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Trends in the Development of Students' Research Activities

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Abstract: The article emphasizes the importance of students' research activities as a factor in their professional development. The current state of organization of research work of students in higher educational institutions is analyzed using the example of the Republic of Uzbekistan and the city of Bukhara. The directions, forms and methods of developing students' research activities in modern conditions are determined.

Keywords: modernization, scientific and technical elite, student science rating, research work, scientific activity of students, professional competence, future specialist.

Introduction:

The process of modernization of modern Uzbek education is difficult to imagine without such components as a system for searching and creating conditions for the creative development of future specialists from educational institutions. The formation of the future scientific and technical elite from student youth is the most important socio-economic task and a condition for the consistent development of the country. To do this, it is necessary to create effective national systems for searching, developing and supporting talented youth in the field of science and technology. Projects aimed at developing a system for organizing scientific and creative activities that promotes the integration of talented youth into the regional infrastructure of scientific and technical activities in higher educational institutions of the country must be recognized as effective.

One of the pressing problems in the process of preparing bachelors in areas of higher education is research work, for the organization and implementation of which various audiences and extracurricular traditional forms of activity are popularized.

At the present stage of socio-economic development of society, fundamental changes have occurred in order to mature the individual, which largely led to the emergence of new categories, methodological approaches and goals in many areas of activity. Concepts such as new politics, new thinking, and a new educational paradigm have firmly taken root. Higher pedagogical education, in particular its professional and methodological block as an integrated area of specialist training that has a direct impact on the younger generation, cannot remain aloof from the above trends. Therefore, it is appropriate to ask the question: Is there a need for a new methodology for teaching biology in higher education institutions?

Resolution of the President of the Republic of Uzbekistan dated October 8, 2019 No. PF-5847 “on approval of the Concept for the development of the higher education system of the Republic of Uzbekistan for the period until 2030” in order to consistently improve the level and quality of professional skills, widespread use of the latest pedagogical technologies and teaching methods, development of educational plans and programs of higher education, training of teaching staff,

aimed at organizing the educational process on the basis of qualitative renewal and introduction of modern forms of organization of the scientific and educational process.

Material and methods:

Currently, the most important educational task of higher education is to prepare an individual who adequately meets the requirements of the era of new information and pedagogical technologies, the most important task of which is the search, assimilation, analysis, processing and systematization of information. Modern pedagogical and information technologies, penetrating the education system, becoming an active component of the educational process and transforming the traditional principles of didactics, changing the structure of the organization, forms and methods of teaching, reveal a fundamentally new approach to solving the problem of developing students' systematic thinking.

Biological science can become a conductor of ideas and educational opportunities aimed at scientifically based integration of necessary information, introducing students to integrative, general scientific ideas, concepts, approaches, methods that can qualitatively change the foundations of graduates' thinking. Biology as an academic discipline in the natural sciences cycle, as the most important goal of science, forms systematic thinking that contributes to students' understanding of a holistic picture of the world.

The modern picture of the practice of teaching biology in higher educational institutions of the Republic of Uzbekistan, supplemented by an analysis of scientific and pedagogical literature, leads us to the conclusion that consistency should not only be an integral property of students' learning and thinking, but also be present in the process of applying modern pedagogical technologies.

Connor's seminal study entitled "Systems Thinking" defines the concept as a way of thinking that focuses on the relationships between parts whose interactions constitute a goal whole. Systemic thinking is a type of thinking characterized by a holistic perception of objects and phenomena, taking into account their interrelation. Systems thinking allows one to navigate the growing flow of knowledge, allows for the systematic selection of knowledge and its integration in order to form an indicative basis for solving problems on a new subject of research and the method of solving them. A systematic approach changes the subject, the research program, the structure of knowledge about it, the principle of their interrelation, the logic of cognitive action in the subject, the method of highlighting the method of constructing a theoretical vision.

It should be remembered that there are many great didactics and philosophers of the past (Plato, Aristotle, J.A. Comenius, I.G. Pestalozzi, Desterweg, K.D.) who cannot be transmitted or transmitted. A person who wants to learn something must achieve it through his own activities, through his own efforts, through his own labor.

Stages of research activity:

1. Choosing the direction of research
2. Selecting a research topic
3. Formulating a hypothesis
4. Planning stages of work
5. Collection of data on the subject of research
6. Conducting research
7. Evaluation of the results obtained
8. Design of work

Choosing a research direction and choosing a research topic

Research begins with a desire to pursue the issue. It is necessary to understand what the research will be about, to realize your strengths as a researcher in the chosen direction, and whether this will be beneficial in future activities. A good topic for a research paper is one that is of interest to you and your supervisor. State the topic correctly. The topic should be correct, narrow, and clear.

For students in educational institutions of general education, successful educational research can be considered a repetition of someone else's experiment, analysis of a certain technique, application of a method in new conditions, comparison of methods of various specialists, etc., together with a deep analysis of the literature on the chosen topic.

For students in educational institutions of secondary vocational education and higher education, an important factor is the novelty of the research and its relevance.

Collection of data about the subject of research

Determine how you will receive the data. There are two methods - empirical and research from secondary sources. Empirical - obtaining data through observations and experiments. Research from secondary sources - speculative conclusion, review and in-depth analysis of the literature.

Conclusion: Defense of research works is carried out at thematic conferences. Usually 10 minutes are allotted for a speech, so you need to talk through your speech with a watch in your hands. But it is recommended to speak out loud, and not silently. This helps to structure the text and understand what is not said in the speech.

The text of the speech should not cover details. You will never be able to tell any details in 10 minutes. It is necessary to present the main results. Everything you say should be explained, but there is no need to touch on things that everyone already knows. Be prepared to answer questions from the expert jury and other conference participants.

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