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HOW TO INCREASE SOCIOLOGY STUDENTS' SATISFACTION WITH THE QUALITY OF MATHEMATICAL EDUCATION?

***Annotation.** The article analyzes the increase in the level of sociology students' satisfaction with the quality of higher education with the help of modern approaches to teaching mathematical disciplines to sociologists.*

***Key words:** increasing the level of student satisfaction with the quality of the education received modern approaches to teaching mathematics.*

In recent decades, in sociology, as in other humanities, quantitative methods based on the use of the mathematical apparatus have been actively used. The study of mathematics by future sociologists, as well as their application of modern mathematical methods in the analysis of social reality, contributes to a more successful formation of professional competence among students, the ability to use interdisciplinary connections, the implementation of continuity in the study of mathematical concepts, the development of critical and predictive thinking [1, p. 60]. The author of this article is engaged in a sociological study of student satisfaction with the quality of education received. As part of the study of the satisfaction of students of the Belarusian State University with the education received, the author conducted a sociological study in two stages among students of Belarusian State University in May, June 2021. At the first stage of the study, a focus group was conducted with students of the Faculty of Philosophy and Social Sciences [2, p. 67].

In one of the questions of the questionnaire, students were asked to continue the phrase «For me, the quality of education is...». For most students, the important components of a quality education are the educational process, socialization and the conditions that the university creates. Let's take a closer look at the educational process. One of its aspects, the students singled out the desire and ability of teachers to use modern approaches, forms, methods, teaching technologies (author's presentation of material, heuristic tasks, etc.). Almost all students noted that they like the author's presentation of the material by teachers, especially heuristic tasks. Here are some students' answers: «A teacher should use modern teaching methods, information technology, and should also use a more creative approach in teaching».

The purpose of this article is to identify modern approaches to teaching mathematics to future sociologists in order to increase student satisfaction with the quality of education received.

The scientific and pedagogical community is actively discussing the problems of modernization of mathematical education, which involves not only substantive, but also technological changes [3]. Personal experience of teaching mathematics to sociology students shows that the teacher needs to use the following methods in his arsenal:

1. Use a differentiated approach.
2. To carry out the professional orientation of mathematical training.
3. Establish interdisciplinary connections.
4. Use heuristic learning technologies.
5. Use the didactic potential of independent educational and cognitive activity of students.
6. Use the Mind Mapping technique.

Let's take a closer look at each of the proposed methods.

1. The methodology of differentiated teaching of mathematics plays an important role, as it takes into account the individual characteristics and interests of students, improves the educational process, and educates a specialist who meets modern standards.

2. Let us dwell in more detail on the implementation of the professional orientation of mathematical training. When selecting educational material for classes, it is advisable to use tasks compiled on the basis of real statistical data that reflect certain socio-economic patterns or phenomena. Let's give some examples. When studying the topic «Elements of set theory and their application to social objects» [4], one can consider specific tasks for applying set theory to questionnaires and social groups. Binary relations, i.e. relations between two elements of any set are the main tool for modeling and studying social relations. Such binary relations as «to be a classmate», «to be a relative», «to be older» are considered. Students acquire the first skills of modeling with the help of binary relations [5, p. 29].

3. The establishment of interdisciplinary links is aimed at implementing continuity in the study of mathematical concepts. The quality of mathematical training of future sociologists is the subject of close attention of specialists dealing with the problems of education of sociologists.

4. One of the innovative technologies that can comprehensively and significantly improve the quality of teaching mathematics in higher education is the technology of heuristic learning, based on the organization of heuristic, interactive, productive activities of each student. The heuristic method is used to enhance the creative activity of students, and the system of creative tasks allows students to successfully realize their own intellectual and creative potential in educational and research activities [6, p. 152].

The author developed heuristic classes in the academic discipline «Fundamentals of Higher Mathematics» for the specialty 1-23 01 05 Sociology. The key idea of the author's methodological development is as follows. The lesson is aimed at developing the heuristic qualities of the student; promotes self-realization of the student by performing open tasks; provides an opportunity to create an educational product that is different from others, and then, with the help of a teacher, compare it with historical analogues in this field [7, p. 18]. At the same time, the teacher can set the following tasks that contribute to the individual self-realization of students:

- a) contribute to the self-realization of each student by analyzing their life situations and correlating them with the subject content;
- b) enable students to understand the role of mathematics in various processes of nature and society;
- c) provide conditions for the creation by each student of an educational product on the topic of the lesson;
- d) create opportunities for the development of communicative competence and creativity of students.

Let's present examples of heuristic tasks.

Task «Different views on relationships»

A. Analyze: Are the following relationships binary: «being a classmate», «being older»?

B. Give three to five examples of binary relationships that you have encountered in your daily life. Each example should reflect a specific area of your life: family, friends, studies, etc.

C. Are you in any binary relationship? What binary relationship would you like to be in?

The task «Formula of love»

Having studied the concepts: binary relation on a set and equivalence on a set, complete the following tasks and answer the questions:

- between family members there are relationships of kinship, which can be expressed by the words: «to be a husband», «to be a brother», etc. The set M is the set of members of your family. Indicate all possible relations on the set M;

- binary relations can be defined by a formula. The formula $x+y=\text{love}$ defines a binary relation on a set of people. This relation belongs to any pair of people between whom there is love. Come up with your own formula for a binary relation;

- in what other form, in your opinion, can a binary relation be represented?

Which form of representation of binary relations did you like best and why?

The task «The amazing beauty of graphs»

A. Give three examples of the use of graphs in everyday life, nature and society.

B. You are planning a trip during your summer vacation. Build a graph showing your movement.

C. Present your family's lineage with a graph. The graph tree can be descending, depicting all the descendants of one married couple, or ascending, which will represent the ancestors of a particular person. You can also list only direct descendants or include wives (husbands) and their relatives, etc. Describe the characteristics.

1st year students of BSU with specializations in Sociology and Social Communications participated in the approbation of heuristic classes. Students noted a number of positive aspects associated with conducting classes using heuristic learning methods. Among the answers, there were the following wordings: «causes interest», «helps to independently assess the practical significance of the issue under consideration and its role in the study of other topics in mathematics», «helps to comprehend the need for goal setting», «gives the acquired knowledge a personal, emotional component», «makes it possible to assess the degree of one's knowledge of the issue under consideration before and after the lesson» [8, p. 65].

5. Education at the university should be aimed at preparing students for independent study of those sections of mathematics and its applied areas that may be required additionally in the practical and research work of future specialists. To organize independent work of students, a complex of educational and teaching materials should be placed on the network. (a program, an express lecture course, guidelines and recommendations for solving problems, tasks for solving in practical classes and for independent solving, a list of recommended literature and information resources, tasks for self-control in a test form and in the form of tests, etc.).

6. To intensify the educational process in the classroom on the basics of higher mathematics, the author of the article recommends using the Mind Mapping technique. This technique allows you to structure the educational material in the form of so-called mental maps [9, p. 110]. Such an unusual presentation of educational

material for the traditional methodology attracts the attention of the audience, makes the lesson more exciting, leads to more successful memorization of material that is difficult for students of non-mathematical specialties, better assimilation of information obtained in the classroom and in the process of independent work, allows you to control the assimilation of the material and completeness perception of information. The effectiveness of this technique is confirmed by the emotional positive responses of students to the proposed form of the lesson. By completing mental maps, each student creates their own educational product, gets the opportunity for creative self-expression and self-realization. This technique is filled with a meaning that is personally significant for the student, has a high motivational potential, contributes to a deeper assimilation of the subject being studied, and individualizes learning. The mental map activates perception and memory. The desire of students for greater clarity and readability of the map gives more awareness in the assimilation of educational material [10, p. 266].

Summing up, we note that mathematics plays a significant role both in the further education of future sociologists and in their future professional activities. Changing the content of mathematical education is impossible without changing teaching methods. Note that the modern education system should be aimed at the development of active learning activities, creativity and intellectual skills of students. In addition to traditional teaching methods, the author proposes to introduce modern methods (for example, use heuristic learning technologies, Mind Mapping technique, carry out a professional orientation of mathematical training), which will increase the level of student satisfaction with the quality of the education received.

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