Neuropsychological Approach in Teaching Children in the Context of Partnership Pedagogy as a Key Component of NUS

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Abstract: The article is devoted to neuropsychological approach in teaching children through the prism of partnership pedagogy as a key component of NUS. The essence of the concepts of “partnership pedagogy”, “neuropsychology” is considered. The focus is made on the recently coined term “cooperation pedagogy”. Manuals, articles of domestic and foreign teachers on the partnership between school and family are covered. It is proved that according to the NUS Concept, the common goal for parents, teachers and administration of an educational institution is to educate and raise successful children with developed intellect who understand their own emotions, know how to control them, listen to others, and etc. It was found that the founder of neuropsychology is considered to be Luria, A., who developed a theory of localization of higher mental functions of the brain. It is proved that the concept of “higher mental functions” appeared due to Vygotsky, L., who formulated the main statements in this direction. It was found that Ukrainian teachers together with parents are aimed at teaching and raising a healthy, successful child. It has been observed that difficulties in student teaching are caused by dysfunction of one of the hemispheres of the brain. Neuropsychologists proved that the reason of this is neuromotor immaturity. It is noted that there are many resources for Ukrainian teachers which they can use to improve their knowledge of neuropsychology. Emphasis is placed on the benefits of kinesiological exercises. Various tools are highlighted that can be used by educators and parents for neuropsychological correction of the child. The focus is made on organization of partnership pedagogy in foreign schools. It is stated that a Center for Development and Evaluation of Family Model Partnerships has been established in London.

Keywords: The concept of “The New Ukrainian School”, pedagogy of cooperation, neuropsychology, higher mental functions, humane pedagogy, child development, foreign experience, values.

Introduction

Modern reform in education is based on “The concept of implementing the state policy in the field of reforming general secondary education “The New Ukrainian School” for the period up to 2029 (2016)” and aims to introduce the pedagogy of partnership as a key component of NUS. In this case, a competent teacher becomes the main driver of personality development, stimulates the child’s intellectual abilities, develops thinking, memory, attention, imagination, promotes formation of individual qualities of the student that would motivate the child to learn, creates a comfortable cooperative atmosphere.

To begin with, let’s find out the meaning of the words “pedagogy of cooperation” and “neuropsychology”. In the Dictionary-Reference Book of Professional Pedagogy (Semenova, 2006) the term “cooperation” is explained as follows: interest in each other, mutual trust in communication, partnerships in joint activities, the term “pedagogy of cooperation” is one of the most important conditions for efficient work and job satisfaction.

An interpretation of the essence of the concept of “neuropsychology” can be found in the Dictionary of the Ukrainian language (Bilodid, 1970). This term is explained as a branch of psychology that studies mental activity of a person related to the functioning of the central nervous system in certain conditions.

A review of the literature enables to state that the concept of “pedagogy of cooperation” first appeared in the publication of the Manifesto “Pedagogy of Cooperation”. The founder of the pedagogy of cooperation is considered to be Soloveychik (1989). Nevertheless, the initiator of the pedagogy of cooperation is Doctor of Psychological Sciences, Academician Amonashvili (1995).

Modern reform in education, adoption of “The Concept of implementing the state policy in the field of reforming general secondary education “The New Ukrainian School” for the period up to 2029” (2016), prompted coinage of a new term “partnership pedagogy”, which combines communication, interaction, cooperation between teachers, students and parents. The main principles of this approach are respect for the individual, friendliness and positive attitude, trust in relationships, dialogue-interaction – respect, distributed leadership, the principles of social partnership (Necula et al., 2018).

The work of Luria (1966) and Vygotsky (1984) is devoted to the study in the field of neuropsychology.
The founder of neuropsychology is considered to be Luria, who developed the theory of localization of higher mental functions in the brain. Undoubtedly, certain parts of the brain are responsible for the human psyche and actions, in addition, affect vision, speech, hearing, reading. He suggested that when one area of the brain is damaged, many areas should be involved at once, given the complex psychological process.

The concept of “higher mental functions” appeared due to the domestic scientist Vygotsky, (1984), who formulated the basic statements about the development of higher mental functions and the systemic structure of consciousness. The author analyzed the disorders that occur in children and adults with local brain disorders. So, it is known that neuropsychology studies the relationship between the structure and functioning of the brain with mental processes and human behavior. Neuropsychologists focus on the brain mechanisms of higher mental functions based on local brain damage.

Therefore, often the cause of learning difficulties, inappropriate behavior are disorders of the brain. Undoubtedly, teachers and parents must work together to create the conditions under which children can realize themselves in future.

**Interaction of neuropsychology and partnership pedagogy**

A review of publications and research shows that in the domestic and foreign literature there are many articles in which teachers, neuropsychologists emphasize the importance of cooperation of teachers, parents and children. The authors note that only close cooperation can help a child learn well, overcome learning difficulties, be resilient, etc (Komogorova et al., 2021; Maksymchuk et al., 2020a; Maksymchuk et al., 2020b; Onishchuk et al., 2020).

The problems of organization of pedagogical cooperation and comprehensive harmonious development of personality were addressed in the works of the famous Ukrainian teacher Sukhomlynsky (1974) who wrote that a child is an active and independent individual who lives an interesting and full life, but does not learn to be like an adult. The classic of pedagogy believed that education of an individual should be carried out in the context of “school-family-community”. The outstanding teacher developed the principles of humanization of the educational process: to know the child; to love the child; to respect the child; to understand the child; to believe the child; to ensure development of the child; to develop self-esteem; to keep the child healthy; to become a friend of the child; to protect the child.
The partnership pedagogy is an approach aimed at developing the most productive and healthy relationships in the learning process. According to Skiba (2019), the pedagogy of partnership is important and indispensable because it helps to create a comfortable atmosphere in which it is easy to reveal the potential of each student, to form initiative and develop creativity; it reduces stress levels, which ultimately helps the brain work more efficiently; such cooperation in relationships is the foundation that becomes the main basis for preparing adolescents to choose a career in the future and raises active citizens in the open world.

In his publication Prokopiv (2019) considers implementation of the strategy of partnership pedagogy, which focuses on the relationship and cooperation between all participants in the educational process; mandatory competence approach in teaching subjects; integration of educational and social activities of schoolchildren in order to form their life competencies, which will be the key to success in future; raising conscious citizens who have value orientations; involvement of children in cooperation with the teaching staff and the public.

Brazilian educator and psychologist Freire (2005) believed that the educational process is a dialogue, an interaction of the subjects of knowledge. The author argues that the educational process should be based on a dialogical form of learning and non-formal education, which involves close communication between teacher and student, as well as research and study of the experience of people of different social status.

The noteworthy Alison Cook-Sather Handbook (2019) provides in-depth advice on the benefits of partnership pedagogy, how to plan work on this strategy, what joint commitments partners undertake, what approaches can be applied in the work, how to solve problems that arise, how to evaluate the work of the pedagogical partnership.

An article by Rodrigues (2015) emphasizes that the family is the first institution responsible for a child’s education. The author emphasizes that parents should become active members of the school community, and this can be achieved through strategies that aim to build partnerships. He also notes that the greater the needs of students, especially children with special needs, the greater is the need for cooperation between all parties involved. Even the results of the study show that the level of success of 300 Portuguese fourth-graders, whose parents co-worked regularly with the school, in literacy and numeracy had improved. The article emphasizes that the created family environment should be favorable for learning. In addition, it was confirmed that participation of parents not only provides success in learning, but also increases motivation of children to learn, facilitates the
work of teachers and strengthens prestige of teachers and educational institutions.

Some aspects of the work of neuropsychologists with students and parents are covered by neuropsychologist Miller (2019). The author notes that school neuropsychologists work with children and adolescents in the context of their school and home environment. Solving learning and behavior problems doesn’t stop even at the end of the school day. The author emphasizes an important factor: family involvement is crucial for influencing a child’s positive behavioral and academic changes.

**Neuropsychological content of school education: pedagogy of partnership**

We will try to consider the main aspects of the impact of the neuropsychological approach on child development in Ukraine and explore how the partnership pedagogy contributes to children’s health and emotional well-being and how it is implemented in schools in America, Brazil, Australia, England, Spain and the Netherlands.

The common goal for Ukrainian teachers and parents is to teach and raise happy and successful children who have developed intellect, understand their own emotions, know how to control them, consider the feelings of others. After all, as we know, nowadays primary school teachers often have concerns about success of children: students have a poor perception of educational material, it is difficult for them to control their actions. Problems in primary school children can occur due to developmental disorders in one of the hemispheres of the brain.

Scientists argue that modern children have difficulty coordinating movements, balance, lack of sense of rhythm, concentration. Sometimes a child has good hearing, sight and intelligence, but makes many mistakes in writing, i.e., has dysgraphia, which arose due to immaturity of some parts of the brain. In another category of children there are difficulties with mastering the reading skills, i.e., the so-called dyslexia. In order for a child to read easily, a sufficient level of speech, spatial imagination, visual perception, and phonemic hearing are required. Nowadays, it is often observed that children do not want to play moving games, they do not want to run, catch the ball, jump. According to researchers, the reason for this is the non-integrated primitive reflexes, which indicate neuromotor immaturity, due to which students have problems with reading, writing and mathematics. Awareness of the problem by teachers and parents and expansion of knowledge about neuromotor immaturity can contribute to a better
understanding of children’s difficulties and contribute to the timely implementation of preventive and effective measures.

To help educators, EdEra site has an online course on the theory and practice of neuropsychology, in which neuropsychologists offer motor, developmental exercises to stimulate a child’s mental activity, develop motor skills, visual, auditory and spatial perception. In addition, neuro-pedagogue, neuropsychologist Pristinska (2020), regularly conducts webinars for teachers and parents to provide comprehensive information on this important area: to tell adults more about the brain, how it develops at different age, to give an opportunity to understand for what each part of the brain is responsible, find out how to activate attention, develop thinking, memory of the child.

So, starting a working day, the teacher organizes a morning routine – a daily meeting where children discuss their emotional state, their own thoughts, current issues of class and school life. In addition, the teacher pays attention to give each child the opportunity to express their feelings, learn to listen to each other and not to cause troubles to classmates. In the center of communication, the teacher places a stand “My mood”, near which he conducts a conversation with children, encourages the spirit, inspires learning.

Among modern methods of neuropsychology, teachers practice kinesiological exercises, the so-called gymnastics for the brain. Kinesiological training helps children to become active, attentive, relieve irritation and stress. Thus, kinesiological techniques improve hemispheric brain interaction, develop fine motor skills, speech activity.

Furthermore, NUS is a school that is accessible to all: even to children with special educational problems. Many children now learn to read, write, make friends, work in team in regular classes. The teacher is aided by an assistant, who stays with children during the day.

It has been revealed that now educators, psychologists, neuropsychologists, parents can use many different tools for neuropsychological correction of the child. This includes a trainer for brain stimulation, i.e., balance therapy, simulators for the development of balance, soft floor modules for sensorimotor development, tactile simulators, therapeutic swings for a positive and soothing effect, dry frame pool, which produces a massage effect, stimulates creativity, develops muscular system and improves emotional state, chair-bags, which both relax and stimulate the sensory system.
A great invention of neuropsychologists is a spherical bag - a cocoon, which is considered an effective tool for sensory integration. The child will sit in it, retire and return to learning.

The importance of cooperation between parents and the school is emphasized by an American scientist Sheridan (2020) who argues that cooperation of parents and school is an important factor that will determine how easy it will be for a child to learn. Of course, adults interact with children, communicate with them and thus influence the experience of children and their learning. Research shows that home support for early learning complements school training. In particular, playing math games, reading with children, drawing, discussing open-ended questions with children during play, and physical exercises are examples of interesting simple ways to develop critical fundamental skills both at home and at school. It has been proven that positive relationships between parents, children and teachers improve students’ educational achievements, form social competence, improve emotional state, reduce the number of cases of behavioral disorders, teach children to easily adapt to new conditions. In addition, the author notes that the partnership has 3 important components: communication, consistency, cooperation.

In the Nordic countries, the pedagogy of partnership is called the pedagogy of dialogue, which focuses on the principles of the pedagogical experience of the Brazilian teacher Paulo Freire (2005). The essence of such a dialogue is to flexibly change orientation of the teacher’s pedagogical influence on students on moral principles and universal values. The pedagogy of dialogue identifies the teacher as a leading generator of successful pedagogical interaction with students and places responsibility on him/her to promptly take into account personal qualities of students, which are constantly changing under the influence of external circumstances and individual growth. Therefore, for such cooperation to generate aesthetic satisfaction, it must be impeccable in form and deep in content.

In particular, in Australia, the Department of Education, Employment and Labor Relations has developed a Family-School Partnerships Framework (2020). This is a kind of a guide for participants in the educational process. It presents a vision for improving relationships between Australian families and schools, outlines a system of partnership principles, presents 7 key dimensions of an effective partnership, and proposes an algorithm for the school system’s strategy for implementing and developing family-school interaction. The basic principles of an effective family-school partnership are parents and families who are the first and permanent caregivers of their children, lifelong learning takes place in
different conditions, school-community partnerships thrive when families are valued and involved, partnership relations are built on mutual trust, respect and responsibility, the partnership needs dedicated, joint and creative leadership.

Interestingly, the Center for Parent and Child Support (Day, 2010) was established in London in 2001 to develop and evaluate a family partnership model. The Center is part of the National and Specialized Directorate for Mental Health of South London Children and Adolescents and the Maudsley Health Foundation. The Center works closely with King’s College London. The family partnership model is an innovative approach based on a clear model of the assistance process, which demonstrates how the specific qualities and skills of an aide, used in a partnership, enable parents and families to overcome difficulties, build strength and resilience, and achieve their goals more effectively.

It is worth noting that in Spain, the topic of pedagogical partnership has been part of public policy since 1990. Particular attention is paid here to training programs aimed at preparing for productive interaction of all parties to the partnership. For example, the University of Jaen (Cedillo, 2021) is implementing the Procare initiative, which aims to evaluate and provide psychological strategies for emotional strengthening of adolescents (12-18 years). This project was launched to promote the health and emotional well-being of children with the support of the Ministry of Science and Innovation, in coordination with other state and international universities, as well as various groups of government agents working in the youth field. Taking part in this project is very simple: just give answers to the questionnaire, which consists of 2 parts – part 1 – questions for parents, part 2 – questions for adolescents. If the answers show that boys and girls need help, then a free workshop will be held for the children, where participants will learn to overcome the barriers that limit their lives and learn the tools to deal with risky situations, improving their communication skills, their stress management skills, etc.

Dutch educators also pay special attention to the pedagogy of cooperation. In particular, the weekly newsletter Peeters Zunderdorp (2021) contains materials on this topic. The author assures that close cooperation of teachers, children and parents is needed to make the transition of a 6-year-old child from a preschool to a school smooth. As we know, the educational environment in which children grow up is often called the pedagogical climate, pedagogical civil society or pedagogical basis. Home, family, relatives and friends are the closest surroundings. Obviously, parents are responsible for raising their children. In addition, different groups play a
Separate role. Educators distinguish an informal environment: family, friends, acquaintances, neighbors, religious communities, which have a special impact on the child’s development. Thus, pedagogical tools are combined with children and youth work, the leisure sector, the organization of sports and culture, scouting. Undoubtedly, cooperation is important to lay a solid foundation for teacher education, and this requires knowledge and respect for each other’s vision, shared values and shared responsibilities. Teachers often play a natural role in parental support, and they often have a trusting relationship.

It is worth noting publication of Okpala (2010) in a periodical, in which the author presents the results of studying the impact of educational resources on the indicators of mathematical achievement of 4th grade students. The study found that in North Carolina, low-income parents accordingly spent little money on their children’s educational materials and nutrition. Thus, in conclusion, we observe that the economic condition of parents is correlated with the educational achievements of 4th graders: it negatively affected the success of children in mathematics.

A British neuropsychologist Schultz, J. (2021) states in his publication that chronic stress at school can make children, especially those with special needs, to fear and change the brain for the worse. But parents and teachers can help alleviate the stress that prevents these bright children from succeeding. An important part of neuropsychological assessment is learning of students. A neuropsychologist worked with children, taught them to overcome obstacles in order to learn effectively and be able to manage stress in school. Repeated bouts of fear, frustration, and failure at school create stress that builds up over time. This impairs brain function by contaminating brain chemicals and even shrinking critical nerve tissue, exacerbating learning and attention problems. Chronic stress deteriorates memory and cognitive flexibility as it increases anxiety and alertness, and as a result increases the child’s alertness and creates protective defenses. When teachers, school principals, and parents misperceive such behavior as a deliberate attitude of a student trying to avoid an inadequate appearance, they make the problem more complicated by considering the student a bad child. It is known that when stress increases, cognitive abilities decline. The scientist gives advice to parents and teachers on how to help a child overcome stress:

- it is necessary to determine the causes of the problem;
- adults should be informed of the child’s condition;
- identify reasons that may hinder success;
• teach the child to overcome obstacles and achieve goals;
• reduce distractions, create a learning environment that is focused on the child’s success and minimize the risk of failure;
• regular physical activity, because it reduces stress, improves students’ mood and academic performance;
• replace doubts with confidence.

Therefore, in this way, teachers and parents will be able to help the child overcome difficulties and succeed in learning.

Conclusions

Undoubtedly, the partnership between a student, a teacher and parents is one of the key components of effective NUS education reform. Especially relevant for the pedagogy of partnership is the humane attitude of the teacher to the child, which should be combined with respect for his thoughts and desires.

A review of publications of foreign and domestic teachers proves that today many works are devoted to the above problem. It was found that the founder of neuropsychology is considered to be Luria, and the concept of “higher mental functions” appeared thanks to the Ukrainian scientist Vygotsky. The novelty of the article is a detailed review of the neuropsychological approach in the partnership pedagogy in Ukraine. It is emphasized that difficulties in children’s education are caused mainly by neuromotor immaturity. Emphasis is placed on modern methods, resources that help primary school teachers to carry out neuropsychological correction of the child.

Besides, teachers of foreign schools do not miss the partnership pedagogy. In Spain, in particular, this issue has been part of public policy since 1990. Foreign neuropsychologists argue that the increase of stress in children leads to a decline in cognitive abilities. In addition, researchers suggest that low cooperation between teachers and parents is the cause of poor performance and behavior of children.

It has been proven that positive relationships between parents, children and teachers improve students’ educational achievements, form social competence, improve emotional state, reduce the number of cases of behavioural disorders, teach children to easily adapt to new conditions.

Therefore, teachers should establish close cooperation between children and parents, apply neuropsychological knowledge in working with children to create an educational institution where children will feel the joy of learning something new.
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https://doi.org/10.18662/rrem/13.1/367


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