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THE ROLE OF INTELLECTUAL COMPETENCE IN THE PURPOSEFUL INVOLVEMENT OF STUDENTS IN SCIENTIFIC RESEARCH WORK

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Abstract

The development of students' intellectual potential in scientific research is a focus for psychologists at all stages, the psychological characteristics of future teachers' intellectual development related to scientific activity has a scientific and theoretical basis. It has been scientifically analyzed that abilities are an individual psychological characteristic that serves as a prerequisite for the successful performance of human activity and manifests itself in differences arising in the acquisition of knowledge, skills, and qualifications.

Keywords

future teacher, intelligence, intellectual development, psychological process.

INTRODUCTION. The development of science and society requires new approaches to the development of student intelligence and makes it one of the most urgent psychological problems. In the current era of globalization, every society requires the formation of well-rounded and intellectually capable young people [1].

The principle “We will build a new Uzbekistan together with young people” put forward by our President has further enhanced the role of students in the life of our state. Today, students are becoming active participants in creating scientific discoveries and carrying social ideas [1]. In this regard, state programs and platforms such as “Youth is our future”, “Innovation in education”, “Science is the basis of the future”, “Youth academy” have been established, creating broad opportunities for young people [2].

RESEARCH METHODOLOGY. The integration of education and science, the development of technological platforms, and the creative environment for creative thinking are important factors in increasing the activity of students. The intellectual, social, and cultural development of the youth in strengthening the activity of students depends, first of all, on the formation of a spiritually mature, responsible, patriotic, and independent-thinking individual. Therefore, along with scientific and technical knowledge, the formation of high human qualities, national pride, and civic responsibility is also a priority in the educational process[3]. The development of the state depends on the intellectual potential and civic responsibility of the younger generation. This is evidenced by the fact that students are recognized as one of the important social strata of society in the development concept of New Uzbekistan [3].

ANALYSIS AND RESULTS. Today, young people have become active participants in the reforms being carried out in the country, practically serving as the basis for the approach that “students are not just learners, but a force for building society” [3]. The involvement of young people in startup projects is not only an important factor in economic efficiency, but also in the formation of intellectual capital, and the scientific developments carried out by students are being recognized in international competitions [4].

The development of the New Uzbekistan relies on a new model of education and upbringing, the formation of a generation of young people with intellectual potential. If the thinking, intellectual and creative potential of students and young people is strengthened, the country's competitiveness in the global arena will also increase.

Although the origin and development of intelligence have been studied by scientists through various views, theories, and models, the direct impact of intelligence and creativity on the creative actions of a person in the New Uzbekistan remains a controversial issue. On the other hand, creativity contributes to the success of creative activities associated with the expression of various emotions [5].

An individual psychological characteristic that is considered a condition for the successful implementation of an activity and is manifested in the differences that arise in the dynamics of acquiring knowledge, skills and qualifications is called abilities. To determine this characteristic, it is advisable to analyze some factors;

a) if the set of certain qualities of a person meets the requirements of the activity he occupies within a certain period of time, then he has abilities for this activity;

b) if a person cannot meet the requirements of activity in such situations, psychological qualities, that is, abilities, are weak. However, this does not mean that a person with such characteristics cannot acquire skills and qualifications, but only that the time for acquiring them is prolonged [6].

Student life is a period of personal and professional choice, during which valuable goals are chosen and decisions are made that are extremely important for future life. The reforms taking place in society accelerate the process of becoming a mature person for future teachers, who are more actively involved in the process of solving various life problems.

D.B. Elkonin expressed the opinion that the leading activity during the student period is studying and choosing a profession. The early student period is defined as the “threshold of maturity”. This stage of maturity includes physiological, psychological and social boundaries. The place of future teachers in society, their status, the amount of knowledge they acquire, and a number of other factors depend on social conditions. The student period is mainly characterized by the beginning of an independent life, that is, graduating from high school and continuing their studies at a higher educational institution. These changes in life affect the personality of the early student, his self-awareness. During this period, they participate. Along with his increasing independence, the attitude of adults to him also changes, they treat him as an adult. He begins to act to implement his life plans and begins to acquire a certain profession.

Future teachers are faced with great innovations and discoveries in their chosen fields or professions, but gradually they begin to realize that they do not have enough knowledge and experience to make innovations and discoveries, and for this they need to study and learn more. Motives, as they become aware of their readiness for independent life, take a leading place in this period. In the system of motives, social motives such as the desire to become a full-fledged member of society and benefiting people predominate. During this period, future teachers' interests in subjects change according to their future life and chosen professional plans,

During their student years, they master many scientific concepts and can use them to solve various issues and problems. Their understanding and self-awareness grow significantly. A student's self-awareness is reflected in changes in motivation for study, work, and

communication. By the time they reach the student age, many children have a well-developed ability to plan their activities in advance. Self-management is also clearly evident in students.

During the student period, the scope of interest in knowledge increases. During this period, the thinking of future teachers begins to acquire an active, independent and creative character. Along with the development of thinking, there is also develops speech culture of students. By reading and understanding literary works of various genres, the student learns to think independently, reflect and engage in discussion. The quality of student thinking includes its content, depth, breadth, independence, efficiency, speed, etc. Theoretical thinking plays a significant role in the intellectual development of future teachers. Therefore, such types of activities as lessons, laboratory work, practical exercises, abstract writing, and synopsis held at the educational institution lead to the independent understanding of the materials necessary for the mastery of future teachers [6].

As a result of the development of science and technology, the scope of people's thinking also increases. The Decree №. PD-60 “On the Development Strategy of New Uzbekistan” also considers the glorification of human dignity, personal development, and the process of harmonizing the interests of the individual and society as an important value, and defines the issue of reforming the education system and raising the training of personnel with scientific and intellectual potential to the level of modern requirements as a priority area. The Resolution on Approval of the Concept of Development of the Higher Education System of the Republic of Uzbekistan until 2030 states that in determining the priority areas of the systematic reform of higher education in the Republic of Uzbekistan, it is necessary to raise the process of training highly qualified personnel with independent thinking to a qualitatively new level and organize it on the basis of a well-thought-out system [1], [2], [3].

The importance of purposefully involving students with a scientific worldview in scientific research work in the higher education system has been recognized by experts [4].

The updated education system and pedagogical thinking set modern tasks for students and young people that meet the requirements of a new society [2].

Aspects related to the activities and professional qualities of students and young people have been reflected in the research, scientific works and monographs of a number of scientists. There are different views on the professional qualities that young people should acquire. In recent years, studies have also been conducted to interpret important aspects of student and young people's activities. There are also many works that provide for the formation of professional qualities that students need to develop in the process of teaching specialized subjects [3].

However, in higher education, there are very few hours of classes allocated for academic subjects aimed at forming personal qualities, improving students' intellectual and pedagogical skills. In particular, in the university education curriculum (2024-2025) (2025-2026) only 60 hours are allocated for the subject "General Psychology", and within this number of hours, in addition to linking the content of the lesson with practice and research activities, it is also necessary to form scientific research qualities in students. Because a future specialist who has not mastered psychological knowledge, the psychological foundations of specialized disciplines necessary for further activity, will not be able to achieve a high level of scientific potential in his scientific research work. Therefore, increasing the number of hours of these academic subjects will allow future teachers to be thoroughly trained in all aspects, including in terms of creativity.

In the formation of research skills and qualifications in future teacher-students from a professional perspective, it is necessary to adhere to the following general requirements and rules:

- the level of education of the future teacher, his spiritual and moral image must be exemplary, he must have thorough professional qualities, as well as mastered scientific and creative skills and qualifications. Because a teacher who is not well-educated, has a narrow range of thinking, a narrow scientific outlook, does not have thorough education, and professional qualifications cannot educate, develop the minds of students, and make them educated;

- any future teacher-student has the opportunity to provide education, knowledge and information to students in the future only within the framework of his acquired knowledge and information, and professional skills. After all, only well-rounded people with thorough education and deep knowledge can form a young generation that is educated as specialists, armed with scientific knowledge, and has high scientific potential. [4,5,6,7,8].

The experience and methodological skills that are formed in a future teacher are of particular importance. Because the teacher mainly implements the goal of education through the use of classes and their effective methods. However, it is not always possible to achieve the intended goal of the lessons even with any effective methods and lesson forms. Because how a teacher implements modern teaching in education is also important. The successful use of various methods of training is manifested in the following cases:

1. Scientific justification of the topic of the lesson.

2. Meeting all didactic requirements of the lesson materials on the topic being studied.

3. Taking into account the pedagogical and psychological characteristics of students when designing the lesson.

4. The future teacher's attention is focused on innovations in the field of science.

5. Good knowledge of the characteristics of children's nature.

6. Deep knowledge of the basics of the subject he teaches, the ability to analyze scientific innovations in it.

7. Knowledge of the specific aspects of teaching.

8. Creative mastery of new methods and technologies of teaching.

The scientific and practical potential of a future teacher is determined by mastering the technology of presenting educational tasks taking into account the characteristics of the student group. One of the specific features of modern education is to accustom each student to independent scientific thinking. Success cannot be achieved without knowing the specific aspects of students and realizing what they are capable of. The effectiveness of any method depends on thorough knowledge of the student group. Therefore, the formation of important professional qualities in a modern teacher is one of the factors ensuring the effectiveness of education [6].

There are a number of professional qualities that students and young people need to acquire, which, if they do not find expression in the teaching activities of young people in the future, the lessons will remain ineffective in some aspects. Because each professional quality of

a teacher should ensure the achievement of effective results and influence the development of the student to one degree or another. Therefore, the professional and pedagogical requirements facing the teacher are expressed in the following important professional qualities [7].

Scientific and creative. A teacher is a specialist who works based on scientific truths and innovations. Higher education should teach future teachers to be creative, to look at the world only with a healthy perspective.

The teacher's creativity is of great importance in developing the student's creative thinking skills, developing artistic and aesthetic taste, forming a healthy scientific worldview, and improving oral and written speech skills. The effectiveness of lessons will be higher only when uniqueness, uniqueness, and methodological innovation in organizing classes become a natural need for every teacher.

Organization. A teacher must also have organizational qualities, without which he cannot form a team of students gathered around him into a friendly and strong team. Gathering an entire team together, turning it into a team of students based on order and discipline, forming scientific research skills in them, and instilling personal qualities requires a lot of hard work from a teacher of a higher educational institution.

The student's desire to share his personal opinions with the team, getting used to hearing the opinions of others, and learning to express his opinions reasonably dramatically increases the effectiveness of scientific research. If a student avoids the team, gets used to loneliness, moves away from his friends, does not actively participate in lessons and various events, and his presence in the group is not felt, this indicates that the teacher's social and organizational activities are not sufficiently developed.

Where students in a group unite into a friendly team, lessons are organized in an interesting and meaningful way. A teacher who cannot attract students to himself, who cannot be an example for them with his qualities, skills, and knowledge, cannot organize and direct students to scientific activity. Because students do not follow such teachers and do not envy him. Only when a teacher loves children, spares them time and knowledge, strives for them, and becomes a like-minded friend, can he unite a team of students.

Another important indicator of pedagogical skill is to penetrate the hearts of students and create a strong team among them. One of the important aspects of student and youth activities is their research. Students learn to be researchers in higher education during classes aimed at writing scientific articles, abstracts, diploma theses, participating in scientific conferences, and conducting scientific analysis.

Scientific research. This intellectual aspect of students is manifested in the process of preparing for classes and scientific research. Scientific research, along with ensuring the student's thorough and clear scientific views and intellectual independence, also has its own educational opportunities.

A common drawback that most young pedagogical specialists who have graduated from higher education have is that they do not have a noticeable scientific, creative, research activity. The quality and effectiveness of lessons are associated with the teacher's inquisitiveness, research, and the constancy and continuity of scientific, creative activity.

In addition, the teacher must acquire the skills to apply all the theoretical knowledge, pedagogy and psychology information acquired in higher education in the process of practical activity.

Pay attention to the connection between theory and practice. The teacher's pedagogical practice is somewhat close to research activity. Because the teacher tries to apply the theoretical and methodological knowledge gained in the process of scientific research in practice. The teacher is required to have pedagogical pragmatism in order to convey new knowledge to the minds of students.

The teacher demonstrates all his talents, knowledge and skills in practice. During practice, his professional skills are honed. The teacher acts as a test-taker of new forms of teaching, non-traditional methods. In his practice, he uses methods that meet today's requirements. He tries to use forms that have achieved success, increase the activity of students, teach creative thinking, and have a high level of educational impact. The teacher collects the necessary information, knowledge and materials for the lesson and determines in advance how and in what form to deliver them to students. The teacher must never forget about his pedagogical pragmatism and the need to fulfill the educational task. Because the teacher is not only a giver of knowledge in his lessons, but, first of all, a practitioner who observes the manifestation of the results of education, which is aimed at educating students on the basis of this knowledge, in the behavior and activities of his students.

The ability to effectively apply pedagogical knowledge in practice determines the selection and integration of educational material, the direction of the student's and his own activities during research, what to use for training, and what literary texts to cite or analyze in conclusions. Therefore, the student's ability to effectively apply pedagogical knowledge in practice is a constantly developing and changing phenomenon.

The conclusion is that the higher education system should ensure the formation of all the necessary professional qualities of the student, such as organization, practicality, research, and creativity, at the required level. A young specialist who graduates from higher education has a certain scientific worldview, but is quite helpless in the matter of how to apply it in practice. Because the methodological preparation of students is not up to the required level. The specific features of directing students to scientific research are not defined in the disciplines of pedagogy and psychology. However, the student must deeply master the laws of scientific research. These disciplines require teachers to become qualified specialists who can work in any situation. After all, the spiritual maturity of members of society depends on the level of their scientific worldview [6,7,8].

According to psychologists, the close relationship between a university teacher and a student is significantly low. The fact that the teachers conducting the training do not have sufficient information about each student, and the relationship between them is only based on obligation, does not allow preparing the future teacher-student to the level of existing physical and spiritual capabilities. At school, the personality of the teacher has a strong influence on the student. This is because the teacher and the student have the opportunity to know each other at a much higher level. They live in the same place, (especially in rural areas) they communicate with each other not only in the classroom, but also in everyday social situations. The teacher knows the student's family, living conditions, and relationship with others well and treats them accordingly. Therefore, the teacher and students feel responsible at school, on the street, at home, and in public places. At every step, the teacher and student meet and interact. In this way, they

learn each other's personal qualities not only at school, but also in all aspects of social life, and students follow the example of the teacher [6].

Establishing a system for the formation of professional and spiritual qualities of students in higher education institutions during the educational process and in events held outside the classroom can also yield effective results. However, the head of the institution and teachers should be aware of every student's behavior.

The spiritual qualities of a future teacher can be formed and honed through the following measures and means.

1. Being a personal example, a role model.

2. Settling organized activities of a student team for targeted study of certain research problems in a scientific school.

3. Paying special attention to the implementation of elements of a scientific conference (role-playing) in classes.

4. Effectively applying the results of scientific research into practice.

5. Organizing scientific events and ensuring broad, active participation of students.

6. Organizing student scientific centers.

7. Holding creative evenings and conversations on various topics with the participation of famous people.

8. Encouraging the scientific and creative work of students and young people.

9. Organize tests, questionnaires, and qualification exams based on criteria for determining the level of effectiveness of scientific and creative activities of students and young people.

10. To determine the level of students' scientific research skills at the end of each academic year.

11. To develop and apply in practice ways to increase the effectiveness of this process.

First of all, a person who is able to think independently will have the opportunity to self-control, self-examine, determine his aspirations towards the set goal, and accordingly, self-manage.

CONCLUSION. As shown in traditional pedagogy, it is necessary not to educate and teach a student, but to bring him to the level of self-education, independent research and acquisition of scientific knowledge. This is where the difference between modern psychological knowledge and traditional psychology becomes apparent. Another important aspect is that in the educational process, it is possible to establish a "teacher-student" interactive, that is, "person-person" relationship.

A person with a lively spirit, a restless soul, a desire to freely express his abilities is enterprising, energetic, rich in imagination, and has a need to create something new, research, and create. This need encourages him to scientific and creative, active action, and leads him to

spiritual and professional perfection. Based on the pedagogical diagnosis of scientific and creative activity, the student's needs, aspirations, educational motives, potential, level, and all his talents are reflected in the equal relationship between the teacher and the student.

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