

## **METHODOLOGY FOR FORMING STUDENTS' INTELLECTUAL RESEARCH COMPETENCES**

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### **Annotatsiya**

Maqolada kichik yoshdagi o'quvchilarning ilmiy-tadqiqot qobiliyatlarini shakllantirish va tizimni ishlab chiqish haqida so'z boradi. Tadqiqot faoliyati doirasida bo'lajak mutaxassisni uzluksiz innovatsion tayyorlash hamda intellektual loyiha faoliyatiga jalb qilish bo'yicha ish olib borish, o'qituvchi tomonidan tadqiqot mavzularini talabalarning salohiyatidan kelib chiqqan holda tesdiqlab berish. Tanlangan mavzu bo'yicha adabiyotlarni tahlil qilish metodikalari qolaversa mavzular va talabaning individual ishini tanlagandan so'ng o'qituvchi bilan tadqiqot mavzularining ommaviy tahlillar o'tkazishlari haqida tavsiyalar ishlab chiqilgan.

**Kalit so'zlar:** Kompetentlik, tadqiqot kompetensiyasi, innovatsion tayyorgarlik, mutaxassis, ilmiy muammo, intellektual yondashish.

### **Аннотация**

В статье говорится о формировании научно-исследовательских способностей студенческой молодежи и системном развитии. В рамках научно-исследовательской деятельности проводится работа по непрерывной инновационной подготовке будущего специалиста и вовлечению в интеллектуальную проектную деятельность, подтверждение тем исследований преподавателем на основе потенциала студентов. Помимо методов анализа литературы по выбранной теме, после выбора темы и индивидуальной работы студента разработаны рекомендации по массовому анализу темы исследования с преподавателем.

**Ключевые слова:** Компетентность, исследовательская компетентность, инновационная подготовка, эксперт, научная проблема, интеллектуальный подход.

### **Annotation**

The article discusses the formation of research skills of junior high school students and the development of a system. Within the framework of research activities, work is carried out on the continuous innovative training of future specialists and their involvement in intellectual project activities, the teacher's approval of research topics based on the potential of students. Recommendations have been developed on the methods of analyzing literature on the selected topic, as well as on conducting mass analyses of research topics with the teacher after selecting topics and individual work of the student.

**Keywords:** Competence, research competence, innovative training, specialist, scientific problem, intellectual approach.

### **Introduction**

Global trends in education, expressed in the integration of national education systems in the preparation of bachelors, proposing changes in approaches to teaching and reviewing forms of organizing education; research activities of students, in particular bachelors. Contributes to the introduction of a new paradigm in education. The advancement of traditional cognitive educational

trends also involves the introduction of a new approach to education, which involves the introduction of intellectual potential and competence. This requires new approaches, methods, and technologies in the educational process. The role of research in the formation of intellectual abilities in students is important. Yu.N. Kulyutkina, B.F. Sorokina. In his work, Yu.N. Kulyutkin pays special attention to motivation [1]. The purpose of research, according to V. Zhuravskaya [2], is not only the final result (knowledge), but also the process, during which students' intellectual abilities develop, acquire new knowledge, skills, broaden their worldview, and have a positive impact on the position of young people in society with their own opinions[3]. Many studies in this area, various possibilities and approaches have not yet been fully explored, which encourages teachers to explore new approaches to further shaping students' intellectual abilities[4].

The main idea of the research is to involve students in specialized disciplines, to see, formulate and solve urgent scientific problems of professional activity in research activities and within the framework of the development of a continuous system of innovative training for a future specialist, to analyze the possibilities of finding fundamentally new creative solutions and innovative solutions for their implementation.

Based on the requirements of our time, we can conclude that one of the main components of student research is the formation of intellectual research skills[5, 6, 7]. Under the research activity of future engineers, we understand the set of activities aimed at mastering, the formation of intellectual abilities of students through pedagogical approaches to research work is considered important. In our opinion, research activity is a means of forming students[8].

In our understanding, the changing nature of research competence among future engineers and the most important result of research activity is the ability to connect the knowledge gained in the sciences with the future, acquire a profession and acquire research skills. Based on this, a system of work on the formation of research competencies in engineering among small groups was formed[9].

For example, we will dwell on some examples of students at the first stage of work on research, we will determine the inclination of students to do this, we will develop motivational approaches to study what kind of research work is available at the university[10]. We will introduce a system of indicators for assessing student activity, the details of which are reflected in the following:

- i. Preparation of an intellectually-oriented research project;
- ii. Participation in conferences organized at the institute;
- iii. Participation in conferences organized at other universities;
- iv. Preparation of articles for foreign journals;
- v. Participation in student competitions and grants.

The work on involving students in intellectual project activities begins, the teacher tells about possible research topics. At the beginning of the stage, they review the literature on the selected topic. After selecting the topics and the student's individual work, they conduct a public analysis of the research topics with the teacher. Here, students present goals and develop a work plan for the goals of future design work and their expression. We connect the topic of design work and teach the discipline of the subject being studied, which contributes to the motivation of their future profession, which helps to form intellectual projects.

In organizing scientific research, it is important to prepare research papers with students based on assignments. Participation in competitions organized in the field is considered important. It

is aimed at teaching the student to correctly present his research and to be able to communicate with competitors. Students learn the ability to present their work in a specially organized manner, organize independent lessons on the ability to ask and answer questions.

Experience shows that organizing conversations with professors and teachers to confirm students' difficulties is an important skill, which is why many classes are dedicated to this:

- i. At the first stage, the student should thoroughly understand and receive instructions on the research topic together with the supervisor;
- ii. The next stage is the organization of a round table discussion with researchers;
- iii. The next stage is the presentation of undergraduates.

A separate stage of the work is the teaching of academic writing, first of all - your skills in writing scientific articles and research work must be fully mastered[13, 14].

This method of working with students allows for the development of intellectual abilities. Mastering research skills, teaching presentation skills is considered an important preparation for more serious research work.

Research results and discussion. Research results can be the basis for the formation of research competencies. The scope of research work for students of technical higher educational institutions and the introduction of a system of student training will continue to involve students in small research projects.

Conclusion: Thus, the widespread use of intellectual project methods in the educational process, as well as their involvement in the scientific and research activities of students, is a factor in the formation of intellectual abilities. The above approaches increase the scientific and intellectual research skills of future engineers. Strengthen their professional knowledge base. Therefore, a new approach to education for research work in higher education and as a key factor is rapidly advancing to the needs of the time.

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