Impact Factor:					
	ISRA (India) = 4.971	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 0.829	РИНЦ (Russia) = 0.126	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.997	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

SOI: 1.1/TAS DOI: 10.15863/TAS
International Scientific Journal
Theoretical & Applied Science
p-ISSN: 2308-4944 (print) **e-ISSN:** 2409-0085 (online)
Year: 2020 **Issue:** 10 **Volume:** 90
Published: 30.10.2020 **http://T-Science.org**

QR – Issue QR – Article

M.M. Mamatkulova
Tashkent State Pedagogical University
Senior Lecturer

DISCUSSIONS IN THE EDUCATIONAL PROCESS OF THE UNIVERSITY AS A FORM OF DEVELOPMENT OF THE METHODOLOGICAL COMPETENCE OF STUDENTS

Abstract: *The article describes the experience of working on the development of methodological training for future mathematics teachers based on a discussion lesson.*

Key words:*education, teacher, lesson.*
Language: *English*
Citation: Mamatkulova, M. M. (2020). Discussions in the educational process of the university as a form of development of the methodological competence of students. *ISJ Theoretical & Applied Science, 10 (90),* 430-438.
Soi: http://s-o-i.org/1.1/TAS-10-90-74 ***Doi***: crossref https://dx.doi.org/10.15863/TAS.2020.10.90.74
Scopus ASCC: *3304.*

Introduction

To successfully solve the problems of mathematical education of students in the secondary education system, it is necessary to equip future teachers in the system of higher pedagogical education with basic competencies that contribute to the acceleration of the process of professional development of a mathematics teacher. 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: 1. General theoretical knowledge: - mathematics as a science and as an academic subject; - trends in the development of general mathematical education and the tasks of teaching mathematics; - features of school textbooks, curricula, programs in mathematics and the State Standard of the new generation; - content lines, key problems of the subject of school mathematics; - the content of the educational material of the sections of school mathematics (number system, algebra, mathematical analysis, geometry); - mathematical problems and their functions. 2. Knowledge about didactic principles, methods and means of teaching and their implementation in teaching mathematics. 3. Knowledge about traditional and innovative forms, means and methods of organizing teaching mathematics 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 development of future teachers requires strengthening the effectiveness of professional-mathematical and methodological training of a mathematics teacher in the system of higher pedagogical education. Effective training requires purposeful work to introduce future mathematics teachers to the main types of professional activities of a mathematics teacher [1, p 98-100].

One of the important problems of modern society is the problem of communication between people. A future specialist will be able to achieve success in his professional activity and learn to work harmoniously with colleagues only when he has a high level of communication culture [2, p 79-82].

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 pedagogical activity of the mathematics teacher; it is necessary for students to complete special tasks aimed at developing innovative professional and pedagogical skills and abilities, as well as professionally significant qualities of the personality of an innovator teacher [3, p 167].

Next, we present the development of a lesson organized by the work of a discussion on the topic

"Modern approaches to teaching mathematics at school" for the course "Technologies of teaching mathematics and design", introduced into the curriculum of pedagogical higher educational institutions in Uzbekistan.

The purpose of the lesson:

Educational:

-forming an information culture, the ability to process information;

-systematization of theoretical and practical knowledge on the problem of teaching mathematics at school and their application;

-to teach to determine the purpose of the activity; select information in accordance with a specific purpose; build a chain of justifications; find counterarguments; present material consistently.

Upbringing:

-education of a scientific worldview, the ability to clearly organize independent and group work;

- education of the ability to choose the possibility of using these programs at various types and stages of the lesson;

- the formation of the ability to listen, respect the opinion of the opponent, analyze the judgments of the opposing side.

Developing:

-development of students' cognitive interest, the ability to generalize, analyze, compare;

-development of thinking;

-development of analytical and synthetic thinking;

- to contribute to the formation of self-assessment, to develop the ability to oral and reasoned statements on the issues of teaching mathematics, applying the theoretical knowledge gained in practice.

Learning results:

Ability to adequately use speech means for discussion and argumentation of one's position;

Skills are formed to ensure the organization of their educational activities, goal setting, planning, forecasting, planning, control, correction, assessment, self-regulation;

Develop social competence, the ability to listen and engage in dialogue, participate in collective discussion of problems, build productive cooperation with peers;

They develop the ability to correlate actions and events with accepted ethical principles, knowledge of moral standards.

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

1. The personality of the teacher.
2. Content of educational material. Methods, forms and principles of teaching.
3. Innovative technologies.
4. Stages of a modern lesson.

1.2. Lesson methods: lesson discussion, group work.

1.3. Lesson control form:

Table 1. Criteria for evaluating participation in the discussion

Assessment	Assessment criterion
"excellent"	A meaningful review of the chosen topic is given, based on modern data, examples from science and practice are used, illustrative material, statistical data, questions proposed for discussion are relevant at the present stage of development. During the discussion, the ability to clearly formulate and defend one's own point of view, to give convincing arguments to substantiate it, was shown.
"well"	The review of the chosen topic is quite complete, built on the basis of modern data, practical examples are used, the questions proposed for discussion are relevant at the present stage of development. During the discussion, the ability to formulate and substantiate one's own point of view is shown.
"satisfactorily"	A superficial overview of the chosen topic is given, examples or statistics are given that partially illustrate the current situation, questions corresponding to the topic of discussion are proposed for discussion. During the discussion, the ability to formulate one's point of view on certain issues of the discussion is shown.
"unsatisfactory"	The review of the chosen topic is fragmentary, examples and statistics are missing or based on outdated material, the questions proposed for discussion do not reflect current problems in the area under consideration or do not correspond to the topic of discussion. The student finds it difficult to formulate his own opinion on the issues discussed or cannot provide arguments to substantiate his position.

1.4. Chronological map of the lesson:

1) Organizational moment (3 minutes).
2) Preparatory stage (12 min).
3) The main stage (60 min).
4) Final stage (5 min).

1.5. Independent work:

Exercise 1. Create a modern image of a teacher according to these criteria 3-4 words. Group work.

Exercise -2: A) Find proverbs, sayings about the teacher and the teaching profession. B) Write down the statements of philosophers, teachers, writers about the social role of the teacher in society, about the requirements for the teacher. Individual work.

Exercise - 3. Choose a topic for the course in mathematics and draw up a lesson structure by types and types of lessons. Work in pairs.

Course of the lesson:

I. Organizational moment. The teacher informs the topic of the lesson, the type of lesson: discussion lesson, reveals its meaning, acquaints students with the tasks that will be given to them during the lesson, with the lesson plan. The teacher plays a huge role in organizing a discussion lesson, he:

- establishes the order;
- formulates the problem of discussion;
- explains the task;
- summarizes statements;
- includes the action of passive students;
- reveals disagreements.

II. Preparatory stage.

Actualization of theoretical knowledge. Students answer questions prepared by the teacher for an introduction to the topic, for working on new material.

Division into groups. The teacher announces the division into groups. The optimal group size is 4-6 people. In a group of two or three people there will not be enough diversity of opinions, and if there are more than 6 participants, then not all participants will have time to express their point of view.

Discussion rules. Before the beginning of the lesson, students are drawn to the memo to the discussion participant:

- Before speaking, define your position clearly.
- Check if you understand the problem correctly.
- Listen carefully to your opponent. First, find contradictions in his reasoning, then state your thoughts. Criticize not opponents, but ideas.
- Remember that the proof and the best way of refutation are the exact and indisputable facts.
- Do not forget that in addition to facts, there are ways to explain them. To argue honestly and sincerely, not to distort the thoughts and words of comrades. When proving and refuting, speak clearly, simply, distinctly, precisely, try to speak in your own words.

Discussion teacher rules:

- involvement of all students in the discussion;
- everyone has the right to express their point of view;
- all positions are subject to discussion;
- compulsory summing up of intermediate and final results of the discussion.

It will not be superfluous to remind students of an ancient Indian aphorism: “Do not be too rude, nor too stubborn, nor too soft, nor too inclined to prove, nor too angry. Stubbornness repels, gentleness causes contempt, excessive evidence offends, blind faith makes it funny, disbelief leads to vice" [4,].

Features of the seminar-discussion is a collective form of student work. Seminar-discussion involves a collective discussion of a problem in order to establish ways of its reliable solution. The seminar-discussion is held in the form of dialogical communication of its participants.

The techniques used in the dispute are usually divided into loyal (correct, acceptable) and disloyal (incorrect, unacceptable). When the participants in the discussion set themselves the goal of establishing the truth or reaching agreement, they use only loyal methods. If someone resorts to disloyal methods, it means that he is only interested in winning the dispute, and at any cost. For such an opponent, a discussion is not an opportunity to investigate something, to understand something, to answer some questions, but a means of expressing and asserting one's own ambitions. One should not enter into an argument with such a person, because discussing with him is like speaking Russian with a foreigner who does not know a single Russian word: a lot of time and effort will be spent without any meaning and result [5, p 253].

The roles of the actors in the panel discussion may vary. In the process of discussion, each of the participants fulfills a specific role and strictly follows the responsibilities assumed along with the role. To be effective, the assignment of roles should be done in advance and the same teaching should test all roles throughout the year. The roles should be as follows:

Table 2. Functions of the actors in the discussion workshop

Actor	Work performed
Speaker	Expresses in a concise form the essence of the protected point of view, position
Co-speaker	Arguments, substantiates, illustrates the position of the speaker, can present statistical information, facts
Opponent	Expresses his own point of view on the issue under consideration (different from the one chosen by the speaker) and provides counterexamples and counterarguments
Expert	Responsible for the comparative analysis of arguments and counterarguments, determines their reliability

"Provocateur"	Asks "controversial" questions, gives unexpected examples - initiates a general discussion
Assistant	Provides logistic support (posters, diagrams, diagrams, etc.)

III. The main stage. ***Speeches of students of the discussion group 1.***

Discussion topic: "Modern approaches to teaching mathematics at school."

Key discussion points:

1. The personality of the teacher.
2. Content of educational material. Methods, forms and principles of teaching.
3. Innovative technologies.
4. Stages of a modern lesson.

Question-1. Speech by the speaker. Question one "The personality of the teacher"

The expert announces the topic, the time limit for the presentation, the name of the group and introduces the speaker, co-speaker, assistant, leads the discussion. The speaker presents his point of view on the first issue.

Table 3. Qualities of a professional teacher

citizenship;	(social responsibility; the willingness of the individual to actively, energetically contribute to the solution of social problems);
love for children;	(humanism, benevolence, sensitivity, responsiveness, attentiveness, sincerity, politeness, etc.);
optimism;	(belief in the strength and possibilities of positive development of the student);
justice	(honesty, conscientiousness, ability to act impartially);
sociability	(pedagogical tact, communication skills);
exactingness to yourself and to children	(responsibility, organization, self-criticism, conscientiousness, truthfulness, discipline, pride, self-esteem, rationality, modesty, initiative, activity);
altruism	selflessness (disinterested concern for the welfare of others);
volitional qualities	(purposefulness - "goal reflex", in the words of I.P. Pavlov; endurance, self-control, poise, perseverance, energy, determination, patience, courage);
tolerance	tolerance, condescension to people;
pedagogical observation	(insight, pedagogical vigilance);
empathy	the ability to understand the inner, mental (emotional) state of the student and empathize with this state not only in words, but also in deeds; emotional responsiveness) - advice number 4 V.A. Sukhomlinsky from the book "100 Tips for a Teacher";
intelligence	(charm, spirituality);
modernity	(the teacher has a sense of belonging to the same era with the students);
dominance	(efficiency, the tendency to lead, taking responsibility for others, the ability to lead);
creativity	(creation).

Communication skills are one of the most important conditions that activate and energize a developing personality [6, p17]

We are close to the positions of the existential trend in philosophy on the issues of creative self-development of the individual (N.A. Berdyaev, M. Buber, A. Camus, V. Frankl, etc.), which determine the condition of self-realization a certain constructive dialogue, communication, contact with another person, perceived in its entirety. We believe that only in interaction with the world does a person develop and acquire his essential characteristics, or, as W. Frankl said: “If a person wants to come to himself, his path lies through the world” [7]. We consider creative self-development both as a process of subject-subject interaction ("I - I" - communication with myself), and as a process that in one form or another is addressed to someone or something ("I - ANOTHER" - communication with another), other people ("I am SOCIETY" - communication with the collective) or the world around ("I am the WORLD" - how I explore this world, how I see it) [8]. Therefore, in the communicative-creative component, we consider the communication component as equivalent to the creative one and inextricably linked with it. As noted above, the need to highlight this component is due to the fact that creative activity for self-development imposes its specific requirements on the person performing it, that is, it assumes that a person has a special kind of properties that determine the

characteristics of his relations with others. We call these properties communicative abilities, since the ability is a property associated with the successful development / implementation of activities [9, p 672]. Communication skills are one of the most important conditions that activate and energize a developing personality [10, p 17].

Opponent's speech. Expresses his point of view, which is different from the one chosen by the speaker and gives counterexamples and counterarguments.

The word “provocateur” is passed on. There is a discussion on new unexpected ideas. The expert stops the discussion, draws conclusions.

Exercise - 1. Make up a modern image of a teacher according to the following criteria 3-4 words.

1) The teacher must be:

2) The teacher must be able to:

3) Outline the psychological traits of a person as an individual:

4) Teacher in the structure of interpersonal relations:

5) Professional personality traits of the teacher:

6) The appearance of the teacher:

It is necessary to educate a hardworking, competitive person. If everything is clear with the characteristic “hardworking”: it is important for students to cultivate such qualities that they love work and know how to work, then the concept of “competitive” requires clarification. A competitive personality, as shown by special studies, is not one quality, but an integral characteristic, which includes the following properties and personality traits: 1) a high level of performance; 2) striving for a high-quality end result; 3) stress resistance, the ability to overcome difficulties; 4) creative attitude to business, work; 5) striving for professional self-improvement; 6) the ability to make responsible, sometimes risky decisions; 7) sociability, the ability to cooperate, collaborate, co-create; 8) the ability to quickly master a new business; 9) the ability for self-education, self-realization, self-development [11, p 331].

Exercise -2:

1) Find proverbs, sayings about the teacher and the teaching profession.

2) Write down the statements of philosophers, teachers, writers about the social role of the teacher in society, about the requirements for the teacher.

Question-2. Speech by the speaker with the speeches of the next question. Methods, forms and principles of teaching.

The content of the educational material is not only a certain amount of theoretical educational material, but also a set of tasks, tasks and exercises, as well as information about the value of subject knowledge and how to use it in solving various problems from life.

For example, the content of a lesson in grade 8 on the topic of quadratic equations may be as follows:

1. Theoretical material.
2. Examples of solving quadratic equations by the formula.
3. Let's check knowledge (test).
4. Crossword puzzle.
5. This is interesting (additional information about solving quadratic equations).
6. From the history of solving quadratic equations.
7. Test yourself (solving a quadratic equation in problems).

The content of the training material is based on the following principles:

1. Scientific character.
2. Systematic approach.
3. Realization of the principle of historicism.
4. Availability.
5. Visibility.
6. Reflection of interdisciplinary connections.

Table 4.

METHODS, FORMS AND PRINCIPLES OF TEACHING	
METHODS AND FORMS	PRINCIPLES
Personality-oriented attitude;	Availability;
Cooperation technology;	Visibility;
Modular learning technology;	Continuity;
Problem learning;	Sequence;
Game technologies;	Continuity;
Multilevel learning technologies;	Openness to new experiences;
Collective form of training;	Multilevel;
Group form of training;	Compensation (substitution);
Individual form of training;	Variability;

Opponent's speech. Expresses his point of view, which is different from the one chosen by the speaker and gives counterexamples and counterarguments.

The word “provocateur” is passed on. There is a discussion on new unexpected ideas. The expert stops the discussion, draws conclusions.

Exercise-3. Write down any 2 teaching principles and define your own.

Question-3. Speech by the speaker with the speeches of the next question.

Table 5. Innovative technologies

Educational technologies	Examples of using
Differentiated learning	Tasks of various difficulty levels.
Developmental learning technologies.	1. Lectures, seminars.
Project learning technologies.	2. Credits.
Information and communication technologies.	3. Presentations.
Technology for enhancing the activity of students on the basis of schematic and symbolic models of educational material.	4. Lessons-workshops.
Methods of interrelation of subjects of humanitarian and art history cycles.	Information and research projects.
Game technologies.	1. The use of electronic publications, Internet resources.
Health-saving technologies.	2. Development and presentation for lessons, lectures-presentations.

After discussing the issues at the meeting by the rapporteur, representatives of the opposite side state their opinions, giving positive or negative arguments on the main issues. Further, the word "provocateurs". After discussions, the entire audience is given an assignment.

Question-4. Speech by the speaker with the speeches of the next question. Stages of a modern lesson. Assignment to all listeners: fill in the columns of the table as the report progresses.

Table 6. Lesson structures proposed by M.I.Makhmutov

№	Lesson steps	Time
	1. Lesson structure for learning new material	
1.	The organizational stage.	1-2 minutes
2.	Setting the goal and objectives of the lesson. Motivation for learning lesson activities.	5 min
3.	Knowledge update.	1-5 min
4.	Primary assimilation of new knowledge.	20 min
5.	Initial test of understanding.	10 min
6.	Primary anchoring.	3 min
7.	Homework message and instruction.	5 min
8.	Reflection (summing up the results of the lesson).	2 min

№	Lesson steps	Time
	2. The structure of the lesson for improving knowledge, skills and abilities	
1.	The organizational stage.	1 min
2.	Homework check. Updating the basic knowledge and skills of students.	5 min
3.	Communication of the topic and purpose of the lesson. Motivation of the learning activity of students.	3 min
4.	Primary reinforcement in a familiar situation (typical) in a changed situation is constructive.	15 min
5.	Creative application and acquisition of knowledge in a new situation (problematic tasks)	15 min
6.	Homework message and instruction.	4 min
7.	Reflection (summing up the results of the lesson).	2 min

№	Lesson steps	Time
	3. The structure of the lesson generalization and systematization of knowledge	
1.	The organizational stage.	1 min
2.	Setting the goal and objectives of the lesson. Motivation for learning lesson activities.	3 min
3.	Knowledge update.	3 min
4.	Generalization and systematization of knowledge. Preparing students for generalized activities.	10 min
5.	Replaying on a new level (reformulated questions).	15 min
6.	Application of knowledge and skills in a new situation.	5 min
7.	Control of assimilation, discussion of the mistakes made and their correction.	5 min
8.	Formulation of conclusions based on the material studied.	3 min

№	Lesson steps	Time
	4. The structure of the lesson control Knowledge Skills Skills	
1.	The organizational stage.	1 min

2.	Setting the goal and objectives of the lesson. Motivation for learning lesson activities.	3 min
3.	Students doing work.	40 min
4.	Reflection (summing up the results of the lesson).	1 min

№	**Lesson steps**	**Time**
	5. Structure of the Knowledge Skills Skills correction lesson	
1.	The organizational stage.	1 min
2.	Setting the goal and objectives of the lesson. Motivation for learning lesson activities.	1 min
3.	Analysis of common mistakes and gaps in knowledge and skills and recommendations for their elimination.	11 min
4.	Students working on mistakes.	30 min
5.	Reflection (summing up the results of the lesson).	2 min
6.	1. Structure of the ZUN correction lesson	1 min
7.	The organizational stage.	1 min
8.	Setting the goal and objectives of the lesson. Motivation for learning lesson activities.	11 min

№	**Lesson steps**	**Time**
	6. Structure of the combined lesson	
1.	The organizational stage.	1 min
2.	Setting the goal and objectives of the lesson. Motivation for learning lesson activities.	2 min
3.	Knowledge update.	3 min
4.	Primary assimilation of new knowledge.	5 min
5.	Initial test of understanding.	5 min
6.	Primary anchoring.	15 min
7.	Control of assimilation, discussion of the mistakes made and their correction.	10 min

8.	Homework message and instruction.	2 min

Exercise - 3. Choose a topic for the course in mathematics and draw up a lesson structure by type and type of lessons. Work in pairs.

The "discussion" ends with a teacher acting as a speaker. You should not strive to ensure that all the proposed issues are discussed equally. One of the questions will be the most acute and the main controversy may go around it. The main objective of the lesson is to demonstrate the skills necessary to participate in the discussion of educational tasks.

IV. Final stage. The teacher summarizes the topic of the seminar, summarizes the lesson. Grading speakers and individual works.

Conclusions on the article. Discussion is one of the most effective technologies for organizing extracurricular activities of students, since this form activates students, develops thinking and speech, reveals the creative potential of a person.

Discussion is one of the forms of communication, a fruitful method of resolving controversial issues and at the same time a kind of cognitive method that allows you to better understand what is not fully clear and requires justification. A variety of forms of group discussions will allow developing a creative approach to business, instilling independence and responsibility in students.

References:

1. Torogeldieva, K. M. (2017). Some aspects of effective training of future mathematicians teachers. *Young scientist.*, No. 4.1 (138.1), p. 98.
2. Korableva, G.N. (2014). Rhetorical analysis of the text as a method for the formation of professional competencies of a future teacher. *Bulletin of the Kemerovo State University*, No. 4 (60). T. 3, p. 79.
3. (2012). Preparation of future teachers of mathematics for innovative pedagogical activity / DI Yunusova // News of higher educational institutions. *Volga region. Humanitarian sciences*, No. 1 (21), p. 168.
4. (n.d.). Retrieved from https://multiurok.ru/files/diskussiia-na-sovriemiennom-urokie.html
5. Gusev, D.A. (2019). *Logic. Textbook., 2nd edition, supplemented.* (p.253). Moscow: Prometheus.
6. Anfisova, S.E. (2008). The influence of the forms of organizing pedagogical interaction on the student's creative self-development. *Izvestiya of the Russian State Pedagogical University A.I. Herzen*. - SPb., №35 (76): Postgraduate notebooks. Part II. : Science Magazine, p.296, p. 17.
7. Frankl, V. (n.d.). *Quotes about the meaning of life*. Electronic resource. Access mode: Retrieved from http://chelovekya.ru/viktor-emil-frankl-tsitatyi-o-smyisle-zhizni
8. (n.d.). *Educational psychology. Psychological aspects of diagnostics of creative abilities*. Electronic resource. Access mode: Retrieved from http://www.psychological.ru/default.aspx
9. (2003). *Big psychological dictionary* / Ed. Meshcheryakova B.G., Zinchenko V.P. (p.672). Moscow: Prime-Evroznak.
10. Anfisova, S.E. (2008). The influence of the forms of organizing pedagogical interaction on the student's creative self-development. *Izvestiya of the Russian State Pedagogical University A.I. Herzen*. - SPb., No. 35 (76): Postgraduate notebooks. Part II. : Science Magazine, p.296, p. 18.
11. Andreev, V.I. (2013). *Higher education pedagogy. Innovative prognostic course: textbook. allowance*. (p.500, p.331). Kazan: Center for Innovative Technologies.