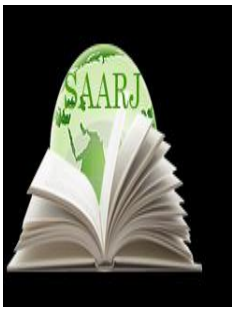

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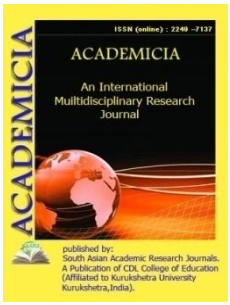

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POSITIVE EFFECTS OF FORMATION OF KNOWLEDGE, SKILLS AND SKILLS ON THE BASIS OF INTERDISCIPLINARY RELATIONS

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ABSTRACT

This article analyzes the natural, scientific, neurophysiological, psychological and pedagogical approaches to the nature of interdisciplinary connections in special education. Interdisciplinary links ensure the establishment of a unified system of teaching, education and work in a special school, which significantly affects the level of generalization, robustness, completeness and differentiation of the formed concepts. This has a positive effect on the acquisition of the concepts that make up the content of the subject. The positive effects of developing knowledge, skills and competencies based on interdisciplinary connections are highlighted.

KEYWORDS: *Interdisciplinary connection, Based on the formation of knowledge, Skills, special Education, Process, Interdisciplinary communication, Natural, Scientific, Neurophysiological, Psychological, Pedagogical approaches, Labor activity, Integration, Psychological and Pedagogical bases.*

INTRODUCTION

The study of the nature of interdisciplinary links and the search for ways to implement them as a condition that significantly affects the effectiveness and practical significance of the educational process has long been in the focus of researchers and remains relevant today. the emergence of the concept of making interdisciplinary connections in the process of giving is related to the understanding in the minds of students of the obligation to reflect the world around them in a single and holistic way.

Attempts to explain the need to create a learning process based on the study of connections between objects and events, as well as to determine the role of interdisciplinary links in ensuring the successful development of children's mental development Ya.A. Komensky, IGPestalotsy,

Russian thinkers and educators AI Gersen, N.G.Chernyshevskiy, K.D.Ushinskiy, pedagogue-experimenters V.Ya. The result of the methodological development of the theory of interdisciplinary communication, carried out by Stoyunin, NFBunakov, VIVodovozov and others, is that the unity of emotional, practical and logical aspects of learning is the interaction of emotion, perception and thinking, attention and memory. It is necessary to form an integral system of knowledge at the same time with the development of mental abilities. Long-term study of the nature and role of interdisciplinary links in the educational process Natural scientific (neurophysiological), psychological and pedagogical formed approaches. Modern interdisciplinary theory of relations is based on materialist epistemology, the doctrine of the general relationship of events and processes in nature and society, the transitions of forms of action, and the interrelationships of branches of science. From a philosophical point of view, interdisciplinary connections are seen as a didactic form of the general principle of coherence. This principle is one of the methodological principles that form the basis of knowledge in science. It requires the illumination of any object under study as a whole, which has different types of connections between the object and the objective reality within the object. An important task of the educational process based on this principle is to integrate the diversity of connections to a single abstract image.

Interdisciplinary connections are designed to create a single methodological basis for the subject organization of education in the modern school. The ability to provide a natural-scientific basis for the physiological nature of the relationship between the various features of the subject or phenomenon. It arose as a result of the development of Pavlov's theory of the reflexive nature of spiritual activity. A series of brain reflexes, combined with connections that occur under certain conditions, form a "whole association." This is the result of the reflection of the nervous system on the objective relationships of the properties and characteristics of the object. The more often and in many ways objects are viewed, the more complete and sufficient the resulting associations will be [3,p.45].

IP Pavlov reveals the neurodynamic basis of the process of formation of associations and distinguishes systematics as its characteristic feature. The reflection of the interrelationships of objectively existing objects and events in the brain leads to the emergence of a complex system of permanent and temporary connections that ensure the consistency of knowledge about the world. The systemic principle of brain activity is manifested not only in the specific stimulus, but also in the ability to interact, to form an integral association for the complex of stimuli. The strength of the nervous system's influence on the perceived object depends not only on its character, but also on the readiness of the actions of previous stimuli [2, p. 78].

This fact underlies the process of transferring previously developed associations to new drivers if these associations are in the same relationship with each other as with the generated drivers. . This is the essence of the process of transferring previously acquired knowledge about the object obtained in the study of various disciplines to a new situation in the review of other subjects [2, p. 25].

As for the problem of interdisciplinary communication, this rule can be illustrated as follows: the acquisition of existing knowledge about this object obtained in the study of other sciences in the acquaintance with new materials is related to the activity of acquiring new knowledge is an “additional stimulus” that has a positive effect on the functional state of the shell parts. By

combining knowledge of the properties of the object in the process of making connections, the teacher seeks to form a high level of associative communication. The properties of reality-related objects are similarly reinforced in the imagination. Therefore, the implementation of interdisciplinary connections in the learning process is based on the existing functional mechanisms of the cerebral cortex.

The neuropsychological substantiation of interdisciplinary communication mechanisms has been the basis for explaining psychological processes in the study on this basis.

From a psychological point of view, association is the connection between all forms of reflection of objective reality, which is based on emotions.

Psychological and pedagogical substantiation of the conditionality of the implementation of interdisciplinary connections in the learning process with the objective laws of higher nervous activity was proposed by LS Vygovsky. He experimentally determined that the activity of thinking, as a basic stage in the formation of previously emerging concepts, enters the new activity of thought by generalizing it. At the same time, he concludes that there is a clear sequence in the formation of such a generalization: the new stage of generalization appears only on the basis of the previous ones [5, p. 55]

Therefore, the highest form of generalization of knowledge about an object - concepts, should be formed by combining the previous stages - the concepts derived from different disciplines about the properties of the object.

LSVygotsky's concepts, along with a natural-scientific understanding of the nature of high nervous activity, were applied to DNBogoyavlensky, Y.N. Kabanova-Meller, A.Alyublinskaya, NAMenchinskaya, KKPlatonov, Yu.A. Samarin, AASmirnov, DBElkonin and other researchers. When the data were combined with previously learned knowledge and previous work experience in different areas, it was concluded that all the lessons play a role in the formation of new connections, associations.

Research shows that connections in the learning process are the most important means of fulfilling the functions of education, upbringing and development.

The basis for studying the mental activity that occurs when using interdisciplinary connections is associative connections. In separate lessons in the primary grades, the initial perceptions of objects and events ("local associations") that children acquire when they become acquainted with them are integrated and interdependent in the learning process, making them more complete and diverse. reflection is the next stage of generalization leading to “partial system connections” .The use of interdisciplinary links to unite local associations provides the level of generalization needed to further shape concepts based on them.

One of the consequences of these rules is the requirement to combine this knowledge with its application. Learning and applying knowledge are two sides of the same coin. Applying knowledge to solve real-world problems requires children to make analytical choices from a range of disciplines.

The concepts included in each subject include knowledge of a number of disciplines. They are the source of interdisciplinary connections. The teacher has a special role to play in the implementation of this concept, because his correct explanation of the interrelationships of the

disciplines helps to form the most complete, accurate picture. According to BG Ananev and Yu.A. Samarin, interdisciplinary connections are a necessary condition for the formation of integral systemic knowledge [6, p. 56]]

One of the important tasks in solving the problem of establishing interdisciplinary links is to develop the ability to transfer existing knowledge to different conditions of activity. Implementing them, according to P.G. Kulagin, will create opportunities for the development of advanced reflection. The developed skills of knowledge transfer allow to predict some features of a new object in the mind. To successfully solve practical problems of life, taking into account the real connections of science and events, it is necessary to use interconnected knowledge in a comprehensive manner. The implementation of interdisciplinary teaching of academic disciplines is the basis for the organization of efforts to solve new problems due to the expectation of their results in the transfer of knowledge and the formation of the ability to implement them in accordance with the purpose. the transfer of knowledge contributes to the growth of their generalization. Research by LS Vygotsky, VV Davydov, AN Leontev shows that mastering the methods of movement with the material studied by children helps to understand and strengthen knowledge[5,b.76].

Special application of knowledge on a topic previously acquired by children in different lessons will not only help them to better understand and comprehend the new material, but also to better remember and systematize it. According to AA Smirnov, the spiritual grouping of educational material, the separation of general concepts in it and the establishment of connections between new knowledge and acquired knowledge help to strengthen memorization, the stability of formed concepts and their clarity. This, in turn, helps to make the images more differentiated. Mastering the ways of transferring knowledge and skills from one subject to another leads to a more goal-oriented movement in the analytical-synthetic activity of students, increases activity and independence, life-practical helps to master the methods and logic of effective problem solving.

The purpose of reasoning is to identify important connections between science and events through synthesis and analysis. The fact that analysis goes beyond a single subject deepens and expands it to a higher level. As S.L. Rubinstein points out, making connections within a material is a specific method of mental activity that is a system of synthesis and generalization in solving knowledge problems.

Recognition of the associative-reflex nature of thinking and its systemic nature defined the understanding of the process of knowledge acquisition as the formation of a complex system of associations that reflects the relationship between science and events. Interdisciplinary links ensure the establishment of a unified system of teaching, education and work, which significantly affects the generalization, robustness, completeness and degree of differentiation of the formed concepts. This has a positive effect on the understanding of the concepts that make up the content of the subject.

In a study conducted by a number of scientists led by BG Ananev, interdisciplinary connections and their use in the learning process are considered as one of the ways to increase the activity and organization of students' learning, taking into account the psychological laws of formation of concepts and notions. The attraction of knowledge from different fields of science ensures the completeness and accuracy of the concepts on the subject under study, a holistic reflection of its properties and objective connections in accordance with the principle of consistency.

The pedagogical understanding of the nature and functions of interdisciplinary connections is based on the understanding of the natural-scientific basis and the psychological mechanisms of their functioning. It should be noted that there is still no single position in defining the essence of interdisciplinary links as a pedagogical category.

Interdisciplinary connections affect the nature of teacher-student interactions in the pedagogical process. It is determined by the logic of the sciences and the connections between them.

The purpose of interdisciplinary links is to meet the following requirements for the learning process: 1) to eliminate duplication in the study of educational material; 2) the possibility of time to study specific issues; 3) consistency and originality in the definitions and characteristics of scientific concepts; 4) to combine the efforts of teachers of different disciplines in the formation of scientific concepts and notions of students, to instill in them practical skills and competencies; 5) use by teachers of scientific and technical information received by students in various subjects in the educational process; 6) the solution of other pedagogical problems connected with peculiarities of educational disciplines and the relations between them.

The results of the research have become a system of teaching disciplines in which interdisciplinary connections are made based on the integration and coordination of complementary knowledge.

Interdisciplinary coordination requires a special structure and content of the lesson, the main features of which should be: 1) the spiritual interdependence of the content of teaching several disciplines; 2) unity of forms and methods of teaching; 3) integrated use of knowledge and skills in solving practical problems. At the same time, it is necessary to identify the main directions of systematization of teaching materials in different disciplines, reflecting the interrelationships between programs and textbooks.

Coordination of knowledge is achieved through the coordination of curricula of related disciplines in terms of a general interpretation of the concepts, processes, events and time of their study. It's about understanding science in a narrow sense. Coordination helps to combine knowledge, that is, to combine elements of different disciplines in a single integrated synthetic course.

Interdependence should apply not only to knowledge in different disciplines, but also to the operational aspects of teaching different disciplines (a system of actions aimed at solving educational or other practical problems). Particular attention should be paid to the operational aspects of student activities. Solving practical problems requires combining knowledge and transferring it to a new situation. At the same time, the logic of creating such combinations of knowledge differs significantly from the logic of presenting and mastering their components in the linear study of individual disciplines.

GVVorobev believes that a system of interconnected knowledge capable of dynamic change should ensure their success in their application in practice. Establishing the right relationships in the teaching of various disciplines is interdisciplinary (speech, measurement, calculation) is necessary to master the types of activities that can be included in the type. The role of generalized directed action in the formation of activities such as solving spatial-projection problems specific to the lessons of geometry, drawing, geography was identified. According to VM Kosataya, the impact of interdisciplinary links on the education and overall development of

students is achieved through the reconstruction and improvement of the internal logical structure of teaching methods.

Based on the study of the possibilities of interdisciplinary connections in the learning process, conclusions were drawn about their impact on the learning process of students.

At each stage of the acquisition of knowledge, the implementation of interdisciplinary links has a certain impact on its progress. Thus, in the early stages, as they prepare to become acquainted with new material, they help children to actively understand unfamiliar things, to communicate, and to move from what is known to what is unknown. This will allow you to determine the purpose of the lesson. All of this is due to the fact that interdisciplinary connections contribute to the formation of reflection. At this stage, they are often carried out by students through the use of questions and assignments based on interdisciplinary material, methodical acceptance of recall and recall based on intra-topic and inter-topic connections.

When reviewing new material, it is compared with data from different disciplines, analyzed, improved, enriched. In this way, the introduction of new material into the knowledge system is ensured. In the next stage of knowledge acquisition - the process of understanding and consolidation, interdisciplinary links continue to play an activating role. They are made, according to GIShukina, temporary connections - due to the involvement of past experience, which contributes to the formation and strengthening of traces. 'allows you to increase flexibility. Thus, the generalized profession (formed as a result of mastering the connections between the methods of learning activities used in different disciplines). Interdisciplinary coordination in the educational process helps to develop and intensify the learning activities of schoolchildren, to optimize the learning process.

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