Е. В. Карпова, А. В. Невзорова

Соотношение функциональной грамотности и фундаментальной подготовки: единство противоположностей

Введение. Актуальность проблемы соотношения функциональной грамотности и фундаментальной подготовки обучающихся обусловлена тенденциями развития современного образования, востребованностью подходов к совершенствованию образовательного процесса, а также необходимостью систематизации и осмысления научных взглядов на содержание и ключевые задачи общего образования. Цель статьи – провести анализ соотношения функциональной грамотности и фундаментальной подготовки обучающихся с позиций педагогики и психологии, представить авторскую научную позицию, характеризующую возможность синтеза рассматриваемых подходов.

Материалы и методы исследования. Основным методом исследования выступил качественный анализ сущности, содержания, результатов исследований функциональной грамотности и фундаментальной подготовки. Также был использован сравнительный анализ двух подходов с помощью дополнения педагогического аспекта анализа теоретическим, собственно психологическим аспектом, содержанием которого является установление закономерностей и механизмов, на основе которых базируются эти подходы и последующая их оценка.

Результаты исследования. Несмотря на различия в понимании функциональной грамотности и функциональной подготовки в России и за рубежом, существуют общие особенности этих подходов, а также выявляются их дифференцирующие признаки. Основные из них заключаются в том, что для фундаментальной подготовки характерна, прежде всего, ориентация на формирование, преимущественно, обобщенных, абстрактных знаний и возможностей их переноса. Для функциональной грамотности характерны, во многом, противоположные установки: ориентация на формирование практико-ориентированных, конкретных знаний.

Заключение. Выявлено явное, полное соответствие парадигмы фундаментальной подготовки с ЗУНовским подходом, с одной стороны, и аналогичное по степени полноты соответствие парадигмы функциональной грамотности с компетентностным подходом. Обнаружено принципиальное подобие идеологий указанных подходов, изоморфизм их основных принципов и общей направленности. Их сравнение легко в основу решения проблемы соотношения фундаментальной подготовки и функциональной грамотности.

Ключевые слова: функциональная грамотность, фундаментальная подготовка, категория знания, декларативное и процедуральное знание

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The ratio of functional literacy and fundamental training of students: the unity of opposites

Introduction. The relevance of the problem of the correlation between functional literacy and fundamental training of students is due to the trends in the development of modern education, the demand for approaches to improving the educational process, as well as the need to systematize and comprehend scientific views on the content and key tasks of general education. The purpose of the article is to analyze the correlation between functional literacy and fundamental training of students from the standpoint of pedagogy and psychology, to present the author’s scientific position characterizing the possibility of synthesis of the approaches under consideration.

Materials and methods of research. The article presents an analysis of the essence, content, results of research on functional literacy and functional training. A comparative analysis of the two approaches is carried out. There is a need to supplement the pedagogical aspect of the analysis with a theoretical, actually psychological aspect, the content of which is the establishment of patterns and mechanisms on which these approaches are based and their subsequent evaluation.

The results of the study. Despite the differences in the understanding of functional literacy and functional training in Russia and abroad, there are common features of these approaches, as well as their distinguishing features are revealed. The main ones are that fundamental training is characterized, first of all, by an orientation towards the formation, primarily, of generalized, abstract knowledge and the possibilities of their transfer. Functional literacy is characterized, in many ways, by opposite attitudes: orientation towards the formation of practice-oriented, specific knowledge.

Conclusion. There is a clear, complete correspondence of the paradigm of fundamental training with the “knowledge-skills-automated skills” approach, on the one hand, and a similar degree of completeness correspondence of the paradigm of functional literacy with the competence approach. The fundamental similarity of the ideologies of these approaches, the isomorphism of their basic principles and general orientation are revealed. Their comparison formed the basis for solving the problem of the ratio of fundamental training and functional literacy.

Keywords: functional literacy, fundamental training, category of knowledge, declarative and procedural knowledge

For Reference:
INTRODUCTION

An immanent and, in fact, the main feature of the evolution of pedagogical views, both in terms of their proper theoretical content and in terms of their practical implementation, is the formation of new and new approaches and systems, concepts and principles, schools and trends. A special place in recent years has been occupied by the concept of functional literacy and its intensive development both in theoretical and applied aspects. For example, theoretical issues of functional literacy are considered in the context of the historical development of the concept [25], as well as in the conditions of modernity in general [11] and the modern stage of education development in particular [3]; applied researches touch on the formation of functional literacy as a challenge to educational practice [19], highlight the problems of monitoring functional literacy [2]. In this regard, it should be noted, first of all, the presence of great attention and various international UN initiatives in education in relation to this problem [35].

It is a common fact that the direction designated as the paradigm of functional literacy goes back to the concept of literacy, which took shape in the field of pedagogy and psychology in the 1950s of the last century in the context of the ideas of reconstructionism [30]. It characterizes two main roles of education – to transmit culture and to change culture; moreover, when culture is in a state of crisis, the second role comes to the fore. We are talking about the formation of a generally accepted social culture in all senses, including among social groups with special educational needs – without a specific place of residence [32], illiterate people [33], with physical or mental health disorders [40]. Along with the ideas of reconstructionism, the concept of literacy was considered in line with the study of the learning process in pedagogical psychology [4]. In pedagogical research works, the relationship between the quality of general education and the level of formation of functional literacy is actively studied, the results of the international assessment of students' educational achievements (PISA) are analyzed [24]. The term "functional literacy" itself was first officially introduced in 1957 by UNESCO along with the concepts of "literacy" and "minimal literacy". It is this organization that has become a kind of accumulator of information in the world in the field of functional literacy. Literacy was understood as the skills of reading, writing, counting and working with documents. The substantive and ideological meaning intended in the concept of functional literacy has been studied using a meta-analysis of an pool of studies [34]; functional literacy is presented as an applied phenomenon that affects various spheres of human life [37], in a number of studies individual components and predictors of literacy have been considered [39]. Minimal literacy is considered as the ability to read and write simple messages [38]. According to UNESCO documents and foreign studies, a functionally literate person is considered to be one who can participate in all types of activities in which literacy is necessary for the effective functioning of his group and community. It is clear that according to different social groups, different levels and relevant types of literacy can be considered, for example, for high school graduates – this is one set [36], for adults – a completely different one, for example, presented in the form of a metacognitive model for the development of different types of literacy [29] or in the form of a training system [36]. UNESCO's official website notes that, despite the progress made, literacy problems remain relevant for at least 773 million adults worldwide who do not have basic literacy skills.
In modern Russian works there listed the basic features of a functionally literate person, among them independence, the desire to learn about the world around us, the ability to live among people, possession of general academic skills and (or) key competencies [8]. Its key characteristics are highlighted, such as: 1) focus on solving everyday problems; 2) situativeness, manifestation in specific social circumstances; 3) connection with the solution of standard, stereotypical tasks; 4) mastering the elementary (basic) level of reading and writing skills; 5) using, first of all, in an assessment of the adult population; 6) solving the problem of finding ways to accelerate the elimination of illiteracy [22]. Special attention is paid to the formation of functional literacy of students, psychological and pedagogical concepts of the formation of functional literacy of students are formulated: research by S.G. Vershlovsky, M.D. Matyushkina, dedicated to the study of functional literacy of school graduates [6], experience in the introduction of functional literacy in the educational process [7], personality-oriented, activity-based, contextual competence, search and creative, participatory, reproductive and algorithmic, integrated assessment, innovative and infrastructural concepts of functional literacy [10]. The issue of measuring the formation of functional literacy is also quite studied: its criteria are defined [23], approaches to assessing functional literacy [18], monitoring studies are conducted [14]. At the same time, the problem of functional literacy has not been studied enough in theoretical terms. In addition, there is practically no comparative analysis of this paradigm with others. The above fully relates to the approach that has taken shape at the present time and has received the name of functional literacy. It should be noted that, having initially taken shape as a certain antithesis to traditional approaches, which together represent the paradigm of fundamental training, it is usually compared with it. Moreover, such a comparison is often in the nature of contrasting, opposition and evaluation on the principle of "better-worse". Because of this, the current problem of understanding and evaluating the functional literacy paradigm itself should be carried out on the basis of its comparative analysis with more traditional approaches fixed in the paradigm of fundamental training. However, in the process of the formation of this approach, a whole range of issues that are quite important both theoretically and practically arises, the main ones being, in particular, the following. The purpose of the study is to determine whether an approach to learning based on the priority of functional literacy can act as a worthy and sufficient alternative to traditional approaches in general and the paradigm of fundamental training in particular. Research objectives: 1) to study how transposable are the results of learning on the principle of functional literacy in the intersitational plan; 2) whether the degree of generalization of these educational results is sufficient for their proper adaptability to the real variability of the social environment; 3) how these educational results contribute to personal development. The presented list of tasks is not final, it can be continued, since the specification of educational results can be even more detailed. The totality of all these tasks is reduced to solving the main purpose of the study, which is indicated above and which consists precisely in finding the justification for the most rational and consistent approach to the organization of training.

MATERIALS AND METHODS OF RESEARCH

As a methodology for the development of this problem, it is advisable to choose the procedure of descriptive and comparative analysis of functional literacy and fundamental training. Attempting a comparative analysis of these two approaches, we note, first of all,
the following circumstance. Practically all the attempts of this kind that have already been carried out and are continuing to be implemented are mainly of an explicitly empirical nature and are based on a comparison of the results (consequences and empirical facts) that occur as a result of the implementation of each of them. In other words, they are carried out on the principle of comparing these approaches as, first of all, pedagogical practice, which in itself is not bad and even necessary. In our opinion, the pedagogical aspect of the analysis, although it should be preserved as the initial one, should still be supplemented by another aspect of the analysis – already theoretical. Its content is to establish the patterns and mechanisms on which these approaches are based and the subsequent assessment of them, and not the consequences to which they lead.

We emphasize that the vast majority of pedagogical problems not only admit, but also imperatively presuppose the need for a certain, sufficiently in-depth level of their development, mandatory reference to psychological data proper [15]. There is a need to move to the level of psychological explanation, that is, the transition from the level of phenomenon to the level of essence, at which the basic laws and mechanisms of phenomenologically presented pedagogical phenomena are localized. Based on this, there is reason to believe that the problem of the correlation of these two approaches can receive a new, additional and significant impetus for its development by transferring it to the level of proper psychological comprehension, involving the identification of patterns and mechanisms underlying them. One of the possible options for such consideration will be presented below.

First of all, it should be noted that such an attempt aimed at their comparative analysis is fraught with significant difficulty due to the ambiguity, uncertainty, amorphous concepts of functional literacy and fundamental training. Moreover, there are significantly fewer disagreements regarding functional literacy than in relation to fundamental training. In Russian-language works, the essence of fundamental training is interpreted as the formation of a solid base, the basis of knowledge, a deep understanding and awareness of the basic terminology, phenomena, laws – everything that makes up the core of each scientific field. Such an understanding of fundamental training is close to such an organization of training that existed in the Soviet school, and which at the end of the twentieth century began to be called traditional technology. In English-language works, fundamental training is almost synonymous with basic training; that is, a certain minimum amount of educational material is assumed, which is necessary for continuing education at the next stages and represents some most elementary knowledge. At the same time, despite these differences, the common features of both are still quite clearly revealed, and their differentiating features are also clearly elicited. The main ones are as follows. Fundamental training is characterized, first of all, by an orientation towards the formation of mainly generalized, abstract, allowing for broad possibilities of transfer and transformation of knowledge; the formation of knowledge mainly of a substantial – explanatory, that is, descriptive type; orientation towards the transsituativity of knowledge; the priority of the formation of general intelligence, rather than practical, etc. Functional literacy is characterized, in many respects, by opposite attitudes: orientation to the formation of practice-oriented, specific, not allowing wide transfer of knowledge; the formation of knowledge of a predominantly prescriptive type, an attitude to the formation of components of practical, rather than general intelligence, etc.

These differentiating features, as well as the underlying features of the approaches themselves, form the "phenomenological facade" of the reality that is associated with each of them. At the same time, it is still necessary to try to look behind this facade and give, if possible, a proper conceptual assessment of these approaches.
THE RESULTS OF THE STUDY

First of all, it is necessary to emphasize once again that such an attempt aimed at their comparative analysis is fraught with significant difficulty due to the ambiguity, uncertainty, amorphous concepts of functional literacy and fundamental training.

As it is known, much earlier and regardless of the formation of these approaches, in pedagogy and psychology, as well as in other fields of science and practice, two even more general and important approaches took shape – the so-called "knowledge-skills-abilities" and competence-based. In part, the "knowledge-skills-abilities" approach is reflected in the fundamental core of general education [26]; the competence approach has been widely considered in a number of works concerning the very concept of competence [21], as well as competence in the mainstream of general [28] and vocational education [16]. Without going into a comparative analysis of their content and consideration of their advantages and disadvantages, we note the following, a key circumstance for this work. It lies in the fact that there is a clear, very complete, complex correspondence of the paradigm of fundamental training with the first of them ("knowledge-skills-abilities"), on the one hand, and a similar degree of completeness correspondence of the paradigm of functional literacy with the second (competence). Of course, even despite such a clear correspondence, there is no identity between them – we are talking about the fundamental similarity of the ideologies of these approaches, about the isomorphism of their basic principles and general orientation. This leads to an important conclusion: the comparative analysis of fundamental training and functional literacy and their assessment must necessarily be transferred to the already existing rich experience that has been accumulated during the comparative analysis of these two approaches. Consequently, the problem of comparative analysis of functional literacy and fundamental training is to a significant extent an analogue of the problem of the relationship of the "knowledge-skills-abilities" and competence paradigms. In light of this, it can be seen that only the well-known inertia of traditional theoretical concepts prevents recognizing and implementing in research practice the important and fairly obvious fact that there is a fundamental similarity between these two approaches. Therefore, the problem of comparative analysis of fundamental training and functional literacy must necessarily be considered and solved on the basis of such isomorphism. The results and conclusions that have already been obtained in the works on the competence approach and its comparison with the traditional "knowledge-skills-abilities" approach should be transferred to the comparative assessment of fundamental training and functional literacy. Their comparison is the key to solving the problem of the correlation between fundamental training and functional literacy. Accordingly, the very significant results obtained in the course of their comparative study and generalization of the practical experience of their implementation must necessarily be used for a comparative analysis of fundamental training and functional literacy.

At the same time, an even more significant consequence follows from what has been said. It lies in the fact that with such a statement of the problem under consideration, the leading and defining role of the category of knowledge as the basic one for these two approaches – the "knowledge-skills-abilities" and the competence-based one is clearly revealed. Indeed, in relation to the first of them, the category of knowledge is system-forming, initial and
basic, acting as the main subject and the main goal of its implementation. Moreover, this approach is sometimes generally referred to as "knowledge". The other two components of the "knowledge-skills-abilities" triad – skills and abilities are attributionarily secondary and derivative in relation to it; they act as products of the implementation of the first (both in order and in importance) component – knowledge. However, fundamentally the same situation holds with respect to the competence approach. The fact is that the grounds for its formation are also objectively connected with the category of knowledge. The competence approach took shape and differentiated as a new and special one due to the fact that it was initially aimed at implementing the same category, but already in terms of identifying its insufficiency in itself and the need to supplement it with other means – no longer "knowledge", but an effective type. We also emphasize that in the light of the key role of the category of knowledge in both approaches, as well as the secondary, arbitrary status of the actual "effective" component in them, it becomes obvious that their opposition is unacceptable, which, unfortunately, is often found in the literature. In fact, they have much more in common than it seems at first glance, and this commonality is precisely provided by the basic role in both approaches of the category of knowledge.

Thus, the basic in terms of solving the formulated tasks is the category of knowledge as a conceptual means of synthesis of two educational paradigms. Identifying the correspondence of a pair of functional literacy and fundamental training with a pair of competence-based and "knowledge-skills-abilities" approach, leading to the identification of the defining role of the category of knowledge, necessarily requires its more detailed and in-depth analysis. In the light of the above, it is very likely that this category can act as a kind of key to solving the problem of the relationship between fundamental training and functional literacy. At the same time, this is possible only if the data for this category is actually psychological (recall that the need for this was predicted by us at the beginning of the article). In relation to it, both in cognitive psychology and in a number of other disciplines, the differentiation of two main types – declarative and procedural – knowledge has developed and become very widespread and generally accepted: the ratio of declarative and procedural knowledge in the subject area of training is considered [12], the place of procedural knowledge in the general methodology of knowledge is determined [17], methods of presentation, identification and analysis of declarative knowledge are studied [20]. These types of knowledge are defined and characterized in different ways, but there is something in common that unites different approaches to their definition and characterization. Declarative knowledge is information that gives a meaningful explication of a certain object of external reality and the inner world, they can be classified as knowledge of the type "what?". Procedural knowledge is characterized as information about the methods of action, operating in relation to objective or subjective reality, they can be classified as knowledge of the type "how?". Procedural knowledge is sometimes identified with skills and abilities, which is not quite correct. For example, it is noted: "Procedural knowledge can be equated to skills, sometimes skills ... A student can be considered to have mastered procedural knowledge in a particular discipline when he not only knows the theory, but is able to apply it in practice" [13, p. 14].

It follows from the above that the following fact is most important for the comparative analysis of the two approaches – paradigms of fundamental training and functional literacy. It lies in the fact that the first of them has as its main goal the formation, first of all, of declarative knowledge, and the second is the formation, mainly, of procedural knowledge. This correspondence of each of them with one of the types of knowledge is so conspicuous and obvious, complex and complete that one can only wonder at its
lack of recognition, as well as not involving it in the sphere of proper methodological reflection. And, on the contrary, the establishment of this makes it possible to transfer to a comparative analysis and evaluation of the two approaches under consideration those results and conclusions, assessments and judgments that have been developed in theory for a long time in relation to the two types of knowledge. Assessment of approaches to fundamental training and functional literacy is largely an assessment of two types of knowledge itself (declarative and procedural). The correlation of these two types of knowledge is the key to the correlation of these two approaches, and the analysis of the first is the most important methodological tool for analyzing the approaches themselves. In this regard, there is an urgent need to turn to those psychological materials that reveal the essence and structure of the phenomenon of knowledge and which should be assimilated by pedagogy in general and the two approaches under consideration, in particular. It should be noted that the fundamental concepts of declarative and procedural knowledge, on which representatives of almost all scientific branches are based, are the results of cognitive psychology research. J. Anderson in his works identified such types of knowledge as knowledge of facts and knowledge of procedures [1].

The provisions discussed above are a constructive basis for the study of the relationship between these two types of knowledge. Moreover, both its theoretical consequences and its practical outputs are very diverse. As a demonstration of them, we will focus only on two representative consequences of this kind. The first is a theoretical consequence, and at the same time the result, which has a completely independent meaning, is as follows. As is known, both in cognitive science and cognitive psychology, along with the recognition of the deep qualitative specificity of declarative and procedural knowledge, the fundamental relativity of their differentiation, the inadmissibility of absolutization of differences between them, is emphasized. They assume not only reliance on each other, but also include elements of each other. There is no "pure" knowledge (absolutely declarative) and there cannot be, because in genetic terms, any knowledge is born in action and out of action, then bearing the "seal of effectiveness" (that is, procedurality). In turn, there is also no "pure" procedural knowledge, because in order to "know how?", it is necessary to "know what?" (declarative knowledge). As M.A. Kholodnaya rightly points out, in order to apply knowledge, one must have it [27]. Due to the relative rather than absolute nature of this differentiation, it is more correct to represent the two types of knowledge not as opposite entities strictly separated from each other, but as correlative entities. Rather, they represent some extreme poles, the extreme points of a continuum formed by them and including a whole spectrum of transitional types of knowledge that differ depending on the proportion of declarative and procedural components in them. It is also necessary to take into account the regularity of the epistemological plan, reflected in the works of L.M. Vekker: the extreme points, poles of a continuum of some qualitative certainty are usually more easily recognized than its middle, intermediate values [5]. The question also arises about the existence of a continuum of changes within the boundaries of this qualitative certainty, in our case, within the boundaries of declarative and procedural types of knowledge.

The usefulness of the theoretical consequence of a continuum of different types of knowledge may not lie on the surface, but it is still understandable. In this regard, the answer is quite obvious and, in principle, has already been characterized in relevant studies, however, in relation to other subjects of study. This solution requires a transition to a fundamentally different form (and stage) of explication of theoretical ideas about the subject of research – from a continuum to a hierarchical one. As the experience of developing a large number
of important theoretical problems of psychology shows, the individual components of the subject fixed in the continuum approach, with a more in-depth study, reveal their proper level status. They are revealed as the main levels in its overall structural organization.

Consequently, at this stage of scientific cognition, the continuum representation of the subject of research is transformed into a hierarchical, structural-level one. In other words, the continuum itself as a horizontal, one-dimensional, flat, and, consequently, a simplified interpretation of the subject is transformed into another form. This is a hierarchical, that is, multilevel, and, consequently, multidimensional, and, therefore, a much more complex interpretation of it, more reflecting its real complexity. As a result, the types of knowledge themselves appear in a completely new status as different levels of knowledge. Declarative knowledge as significantly more generalized and abstract, information-rich, is localized at a relatively overlying level. Procedural knowledge, as much more specific and detailed, is localized at a relatively lower level. The structural-level paradigm is transferred to knowledge as a whole, and the types of knowledge reveal their level status. The formation of two types of knowledge appears from these positions as the formation of a level structure of knowledge. At the same time, it can be seen that the approach of fundamental training is focused on the formation of the highest level – the level of declarative knowledge, and the approach of functional training – on the formation of a relatively lower level of procedural knowledge. In this case, the question arises about the completeness and sufficiency of the structure, which includes only two levels of knowledge. The answer to it, most likely, should be negative, since such a complex reality as knowledge is, can hardly be organized on the basis of such an undifferentiated level structure. The consequence of these arguments is the emergence of another question about the essence, meaning and purpose of these levels.

In order to answer it, it is necessary, in our opinion, to turn to the second main consequence – no longer a theoretical one, but a practical one, which consists in the following. In the light of the materials presented above, it is quite obvious that the optimal option for building a didactic process is to solve the question of the relationship between the two main approaches not on the "either-or" principle (that is, choosing one of the two options), but on the "and-and" principle. It involves relying on the advantages of both. However, in practice, this option is extremely difficult, which raises the problem of choosing one of them. In this regard, the most difficult problem in its practical implementation arises of combining the advantages of both approaches in a single process, combining the positive aspects of these approaches while avoiding their limitations. To do this, it is necessary to try to establish and implement synergetic relationships between these campaigns in the didactic process. The whole difficulty, however, lies in the implementation of this idea, finding concrete means of transforming declarative knowledge into procedural, more precisely, supplementing the former with the latter, as well as implementing this idea in relation to pedagogical practice, to the formation of knowledge in the educational process. It should be noted that the most productive solution may be an equal ratio of these types of knowledge in the content of education and consideration of functional literacy, as well as fundamental training, as mandatory and significant components of modern education. In a number of applied works, there is a suggestion of didactic solutions in line with the ideas outlined above. Such examples can be the study of the place and role of certain types of knowledge in the general didactic system [17]; the development of methods for assessing the formation of different types of knowledge [20]; the study of the optimal quantitative ratio of declarative and procedural knowledge in different fields [12]. The well-known Elkonin-Davydov teaching system is based on the "movement of thought
from the general to the particular” [9]. Training on it has demonstrated its effectiveness in many ways. The development of theoretical thinking in younger schoolchildren, mastering the highest levels of generalization contributes to the fact that, in principle, any situation that arises can be overcome by them. At the same time, functional literacy as such, the presence of procedural knowledge among students make it possible to get out of any particular situation only. The possibilities of transferring to other situations are limited. This knowledge is situationally conditioned.

DISCUSSION OF THE RESULTS

The problem of the correlation between functional literacy and fundamental training is poorly studied. Most studies reflect some one of these aspects and it is on this that the emphasis is placed in considering approaches to learning. There are also such points of view in which there is a combination, interaction of these two approaches in theoretical and methodical terms. In particular, international educational quality assessment programs are developed based on the analysis and integration of the components of the content of general education of different national educational systems, which inevitably leads to the inclusion in the control and measurement materials of complex tasks aimed at identifying the formation of different types of knowledge that can be used not only for the purpose of evaluation, but also for the purpose of developing these types knowledge [23]. M.A. Kholodnaya puts forward the idea of changing the priorities of school education from focusing on the formation of key competencies and functional literacy towards intellectual development and intellectual education of students by means of educational content based on a psychodidactic approach [22]. T.I. Zheleznova presents a method of implicit learning in the process of forming foreign language competence, in which different types of knowledge are synthesized [13]. There are other solutions aimed at synthesizing approaches to learning. In other words, the key problem lies in how transposable the results of learning on the principle of functional literacy are in the interinstitutional plan. Is the degree of their generality sufficient for their proper adaptability to the real variability of the social environment? How much do they contribute to personal development? They ultimately boil down to one generalizing and key question: can this approach act as a constructive alternative to traditional approaches in general and the paradigm of fundamental training in particular?

The solution of this and other similar issues can, in our opinion, be proposed from the standpoint of the methodology of descriptive and comparative analysis of functional literacy and fundamental training. It presupposes the need to move from the level of pedagogical understanding of the problem to the level of psychological explanation, that is, the transition from the level of the phenomenon to the level of essence, at which the basic laws and mechanisms of phenomenologically presented pedagogical phenomena are localized. Based on this, there is reason to believe that the problem of the correlation of these two approaches can receive a new, additional and significant impetus for its development by transferring it to the level of proper psychological comprehension, involving the identification of patterns and mechanisms underlying them.

In this regard, it becomes obvious that the problem of comparative analysis of functional literacy and fundamental training is substantially analogous to the problem of the relationship of the "knowledge-skills-abilities" and competence paradigms. Therefore, in terms of its
resolution, the leading role is played by the category of knowledge as a conceptual means of synthesis of two educational paradigms. Since, however, this category itself presupposes differentiation into two main types – declarative and procedural, then the problem of the correlation of these paradigms, both in theoretical and applied terms, is concretized to the relationship between these types of knowledge.

In this regard, the most difficult problem in its practical implementation arises: how can we try, if possible, to combine the formation of these types in a single process as fully as possible and, accordingly, synthesize the advantages of both approaches? How to combine the positive aspects of these approaches and avoid their limitations? In other words, the most difficult problem in its practical implementation arises of combining the advantages of both approaches in a single process, combining the positive aspects of these approaches while avoiding their limitations. To do this, it is necessary to try to establish and implement synergetic relationships between these campaigns in the didactic process. The fundamental difficulty, however, is how exactly can this be done? What are the specific means of transforming declarative knowledge into procedural knowledge, more precisely, supplementing the former with the latter? How should this be done in relation to pedagogical practice, to the formation of knowledge in the educational process?

In our opinion, the desired synergy of the two main types of knowledge (declarative and procedural) can be provided not so much by the formation of each of them, but by a much simpler and more feasible way. It consists in the formation of knowledge of this particular – intermediate, and therefore – central level (and type) of knowledge – meta-subject, meta-situational. This variant of the approach to the ratio of functional literacy and fundamental training is fundamentally new, since it reflects the consideration of the problem at the practical, pedagogical and theoretical, actually psychological levels. The category of knowledge is chosen as a conceptual means of synthesis of two educational paradigms. The emphasis on the formation of knowledge (and other components of the cognitive sphere) of the average level of generality is the most optimal way to achieve synergy between declarativeness and procedurality of knowledge systems as a whole.

CONCLUSION

A possible way to solve this problem, on the one hand, is to identify the level status of two types of knowledge, and, on the other, to pose a new problem of the probable insufficiency of such a two-level hierarchy and, accordingly, the search for additional levels. One of the possible ways to solve this problem is to use the ideas that have developed in such a direction of modern pedagogy as the study of a special category of actions – metasubject [28]. Metasubject actions themselves (as well as knowledge) by their psychological nature, on the one hand, have a greater degree of generality than emphasized procedural knowledge. They are partly procedural, but partly declarative; they, while retaining their practical basis, nevertheless go beyond specific situations because they are meta-knowledge. However, on the other hand, they are still not as abstract and generalized as specifically declarative knowledge, do not reach their level. They are localized above the level of procedural knowledge, but below the level of declarative knowledge. Thus, they are the desired – the third level in the hierarchy of knowledge types, which was predicted by us above. However, this implies a consequence of a purely practical plan. Namely: the required and desired synergy of the two main types of knowledge (declarative and procedural) can
be provided not so much by the formation of each of them, but by a much simpler and more feasible way. It consists in the formation of knowledge of this particular intermediate, and therefore central level (and type) of knowledge – meta–subject, meta-situational. In our opinion, the emphasis on the formation of knowledge (and other components of the cognitive sphere) of the average level of generality is the most optimal way to achieve synergy between declarativeness and procedurality of knowledge systems as a whole. Moreover, we specifically emphasize the following: in making this conclusion, we do not claim priority in its formulation at all. In general, it has already taken shape, although mainly empirically and practically, and its validity has been repeatedly verified by all the rich experience of implementing the meta-subject approach in pedagogy and psychology. Therefore, such verification is also a confirmation of the legitimacy and constructiveness of the theoretical ideas formulated above regarding the essence and correlation of two educational paradigms – functional literacy and fundamental training.

REFERENCES