

## ACTIVITY APPROACH AS A PATH, METHOD AND WAY OF DETERMINING LEARNING EFFICIENCY

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**Abstract:** *The article is devoted to consideration of the analysis, generalization and description of how, using an activity approach, it is necessary to draw conclusions about the effectiveness of training on a scientific basis. It was concluded that the content of the activity approach consists in evaluating the effectiveness of the corresponding activity based on its results. The results of the activity can indicate the presence of abilities and talents of the individual, that is, they can be used to develop criteria for giftedness. Education is a full-fledged, complex, multifaceted and very important intellectual activity, the result of which, in particular, is the development of personal abilities. That is, the activity carried out in the learning process is a way, way and method of individual development. The effectiveness of an individual's education is reflected in the results of his activity. The results of intellectual activity, despite the significant diversity of their content, forms, types and levels, can be formalized, systematized, generalized and evaluated with the help of the conceptual approach proposed by us, which in turn, on a scientific basis, makes it possible to carry out an unbiased and objective analysis of the effectiveness of training and draw conclusions regarding the results of identifying (diagnosing) abilities, giftedness and opportunities and ways of its further development.*

**Key words:** *learning, activity approach, results, giftedness, abilities, development.*

The problem of the effectiveness of education was and remains relevant because, firstly, the desire to make activities as effective as possible is quite natural, and secondly, the reform of education in general requires the need to find modern ways, methods and ways of controlling the level of its effectiveness. It is advisable to start a conversation about the effectiveness of training by clarifying its purpose and indicators and characteristics that would give grounds for making scientifically based qualitative and quantitative conclusions about the extent to which the goal of training was achieved and, accordingly, to judge its effectiveness.

The purpose of any training is the acquisition of knowledge, abilities, skills, as well as the development of certain abilities related to the successful performance of relevant functions, duties, achievement of intended results, etc. [1]. In fact, the goal of the learning process is a formalized result in a certain way, which serves as a certain benchmark (a sample for comparison) and to which the corresponding activity is aimed. That is, it is a complex (system) of ideas about the final results (results) of the activity (interaction) of the subjects of the educational process, which at the same time determine the nature and possible forms of implementation of the corresponding educational

activity. In addition to the acquisition of specific knowledge, abilities, skills and the development of relevant abilities, the goal and, accordingly, the result of training can be considered the acquisition of the ability to learn, that is, to acquire new information, knowledge, to analyze the acquired information, to synthesize new ones, to develop oneself, etc.

Our work is devoted to the scientific substantiation of the possibility and expediency of using the activity approach as a way, method and method of effective learning. And the results of educational activities provide grounds for determining the effectiveness of the corresponding training.

In practice, determining the effectiveness of certain training is complicated by the fact that in some places it is significantly easier to list the quantitative (formal) achievements of an individual as a result of a certain training process than to carry out a qualitative assessment or to determine the informal (qualitative) significance of the relevant educational achievements. And at this stage of comparison (achievements), as one of the principles and methods of analysis, it should be considered one of the most effective and understandable ways of determining the significance of the results of educational activities.

Knowledge, skills, and abilities are acquired through learning, which is a purposeful intellectual activity. At the same time, the learning process itself must be connected with the acquisition of experience of how to acquire knowledge, abilities and skills, the acquisition of knowledge about exactly how to learn, that is, educational activity is inextricably linked with learning methods. The result of the educational activity will depend on the chosen path of learning, the applied learning methods, and in order to evaluate the effectiveness of the implemented activity, it is necessary to outline the possible ways of determining or evaluating the effectiveness of learning, as well as to formulate the appropriate criteria.

The evaluation of the effectiveness of training as a whole or its individual processes is based on the analysis and comparison of the results of activities directly or indirectly related to training. Learning, in our opinion, is a productive intellectual activity, one of the most important aspects and results of which is the development of personal abilities, as a guarantee of the possibility of further learning and the development of natural abilities and talents. Therefore, the diagnosis, formation and development of abilities can be considered as a goal and one of the most important and promising results of an individual's educational activity. In other words, the evidence and criterion of effective learning should be considered the achieved level of development of the natural abilities and gifts of the individual, as a result of appropriate activity, embodied in specific achievements (individual or collective).

In our research, we consider it necessary to emphasize and draw attention to activity, as a means (way) of achieving the desired results and to its results, as a means of differentiating achievements, as well as a means of diagnosing abilities and the presence of giftedness in general and assessing its levels in particular.

Having processed and analyzed the various opinions and approaches of scientists and practitioners, we see the following logic and single out the following main stages of consideration and construction of the foundations of diagnosing the development of abilities as a result of training, based on the activity approach [2; 3; 4; 5; 6; 7; 8; 9; 10; 11; 12;]:

- 1. Interpretation of abilities as the ability to perform a certain (relevant) activity.
- 2. Perception, study and evaluation of activity results as an indicator (criterion) of the presence (or absence) of relevant abilities.

Note that although this approach can generally be considered universal and acceptable for a very wide range of abilities, in our work we will focus mainly on the issues of studying, diagnosing and developing the intellectual abilities of young people.

- 3. Determination of formal indicators (formulation of criteria) of the significance of intellectual achievements as the results of educational activities.

- 4. It is possible to use certain "dynamic indicators and characteristics" to which we attribute the ability of an individual acquired as a result of educational activities to find simple, non-standard solutions, to use informal approaches in the process of solving actual problems, that is, the ability

of an individual to show creativity formed by education, and as well as the ability to generalize and make adequate conclusions.

In our opinion, it is necessary to diagnose the presence and development of abilities (giftedness) based on the analysis of the results of the relevant activity of the individual. At the same time, the activity itself is at the basis of the development of abilities, as it is based on their use, and the very process of active use of the relevant abilities (especially intellectual) contributes to their enrichment and development, similar to how the muscles of an athlete develop in the process of appropriate training.

Giftedness is always complex because it consists of a certain set of abilities, which in the process of the individual's activity are combined and form systemic connections, which provides an additional result (the so-called systemic effect), because it is known that parts (individual components) are combined into one workable whole, always have more value than alone. For example, a working clock (which, a priori, is a system) is able to bring significantly more benefit than its separate parts.

Methodologically, the processes of evaluation and comparison of levels of achievements as a result of educational activities should be based on agreed and recognized criteria and quantitative indicators that can be formulated, calculated, and compared thanks to the algorithmic formalization of an individual's achievements. Therefore, we consider the description of the approach to the possible formalization of personal achievements, for example, the expression of achievements in points and the introduction of an appropriate rating scale, to be a separate aspect of the problem under consideration.

We offer a description of one of the options for approaches to the possible formalization and evaluation of learning results as an intellectual activity of an individual, using the example of evaluating the achievements of participants in intellectual competitions (Olympiads, tournaments, contests).

In order to formalize the results of an individual's educational activity for the purpose of their further generalization, it is necessary to give them a form suitable for comparison, evaluation and making (based on certain criteria) conclusions regarding the effectiveness of the relevant educational activity.

It is clear that any extremely complex and multifaceted activity, which is the creative activity of a gifted individual, requires a certain formalization to evaluate the results, and therefore simplification (abstraction from details) means forced unification and standardization of indicators, parameters and characteristics and necessarily leads to neglect certain not very significant (under appropriate circumstances and in accordance with certain criteria) information. For example: considering the results of the participation of education seekers in the final stages of all-Ukrainian student Olympiads, tournaments, competitions in educational subjects (by year), i.e. comparing the results of competitions of the same legal level, we propose to abstract from the fact that it is possible that any Olympiad according to subjective evaluations is "more difficult" or "more prestigious", etc., and we compare only the results achieved by the participants according to the diploma degree of a certain type of competition of the corresponding level. That is, in our evaluation scheme, a priori it is considered that a participant of the final stage of the All-Ukrainian Student Olympiad, for example, in mathematics, was awarded a first-degree diploma and another participant of the final stage of the All-Ukrainian Student Olympiad, for example, in geography, who also chose a first-degree diploma according to our criteria "values" or the importance of intellectual achievements achieved the same results. At the same time, we also abstract from, for example, the percentage of completion of tasks or the number of points scored by participants to obtain the respective diplomas.

The main idea and possible approaches to the formalization of intellectual achievements, their unification, and the possibility of systematic evaluation of the effectiveness of the corresponding performed activity for a certain period (for example, for a year or for several years) have already been partially described by us [13; 14] and, in particular, consist of the following:

- firstly, in the creation and description of the list and structure of intellectual achievements clearly and unambiguously "tied", that is, agreed with the structure of intellectual

competitions, which would take into account commonalities and differences, demarcation, distinction and distribution of intellectual competitions according to their status (level), contingent of participants and characteristics according to various features, parameters and properties.

- secondly, in the creation of a certain scale, consistent with the list and structure of intellectual achievements, according to which an individual receives a certain number of points for each intellectual achievement, and for achievements whose level is determined to be the same (equal), participants receive the same number of points .
- thirdly, in predicting the possibility of using certain scaling or weighting factors, which would make it possible, if necessary, to take into account the importance (or secondary importance) of certain achievements according to a certain characteristic, feature, etc.

In order to compare the achievements of the winners of a certain type and level of competitions (for example, the final stage of the All-Ukrainian Olympiads), awarded with diplomas of various types, we suggest introducing a scale in points that would be assigned to the participant for the corresponding achievements. For example, a first-degree diploma of the final stage of the All-Ukrainian Student Olympiad would bring a participant 5 points, a second-degree diploma - 3 points, and a third-degree diploma one point. Achievements in competitions of various levels (for example, at all-Ukrainian and international Olympiads) can be displayed using coefficients, for example, a victory at an All-Ukrainian Olympiad has a coefficient equal to one, and a personal victory as part of the official team of Ukraine at the corresponding International Olympiad has a coefficient equal to two ( the value of the coefficient can be discussed and determined additionally, for example experimentally, in the process of finalizing the evaluation system). The achievements of the participants of the final stages of the All-Ukrainian Olympiads, tournaments, competitions, if necessary, can also be ranked with the help of appropriate weighting factors, thus reflecting the significance and recognition of the relevant type of competition (for example, to distinguish achievements at Olympiads from achievements and tournaments).

If a narrow task arises to investigate the ability (ability) of a certain student to work in a team, that is, to perform his part of the work, to see the place of his functionality in the overall picture and to be able to reconcile his own results with the results of others, etc., then it is clear that the results obtained at tournaments (as a collective form competitions) should have an increased coefficient. Similarly, when researching the ability to fast "sprinter" thinking, to operate with large volumes of theoretical and practical data, the ability to concentrate, relatively short-term but powerful concentration of intellectual efforts, the results achieved at subject olympiads, etc., should have more weight. At the same time, we propose to consider such a coefficient of differences equal to one by default and apply its change only in special, separately justified cases.

According to this principle, it is possible to obtain formalized information about the achievements of intellectual competition participants in a form suitable for evaluation, comparison, generalization, drawing conclusions, etc. In addition, by combining the information obtained according to a similar principle regarding the achievements of a specific individual in the process of other types and forms of intellectual activity (for example, regarding the number of published publications, speeches; the number of citations and references to author's works, etc.), it is possible to obtain integrative indicators, on the basis of which it is possible to create an appropriate conditional "scale of giftedness", which will essentially reflect the intellectual achievements of young people in a certain field of intellectual activity for a certain period.

It is clear that in order to obtain more complete information, in order to carry out a more in-depth and thorough analysis, to establish trends in the use of certain ways, methods and technologies of learning or other significant regularities, etc. and to make scientifically based conclusions, it is necessary to have more or less homogeneous (analogous) the results of many individuals over a sufficiently long period (several years), etc. It is important that the described approach and principle of calculation fully allows the generalization of the results for any specified period, provided that the rules (conditions, defining provisions, etc.) of intellectual competitions (participation in them, summarizing, etc.) or other results of intellectual activity individuals and the conditions of its

implementation did not change significantly, and in the case of some (individual) changes in order to take into account their possible impact, the corresponding individual results can be adjusted with the help of specially defined coefficients.

We have described the very principle, that is, the conceptual approach to the primary formalization of the results of educational activities based on achievements, but the size of the parameters and coefficients themselves, if necessary, can be adjusted to avoid clear and obvious "distortions" in the assessment of the results of activities and, as a result, in assessment of the level of educational achievements of the individual and the effectiveness of education as a whole.

By the way, based on our rather long pedagogical experience of observations and research, we undertake to assert that one of the signs of the development of personal abilities (as a result of effective training) is the ability (ability) to speak simply about quite complex things. The ability to explain complex issues in "simple language" indicates, first of all, a deep understanding of the essence of the problem by the individual, since a person thinks, and therefore formulates thoughts, in a certain language (including the language of numbers and other symbols).

Confusion in the presentation of thoughts, information, etc., as a rule, is a sign of a lack of clear knowledge and deep understanding of the essence of the problem.

If a person understands something thoroughly and deeply, then he will be able to express it and explain it to others. At the same time, if a person cannot express (formulate) an opinion, this first of all means that the opinion has not yet "crystallized", so there is no deep understanding and awareness of the essence of the problem. A clear, convincing and, most importantly, simple presentation of thoughts by a person is a sign of a person's good intellectual abilities.

Brief conclusions and prospects for further research.

1. The content of the activity approach consists in evaluating the effectiveness of the corresponding activity based on its results.

2. The results of the activity can be used to determine the effectiveness of the training process. That is, the effectiveness of an individual's education is reflected in the results of his activity.

3. Education is a full-fledged, complex, multifaceted and very important intellectual activity, the result of which is not only the acquisition of knowledge, abilities, skills, but also the development of personal abilities. That is, the activity carried out in the learning process is a way, way and method of individual development.

4. The results of intellectual activity, despite the significant diversity of their content, forms, types and levels, can be formalized, systematized, generalized and evaluated with the help of our proposed conceptual approach, which in turn makes it possible to conduct an impartial and objective assessment based on the activity approach analysis of the effectiveness of the learning process and the development of abilities.

5. The "dynamic indicators and characteristics" mentioned by us, which characterize the individual's ability to find simple, non-standard solutions, creativity, etc. acquired as a result of educational activities, require further thorough research.

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