

## **PEDAGOGICAL THEORIES AND THE ROLE OF THE SUBJECTIVE FACTOR IN THEIR DESIGN**

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### **ABSTRACT**

The article highlights the existing approaches to understanding and constructing pedagogical theories. The role of the subjective factor in their substantiation is shown. The author's position in the design of pedagogical theories is revealed, based on the system-synergetic methodology.

**Keywords:** pedagogical theory, functions of pedagogical theory, facts as the basis for constructing a pedagogical theory, categorical apparatus and logical structure of pedagogical theory, systemic and synergetic approaches.

### **INTRODUCTION**

As one of the most important components of the logical structure of pedagogical science, theory attracts the attention of many researchers, especially when it comes to its scientific status, the requirements for it, as well as the relationship between theory and practice. Particular interest in pedagogical theory as a backbone element of pedagogical science manifested itself in the 80s. last century. In all likelihood, this was due to the need to increase the efficiency of theoretical research in pedagogical science, caused by the reform of the general education school carried out at that time.

## METHODOLOGY

Quite a lot of publications on this problem have appeared on the pages of scientific publications. In particular, the issues of methodological principles of building a pedagogical theory (V.I.Zagvyazinsky), methodology of pedagogy, theory and pedagogical logic (V.E.Gmurman), the use of induction, deduction and hypothesis in building a pedagogical theory (D.V.Vilkeev) were discussed. , studies of the scientific status and prognostic function of pedagogical theory (B.S.Gershunsky), the functions of theory in constructing the logic of pedagogical research (I.Ya.Lerner), the relationship of pedagogical theory and facts (A.M. Sokhor), etc. not to mention the rather large publication on this issue that came out at that time - the textbook by B.I.Korotyaev "Pedagogy as a set of pedagogical theories", which analyzed the general state of pedagogical science in its theoretical aspect. Interest in this problem has not weakened at the present time. This is confirmed by a fairly large number of publications, primarily on the pages of the journal "Pedagogy", devoted to various issues of increasing the effectiveness of ongoing theoretical research.

Be that as it may, educators-researchers, as a rule, treat the concept of "pedagogical theory" rather cautiously and respectfully. As noted by B. I. Korotyaev, according to the prevailing views, "it is customary to classify only fundamental systems of knowledge into the class of theories" [1, p. 12]. Apparently, this explains why in the earlier textbooks of pedagogy theory is presented only in two sections: the theory of education and the theory of instruction (didactics). At the same time, these sections are called theories, according to the same B.I. Korotyaev, only on formal grounds, since knowledge in these sections is presented as meaningful systems, interconnected only in meaning [1].

## RESULTS

As an example illustrating the rather cautious attitude of the authors to the terms "theory" and "pedagogical theory", we can cite the catalog of defended doctoral dissertations in pedagogy in the period from 1930 to 2007, where the word "theory" is rarely found in the title of theses. At the same time, interest in this concept is growing every year, and not only in science, but also in pedagogical practice. For example, today, when preparing dissertation research on pedagogy, applicants pay special attention to that part of it, which deals with the scientific novelty and theoretical significance of the research. At the same time, many authors quite rightly

believe that scientific novelty consists in the increment of scientific knowledge that the carried out research brings to pedagogy.

However, the understanding of the scientific status and functions of pedagogical theory in the existing literature is far from unambiguous. Moreover, certain provisions found in the pedagogical literature do not fully agree with the main positions of the general philosophical plan.

The interest shown by researchers in determining the scientific status of pedagogical theory is, to a certain extent, due to the fact that the theory, in addition to traditional functions (constructive and explanatory), is increasingly focused on the implementation of a prognostic function. BS Gershunsky gave a fairly deep interpretation of the functions carried out by the pedagogical theory and its status in the general system of pedagogical knowledge in the article "On the scientific status and prognostic function of pedagogical theory" [2].

The functions realized by the pedagogical theory largely depend on the stage of scientific and pedagogical cognition at which this theory is used. Guided by the well-known scheme of the process of cognition, B.S. Gershunsky names in this regard three main stages that the pedagogical theory is going through. At the first stage, pedagogy, like many other sciences, is formed predominantly by the empiricist in an inductive way. At this stage, observation, systematization and description of pedagogical facts are carried out. At the second stage, based on the explanation of facts and their understanding, laws are formulated, hypotheses and theoretical concepts are put forward. At the third stage, an active transformation of pedagogical practice is carried out in a predetermined, predictively grounded direction. At the same time, the formulated laws and put forward hypotheses and concepts are actively used.

The study of the scientific status of a pedagogical theory, as, indeed, of any other theory, presupposes its consideration in morphological, structural, functional and genetic aspects. Some of these aspects of the pedagogical theory were investigated by B.S.Gershunsky and analyzed using the example of the theory of optimization of the educational process, developed by Yu. K.Babansky [2]. For example, characterizing the composition and structure of pedagogical theory, BS Gershunsky pays special attention to the categorical "frame" of the theory. Moreover, the pedagogical categories, in his opinion, have a number of peculiarities, which makes it possible to single out among the pedagogical concepts those that can be attributed to the category of categories. The first feature of pedagogical categories is that, unlike pedagogical concepts, they cover broader areas of educational and

educational activities, characterize not individual features of a particular object, but the most essential properties of all objects of a given type. The second feature of pedagogical categories is determined by the fact that they are more historical than pedagogical concepts. Their scientific significance, stability and fundamental nature are confirmed by practice in its broadest sense. The third feature of pedagogical categories is that each of them, reflecting the corresponding pedagogical phenomenon not only in the ascertaining, but also in the normative plan, by its very essence presupposes a categorical requirement, a duty. It is no coincidence that it is the pedagogical and didactic categories that actually determine the content and list of the corresponding pedagogical and didactic principles.

So, in accordance with these considerations B.S.Gershunsky among the most important pedagogical categories of the theory of optimization of the educational process included "integrity", "pedagogical conditions", "time saving", "concretization of the tasks of training and education", "pedagogical stimulation", "Pedagogical council", "moral and pedagogical climate in the classroom", "advanced pedagogical experience", etc. Many new concepts are introduced into pedagogical use, brought from other areas of knowledge: "criterion of optimality", "integrated planning", "Intellectual-volitional act", "problem-search thinking", etc. However, the author admits that "the scientific status of the given categories and concepts is difficult to define unambiguously, that is, unconditionally refer them to either the empirical or theoretical level of scientific and pedagogical knowledge" [2, p. 68].

It seems to us that for the purposes of constructing the logical structure of pedagogical theory, it would be more useful to identify among the variety of concepts those of them that can be attributed to the main (undefined), and also to trace how the basic and auxiliary concepts are related to each other. By the way, V.E. Gmurman also points out the need to streamline the system of pedagogical concepts in one of his publications. "One of the trends in the development of modern knowledge," he writes, "is to reduce the number of theoretical concepts in each of the scientific disciplines to the possible minimum" [3, p. 153].

AM Sokhor draws attention to the relativity of pedagogical theories in one of his publications. "Among the sins of which the pedagogical theory is most often accused," he writes, "the first place is probably occupied by uncertainty, a plurality of propositions and conclusions" [4, p. 45]. The well-known linguist AA Leont'ev writes about this: "Acquaintance with the literature on the methodology of teaching foreign languages amazes any person by the fact that in this literature diametrically opposed points of view coexist on almost all major issues" [5, p. 135].

It is well known that this applies far beyond language teaching methods. The situation in the methods of teaching mathematics gave rise to the well-known mathematician and methodologist D. Polya for the following conclusions: “Today there is still no science of teaching in the proper sense of the word, and there will not be one in the foreseeable future. In particular, there is no teaching method that would be indisputably the best ... There are as many cases of good teaching as there are good teachers: teaching is more art than science” [6, p. 89]. Elsewhere, D. Polya proclaims the sheer relativity of pedagogical attitudes: “... in teaching, as in many other things, it does not really matter what your attitude is. And it is very important whether you are trying to put it into practice” [7, p. 84].

However, it is well known that the same D. Polya, rejecting the methodology of teaching mathematics, is himself one of the outstanding methodologists. Similar contradictions were reflected in his works, which we have already cited, where he notes that lectures on methodology can be useful [7], the principle of active learning is the most indisputable in didactics [6], “common sense, as Descartes noted, nevertheless far from being the same for everyone” (cited in [6 p. 91]), and, therefore, one must rely primarily on theory.

To deny the stability (or even the presence) of pedagogical patterns on the grounds that different teachers have differently good lessons is, as A.M. Sokhor pointed out, to deny the patterns of technical sciences, since there are very different and, in their own way, good technical sciences. constructions [4]. The juxtaposition of science and art in pedagogy, it seems to us, is as pointless and fruitless as in technology or mathematics, where no one doubts that the art of solving problems is based on science, that it is not enough to know theory to be able to solve any problem. knowledge of problem theory is certainly not solved, or that one and the same problem can be solved in many, often very different, ways.

We can fully agree with A.M.Sokhor that the source of relativity of pedagogical theories can also be the epistemological circumstance that, like any inductive science, pedagogy does not verify its hypotheses, turning to practice, but only makes sure that this hypothesis does not contradict practice.

“But if the hypothesis under consideration cannot be falsified,” writes V. V. Nalimov, “then it does not follow from this that it will not be possible to put forward another, perhaps stronger hypothesis, which will also not contradict observations” [8, p. ... 90].

The existing discrepancies in theoretical works are largely due to the fact that the authors proceed from different initial conditions and target settings. This

circumstance, in particular, is pointed out by the same A.M. Sokhor. "In all such cases," he writes, "direct references to these circumstances would fully clarify the essence of the issue" [4, p. 49]. "Pedagogical theory," continues AM Sokhor, "is no more and no less relative than any other theory. Another point of view is not only methodologically flawed, opening the way for handicraft in pedagogy, the opposition of natural and social sciences on the basis of the imaginary relativism of the latter, but - most importantly - contradicts practice" [4, p. 49].

On this basis, A.M.Sokhor distinguished the main positive qualities of pedagogical theory, which:

- ✓ in the epistemological sense is an ideal model of a certain class of phenomena;
- ✓ proceeding from uniform (fairly general) laws, principles, explains the essence of a certain class of phenomena;
- ✓ based on the explanation predicts the course of events, the consequences of certain phenomena of a given class;
- ✓ allows in practice to check the truth of the explanations given by it;
- ✓ allows you to establish the measure of phenomena, the unity of their qualitative and quantitative features, which is inevitably associated with formalization;
- ✓ allows you to describe the phenomena of a given class in a fairly specific language, "sublanguage" of a given branch of knowledge;
- ✓ indicates the boundaries of the area where it is correct, as well as the reasons for the existence of such boundaries;
- ✓ plays an irreplaceable role of the method of scientific knowledge, linking the essential features of this class of phenomena with others;
- ✓ possesses "integrity", does not contain internal logical contradictions;
- ✓ is a system of evidence-based reasoning;
- ✓ relies on a certain system of cognition methods;
- ✓ sooner or later finds practical application [4].

However, not all the provisions highlighted by A.M. Sokhor can be fully agreed. For example, pointing out that pedagogical theory has "integrity", that is, it does not contain internal logical contradictions, the author does not take into account the fact that it is contradictions, including internal ones, that determine the development of pedagogical theory. In all likelihood, the author was guided by the requirement of consistency, which any theory must satisfy, regardless of the nature of its subject area, logical type, cognitive level. It is known that only a theory in which

any two of its scientific positions are logically compatible with each other is considered to be consistent. However, resolving internal contradictions, the theory develops. Continuing this thought, one can recall that in addition to internal contradictions (for example, between the laws of the corresponding theory, which indicates its crisis), there may be contradictions between theory and experimental data, between theories and general theoretical principles, as well as contradictions between theories.

## DISCUSSION

The situation, which deals with the limits of applicability of pedagogical theory, requires, as we see it, additional clarification. Indicating the limits of the theory's applicability inevitably means one-sided theory. In order to substantiate the consistency of this position, it is enough to turn to one quite fair remark of KD Ushinsky: "Theory can be one-sided, and this one-sidedness of it can even be very useful, highlighting especially the side of the subject that others have left in the shadows; but the practice should be as comprehensive as possible" [9, p. 41].

In all likelihood, the last provision highlighted by A.M. Sohor, which deals with the practical application of the theory, also requires clarification. Since the bulk of pedagogical theories are inductive, the conclusions obtained in it must necessarily undergo experimental verification. In this case, the measure of confidence in the corresponding conclusions of pedagogical theory increases. Developing this idea, we note that experimental confirmation of theoretical conclusions is not a sufficient basis for statements about the truth of the latter. It is quite obvious that the results of the experiment are of a private nature about the fairness (or unfairness) of theoretical conclusions. From the point of view of increasing the reliability of these conclusions, there is a need to carry out repeated experimental verification or study of pedagogical practice in order to search for facts confirming the conclusions obtained theoretically. Even so, it cannot be guaranteed that the relevant provisions are true. They can be refuted due to changes in some external conditions that affect education.

Be that as it may, facts are the foundation of pedagogical theory. At the same time, it is pedagogical theory that makes it possible to see facts that were not noticed before, and, most importantly, to reveal the unity of facts in some respect. So, in the light of the theory of problem learning, the advantages of some forms of combining words and visualization over other forms become clearer.

The connection between pedagogical theory and facts from the field of pedagogical reality can be very dialectical. This, for example, is pointed out by A. M. Sokhor. "Science can be aware of the facts, - he writes - but it is not known how many or whether satisfactorily explain these facts the theory. A certain level of development of science in this area is needed for a theory to appear. Until science reaches this level, the number of facts does not pass into a new quality" [4, p. 43].

Facts alone are not enough to create a pedagogical theory. It is difficult to disagree with this provision. "A theory cannot be deduced directly from facts. For this, it is necessary to use a number of theoretical principles, methodological premises, ideas, which are also inductively not derived from experience, but are the product of thinking based on experience" [10, p. 45]. In other words, a pedagogical theory cannot be a logical consequence of facts that can be deduced according to certain rules. It is well known that, in contrast to the deductive sciences, there is no rule of inference in pedagogy.

We have to note that in pedagogy, the idea that it is possible to somehow compensate for the lack of necessary conditions within scientific and interdisciplinary conditions for the development of a pedagogical theory remains tenacious in pedagogy. It must be said that the identification of all conditions of this kind is an important task of the methodology of pedagogy. In one of the first places among these conditions, A.M.Sokhor proposes to place the emergence of a central idea that can become the nucleus of a future theory and contribute to pulling together into a single knot and resolving the contradictions that science encounters in this particular area [4].

Interestingly, the central idea of pedagogical theory does not have to be completely new or introduced from another area of scientific knowledge. For example, both the discreteness of the learning process and the need for feedback in teaching have long been known to pedagogy (albeit under different names). But they formed the basis, in particular, of the theory of programmed learning.

The opinion that the presence of a practical need can directly or indirectly lead to the development of an appropriate pedagogical theory can be considered very controversial. In fact, a certain stage in the development of pedagogy itself is needed here. Already "posing a problem is an exploratory action. The statement of the problem in no case can be reduced to a simple indication of the unknown" [5, p. 28]. On the other hand, when a certain level of science has been reached, the creation of a theory cannot be hindered not only by a certain lack of factual material, but even by the vagueness of the definition of the object of the theory. In

confirmation, one can give an example when fundamentally different approaches to the definition of the concept of "programmed learning" did not prevent the emergence of its various theories.

Educational science is inherently pluralistic enough. This means that different grounds are allowed in the construction of each pedagogical theory. This, of course, has its positive aspects. For example, it allows you to study the object of pedagogical research from different angles. However, there are also negative features, which, in particular, are due to the contradictory foundations of the construction of each such pedagogical theory. Sometimes this leads to conflicting theoretical conclusions, which often gives rise to disputes that are not always correct. But these disputes, it seems to us, are groundless, since the authors defending different positions are based on different premises.

Nevertheless, pedagogy has accumulated a fairly large volume of various pedagogical theories, which, naturally, should be taken into account when constructing modern theories. An example of a well-structured pedagogical theory, already mentioned by us, by the way, is the theory of optimization of the educational process.

The theory of problem-based learning has become widespread in pedagogy and education, the emergence of which was due to the desire of researchers to find optimal conditions for the development of cognitive activity of students.

The study of ways to optimize the educational process, increased attention to the issues of individualization of learning led to the focus of a number of studies on the development of the theory of programmed learning. Actually, the theory of programmed learning originated in American pedagogy. In domestic pedagogy, this theory has found its appropriate development.

One of the most frequently mentioned in the pedagogy of the 80s. theories is the theory of individualization of student learning. Analyzing the contribution of scientists to its development, one should first of all single out as a leading trend the desire of researchers to penetrate the depth of the problem. This is reflected in an increasingly detailed and multifaceted consideration of the main categories and definitions of the theory of individualization of teaching, the desire to use a holistic approach to the analysis of pedagogical phenomena, to reveal the patterns of implementation of an individual approach in teaching and upbringing.

Any pedagogical theory is based on a certain methodology, which is essentially based on five main methods: analysis, synthesis, induction, deduction and reduction. However, pedagogical theories, as well as any other scientific theories,

have their own specific methods. In their most general form, they can be divided into two main classes: methods of scientific knowledge and methods of experimental research. The presence of experimental confirmation of pedagogical conclusions is a necessary condition for the case of constructing pedagogical theories. In principle, we can say that pedagogical theories are a kind of "symbiosis" of empirical and theoretical conclusions.

It is easy to assume that the construction of pedagogical theories is based on the articulation of formal and informal logic. At the same time, formal logic is represented by attempts at modeling, which is typical, in particular, for a systems approach. The informal component of logic is manifested by the opinions of specialists as a kind of experts. This can be confirmed by the use of characteristic phrases in publications ("in our opinion," "as it seems to us," etc.), which is a manifestation of the subjective component.

However, attempts at mathematical and statistical substantiation of expert conclusions can hardly be called correct, if we bear in mind the manifestation of pedagogical laws regarding an individual participant in education. This kind of justification can be correct only in the case when the processed data on a representative sample characterizing the pedagogical influence on performance (for example, the education of students, the professional qualifications of teachers, the health of educational participants) belong to the corresponding group of participants in the education. But conclusions of this kind do not in any way characterize the corresponding performance in relation to an individual participant in education. The pedagogical influence exerted on each participant in education is a significant factor in its development as a whole and its individual qualities. Therefore, the application of statistically substantiated conclusions to an individual participant in education is fraught with the threat of harm to him, contrary to statistically substantiated conclusions about the benefits of such an influence for the majority of users of pedagogical tools.

Thus, the analysis of the state of pedagogical theories testifies to the insufficient role of the formal component in obtaining scientific conclusions. Until now, the role of the subjective factor (for example, the personal position of a scientist) in the formulation and substantiation of scientific conclusions is quite large. In addition, experimental confirmation of scientific conclusions is by no means always correct and reliable sufficient confirmation (or refutation) of certain theoretical conclusions.

These circumstances clearly indicate an increase in the role of methodological foundations in the construction of pedagogical theories. There are various methodological foundations that can be used as the basis for constructing a pedagogical theory. Among them, a systematic and synergistic approach occupies an important place. It must be said that the relationship between consistency and synergy in the methodology of science is not constant. It is determined by many factors and depends on many reasons. This is the state of the theory development, its applied relevance, the clarity of the foundations for constructing the theory, etc. Due to this variety of possible foundations for constructing a pedagogical theory, the existence of various theories is quite possible. Synergy between them consists in mutual complementarity, in mutual enrichment, in mutual verification of theoretical conclusions for compliance with multifaceted practice.

The combination of consistency and synergy as methodological foundations allows theories not to be fenced off from each other, but to try to find common conclusions, similar results, to double-check their conclusions and conclusions of another theory for compliance with practice, which, by the way, indicates the possibility of mutual enrichment of theories.

It is quite obvious that when it comes to designing a pedagogical theory, it is advisable to use a systematic approach as an irreplaceable methodological basis. It is the systematic approach that allows us to quite unambiguously determine both the composition and the hierarchy of the components included here. As soon as the implementation of this system begins, it makes sense to adhere to the methodology of the synergetic approach, since it is the synergetic approach that provides the most expedient hierarchy in the pedagogical theory as a logical system under the conditions of alternation of regular and random phenomena in the surrounding reality. This will allow not only to adequately respond to changes in a specific area of knowledge, but also to a certain extent to influence the structuring of this area of knowledge.

## CONCLUSION

Thus, a comparison of the systemic and synergetic approaches as methodological foundations for constructing a pedagogical theory shows that each of them has very important advantages from the point of view of the dialectics of scientific knowledge. When it comes to building a pedagogical theory, the systemic approach can be considered an irreplaceable methodological basis, which, considering a scientific theory as a logical system, allows us to identify its systemic

properties. When it comes to the use of scientific knowledge, the application of pedagogical theories in scientific knowledge, then it makes sense to turn to synergy. Speaking of synergy, we primarily mean self-organizing systems. Correlating this provision with the methodology of scientific knowledge, it is advisable to provide the subjects of scientific knowledge with room to identify the relevant scientific knowledge. In other words, it is impossible to recognize as scientific only the knowledge that is obtained as a result of a theoretical conclusion, and not to consider as scientific those that are obtained empirically. If we assume the coexistence in scientific knowledge of various theories (and other theoretical constructions), then as a result of self-organization, only that which corresponds to reality will "survive" and gradually that which does not correspond to it will "die out". Therefore, in the methodology of science, it makes sense to talk about a combination of consistency and synergy, which, in fact, we are doing in this article.

Guided by the systemic and synergistic approaches, it is possible to build various theories, since the interpretation of these approaches can be different and, accordingly, the levels of consideration of the pedagogical theory can also be different. But common to all pedagogical theories are the necessary grounds that we thought it possible to indicate.

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