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THE STUDY OF THE STAGES OF MENTAL DEVELOPMENT OF THE INDIVIDUAL

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Abstract

In this paper the authors examine some of the issues of intellectual development of students, modern requirements for teachers in this area of activity. Attempts have been made to describe the stages of intellectual development of students.

Keywords: development, cognitive development, creativity, validity, learning activities, stage, reproductive, intellectual and productive, prognostic, educational activity, the level of intellectual development.

Introduction

The modern educational situation places new demands on the teacher's personality. Society needs teachers who are able to accurately represent the content of their activities, identify problems in their environment, pedagogical space, solve them independently, and analyze the results obtained.

Teachers are becoming particularly relevant in the field of intellectual development of students. The structure of students' intellectual development is covered to varying degrees in the works of O. S. Grebenyuk, N. N. Poddyakov, R. Safarova, U. Nishonaliev and other researchers. These works indicate the stages of intellectual development based on the age and psychological characteristics of students.

The following stages of this work are listed, such as the intellectual development of pupils of preschool educational institutions, primary school students, adolescents, etc. The most significant is the period of intellectual development of students in grades 5-9, when special attention should be paid to a number of features of intellectual development. Thus, students in grades 8-9 have developed intellectual activity skills to a certain extent. This is due to the emergence of a need for this type of activity. They constantly strive to design, build, and invent something. Boys have a particularly strong need for technical

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creativity, while girls are more inclined to creative activity. Recently, girls have been experiencing an increase in their aspirations for modeling and design activities [1].

The desire of students for intellectual activity can be explained in connection with a number of features. This is the rapid development of science and technology in the republic, the penetration of innovations in various fields, the development of culture of various peoples in the country, the expansion of interethnic contacts, the possibilities of using the Internet, allowing our youth to actively get acquainted with scientific and technical innovations abroad [2].

All this places certain requirements on the design of the educational process aimed at the intellectual development of students:

1. Ensuring the validity of training assignments. When compiling and presenting them, attention should be paid to the specific characteristics of students, the volume and variety of information.
2. Educational tasks aimed at the intellectual development of students should be consistent and complement each other. At the same time, attention should be paid to the characteristics of students, the organization of educational situations in accordance with the curriculum.
3. The presented educational tasks should be expressive, evoke the emotions of students, encourage them to intellectual activity, and contribute to the realization of their intellectual capabilities. It should be ensured that the tasks presented to students in the process of cognition and learning should take into account the capabilities of each individual group.

The intellectual development of students can be carried out conditionally by dividing it into three main stages: reproductive, intellectually productive and prognostic [3].

In the first period of intellectual development, pedagogical tools should encourage them to engage in intellectual activity within the framework of the educational process. The intellectual and productive period is characterized by the fact that the teacher switches the main attention to the substantive and procedural direction of intellectual development. In this process, the initial characteristics and talent of students in solving intellectual problems begin to manifest themselves more vividly.

In the third period of intellectual development, the system of pedagogical means is directed at the formation of students' skills of intellectual and emotional-volitional activity. The validity of educational tasks aimed at the intellectual

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development of students is the main criterion for taking into account their characteristics. Certain types of intellectual activity should be selected as the main signs of the specific characteristics of students. At the same time, it should also be based on the specific inclinations of students' educational activities:

- the volume and speed of perception of educational information;
- the level of independence of the student in achieving educational goals;
- readiness of students to learn new educational material;
- students ' interest in the topic being studied.

The same criteria indicate the level of development of students' intellectual skills in the educational process.

To determine the level of intellectual development of students, constant monitoring of their mental activity acquires special pedagogical importance. In the process of intellectual development, it is advisable to combine them into different groups. The correct identification of a student's belonging to a particular group helps to ensure the effectiveness of their intellectual development. In addition, students have an incentive to move from one (lower-level) group to another (with a higher level of development). Thus, a student with an average level of academic achievement strives for a more successful level of academic achievement and development. Here, mutual cooperation between teachers and students, based on subject-subject relations, becomes relevant. To ensure the intellectual development of students, the teacher, first of all, must implement an approach to them based on humanistic principles [4].

As a result of this humanistic approach, it is possible to identify and eliminate contradictions in the situation of creative thinking of students. An intellectually productive educational situation manifests itself as a direct activity direction, and through educational activities the intellectual development of students is realized. Also, the contradictions between the intellectual development of the student and the educational process are eliminated. Through educational activities implemented in a predictive learning situation, an opportunity is created for the intellectual development of students. This allows students to develop skills for evaluating the results of their intellectual activity, contributes to setting new goals for the educational and cognitive process.

The development of intellectual abilities and personality as a whole acts as a strategic resource of society. That is why there is an urgent need to move from the description of theories of the nature of intelligence to the practical construction of the content of the process of development of the subjects of

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society. The purpose of the article is to study the interrelationships of the level of intelligence of a person and her ability to develop.

Today, the key areas of the study of intelligence should be concentrated within the framework of the integrity of cognitive abilities, which should include creative activity, learning skills and such a term as "intellectual competence". In addition, it is necessary to take into account the specifics of their application by the subject when performing educational, work activities, interpersonal contact with society. The predominant approach in studying the characteristics of the formation of personal intelligence and intellectual competence remains its definition based on psychometric measurement.

The first developer of the intelligence measurement scale, D. Wexler, noted that intelligence is a tremendous ability to intelligently and carefully interact with the environment, make rational decisions and effectively overcome all life obstacles. Thus, intelligence can be defined as a stable system of mental abilities. At the same time, to understand the nature of the development of human intellectual abilities in the process of life, not only test indicators of psychometric intelligence are of great importance, but also its cognitive components – value-motivational, emotional, personal and others. In addition, the latest domestic research on intelligence and creativity also indicates the fundamental importance of taking into account such neurodynamic aspects of intelligence development as indicators of the speed of mental actions, neuropsychological characteristics of the subject, metacognitive (cognitive-stylistic) features of intellectual activity, that is, sensory and intellectual components, from the standpoint of possible diagnostics of individual intellectual abilities. These studies confirm the need for consolidated modular diagnostics to study the psychophysiological, neuropsychological and psychological mechanisms of intellectual activity [5].

Indicators of the functioning of these mechanisms indicate that the latter act as abilities, mental resources in the regulation of individual and interpersonal intellectual activity, as well as social behavior. The unity of sensory and intellectual processes generates such a mental phenomenon as comparison, which, on the other hand, represents the highest level of perception and the empirical basis of thinking [1]. As you know, comparison includes a subjective reflection in the comparison of not only individual objects (or parts of them), but also their interrelationships. It consists in identifying the common features of the objects being compared and their differences. Comparison is an important

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strategic resource for effectively solving problems arising in the field of communication, and therefore it plays an important role in the organization of cognitive and communicative processes [8].

The analysis of various modern scientific studies has shown that: the transformation of the significant concept of "ability" has been carried out as a result of the expansion of the content of the concept of "intelligence"; new concepts have appeared – "competence", "mentality", "social and emotional intelligence", etc.; the definition of "ability" in modern research practices is applicable in many areas of mental activity (sociology, psychology, pedagogy, labor economics, etc.); qualitative methods are used together with methods of test measurement of intellectual abilities .

The most attractive today, as a theoretical concept for studying the intellectual abilities of a subject, is the "Ontological theory of intelligence" in the case of its study in the format of mental experience, which correlates with the specifics of the organization system and the effectiveness of mental activity.

The following conceptual approaches should be considered as the basis for the theoretical understanding of this theory:

1) structurally integrated (L.M. Vekker, A. Libin);

2) subjective (S.L. Rubinstein, A.V. Brush-linsky);

3) resource (V.N. Druzhinin).

Based on these approaches, theoretical conclusions for the psychology of intelligence were formulated and, accordingly, the foundations of a specific mental reality were highlighted.

Based on the positions of the structural-integral approach, the nature of each mental object, which is the intelligence of a personality, should be interpreted from the standpoint of the substrate (mental material), functions (behavioral characteristics of the personality) and directly the structure (components in interrelation with each other). Thus, the basis of this approach provides for at least three following consequences:

1. An integrated approach to the study of intellectual abilities based on modular diagnostics, which allows us to study the substrate, structure and functions in their interrelation and interdependence, that is, intelligence as an integral structure of individuality. This approach follows from the fundamental provisions of the psychosomatic harmonization of human development, self-organization and self-regulation, where higher-level formulations are the result of connections between neuropsychological, neurodynamic, emotional,

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cognitive, metacognitive components and collectively represent cognitive personal development.

Correlation and self-regulation of such a system as intelligence presuppose a high order of freedom at the primary levels of development, which decreases with the course of development (intellectual growth of the subject).

Similarly, the unit of development of mental activity is the transition from one of its components of a lower level to a higher level. Of course, such transitions take place under certain conditions and can be purposefully carried out within the framework of a system of psychological and pedagogical monitoring of activities.

2. The specifics of the implementation of intellectual derivative functions relate to the specifics of mental experiences. Their qualitative assessment contributes to the analysis of the essence of intelligence in ontological definitions, such as: "mental experience", "mental space and time", "mental structure", etc. In this context, the study of the subject's intelligence comes to the fore.

3. The definitive character of intelligence as a complex system has invariance, multidimensionality, nonlinear dynamics of development, and self-organization. The personal approach in the psychological aspect of intelligence research is based on the analysis of the internal conditions of mental activity and contains personal experience in the forms of study, which is conditioned by the experience of a particular subject.

Considering the following – a subjective approach – it is necessary to identify such theoretical bases as:

1) the conditions of the genetic nature and the external environment of the development process within the framework of the approach do not seem to come to the fore as determinants of intellectual development, but reflect the processes occurring in the mental experience of the subject;

2) the content and composition of the activity manifestation of intelligence (context) are determined taking into account the factors and conventions of this context;

3) there is a unique personal context and appropriate forms of cognitive approach within the framework of the subject's environment (intentionality, individuality).

The third approach, resource–based, is based on the analysis of accounting for subjective intellectual activity, which permanently dynamically activates (deactivates) a certain part of the resources corresponding to the life situation.

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The resource approach in the ontology of the theory of intelligence provides for the following provisions:

1) intelligence is studied not as a local resource (stability and inertia are not inherent in it), but as a continuum containing several lines of development, which characterizes the continuity of its development;

2) individual intellectual ability should be interpreted in the context of the study of the point of movement in a subjective n-dimensional space, where each vector reflects a specific type of resource and justifies the mobility of the individual;

3) intellectual development resources imply simultaneous renewal and characterize heterogeneity.

The ontological representation of intelligence from the positions of different approaches provides a methodology for interpreting real intellectual abilities and achieved points of human development as an individual and a member of group interaction in the process of joint intellectual activity.There are three main forms in the structure of mental experience – cognitive, metacognitive and intentional. Thus, the mechanisms of effective information processing are being developed: at the level of cognitive experience (including conceptual structures); at the metacognitive level - arbitrary and involuntary self–regulation of the level of intelligence development; within the framework of intentional experience - structures of the personal level of choice of intellectual activity, contributing to the compliance of its characteristics with the objective requirements of the surrounding reality. As a result, in conditions of increasing the level of intelligence, a person grows first of all personally, learns the processes of the surrounding reality, enriches his mental experience in the direction of increasing intellectual abilities, productivity and individuality of thinking.

Special attention is paid to the development of the level of intelligence in mathematical sciences, knowledge in which determines the "mathematical" mindset. Based on the above, it can be noted that increasing the level of intelligence development is facilitated by: solving various non-standard mathematical and Olympiad tasks; completing tasks and creative projects using creative technologies and active teaching methods.

The scientific facts of the research make it possible to consider intellectual characteristics as systemic, which arise as a result of the interaction of personality and intelligence. This fact was emphasized by S.L. Rubinstein – in his interpretation, the qualitative transition of intellectual qualities into character

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traits of the subject determines the personality itself, and not just its intelligence .

The conducted analytical review of existing works on the research problem shows that the basis of personality development is the intellectual ability to it, the origin of which arises as the basis for the development of all areas of human knowledge.

Thus, the study of intellectual qualities of a person is dictated by an attempt to overcome the existing gap between intellectual and personal aspects. The contextual definition of the composition of intellectual and personal development in their unity is based on the integrity and consistency of the psychological mechanism, which does not imply the "impersonality" of intelligence and a non-intellectual personality. Any intellectual quality of a person, which is a complex holistic education with characteristic multilevel connections, is a monosystem, which is a subsystem of such a systemic education as a person. Approaches in the ontology of intelligence and its development produce conclusions about the interrelationships of personal development and intelligence of the subject, which manifests itself not only in the development of mental abilities, but also in the formation of abilities of individual mental experience.

The first direction expresses the external connection between the teacher and the students. This type of relationship can be assessed as a relationship aimed at the student. The second direction is that the student enters into a relationship with himself. It reflects the knowledge acquired by him, opportunities, intellectual self-development, assessment of his intellectual activity in the process of learning and cognition, attitude to his actions, vision of the level of prospects for his development.

As a result of this relationship, the following can be distinguished:

1. The teacher's attitude towards students, here the lowest level of relationships is reflected. In this process, cooperation arises only in individual cases of joint activity. For example, when summarizing the results of an educational discussion, in the process of evaluating students' independent work.
2. The intellectual activity of students in the educational process, here the average level of the teacher's attitude to the intellectual activity of the student is expressed.

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3. The orientation of personal relationships to himself is the highest level of teacher-student relationship, allowing mutual cooperation in all situations related to their activities.

4. The teacher-student relationship based on mutual cooperation is the highest level of their relationship. It implements pedagogical activities based on mutual cooperation in all situations related to educational activities. As a result, the intellectual potential of students is consistently developing. From the outside, such relationships that ensure the intellectual development of students are not striking.The intellectual development of students is a complex and multidimensional process. The decisive factor of successful activity in this direction is the teacher's constant search for new forms and methods of work, systematic work on himself, self-education, self-education, reflection.

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