## THE USE OF INTERACTIVE GAMES IN THE PREVENTION OF DYSGRAPHIA IN YOUNGER SCHOOL CHILDREN WITH MENTAL RETARDATION

# ПРИМЕНЕНИЕ ИНТЕРАКТИВНОЙ ИГРЫ В ПРОФИЛАКТИКЕ ДИСГРАФИИ У МЛАДШИХ ШКОЛЬНИКОВ С ЗПР

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#### **Abstract**

The article deals with the violation of written speech-dysgraphia, which is one of the most common speech pathologies in children with ZPR. Interactive play can become a leading method of preventing dysgraphia. The article describes the development and construction of this game.

Key words: prevention, dysgraphia, speech, ZPR, interactive game

#### Аннотация

В статье рассматривается нарушение письменной речи - дисграфия, которая является одной из наиболее распространенных речевых патологий у детей с ЗПР. Интерактивная игра может стать ведущим методом профилактики дисграфии.

Ключевые слова: профилактика, дисграфия, ЗПР, речь, интерактивная игра

#### INTRODUCTION

Currently, primary school teachers often face problems with writing disorders, especially if children have various pathologies: speech disorders, intellectual, mental development, hearing and vision. The child gets confused, adds unnecessary letters to the words, writes in a mirror image or in the wrong order. Copying from the board, does not remember the words, and checks each word with the original, while again making omissions. The child confuses words with the spelling of the letters "b" and "d", there are problems with orientation, constantly confuses the right and left sides. All this leads to the manifestation of dysgraphia errors in the child, which are not related to ignorance of grammatical rules. In the future, based on these errors, he will not be able to master phonemic analysis and word synthesis, which will lead to grammatical errors.

Children with ZPR (When a baby is faced with developmental difficulties or with an inability to master new knowledge, skills, it is a question of a delay in mental development (or in short - ZPR)) are characterized by such manifestations of dysgraphia as: poor vocabulary, inability to correctly construct a sentence and retell the text, multiple errors in writing, violation of the motor act of writing, calligraphy. There is an uneven ratio of letter elements, a disproportionate size of letters, and the rhythm and smoothness of writing suffer. Substitutions and confusion of letters are caused by difficulties in memorizing them. There are difficulties in translating sound into grapheme and vice versa, as well as in translating printed writing into written writing. Vowel omission is often found in children with ZPR, which is associated with difficulties

in the analysis and synthesis of sound letters, they are not able to mark the boundaries of sentences on the letter with capital letters and dots, write words together, which may be due to the inferiority of the analysis of language units.

In the structure of the writing disorder in children with ZPR, there are language disorders, visual and auditory memory deficits, insufficient level of analysis and synthesis, development of mental activity, decreased attention, violation of the formation of voluntary regulation of activity and self-control.

The purpose of the method: the speech therapist identifies specific writing errors, determines the state of a number of sensory-motor and gnostic functions that are important for the formation of written speech.

#### 1 SECTIONS OF THE METHODOLOGY

The methodology includes the following sections:

#### 1. The state of laterality and spatial orientation.

Purpose: identification of the leading arm, leg, and eye in schoolchildren, Head test.

All the mistakes were made when showing the left and right parts of the opposite person.

Conclusion. Some of the primary school-age students with ZPR do not have the concepts and ideas formed or generalized before using them independently in various types of educational activities.

#### 2. The state of the motor functions of the hands

Objective: to identify the features of the kinetic and dynamic organization of the motor act.

Conclusion. Half of the primary school-age students with ZPR had difficulties with both the dynamic and kinetic organization of the motor act. It can be assumed that difficulties in the kinetic and dynamic organization of movements are one of the reasons that make it difficult to learn graphomotor skills in elementary school.

#### 3. The state of auditory-motor coordination

Purpose: analysis of non-speech stimuli (by the rhythm and number of beats), the correctness of the reproduction of the auditory sample.

Errors in primary school-age EG children with ZPR were in observing pauses, accents, and the tempo of the reproduced rhythm.

Conclusion. The difficulties found in analyzing non-speech stimuli, reproducing the rhythm by ear, are a consequence of the unformed connections between the auditory and motor analyzers, which is reflected in writing.

#### 4. The state of speech attention and phonemic perception

Objective: to study the state of phonemic perception and speech attention.

Conclusion. The lack of formation of the auditory analyzer with preserved hearing is the reason for the difficulties of many children of EG and KG in distinguishing similar sounds that differ in one phonemic feature.

#### 5. The state of sound analysis and word synthesis

Objective: to investigate the ability of children with primary school-age SPD to analyze sentence composition, syllabic composition and synthesis, phonemic analysis, synthesis and representations.

Conclusion: the difficulties of sound analysis and synthesis in students with primary school-age ZPR cause errors that are reflected in written works.

#### 6. Features of the grammatical structure of speech

Purpose: to study the degree of formation of the grammatical structure of speech.

Conclusion. Violation of the grammatical structure of speech affects errors in the written works of students.

#### 7. Checking your writing skills

Purpose: to find out the degree of literacy, to identify the violation of writing (the nature of specific errors, the degree of severity).

### 2 DEVELOPMENT OF AN INTERACTIVE GAME FOR THE PREVENTION OF DYSGRAPHIA

In children of primary school age with ZPR, specific errors are observed in more than 50% of cases, which indicates dysgraphy. Students experienced difficulties in determining the number of sounds and syllables in a word, in determining the place and number of words in a sentence. The most difficult thing for them was dictation, both words and the whole text.

For the prevention of dysgraphy in children of primary school age with ZPR, a speech therapist can use interactive games in their work. Interactive play is a method of teaching and upbringing that combines the functions of education, development and upbringing of children.

The main advantage of an interactive game is its visual clarity, which is a tool for learning new knowledge. In addition to visual clarity, children perceive information by ear, with the help of vocalization and movements of objects. With the help of interactive and multimedia tools, it is possible to simulate various situations from the environment, make visual riddles on various topics, introduce children to the seasons, professions, animal dwellings, vegetables and fruits, etc.

We have developed an interactive game for the prevention of dysgraphy in primary school children with ZPR.

The game has 12 lessons, each of which presents random tasks for the prevention of: laterality and spatial orientation; motor functions of the hands; auditory-motor coordination; speech attention and phonemic perception; sound analysis and word synthesis; grammatical structure of speech; writing skills. Work in all of the above areas is necessary for the comprehensive prevention of dysgraphy in children of primary school age with ZPR.

Here is an example of one lesson with the use of an interactive game on the prevention of dysgraphy. This lesson is aimed at developing laterality and spatial orientation, sound analysis, and writing skills.

### 2.1 TASKS FOR THE DEVELOPMENT OF LATERALITY AND SPATIAL ORIENTATION

Task 1: "Dress the penguin"

Goal: to develop children's ideas about the right and left sides.

Instructions: "The penguin is missing some items of clothing, let's help him get dressed on the street»

Progress: we specify what exactly is missing (the right shoe, the left glove, etc.). We suggest that you put on the character, those elements of clothing that are missing, be sure to pronounce them at the same time.

Task 2: "Find on the screen"

Goal: the development of spatial orientation.

Instructions: "The polar bear is going to school, let's help him collect all the necessary supplies in a briefcase", "The notebook is in the upper right corner", "The pen is under the bear".

Progress: we explain to the child that you need to find 10 items that are hidden around the room (a briefcase, two notebooks, two books, a pencil case, a pen, a pencil, a ruler, an eraser). There is an instruction where exactly these items are located. We read out the location of the items and ask you to find them.

Task for the development of sound analysis.

Task 3: "Help the penguin find all the vowel letters"

Goal: isolate the vowel letters.

Instructions: "Let's help the penguin find all the vowel letters."

Progress: From a series of letters (uppercase and lowercase consonants and vowels), ask the child to find all the vowels.

Task 4: "Extracting the last sound from words"

Goal: development of sound analysis.

Instructions: "Let's help the bear to select the last sound in the words"

Progress: We look at the pictures, name them. We ask the child to highlight the last sound in the word and select the appropriate letter on the screen. (Example: the picture "house", the child pronounces the word, selects the last sound " m " and finds the corresponding letter in a number of letters, clicks on it, if it lights up correctly in green).

Tasks for the development of writing skills.

**Task 5**: "Help the bear find mistakes in the test"

Goal: to develop the skill of self-testing.

Instructions: "Let's help the bear find all the errors in the text, the errors are indicated in the fields of the corresponding lines"

Progress: The child is asked to compare two texts, in one of them to find the errors that are indicated in the fields of the corresponding lines. The child sees an error in the permutation, the merged spelling of words, the incorrect designation of the boundaries of the sentence) clicks on it, if it is correct, it lights up green and is automatically corrected.

Material-text: Winter has come. Mitya was sledding down the mountain. Rosycheeked, he ran into the house. The boy was having fun.

Misspelled text: Winter has come Mitya. So I went on a sledge of sgora. Runyay he ran in. Vdom boy was sevelo.

Task 6: "Help the penguin break the words into syllables"

Goal: to develop the ability to determine the number of elephants in a word.

Instructions: "Let's help the penguin break the words into syllables."

Progress: The child is shown pictures and words, you need to relate the word to each picture. Then we ask you to divide each word into syllables and write their number. If the word is correct, it turns green.

Material-words: tree, window, bus, apple, chair, clock.

Lesson "North America 2»

Task 7: "Help the raccoon to divide words into two columns"

Goal: development of language analysis

Instructions: "Read the words, divide them into two columns: 1) the words in which the letters e, e, u, I refer to one sound; 2) the words in which the letters e, e, s, I denote two sounds"

Progress: Read the words allocated the letters e, e, u, I determined how many sounds mean and divide words into two columns. Checking it out.

Material-words: skirt, chalk, Yasha, honey, name, howl, twig, iron.

**Task 8**: "Help the squirrel arrange the pictures in the correct sequence"

Goal: to develop spatial orientation.

Instructions: "Arrange the pictures in the correct sequence"

Progress: We consider the pictures, name them. Read the instructions. We arrange the pictures according to the instructions. Checking it out.

Material-pictures: leaf, chamomile, number 2, tree, letter B.

Task 9: "Help the raccoon with the text"

Goal: to develop writing and self-checking skills.

Instructions: "Let's help my friend raccoon insert the missing letters"

Progress: Read the text, insert the missing letters, check with the correct text.

Material-text: "An., Cat. and Ir. games. li and tki Ave.", "T. T. P. li has a tel.nok T. ma»

Task 10: "Help the raccoon find the boundaries of sentences"

Goal: the development of coherent speech.

Instructions: "Find the boundaries of sentences"

Progress: Read the text, determine what is said in the text, put the dots. Check with the correct text.

Material-text: "Autumn has come, there are frequent rains, the leaves turn yellow and fall off "

Task 11: " Help the squirrel make up the words "

Goal: the development of language synthesis.

Instructions: "Let's help my friend squirrel make words out of syllables"

Progress: Read the syllables, make words out of them. The first syllable in a word begins with a capital letter. Checking it out.

Material-syllables: de-re-vo, bel-ka, tra-va, ma-shi-na, te-le-fon, pro-vo-da, ve-lo-si-ped, ak-va-ri-um.

Task 12: "Help the raccoon correct mistakes"

Goal: the development of speech attention.

Instructions: "Raccoon made mistakes in his work, let's help him fix them"

Progress: Given deformed phrases, read them, find errors and correct them. Checking it out.

Material-phrases: In this volume I live. Small leaves appeared on the birch branches from each barrel. A fishing rod with its ducklings floats on the lake. A large bowl walks through the forest. Mom baked a delicious booth.

#### CONCLUSION

The use of interactive play can become a leading method for preventing dysgraphy, especially in our time when ICT technologies are developing. The interactive game attracts children with its colorfulness, clarity, variety of games and exercises, motivates children and improves their understanding of information. This will allow you to deal with prevention not only in the process of studying with a teacher, but also at home with your parents or on your own.

#### References

- 1. Borisenko I. V. (1994) Methodological lessons of Ushinsky K. D. / I. V. Borisenko. Elementary school.
- 2. Kiseleva L. S. (2010) Project method in the activity of preschool institutions: Educational and methodological manual / Kiseleva L. S.
- 3. Kyakinen E. I. (2008) Moral orientations of younger schoolchildren with ZPR. CPI "KARO".
- 4. Lalaeva R. I. (1998) Reading disorders and ways of their correction in primary school children: A textbook. St. Petersburg: SOYUZ.
- 5. Loginova E. A. (2004) Violations of writing. Features of their manifestation and correction in primary school children with mental retardation. St. PETERSBURG: DETSTVO-PRESS.
- 6. Novoselova S. L. (1997) Computer world of preschool children: textbook for universities /Novoselova S. L. Moscow.: New School.
- 7. Sadovnikova I. N. (1997) Violations of written speech and their overcoming in primary school children. M.: Vlados.

#### БИБЛИОГРАФИЧЕСКИЙ СПИСОК

- 1. Борисенко И.В. (1994) Методические уроки Ушинского К.Д. / И.В. Борисенко. Начальная школа.
- 2. Киселева Л.С. (2010) Проектный метод в деятельности дошкольного учреждения: Учебно-методическое пособие /Киселева Л.С.

- 3. Кякинен Э.И. (2008) Нравственные ориентации младших школьников с ЗПР. ИПЦ «КАРО».
- 4. Лалаева Р.И. (1998) Нарушения чтения и пути их коррекции у младших школьников: Учебное пособие. СПб.: СОЮЗ.
- 5. Логинова Е.А. (2004) Нарушения письма. Особенности их проявления и коррекции у младших школьников с задержкой психического развития. СПб.: ДЕТСТВО-ПРЕСС.
- 6. Новосёлова С. Л. (1997) Компьютерный мир дошкольника: учебник для вузов /Новосёлова С. Л. Москва.: Новая школа.
- 7. Садовникова И.Н. (1997) Нарушения письменной речи и их преодоление у младших школьников. М.: Владос.

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