-part diary"	Correct definition of the principles of modular learning technology	5, 4, 3, 2, 1
	Bringing good examples	5, 4, 3, 2, 1
Method "6 hats"	Students completed all the duties in the group efficiently and on time	5, 4, 3, 2, 1
	The group work was focused on the assigned educational task	5, 4, 3, 2, 1
	All members of the group were involved in the discussion	5, 4, 3, 2, 1
	We were able to note conflicting, contradictory points of view	5, 4, 3, 2, 1
	All members of the group took part in the design of the project	5, 4, 3, 2, 1

Chronological map of the lesson:

1. Organizational moment (5 min).
2. Working in two teams. According to the "Two-part diary" method, the principles of modular learning are analyzed. On the "6 hats" group, the groups consider the tasks and structures of traditional and electronic modular learning in the classroom-ur system of education (70 min).
3. Summing up the lesson (3 min).
4. Assignment at home (2 min).

Educational questions discussed in the lesson:

1. The history of the emergence of modular technology.
2. Relevance and need for the use of modular technology in teaching mathematics.
3. Principles of modular learning.
4. Goals, objectives and structure of traditional modular training in the classroom teaching system. (pros and cons)
5. Goals, objectives and structure of electronic modular training in the classroom-lesson learning system. (Distance and local)

Independent work: the task is to briefly outline the history of the emergence of modular technology; the relevance and need for the use of modular technology in teaching mathematics using diagrams, tables, slides.
Write the principles of modular learning technology according to the "Two-part diary" method.

Course of the lesson:

I. Organizational moment. The teacher informs the topic of the lesson, introduces the students to the lesson plan. Divides students into 2 teams. You can divide them according to the following principle: The teacher can either ask to insert group leaders, or define them in one of the other ways. Each leader in turn names the student he wants to see in his team, then the selected students name those they want to see, and so on, until the whole group is divided into teams.
II. Working in two teams.
II.1. The team leaders are called and by lot they choose cards with numbers 1 and 2. Where 1 is the History of the emergence of modular technology, and 2 is the relevance and need for the application of modular technology in teaching mathematics. Students are given time to prepare and a summary of the chosen topic. The team develops a plan, where each

Published: February 19, 2021 | **Pages:** 104-108

participant has his own task and the work is going on for a short, clear, correct and effective presentation and presentation of the topic. Team leaders can categorize members into presentation speakers and presenters. After the preparation time, the leaders give their presentation.

Assessment and announcement of the assessment of teams by the instructor.

II.2. The "Two-part diary" method examines the principles of modular learning.

Assessment and announcement of the assessment of teams by the instructor.

II.3. According to the "6 hats" method, groups consider the goals, objectives and structures of traditional and electronic modular learning in the classroom teaching system. As a result of training activities, teams must show and present what type of modular training is more effective.

1) White hats. Scientist. Facts.

Students give application facts about modular technology, both traditional and electronic. Development of lessons, development of sections or a whole course of mathematics using modular technology. What didactic materials a teacher should have when introducing this technology. (We have data such as ...)

2) Red hats. Artist. To express feelings, emotions, premonitions and intuition.

The good thing about modular technology is that.... This technology has a distinctive feature ... This technology has an advantage ...

3) Black hats. Critic. For negative judgments.

The modular learning technology has such disadvantages as ... It cannot be applied in teamwork, because ... When using this technology it can go wrong ... This technology has such disadvantages as ... It will not give the desired result, because ...

4) Yellow hats. Optimist. To express clarity, optimism, positive and constructive judgment.

The modular teaching technology has advantages and advantages ... The method has prospects ... Mathematics should be taught using modular technology, because ... there are a lot of positive aspects of this technology ...

5) Green hats. Creativity. For creative thoughts that stimulate the flow of new ideas, creative solutions, non-standard ways.

There are alternatives for this technology, such as ... You can apply new ideas for its application, for example ... You can also implement its application in a new form ...

6) Blue hats. Leader. For summarizing and conclusions, observation and review, comments, summing up.

By applying this learning technology, we will achieve ... We organize in this form ... We will have learning outcomes ... We will replenish the treasury of teaching experience ...

Checking assignments, grading and announcing the assessment of teams by the instructor.

III. Summing up the results of the lesson. Presentations of student experts, their assessment of the speakers.

IV. Home assignment.

The results of educational activities: the maximum approximation of students' actions to the real future functional responsibilities.

The application of this methodology in a university makes it possible not only to transfer to students the amount of certain knowledge, but also to teach them to acquire this knowledge, be able to use it to solve new cognitive tasks, develop critical thinking, the ability for adequate self-esteem, the ability to correlate their interests with the interests of others ...

REFERENCES

1. A. M. Kuzmin, Method "Six hats of thinking" [Electronic resource] / AM Kuzmin; Center for creativity. technologies. - Access mode: http://www.inventech.ru/pub/methods/metod-0003
2. K. M. Torogeldieva. Some aspects of effective training of future mathematicians teachers. Young

Published: February 19, 2021 | **Pages:** 104-108

scientist. - 2017. - No. 4.1 (138.1). - S. 98-100.

3. Preparation of future teachers of mathematics for innovative pedagogical activity / D.I. Yunusova // News of higher educational institutions. Volga region. Humanitarian sciences. - 2012. - No. 1 (21). Pp. 167-173.
4. Technology "six hats of thinking" applied to reading a literary text [Text] / comp. I. A. Krekker; Samar. region children b-ka. - Samara, 2016 .-- 6 p.
5. www.zg-brand.ru