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Psychological Aspects of Developing Technical Creative Abilities in Students

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Abstract. *The scientific article is devoted to the development of technical creativity exercises in students using technical abilities in drawing lessons, and it describes in detail the views of psychologists who have studied this area.*

Key words: *Ability, creative ability, educational tasks, creative tasks, skills, competence, cognitive activity.*

The history of the social and intellectual development of society has confirmed that people resort to drawing-related activities more often when they are looking for new solutions to scientific, artistic or technical problems. Because the solution of a new problem in a scientific, aesthetic or technical sense always requires working on many options and raises another issue for the designer - the problem of selecting and isolating the most optimal one from among the many options for solutions.

The formation and development of such skills and competencies, which are inherent in such a profession, called technical creative abilities, during their school years in personnel who will become highly qualified specialists in their field in the future, is of particular importance.

In the scientific literature, the term “ability” is defined differently. In particular, it is expressed as the presence of knowledge and skills, intellectual, logical, abstract thinking, understanding, self-assessment, communication, learning, emotional knowledge, planning or problem-solving to perform a certain level of work. Ability also means having knowledge about a person or thing, that is, acquiring various information, facts, skills.

A person can achieve an effective result only when he uses his potential fully and purposefully. This also includes the ability to influence the thoughts of people or the occurrence of events (social and political). When viewed in terms of physical development, it means that a person has a physiological ability to perform a task. Since ability refers to a person's individual potential and capabilities, it is improved in the process of acquiring skills and qualifications by a person. Any type of ability consists of a complex psychological concept related to the individual, which includes a system of characteristics proportional to the requirements of the activity. General ability is understood as high mental potential and development. It can be formed naturally and developed according to a specific plan.

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Manifestations of abilities

- Entrepreneurship - the use of mental and spiritual potential in the implementation of a task;
- Brain activity - understanding the inner world of people and their goals;
- Anticipation - making a decision in advance about the intended task;
- Timely problem solving - a positive solution to the situation;
- Decision-making - acting consciously, using emotions based on complete information;
- Emotional management - identifying internal experiences and managing them;
- Prevention - using reason to avoid difficult situations.

Developing the creative potential of students in educational activities requires self-discovery and self-expression, and teachers need to find constructive and effective pedagogical methods. At the same time, it is important that the requirements adopted in the international educational space, the chosen formula, comply with the educational standard, which takes into account traditions, scientific schools, regional characteristics, professional mobility and competitiveness.

Until now, there is no single and systematized idea of \u200b\u200ba systematic understanding of technical abilities. A large amount of research has been conducted in the field of developing ideas about general abilities within the framework of domestic psychology.

For example, S.L. Rubinstein considers "ability" from the point of view of activity theory and interprets this term as "a complex synthetic formation" as "a system of generalized mental activity fixed in an individual" [1, p. 704],

The author divides abilities into general abilities (ability to learn and work) and special abilities that function in various manifestations. Abilities develop in the process of activity. A.N. Leontyev divides abilities in humans into aspects that have a natural, mainly biological basis. As the author notes, natural abilities include new formations that develop throughout life, such as musical, speech, design, etc., the ability to perceive, perceive, think, which are equally inherent in all people, and it is precisely this that implies the "human abilities for social and historical forms of activity" of a person.

We consider it necessary to add to this list special technical abilities, which consist of a number of skills and abilities formed under the influence of "technical thinking" or "technical thinking". This is the ability to see the specific features of the functioning of a particular object, the ability to observe cause-and-effect relationships in the process of this activity, the ability to notice and observe details without which work is impossible. Certain technical abilities should be inherent in students initially engaged in technical activities. In the educational process, they actively contribute to the formation and development with greater or lesser success. A.N. Leontyev acts as an internal property of a person in the terminology of "organs of his individuality".

E.V. Artsishevskaya puts activity first and considers abilities as properties that can be determined only by analyzing activity, paying attention to the differentiation of abilities as a way to achieve a result [4].

Yu.B. Gippenreiter considers abilities in connection with predispositions, by which he understands the internal conditions for the development of abilities. Based on such conditions, the author

understands a number of properties of the nervous system, such as sensitivity, activity, mobility, and a number of anatomical and physiological features of the brain [5].

Technical abilities are genetically predetermined and activate the functioning of the brain. This corresponds to the point of view of V.D. Shadrikova. Abilities, according to the author, reflect the nature of a functional system that performs a certain mental function. This property or quality is general and is manifested in the successful and high-quality performance of certain mental functions.

Based on the natural basis, abilities are new intravital formations that develop "from the natural biological abilities of a person under the influence of the requirements of activity" [6, p. 61].

B.M. Teplov understands abilities as a set of individual psychological characteristics associated with the successful performance of any activity or several activities. Thus, technical abilities, undoubtedly, are based on biologically determined conditions - inclinations, and their development is mediated by knowledge and the successful performance of specific technical activities. Within the framework of this work, we note that the question of the importance of technical abilities for a student in the development of a person's technical abilities has hardly been raised and has not been specifically studied. The technical abilities of a person have a complex structure consisting of interrelated components, which are manifested in activity, primarily emphasizing the functional-subject sphere, have value relations with the process of subject activity, affecting the motivational sphere.

Technical abilities, undoubtedly, include a certain mobility, initiative and responsibility. This can be considered the ability to self-educate. Thus, technical abilities act as a harmonious combination of a block of characteristics, expressed in a certain motivational orientation of individual, personal and professionally important qualities. Among the professionally important qualities of a technically oriented person, it is necessary for a person to obtain higher education. In addition to general mental abilities, it is necessary to distinguish a certain level of development of sensorimotor skills necessary when working with them, tools, machines and equipment. Physical strength and dexterity of movement are also components of technical talent. Experience in working with technology, the desire to interact with technology are closely related to spatial imagination, which determines technical understanding.

Spatial imagination includes the ability to work with visual images, perceive spatial ideas and imagine their operation. The listed factors are innate abilities, which are difficult to develop even with long-term training.

Thus, technical abilities include a set of characteristics that are formed in a certain way, determining the active and successful process of activity and are one of the necessary conditions for a modern engineer.

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