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SYSTEM OF PRINCIPLES OF NEUROPEDAGOGY

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Abstract

The article analyzes the fundamental principles of a new direction in science – neuropedagogy, which arose at the intersection of pedagogy and differential psychology, forming the structure of a new direction in the educational process, and defining a number of pedagogical tasks necessary for their research. The processes that appear as a result of neuropedagogical communication of people in situations where there is no solution to the educational problem have been studied.

Keywords: *neuropedagogy, brain, psychology, potential, intelligence*

Introduction

The desire for the constant development of one's consciousness through learning has always been the prerogative of the functionality of the brain in its natural development. Such aspiration, expressed in curiosity and knowledge, determines the need to solve the problems of implementing these needs in neuropedagogy as a task of the educational process. Also, neuropedagogy studies education and cognition from the perspective of physiological and psychological processes, which, in turn, requires the creation of the necessary sanitary and comfortable conditions for the educational process.

In the conditions of increasing commercialization of school, higher, and additional education in the field of teaching various subjects and professions, respectively, it is forced to admit that growing demand gives rise to supply, which does not always correspond to a high quality mark. Interest in mastering information technology skills does not wane in secondary schools, but here the computer science teacher in the system of free additional education and the school teacher are on opposite sides of the barricades, feeling almost like competitors, and sometimes even trying to discredit each other's authority. It seems that the teacher sincerely wants to teach the modern student, and the student sincerely wants to learn, but something goes wrong. In our opinion, it is necessary to create such a mutually supporting educational environment exclusively on the basis of neuropedagogy. The development of digital information, communication and pedagogical technology raises the question of both the development of new pedagogical technologies and the involvement of the latest data obtained in related fields of knowledge such as artificial intelligence, neurotechnology, and neuropsychology.

Literature review

Today, mastering information technology skills is a very important means for effectively mastering various subjects, so that a school, college, or higher school graduate has mastered the tools of computer technology at a modern level and is competitive in the labor market, and therefore they spare no effort or effort means to achieve their ambitious goals. As A. V. Tsvetkov correctly notes in his monograph "Neuropedagogy for Teachers: How to Teach According to the Laws of Brain Function," one gets the feeling that children in our country are given birth only to send them to school, but the child has a future ahead of him. still preschool childhood, then school and higher education, as well as additional education (Tunku, Ya. A., 2000, Tsvetkov, A. V., 2017, Kazachonak, V. V., 2020).

Currently, neuroscience has made significant advances in many areas of scientific activity, including both the natural sciences and the humanities. As a consequence of this, positive results are observed in all areas of research into the central nervous system of both humans and, in general, living beings (Kazachonak, V. V., 2020, Arnold, R., 2006).

Strange against this background is the absence in the field of neural study of the world of such a branch as neuropedagogy, designed to use the achievements of neural sciences in such an important field as human training using data in the field of activity of neural functions to create pedagogical methods for the education and development of youth and adults. The question of such a science and its purpose is the subject of controversy in various countries and often boils down to the fact that instead of neuropedagogy, it is proposed to consider this science from the point of view of neuropsychology, limiting the issues of pedagogy to psychological correction and pedagogical training of patients with deviations in the field of the mental system. Thus, the essence of the definition of the proposed new field of knowledge in its scientific interpretation is closely related to psychology, becoming a science of theories and methods of education, based on the basic foundations of modern neuroscience. Neuropedagogy comes from the words "neuron" (nerve cell), "pedagogy" (pedagogy) and the Greek word "psyche" (soul).

Genetically determined properties of the brain, from the point of view of their dependence on the experience of previous generations in the search for the meaning of certain moments of social existence, play a fairly significant role in the research system of neuropedagogy. The significance of this role gives scientists reason to talk about the constant mode of brain activity within the framework of combining previous experience with newly emerging circumstances. The last understanding or belief appears at the moment when the brain builds the foundation for existing knowledge and ideas. (L. S. Vygotsky's concept of the practical and immediate spheres of development) (Vygotsky, L. S., 1996).

Discussion

Neuropedagogy explores the connotative side of the human social sphere as a special, significant part of the educational process, a vital component of the useful activity of the brain. Research in the field of neuropedagogy gives reason to come to the conclusion that educational material received in a comfortable environment for the student is better remembered and receives a stable association with the corresponding situation. Psychological observations prove that emotional factors contribute to the development of students' thinking and creativity, and emotional intelligence (EQ) is as important as IQ. It is shown that such psychologically comfortable emotional learning is necessary for both children and adults.

Research in the field of neuropsychology has proven this ability of the brain. Neuropsychological studies show that the brain can simultaneously "see" objects as a whole and a part, disassemble and assemble them at the same time. Analysis and synthesis are the main components of teaching the thought process, the interaction of which determines its development and therefore their joint application requires appropriate improvement with the help of the necessary techniques and teaching methods. Educational material must be presented in the style of the whole and the particular interacting with each other, in such manifestations as analysis and synthesis, direct and inverse methods of solving problems, specification and generalization, etc.

The learning process involves a person receiving a much larger amount of information than he imagines in reality, which becomes possible thanks to the simultaneous conscious and subconscious activity of the brain. As a result of such simultaneous activity, the factors influencing students include not only the information presented by the teacher, but also the entire complex of internal and external sensations, including both a specific learning situation and all previous life experience in its various manifestations.

Another significant factor influencing the course of research in neuropedagogy is the presence of two memory systems in the brain: visual-spatial and the "learning" system. The significance of this factor lies in the fact that these systems assimilate the acquired knowledge in different ways, with the visual spatial one being more natural for the functioning of the learner's brain. Compared to the first, the second system is more artificial and labor-intensive. Knowledge entering the memory "storage" through the "learning" system is unstable and unproductive, which usually leads to its haphazard and unorganized placement in memory cells. Accordingly, the more such information is "stored" in memory, the more difficult it is for the brain to find it. In contrast to the learning system, visuospatial storage systems are organized according to the principle of "inventory and context", as in a library. This principle leads to the fact that information can not only be "stored", but also quickly found and reproduced.

Creative people do not tolerate violence either against themselves or others. This is why neuropedagogy does not accept the way some teachers destroy the atmosphere of creativity by trying to maintain strict academic discipline in the classroom. Another significant aspect in the research system of neuropedagogy is that the brain of each person is unique within the framework of the theory of the principle of uniqueness. The uniqueness of each person creates a vector of movement of pedagogical thought towards the need for the most individual approach to learning.

Methodology

Based on the above-mentioned principles of neuroeducation, this learning science has identified a number of educational problems for research. The basis of such research is the study of neuropedagogical mechanisms of awareness and behavior of educational groups, their personal, subjective and individual relationships, as well as the principles that form a single neuropedagogical space.

The main objective of this study is to identify the potential of neuropedagogy for the development and implementation in educational practice of psychodiagnostic and psychocorrectional technologies that automate the professional activities of teachers and psychologists in the modern ICT situation.

Based on the most important provisions of neuropedagogy, the following points can be highlighted to increase the effectiveness of training:

1) attention,
2) active interaction,
3) return errors,
4) consolidation (from slow, conscious, effortful thought processes to fast, unconscious, automatic ones) in work (Kazachonak, V. V., 2020, Vygotsky, L. S., 1996).

Based on this vector of further development, it is possible to study objective psychological phenomena and patterns that arise as a result of neuropedagogical communication between people in the context of solving one educational problem.

In neuroeducation, an important factor determining the effectiveness of the learning process is determining the level of its starting position. The basis for the formation of the learning process is the presence of well-prepared brain structures. In addition, brain researchers highlight strong emotional connections between connections as a critical condition for optimal brain development (Kazachonak, V. V., 2020).

Thus, we can come to the conclusion that the organizational and pedagogical conditions for the effectiveness of training systems in the methodological base of neuropedagogy can be the following (Abylova, G. Zh., 2023, Yusupov, F., Yusupov, D. F., Ashirova, A. I., Bekchanov, B., 2020): Purpose and creation of the basic properties of the learner model; Concretization of formulations and construction of ontology of the subject area.

The system of factors that contribute to increasing the effectiveness of the educational process can be represented as: Motivation for

the learning process, based on their intended further use in a professional career; Intellectual abilities (IQ level, special skills, social intelligence); psychological characteristics (personality type, level of creativity, ability to work in a team); life factors (social environment, living conditions, etc.) (Abylova, G. Zh., 2023).

Conclusion

The basic rules of neuropedagogy are based on the use of the individual capabilities of the human brain. Based on them, it is possible to give certain recommendations on how to use the capabilities of each person**.**

Thus, in addition to the components traditionally identified in the training system (didactic, epistemological, psychological, cybernetic), it is necessary to add a neuropedagogical component. In general, the proposed approach to the educational space from the perspective of synthological integration is very promising and allows us to take a fresh look at the problems of teaching and upbringing, which can be effectively used in special psychology and pedagogy.

Currently, neuropedagogy must be classified as a special area of pedagogy, which covers not only borderline pathology, but also the norm, taking into account functional asymmetries of the brain. Therefore, higher education needs to raise the question of the need to develop and implement special courses in neuropedagogy for teachers and future teachers.

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