

PSYCHOLOGICAL FEATURES OF CAREER GUIDANCE IN THE PROCESS OF TEACHING PHYSICS

Zulkhumor Abdurasilovna Yavkacheva

Tashkent State Transport University

<https://doi.org/10.5281/zenodo.7981982>

Abstract. *In the article, the pedagogical skills of pedagogues in the process of teaching physics, and the psychological characteristics of young people in mastering physics are widely covered. The 21st century, as an age of intellectual potential, thinking and spirituality opens up new horizons for humanity and also creates acute problems that we have not seen or faced before. In the course of solving the problems arising in the field of education, pedagogues should, in addition to providing education to young people in today's complex times in the spirit of the times, think about the tomorrow of humanity, our Motherland and our people, and carry out educational work aimed at encouraging young people to virtue, honesty, kindness and tolerance. is required. The successful solution of educational issues in the teaching of physics requires teachers to know the psychological laws of the process of personality formation, the abilities of young people and individual differences in psychological development, the direction of the student's personality, the qualities of will and emotions, the characteristics of cognitive activity and mental development. due to this, opinions were expressed about the continuity of school and higher education in teaching science. If teachers manage to get young people to know the concepts and ideas of modern physics from the beginning, there will be no need for them to read them again. if it is compiled and applied to the lesson process, it will be of great importance in increasing the effectiveness of education. This is the level of development of society and the modern state requirements imposed on the existing education system, and based on them, it includes state measures to guide schoolchildren to the profession. ensures that he chooses his career path and finds his place in life according to the essence of his work.*

Keywords: *science, class, youth, method, psychology, profession, knowledge, pedagogue.*

INTRODUCTION

In the development of Uzbekistan's path of development, our noblest goals before us - the great future of our country, our tomorrow, our free and prosperous life, and what place Uzbekistan will take in the world community in the 21st century - all of this, first of all, the new generation, our growing children. depends on what kind of people they grow up to be. The future of every people and nation is inextricably linked with the fate of the generation that is coming of age today. At the level of state policy, attention was paid to the development of the education system in our country in the first years of independence. This is the essence of the incomparable efforts being made to ensure that our boys and girls receive education in conditions suitable for world standards, to grow up as physically and spiritually mature people, to bring out their abilities and talents, intellectual potential, and to form feelings of loyalty and self-sacrifice in their hearts.

There are different opinions about the human mind in the East. Accordingly, according to the decisions made about the human mind, the mind is of two types, that is, natural and professional. Natural intelligence is an innate gift to man. Professional intelligence is acquired through study, learning and experience, paying attention to the surrounding events during a person's life. The honorable and arduous task of forming a professional mind is entrusted to the

pedagogues. There are such sentences in the chapter "Time of Education" in the book "Turkey Gulistan yakhud akhloq" by Abdulla Awlani. "Now it is known that it is necessary to start education from the day of birth, to strengthen our body, to enlighten our thoughts, to beautify our morals, to clarify our minds. The question arises: who will do the education, who will make the rules? To this question, "the first is home education. This is a mother's duty. The second is school and madrasa education, this is the duty of the father, teacher, teacher and the government. Teachers-pedagogues carried out this school and madrasa education both before and now. According to the above points, to properly and scientifically organize the educational process, the teacher needs not only good knowledge of the theory of physics and its teaching methodology, but also the general psychological laws of the teaching process and knowledge acquisition, the formation of qualifications and skills, and the development of thinking. It is necessary to know. Successfully solving educational issues in teaching requires knowing the psychological laws of the process of personality formation, the abilities of young people and individual differences in psychological development, the direction of the student's personality, the qualities of will and emotions, and the characteristics of cognitive activity and mental development. Of course, a well-developed memory for this is an important ability that meets the demands of many types of activities. Although the development of abilities depends on natural conditions, which are not the same in different people, the relationship between talent targets and abilities discussed above, abilities are not simply gifts of nature, rather, it shows that it is a product of personal history. Embodied in the scientific research conducted by Galperins. There are many great writers, artists, composers, and political figures with a rare memory: AS Pushkin, AN Tolstoy, II Levitan, NN Ge, SV Rachmaninov, MA Balakirev, A.V. Suvorov, G. Dore, V. Mozart and others. According to the source "Samostoyatelnaya rabota uchashchihnya po fizike v Sydney shkole" by A.V. Usova, Z.A. Vologodskaya, pedagogics take into account the age and thinking ability of students in mastering the subject. has shown the methods. Taking into account the above points, if the process of teaching physics in school and higher education is compared through psychological characteristics, pedagogues should also take into account their age level in explaining the science and mastering the subject.

MATERIALS AND METHODS

Taking into account the psychological characteristics of young people and their age and applying them to school activities, in the process of teaching physics at school, the characteristic manifestations of activity are characteristic of each age group. At the same time, the methods allow using pedagogical skills, which should correspond to the capabilities and requirements of students of this age. During the course of the lesson, it is necessary to take into account the individual differences of children, the level of mental development, and the specific characteristics of their psychological activities. one stage, at the beginning of this stage, it is necessary to teach the students how to imagine the object based on their imaginary knowledge. For him, it is appropriate for the teacher to develop and plan imaginative ways of thinking in learning a new subject.

According to the mental characteristics of the students according to their age, our developmental teaching by grades is as follows:

The level of abstract thinking of students in the teaching of physics in grades VII-VIII is at this age (13-14 years old) is still low. Therefore, they have a predominance of prescriptive and figurative thinking. The teacher explains the new topic from the exhibition means, that is, together with the students.

If using the pedagogical technology of "Brainstorming", it will be necessary to demonstrate experiments, work with handouts, show physical devices, and use pictorial materials. At this age, it would be appropriate for the teacher to analyze physical phenomena together with students, to distinguish the main signs that are important in comparison. In the 9th grade (14-15 years old), the process of formation of students is much easier when explaining the "Mechanics" section of physics. The teacher should pay attention to the formation of the ability to generalize physical concepts and quantities in students. In the 10th grade (15-16 years old), the teacher pays attention to the development of students' theoretical thinking, the formation of the ability to conclude the topic, skills, and qualifications.

In the 11th grade (16-17 years old), the teacher studies the molecular-kinetic theory of the structure of matter, and the elements of the electronic theory, which are the main content of the educational material for the development of theoretical thinking in students. At this age, all the intellectual skills that have been shown are developed to a sufficiently high level, as a result, the student's cognitive abilities grow. , the speed of the previous movement in knowing the news will increase. Due to this, students will be prepared to master and restore scientific information, which is increasing in size. If we take into account the continuity of school and higher education, the organizational form of teaching in higher education is understood as the pedagogical dialogue between the student and the teacher in various options. It is known that the educational process in higher educational institution's organizational form consists of lectures, seminars, practical training, laboratory work, independent work of students and various practices. Any organizational form determines the educational model, which includes educational goals, content, and other elements. The organizational form of education reveals the essence of the educational model. Such a symmetrical connection between the educational model and the organizational form helps the professor-teacher to distinguish many trends in his professional environment and to choose correctly how to organize the educational process in his work. There are many examples of such a connection between the educational model and the organizational form in the current modern education process. However, no matter how the names of the constituent elements of the organizational forms of higher education take a new form, the main course processes are lectures, practical exercises, laboratory work, seminars, independent work and practices, and among them, the lecture helps students acquire theoretical knowledge, develop practical skills and qualifications. plays an important role. The more theoretical knowledge is explained in teaching in connection with strict practice, the more clear and clear the student's independent thinking will be, and the level of conscious mastering of educational materials will increase. Teaching using educational methods rationally serves as a basis for students to find their place in life, form their minds, conduct logical observations, and think clearly and abstractly. The ability of the teacher to convey the content of his subject to the minds of students is important in choosing the future life paths of these students.

In education, the teacher is not limited to imparting knowledge, but he also guides the thinking activity of students. Develops students' creativity. In this way, a conscious mastering of what is being studied is achieved. It is also necessary for the teacher to take care of the students' perception and understanding of the learning material, as well as their careful retention.

In organizing and developing the student's cognitive activity, the teacher should not forget to solve three tasks through the educational process, i.e. three goals (educational, educational and developmental) through imparting knowledge. After all, these goals unite the activities of teachers

and students. Taking into account the above, there was a need to introduce new effective pedagogical methods that can help solve important tasks for the new system of training specialist personnel.

Various forms of lectures acquire a specific direction in the educational process and consist of the traditional logical sequence of knowledge in the student, that is, receiving, understanding, reading, thinking, processing, and strengthening. Therefore, the quality of lectures in higher education is one of the main indicators of the quality of education.

If the professor-teacher who is giving a lecture cannot use his pedagogical skills during the course of the lesson when the student's mastery of the topic is analyzed, the level of acceptance and assimilation of the subject information by the students is considered from a psychological point of view, if the student receives the information only by hearing, he will absorb an average of 20% of the given information. first of all, it is necessary to reform the process of passing lectures.

1. The professor-teacher instructs the students to collect information about the new topic.
2. Using the "Brainstorming" method to check whether students have completed the given task when a new topic is introduced.
3. Students need to remember or record more information
4. One of the main tasks of the task assigned to the student is to understand the essence of the information received and to give importance to the most important phrases.

An average person can hear and understand up to 800 words per minute. However, students in the audience have a hearing ability 4 times faster than the teacher's speech. So, 75% of the time during the oral explanation, the student does not listen, he remains empty, if the teacher only explains orally, the student loses his attention. Therefore, conducting the lecture only in the form of reading or oral explanation is considered ineffective. If a student reads the information once on his own while completing a task on a new topic, he will remember 25 per cent of the information. Therefore, the effectiveness of the lecture will increase if, in addition to lecturing in front of the students, they are required to read the main points of the topic themselves during the lesson. For this, slides, key phrases, and handouts are needed, and during the lecture, they are used with the provision of student activity. If the given information is repeated twice, the student remembers 30% of the information. If you repeat the main, important points of the topic twice in the lecture, the acquisition will increase by 10% compared to reading only. The effectiveness of the lesson will increase if the repetition is done based on slides, and educational-visual materials, that is, the basic phrases are repeated twice and read by students. If the student writes and reads, he will absorb up to 45% of the information. So, if the main phrases of the lecture are written down during the lecture, the mastery will increase twice. On average, a student can write up to 40 words per minute. However, if the goal is only to write quickly, the result will not be efficient enough. Therefore, when writing down the main phrases of the lecture, it is necessary to give the student time to concentrate and understand, that is, it is necessary to pause and express the phrases being written down slowly. Most people absorb about 60% of the information in the process of discussion, and debate, that is, the learning process is 3 times more effective than reading a simple lecture. If the above methods (verbal explanation, feedback, showing with the help of educational-visual materials, asking the student to read, and writing down basic phrases) are introduced together in a lecture based on a certain related sequence, the educational effect will increase even more. If the student compares the given information through his life experience, if the knowledge is conveyed through practice, if it is explained to the students that these materials are constantly needed in real

life, if the conditions are created for students to express their active opinions by connecting the subject with real life, then it is possible to achieve up to 80% mastery of the given information by the students. A good pedagogue can pronounce up to 170 words per minute on average. An average student can read and understand up to 400 words per minute. This means that if the teacher presents the information in the form of slides or handouts before explaining, the students will read the material twice as fast before the teacher explains. When students have read a certain amount on their own, they pay little attention to the speaker's explanations. Therefore, the best result is achieved if you first explain and then repeat the explanation through educational-visual materials. In laboratory sessions, each audience, and each student requires a special approach to mastering a specific topic. Therefore, the pedagogue must be creative, to develop and enrich pedagogical technologies to increase the effectiveness of teaching. I also use the following method in my work: the "Formulate questions" method. This method is carried out in three stages.

Stage 1. The teacher asks each student to write 5 questions on the topic and asks each student to ask the question he/she has written. Considering that the student will answer his own question, he tries to make an easier question and reads the topic several times (even making an easy question is not easy!). As a result, he learns the subject to a certain extent.

Stage 2. The task is made a little more complicated, that is, the teacher says that one student will ask another student a question. In this case, the pairs of students are clearly indicated, that is, whose question will be asked from whom. The student knows the answers to the five questions that he made, and the other student also knows the answers to the five questions. Each student learns the answers to 10 questions on one topic.

Stage 3. The best questions created by students are selected and answered in a group discussion. Student activity will be increased.

RESULTS AND CONCLUSIONS

Based on the above ideas and methods, attention is paid to the mutual organic and regular cooperation of the teacher and the learner, in which the learner's self-control and desire to learn to develop. As we have already said, from the point of view of psychology, the clarity of human activity and purpose is formed. Continuity of school and higher education develops the educational and creative abilities of young people, and the psychological characteristics of young people in acquiring new knowledge such as concepts, rules, laws, theories, postulates, methods, and rules related to physics. learning is important in increasing the effectiveness of education.

REFERENCES

1. Relationship of parameters that characterize the quality of live cocoons Burkhanov, S.D., Mirsaatov, R.M., Khudoyberganov, S.B., Kadyrov, B.H. IOP Conference Series: Earth and Environmental Science This link is disabled, 2021, 677(4), 042032.
2. Aspects of using innovative methods in the context of continuing education/collection of scientific articles.-Tashkent: "New edition", 2015.
3. Pyorishkin A.V., Fabrikant V.A. Fundamentals of physics teaching methodology in secondary school.- Tashkent: "Teacher", 1990.
4. Rakhimov O.D., Turgunov O.M., Mustafaev Q.O., Roziyev H.J. Modern educational technologies - Tashkent, "Science and Technology Publishing House", 2013.
5. Rasulmuhamedov A.F., Kamolov J., Izbosarov B.F. General physics course .- Tashkent: "Teacher", 1989.