Possibilities of Organizing Personally Oriented Training When Teaching Natural Disciplines on the Secondary Specialized Educational Institutions

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Abstract: The relevance of this study is characterized by the acute problem of quality education for students in secondary vocational institutions, which is required by the socio-economic development of modern society. The necessity, importance, and methods of teaching students of technical specialties using student-centered learning technologies are considered. The goal of personality-oriented training in the training of specialists by the requirements of the present time is to identify the abilities of each student, their development, training in independent access to scientific knowledge, updating and use of knowledge. Analyzing the organization of the educational process in secondary vocational educational institutions, as a result of the analysis it was found that students' personally oriented activities are treated without due attention. Therefore, this article analyses the requirements of modern education, which expresses the need to identify the abilities of each individual and their development. The results of the pedagogical experiment confirm that the use of personality-oriented learning in the teaching of natural disciplines in secondary vocational educational institutions has a positive effect on the formation of personal qualities and the improvement of scientific and cognitive activity.
Keywords: Personality, oriented learning, education, educational process, skills, method, cognition, activity, attention, feeling, perception, thinking, observation, analysis.

1 Introduction

Training is a pedagogical process aimed at acquiring certain knowledge, skills, and abilities by the student, intensifying educational and cognitive activity about the development of creative abilities, worldviews, and beliefs. The choice of the subjective cognitive abilities of each student when determining the content of training, what interests him most, and corresponding methods of mastering educational material contribute to the optimal organization of the educational process [1]. This means that it is necessary to study by exploring real learning opportunities, and specific characteristics, relying on individual psychology, and understanding the immediate growth zone of each student, without classifying students as capable and incapable. The main goal of this study is to demonstrate, through personality-oriented learning, that a person can develop high-level thinking skills and creative abilities aimed at activating such cognitive abilities. One of the main goals is to teach the student the skills of creative thinking, problem-solving, and making appropriate, productive decisions. Educators can achieve this goal only if they become more sensitive to and learn to stimulate their students' deep and complex thinking patterns. The idea about this belongs to the teacher I.B. Bekboev. He noted, "There should be an optimal combination of intellectual and emotional backgrounds of the lesson" [2].

The developmental function of teaching is aimed at the formation of sensory activity, observation, perception, and scientific ideas by managing educational activities. All this is achieved through cognitive activities such as observing, perceiving, remembering, and thinking, and is the basis of human orientation, like other psychological forms. At the same time, the problem of intensifying cognitive activity with any development of science and change in society can show its relevance in all cases. All this indicates the need to use a personality-oriented approach to learning in the educational process, which has recently caused heated discussions among teachers. We decided to analyze the values of this teaching method based on our teaching practice. Pedagogical practice shows that every new didactic tool used in teaching bears fruit in organizing the educational process. In this case, teaching tools and methods complement each other.

The purpose of this person-oriented training is to help each student develop their personal qualities, talents, abilities, and interests, and apply them in educational activities. The basic idea is that each person is unique and training should be tailored to their individual needs and abilities.

Personally-oriented learning implies the creation of conditions for the self-realization of the student's personality, and the development of his self-awareness, self-esteem, self-regulation, and purposefulness. It sets itself the task of not only transferring knowledge and skills but also helping the student become an independent thinker and an active subject of the educational process.

Thus, person-centered learning is an effective pedagogical approach that allows the teacher to take into account the individual characteristics of each student, help them realize their potential, and achieve success in school and life.

2 Technology for obtaining materials and research method

Modern education not only provides knowledge but also fulfills the task of shaping personality. Personally-centered learning is becoming increasingly popular in education, as it helps to take into account the individual characteristics of each student and develop his potential. The main task of the secondary vocational education system is to prepare competitive mid-level specialists in the development of production, and science and create conditions for their comprehensive development in the educational process. A modern graduate of a secondary vocational institution must be an active, creative, flexible specialist with a wide range of competencies, capable of independently obtaining comprehensively developed, updated knowledge, adapting to changes in science, increasing the level of their knowledge and skills, and adjusting and supplementing them. One of the possible ways to solve this problem is personality-oriented training for secondary educational institutions students in the process of teaching natural science subjects.

The main feature of technical education is the conduct of educational and laboratory research using special research tools. The use of active methods in the learning process, and its effective organization, as a result of which the activation of students' cognitive activity in learning plays a key role. In traditional education, knowledge is transferred only from the outside, from a teacher, from a textbook, etc. to didactic means [3]. Also, with such training, the goal of the lesson is not specified depending on the individual characteristics and abilities of the student, i.e., the low or high level of student performance is not taken into account, which is excluded in a differentiated approach to learning. It follows from this that traditional training includes only the transfer of the specified education. In a personality-oriented approach to teaching an innovative method that meets the requirements of the present time, education is the very foundation of a cognizing subject, i.e. knowledge is not transferred to him in finished form, it needs to be dug, deepened, and expanded through his activities. The teacher acts in the educational process not only as an information source of knowledge but also as a guide that promotes the growth of cognitive activity. The center of the learning process in education is not the teacher or the subject, but the subject receiving knowledge (human, learner, student, etc.). Therefore, every teacher should begin organizing a lesson by studying the personal qualities of students. After all, he can determine the level of preparedness and abilities of each student, using various methods in teaching.

Personally-oriented learning, taking into account the individual characteristics of the student, reflects the following various requirements for modern education:

- Individualization of training. Each student has unique abilities, needs, and pace of learning. Personally-oriented learning presupposes the presence of a flexible system of assessment and adaptation of the educational process to a specific student.
- Taking into account psychological characteristics. During the learning process, it is necessary to take into account the individual psychological characteristics of the student, such as motivation, interests, level of self-esteem, etc.
- Development of personal qualities. One of the goals of student-centered education is the development of the student's personal qualities, such as independence, responsibility, tolerance, creativity, etc.
- Support for individual growth. The educational system must create conditions for the development of the student as an individual, and help in self-realization, self-knowledge, and self-actualization.
- Creation of a favorable educational environment. For the successful implementation of student-centered learning, it is necessary to create a friendly, supportive, and inspiring educational environment that promotes the intellectual growth and personal development of the student [4].

Therefore, for the successful implementation of a student-oriented approach in teaching natural sciences, it is proposed to organize individual and group lessons, during which students can ask questions,

express their ideas, and share their observations. This approach promotes the development of critical thinking, independence, and creative potential of students.

However, students often fail to meet these requirements due to a lack of motivation, inability to work in a team, or personality problems. To stimulate students' interest and help them better understand the material, it is important to use a variety of teaching methods, such as practical work, laboratory research, project assignments, and others. It is also important to take into account the individual characteristics of each student and provide sufficient support and assistance if necessary.

3 Experimental results and their discussion

Let us analyze the organization of the psychological stages of the cognitive process with the help of person-centered learning using the example of teaching the subject of physics. To consider student-centered teaching methods in physics lessons, you can use the following methods:

1)Individual approach. For successful work, it is necessary to take into account the individual characteristics of each student. An individual approach involves analyzing the characteristics of the student's personality and developing an individual training plan. For example, you can develop a program that includes interesting and practical tasks for students with low motivation. With an individual approach, the teacher divides students into groups depending on their participation in the lesson ("average", "good", "best") and offers educational material depending on its volume, complexity, and processing speed. In student-centered learning, the student's characteristics are determined by the following parameters: cognitive experience, what interests him most in terms of the content of the material being presented, the choice of ways to read and study the material, the type of response (on the board or the spot) and character (written or oral) to allow choosing, to attract the student's attention to how he thinks, remembers, thinks. The teacher, as an organizer, fulfills the task of dividing students according to their differences, creating conditions for maximum work by each of them;

2) Work in a group. Working in groups helps students develop communication skills, learn to work in teams, and solve problems together. When working with a group, the ability to express one's opinion, analyze a partner's response, correct noticed errors, and conclude is formed. It is important for each student to have their role in the group and to have the opportunity to express their individuality;

3)Practice. Practical activities allow students to apply their acquired knowledge in practice, which helps them master the material and develop professional skills. In addition, hands-on activities help students develop self-confidence and a sense of personal growth;

4)Debate lesson. During the lesson, discussions can be held on current topics of interest to students. Debates and discussions can also be conducted to develop critical thinking and argumentation. The discussion should be beneficial, and have a positive impact on personal development [5].

Personally-oriented learning determines the abilities of each individual and reflects modern educational requirements, indicating the need for its development. Organizing classes with a personal orientation poses the following necessary tasks for teachers:

1) When teaching, work is carried out not only with the entire group but with each student, that is, attention is paid to the student's active participation in learning the material. High-quality assimilation of educational material is possible only if its content is correlated with the personality of the student. The student must "see" the material not as something abstract about him, but in a way that directly concerns and affects him, is connected with him, his life, and his professional future;

2) The transition from standard traditional teaching to active student participation in learning. Create conditions in the classroom that allow each student to show initiative, and independence in logical thinking, research, and active work;

3) Considering the individual characteristics of the student, the teacher plays the role of a coordinator, creating comfortable conditions for maximum work and development of the student, helping him to realize his potential and achieve his goals;

4) Achieving the highest level of cognitive activity is a high awareness of mental activity, through the activation of observation, attention, awareness, learning, and other forms of cognition.

To form cognitive activity and consolidate the studied material in the educational process when studying natural disciplines in secondary educational institutions, practical classes, and laboratory work are mainly conducted.

Personally-oriented learning in the natural sciences can be considered as a method that focuses on the importance of individual characteristics of students in the learning process. Psychological stages of the cognitive process, such as perception, attention, memory, thinking, etc., can be organized taking into account the personal characteristics of each student [6].

It is important to remember that each student is unique and has his strengths and weaknesses, so it is important to tailor the teaching material and methodology to best suit the individual student. For example, for students with a visual type of perception, it will be useful to use visualization of the material, while for students with an auditory type, it will be effective to conduct discussions.

When organizing the psychological stages of the cognitive process using student-centered learning, it is important to take into account the motivation of students, and their personal goals and interests. This will help create a positive atmosphere in the learning process and increase motivation to learn.

As you know, person-oriented learning is aimed at developing the student's personality, self-awareness, self-knowledge, and self-development. That is, the individual characteristics of each student must be considered in the educational process.

The organization of the psychological stages of the cognitive process within the framework of person-centered learning can be as follows:

1. Motivation. This stage involves working on the student's motivation, interests, needs, and goals. The teacher must help the student understand the importance of the educational material, find personal significance and motivation for studying it [7];

2. Perception and attention. At this stage, the teacher helps the student to comprehend the information, adequately perceive it, and pay attention to it. It is important to create suitable conditions for perception and pay attention to the individual characteristics of each person;

3. Understanding and comprehension. The teacher collaborates with the student to help him understand the meaning and meaning of the material being studied. It is important to help build connections between new information and his existing knowledge and experience [8];

4. Memorization and application. At this stage, the teacher helps the student consolidate the learned material and learn to apply it in practical situations. It is important to use a variety of teaching methods so that he can remember and apply new knowledge;

5. Assessment and self-reflection. After completing the training, the student must analyze his results, evaluate his progress and identify strengths and weaknesses. The teacher helps him conduct self-assessment and self-reflection for further self-improvement [9].

Thus, the organization of the psychological stages of the cognitive process with the help of personality-oriented learning in the natural sciences makes it possible to take into account the individual characteristics of each student, create comfortable conditions for learning and increase motivation for learning.

As our observations show, students use all senses differently at different levels to recognize the world around them, because the emotional and perceptual abilities of each person are individual, not all students have the same knowledge, skills and abilities. Research has shown that, under the same conditions, the human brain retains information as a result of 10% hearing, 50% vision and 90% of what it does itself, demonstrating in practice [10].

For example, when studying physics through the senses, they control the course of physical phenomena by perceiving the external world in the brain. The golden rule of didactics in pedagogy Ya. A. Komensky: "To learn, you need to use all the senses in unity" should always be the focus of every teacher's attention. At the same time, it corresponds to the principle of didactics in the learning process, which states: "The principle of durability is information which must be perceived and remembered.

In addition, according to Komensky, information should be presented in such a way that it is remembered for a long time. To do this, it is necessary to use various teaching methods, repeat material, and also create interesting and memorable situations that will help students retain information in memory.

Following from the above, a student-centered approach to learning shows that it should be presented by the acceptable abilities of each student, and the level of acceptance (from easy to difficult, from simple to complex, from known to unknown).

The most important problem in cognitive activity is the ability to think and observe. Through observation, an image of the represented physical phenomena is formed in the brain, which gradually helps to form physical laws.

Thinking is the highest form of the cognitive process. It is a process of reflecting the actual real world through cognition, generalization, and abstraction. As a result of thinking, in addition to feeling and perception, one can explore the general patterns of objects and phenomena, as well as their relationships and mutual relationships [11]. Experiments conducted during laboratory classes lead to the development of logical thinking, observing, and analyzing ongoing processes to remember the results of the experiment.

Thus, an important aspect for the teacher is the awareness of the personal activity and internal strengths of students when organizing cognitive psychological stages [12]. This helps them make informed choices, make decisions and be responsible for them, which contributes to the development of the educational and professional orientation of the individual and increases the efficiency of the educational

process. It is also important for a teacher to be able to respect everything within the framework of the topic being discussed.

These relationships change the atmosphere of the lesson, making the lesson free, enjoyable and active. The audience begins to lean towards a friendly form of communication, rather than mentoring and control. Each student realizes that he is given the right to choose his path of development based on his characteristics and aspirations for knowledge. All this accustoms him to active creativity, increased intellectual effort, and analysis of acquired knowledge.

4 Conclusion

The content of personality-oriented learning is aimed at justifying one's identity, determining one's worldview in life, choosing important values for oneself, acquiring a certain system of knowledge, finding an area of interest in scientific and life problems, and separately studying the methods of their solutions.

A person-oriented approach allows taking into account the individual characteristics of each student and contributes to the development of his potential.

The use of student-centered teaching methods, such as individual approach, group work, gaming technologies and practical exercises, significantly increases the effectiveness of teaching natural subjects in secondary educational institutions.

The main principle of student-centered learning is the development of personality as an active participant in the educational process and the individual characteristics of each student.

Results of the pedagogical experiment confirmed that the use of personally oriented teaching of physics for students of secondary vocational educational institutions has a positive effect on the formation and improvement of scientific and cognitive activity.

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