

## NEUROMARKERS OF THE DYNAMICS OF INTERHEMISPHERIC ASYMMETRY IN THE NORM AND IN MENTAL DEVELOPMENT DISORDERS.

Kozhushko N.Yu. , Evdokimov S.A.

**ANNOTATION.** In children with mental development disorders, a significant positive correlation was found. A linear dependence of the dynamics of interhemispheric asymmetry of spectral power in the EEG theta range (4-7.5 Hz) in the posterior frontal areas vs the numbers of tDCS courses was revealed. A decrease in asymmetry to the values of the age norm was revealed.

**Keywords:** EEG, tDCS, mental development disorders

## ADAPTIVE CAPABILITIES OF AUTONOMOUS NERVOUS REGULATION IN SCHOOLCHILDREN AGED 8 YEARS WHEN USING DIGITAL DEVICES.

Dogadkina S.B.

**ANNOTATION.** In order to assess the state of autonomic nervous regulation of heart rate, a temporal and spectral analysis of heart rate variability in children aged 8-9 years at rest and when performing a cognitive test (Schulte table) on electronic devices was carried out. It is shown that performing a cognitive test on digital devices leads to a decrease in parasympathetic regulation of the heart rate and a shift in the vegetative balance towards increased sympathetic activity. Two types of urgent adaptation of vegetative regulatory mechanisms to cognitive load performed on digital devices have been identified. The first type of autonomic nervous regulation is characterized by a decrease in the total power density — an integral indicator that takes into account the degree of activation of both sympathetic and parasympathetic influences on the heart rate, a shift in the autonomic balance towards sympathetic influences due to a significant decrease in high-frequency oscillations with constant activity of the sympathetic part of the ANS. The second type of reaction is characterized by an increase in the overall power density, a significant increase in sympathetic activity and, presumably, is associated with a stress reaction. According to the indicator of sympatho-parasympathetic balance (LF/HF), all children were divided in the initial state into 3 groups: with a predominance of sympathetic influences in the regulation of heart rate, with balanced regulation of heart rate and with a predominance of parasympathetic influences on heart rate. In children with balanced regulation of CP and with a predominance of parasympathetic activity in the initial state, significantly higher activity of the parasympathetic department of the ANS and low activity of the

sympathetic department of the ANS were noted. Children with a balanced type of heart rate regulation have the best adaptive capabilities

**Keywords:** childhood, digital technologies, autonomic nervous system, sympathetic nervous system, parasympathetic nervous system, heart rate variability

#### FEATURES OF THE USE OF CT AND OTHER TYPES OF OUTSIDE SCHOOL HOURS ACTIVITIES IN STUDENTS OF GRADES 4-5.

Lukyanets G.N., Makarova L.V., Shibalova M.S.

**ANNOTATION.** The features of the use of electronic devices (EUs) by adolescents in outside school hours are studied based on the materials of a population study and a sociological survey of parents and students of secondary schools in 10 regions of the country. The duration and multiplicity of various types of computer activities and other activities during the day and week were studied. The results showed that various types of computer activity had a significant advantage among fifth graders compared to students of the previous age, both in duration and in the multiplicity of these classes per week. Among the various types of computer activity, the longest duration is characteristic of entertainment games; in second place in terms of duration is communication in networks and watching movies and videos. On weekends, the total computer load is significantly higher (by 16%) than on school days. The total static load consisted of time spent studying, watching TV (an average of an hour and a half a day for each student), studying a foreign language, reading literature, doing homework, but mainly from the time of classes with the EC. The duration of communication with the EU, averaged for each fifth grader for each day, was about three hours on school days and three and a half hours on weekends. The static load on school days was 10h37m  $\pm$  0.05 for boys and 10h14m  $\pm$  0.05 for girls. On weekends, it was equal to 6h38m  $\pm$  0.05 and 6h07m  $\pm$  0.05. On all days of the week, boys' computer load and total static load were higher than girls' ( $p < 0.05$ ). The results of the study of the daily routine of students in extracurricular time revealed a significant amount of static load, which indicates that the daily routine of modern schoolchildren does not meet hygienic requirements and needs correction.

**Keywords:** electronic devices, types of computer activity, static load, Internet, mode, fifth graders

#### PSYCHOLOGICAL AND EDUCATIONAL SUPPORT OF A FAMILY RAISING A CHILD WITH A LIFE-THREATENING DISEASE: THEORETICAL UNDERSTANDING AND PRACTICE OF IMPLEMENTATION.

Doluev I.Yu., Zorina E.S., Makarova O.V.

**ANNOTATION.** Despite the growing scientific interest in studying the problems of child-parent relations in different categories of families, including those with children with life-threatening diseases, there is not enough information about comprehensive support and psychological and pedagogical support, as well as the identification and description of the psychological and social characteristics of these families. For the most part, they are not structured and fragmented in nature, there are no large, longitudinal studies involving a large number of respondents. Models and forms of psychological assistance and support are also not systematized. In parallel, there is a request to organize a comprehensive rehabilitation approach, build long-term and short-term programs, introduce new standards and approaches in the system of medical, psychological, pedagogical and social support in order to improve the quality of life of children and their parents who are faced with a difficult life situation. This article examines the features of difficulties and characteristics of problems faced by families raising children with life-threatening diseases, describes various practices of psychological and pedagogical support that contribute to improving the quality of life of the beneficiaries and the harmonization of intra-family relations.

**Keywords:** psychological and pedagogical support, a family in a difficult life situation, child-parent relations, psychological assistance, a child with a life-threatening disease.

#### EXPANSION OF THE CONCEPT OF "INCLUSIVE EDUCATION" TAKING INTO ACCOUNT THE NEW CHALLENGES OF THE EDUCATION SYSTEM.

Tereshchenko Olga Viktorovna

**ANNOTATION.** The article examines the issues of the organization of inclusive space, clarifies the conceptual apparatus, as well as the features of inclusive education, considers the option of expanding the concept of «inclusive education».

**Keywords:** education; integrated learning; inclusion; inclusive education; inclusive environment

#### FUNCTIONAL LITERACY IS AN INDICATOR OF THE LEVEL OF MODERN EDUCATION OF STUDENTS.

Kochetkova I.V.

**ANNOTATION.** Currently, large-scale changes are taking place in Russia in the field of socio-economic development of society. In addition, the education sector must meet the challenges that our country faces in connection with the aggravation of the geopolitical situation in the world. In the context of general education,

functional literacy is assessed as the result of an educational process that has a meta-subject orientation. In this case, education is understood as the ability to apply acquired skills and knowledge to solve everyday problems of personal and social communication. A sufficient level of functional literacy allows you to build an effective educational trajectory within the framework of vocational training, interact productively with other people, build business relationships, organize leisure, navigate the cultural environment, etc. In connection with the above, the author of this article made an attempt to scientific analysis and critical understanding of functional literacy as an indicator of the level of modern education of students.

**Keywords:** Development of education, education reform, innovations in education, functional literacy of students

## FEATURES OF THE DEVELOPMENT OF CREATIVE ABILITIES IN TEACHING MATHEMATICS.

Sarmosova E.I., Borodina I.V.

**ANNOTATION.** One of the priorities of the modern school is the education of a person who is able to navigate in rapidly changing living conditions. The development of creative thinking in mathematics lessons contributes to the solution of this problem.

**Keywords:** features, education, subject, mathematic