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TÍTULO: Prevención de trastornos de escritura en escolares de primaria en las condiciones de educación familiar.

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RESUMEN: La relevancia de la investigación está dada en la necesidad de crear condiciones óptimas para dominar con éxito el hábito de escritura por los escolares de primaria. Un papel especial en la solución de este problema lo desempeña la interacción del pedagogo y la familia que contribuye al aumento de la competencia pedagógica de los padres. En el artículo fueron expuestos los resultados de un estudio experimental destinado para detectar en los escolares de primaria las dificultades en dominar la escritura y las recomendaciones metodológicas para los padres. El método principal fue el estudio experimental que permitió revelar el nivel de la preparación de escolares de primaria para dominar el hábito de escritura y los antecedentes de disgrafía.

PALABRAS CLAVES: escritura, disgrafía, escolares de primaria, interacción, familia.

TITLE: Prevention of Writing Disorders among junior schoolchildren in a family environment.

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ABSTRACT: The relevance of this research stems from a need to create favourable conditions for successful acquisition of writing skills by junior schoolchildren. A special role in solving this problem belongs to interactions between teacher and family bolstering pedagogical competence of the parents. This paper describes the results of an experimental research aimed at revealing difficulties in the acquisition of the writing skills by junior schoolchildren and gives methodical recommendations for parents. The leading method was an experimental examination, which helped to reveal the level of readiness of junior schoolchildren to acquire the writing skills and the preconditions of dysgraphia.

KEY WORDS: writing, dysgraphia, junior schoolchildren, interactions, family.

INTRODUCTION.

Writing is the most important component of primary education. Multiple mistakes in writing lead to low academic performance in general, and low interest in learning.

According to A.N. Kornev (2003), the number of underperforming students, including children with writing impairment, exceeds 30% of the total number of students and includes 15% to 40% of all primary school students. Studies by M.M. Bezrukikh (2002) have shown that many writing

disorders do not end in primary school, but only get modified and preserved, often through to the end of school.

As noted by E.A. Loginova (2004), in the written works of junior schoolchildren quite often specific (i.e., not related to the use of spelling rules) errors of a persistent nature are observed, the occurrence of which is not related to the intellectual or sensory development disorders of a child or the irregularity of schooling. These errors are the main symptom of dysgraphy.

It is obvious that for an efficient speech therapy on prevention and correction of the writing errors among junior schoolchildren, close cooperation between a speech therapist and parents is essential. First of all, it is necessary to highlight the need to reinforce motivation for learning among parents. Many of them have a rather vague idea why the mistakes in writing occur and how to perform corrective work to prevent and eliminate this or that form of dysgraphia. Often parents do not fully participate in the prevention and correction of this impairment in the child only because of their ignorance. Therefore, the solution to the problem of providing timely counselling to parents raising junior schoolchildren with dysgraphia is of great importance.

DEVELOPMENT.

Discussion.

Scientists' interest in the problem of prevention and correction of writing disorders is explained by many factors. It has been found that writing disorders are very common among primary school students and often ultimately progress into persistent dysgraphia.

The issues of organizing the timely prevention, full diagnostics and effective correction of writing disorders are of high relevance. There are various reasons for the occurrence and intricacy of dysgraphia mechanisms, which attract the attention of specialists from different fields of science (speech therapists, psychologists, teachers, neuropsychologists, clinicians).

The problem of writing disorders in children was explored in their studies by T.G. Wiesel (2005), L.N. Efimenkova (1991), R.I. Lalaeva, L.V. Venediktova (2004), R.E. Levina (2005), I.N. Sadovnikova (2011) and others.

Prevention of writing disorders in junior schoolchildren is one of the most important and urgent issues of modern theoretical and practical speech therapy. Already at the initial stage of acquisition of writing skills it is possible to predict which of children will have dysgraphia.

According to A.N. Kornev (2003), in the prevention of dysgraphia, an important factor is the timely identification of children belonging to the "high-risk group" and conduction of corrective and preventive work with them to form the functional basis of their writing skills. The author recommends to pay special attention to the development of speech skills and functions necessary for learning literacy, i.e. the formation of the sound side of speech, listening attention, phonematic perception and phonematic concepts, phonematic analysis and synthesis skills.

The most important indicators of speech readiness for successful acquisition of writing skills is the developed spoken dialogue language, when a child is able to formulate questions and answers in a grammatically and lexically correct way, and the ability to compose coherent monologic narratives (Emelyanova et al., 2018).

T.V. Akhtina, N.M. Pylaeva (2008), J.M. Glozman, A.E. Soboleva (2019), and A.L. Sirotyuk (2003) believe that dysgraphia is not always caused by speech disorders. It is necessary to develop visual-spatial perception and visual thinking, successional abilities (exercises that develop the ability to analyze, remember and reproduce the time sequence of phenomena), drawing and graphic skills (hatching, tracing, completing unfinished drawings, etc.).

For successful acquisition of writing skills, it is equally important to ensure (preserve) formedness of general behavior, emotional and volitional sphere, necessary personal qualities, development of

cognitive and educational motives of activity, skills of self-regulation and control over own activities (Shapovalova et al., 2017).

In general, in order to successfully complete educational programs, including acquisition of the writing skills, it is necessary to create conditions favourable for psychological and pedagogical support of children of primary school age. It is important that not only teachers, but also parents participate in this process (Karynbaeva et al., 2017, Karynbaeva et al., 2019, Shapovalova et al., 2015).

Relying on the experience of leading domestic specialists, we nevertheless embrace the achievements of foreign researchers covering the following aspects of the problem of concern to us:

– Studies of speech ontogenesis and speech impairment in children (Ingram, 2007, Leonard, 1998, Broomfield & Dodd, 2004, Roth Froma, 2010, Felsenfeld, 1994).

– Correction and development of spoken language and written speech of junior schoolchildren (Reid, 2003).

– Support to families raising children with speech impairment (Plummer, 2011, Ahern, 2014).

Research Methods.

Our experimental research was conducted from May to September 2019 on the basis of the Consulting and Methodological Center for Assistance to Families with Children, including those with disabilities. This centers functions as a structural unit of the Sholom-Aleichem Priamursky State University (Birobidzhan).

It covered 20 children of primary school age. Its purpose was to study the readiness of junior schoolchildren to acquire writing skills and to develop recommendations to parents on the prevention and correction of dysgraphia.

The novelty in the research is that it features a significant amount of experimental data characterizing the higher mental functions essential for acquisition of writing skills by junior schoolchildren.

We employed the methods tested in speech therapy practice by O.I. Azova (2011) and T.A. Fotekova (2006) "Graphic dictation", "Draw a second half, "Find a sound", "Language analysis and synthesis study".

The spoken language of junior schoolchildren was examined. The sound pronunciation, lexical representation and grammatical structures were assessed.

The written works of the examinees were analyzed in order to reveal the signs of writing impairment.

In order to study the peculiarities of visual-spatial perceptions by junior schoolchildren, we used the "Graphic dictation" method. The results were assessed according to the following criteria: accuracy; precision; completeness; independence in performance.

The method “Draw a second half” was used to study the graphic-motor skills of junior schoolchildren. The examinees were offered to make the missing half of the drawing as a mirror reflection.

In order to reveal any phonematic hearing impairment, we used the method "Find a sound". The students were asked to determine the presence of a given sound in the names of the pictures.

The diagnostic method "Language analysis and synthesis study" included 3 tasks. In the first task, we asked students to identify and name the first sound in the word. Pictures with objects were used. The second task was to compile words from the scrambled syllables. For example: nya - yab - lo (yablonya) [Eng. apple tree]. In the third one, it was offered to make a sentence out of the given words. For example: For example: Vitya, mow, grass, rabbits, for (Vitya mows grass for rabbits).

For each method we have developed a scoring system to measure the obtained results. In measuring the results, we have identified 3 main levels of development of the studied processes: high, medium and low.

Findings and Discussion.

We have found that the examinees have no serious disorders in the development of lexico-grammatical structures of speech, nor do they have any disorders in sound pronunciation of polymorphic dyslalila or dysarthria types.

The analysis of written works has revealed that 95% of junior schoolchildren have the writing impairment. The confusion of written and printed letters by optical and motor signs, difficulties in maintaining and reproducing the semantic letter rows, difficulties in merging letters into syllables and merging syllables into words have been observed. The ability to write letters off the printed text is already developed, but the ability of independent writing is still in its formative stage. Some mistakes in writing were made: words written without vowels, several words written together or one word split into parts.

The analysis of the obtained data showed that 3 examinees demonstrated visual-spatial perceptions developed at a rather high level. These students only had some difficulties in drawing the straight lines precisely following the squares of the quad-ruled notebook.

The final result corresponded to the given reference. They performed the task on their own, without any assistance. The medium level of visual-spatial perceptions was demonstrated by 8 students. They confused the concepts "right" and "left", "top" and "bottom". There were mistakes in counting the squares.Some examinees needed help in the form of repeated instructions. 9 students have a low level of visual-spatial perceptions; their drawings didn’t correspond to the reference drawing. Repeated instructions did not reach them. 5 examinees refused to complete the task after making

several attempts. The rest completed the task only by half. They also confused the concepts "right" and "left", "top" and "bottom", made inaccuracies when drawing the lines, incorrectly determined the number of squares, and took their hands off the paper sheet. The results of this method showed that in some cases, junior schoolchildren are not able to make the drawings only guided by speech instructions.

Having analyzed the results obtained by “Draw a second half” method, we determined that 1 student completed this task at a high level. The second half of the drawing, which he made, fully corresponded to the given reference. In the works of 7 junior students with average level of graphic-motor skills we have observed the following mistakes: wrong size of the drawing; wrong placement of details. 12 students with a low developmental level of graphic-motor skills made the second half significantly larger or smaller in their drawings. They failed to accurately depict the individual elements of the given reference, or to draw them at all.

The high level of phonematic hearing under the method "Find a sound" was demonstrated by 3 students. They could easily distinguish all sounds on their own.6 junior students with a medium level of phonematic hearing were found to have a slow pace of work while performing the task. We gave the repeated instructions to some children. Particular difficulties arose in determining the presence of such sounds as [p], [l], [s] and [sh] in words. The remaining 11 students showed a low level of phonematic hearing. It was found that they experienced difficulties in finding all sounds. These students often did not understand the verbal instructions. Even after the example was repeated and additional instructions were given ("Give it a thought"; "Remember what sound you are looking for"), no positive result was yielded. Most of the children with low levels of phonematic hearing acted "by guess".

Analysis of the results obtained by the method "Language analysis and synthesis study" shows that 4 students have a high level of development of language analysis and synthesis. They understood the instructions for performing sound analysis and gave quick and precise answers. They had no difficulties with the syllabic synthesis as well. Only when working on the word "*romashka*" [*chamomile*] some junior students slowed down. In the third task, some children needed help in the form of additional instructions or examples, after which they successfully coped with the task.

The medium level of language analysis and synthesis was found in 8 examinees. Three children made mistakes when trying to perceive the first sound in the words. Pupils needed additional time, and repeated instructions; for example, instead of the first sound, the student indicated the first syllable in words. Help in the form of repeated instructions did not yield any positive result.

All examinees in the group made mistakes when dealing with the second and third tasks. There was a slowdown in the pace of work. In most cases, junior students failed to memorize the syllables, the words that they perceived by ear. When making sentences, children made many mistakes: replaced and skipped some words; wrong sequence of words; disagreement of words. For example: *"Vitya mow grass rabbit for", "Grandma granddaughter gave a pear"*. The low level of language analysis and synthesis was also shown by 8 students.

All the students made mistakes in determining the first sound in the word. Repetition of the instruction and the example in most cases did not yield any positive result. This group of children also experienced great difficulties in completing the second and third tasks. They were unable to syllabic synthesis. Cases of refusal to perform the task were recorded. 4 students were unable to make even one word. There was a slowdown in the pace of work. For building sentences, children again needed the repeated instructions and the example. Their sentences contained a large number of agrammatism, they replaced words by other words close in meaning.

Thus, the complex of methods developed and tested by us made it possible to evaluate the state of visual-spatial perceptions, graphic-motor skills, phonematic hearing, language analysis and synthesis. The majority of the examinees have the medium and low level of mental functions enabling the normal writing process. They need focused speech therapy for formation, development and correction of specific operations and functions enabling writing.

Parents of the examinees were informed of the examination results and the reasons behind certain difficulties encountered in performing the tasks. On the basis of experimental data, we developed individual correction and development program and recommendations for parents for each student.

We cooperated with parents in our effort to facilitate development of optical-spatial perceptions taking into account the ontogenesis of these functions. We used sequential and parallel inclusion of such types of work as: perception of own body position and orientation in the surrounding space; identification of spatial relations between 2-3 objects or images; use of paper sheet space, specification of spatial arrangement of geometrical shapes, letters and digits. In parallel with the development of visual-spatial perceptions, we worked on the verbal expression of these relations, and taught children to understand and use the offered structures.

An important premise for acquiring writing skills is the formedness of graphical-motor skills. As we have mentioned earlier, only one student demonstrated a high level of this skill. Therefore, we have developed and tested the series of corrective and developmental tasks in the following areas: development of fine motor skills of fingers; development of visual perception and visual-motor coordination; formation of basic graphical skills (work based on a template and stencil, hatching); development of skills in observance of hygienic rules of writing (position of the body, hand, notebook, pencil and pen). Also, we have prepared leaflets for parents, which illustrate the game tasks that contribute to the development of these skills. According to the parents' feedback, they were very interested in performing these activities at home together with their children.

We paid special attention to the development of phonematic hearing in our work. This is because for correct writing a subtler differentiation of sounds is needed than for spoken language. It should be noted that more than half of the examinees demonstrated a low level of this ability. The work on the development of phonematic perception was carried out on the basis of various analyzers: verbal-hearing, verbal-motor, visual. For example, in the game "Right and Wrong" students were asked to submit a sign (slam, raise the green circle), if we correctly named the object shown in the picture; for example: "A baman, a bavan banam, a panam, a vavan, a bana, a banana, a davan." We taught junior schoolchildren to distinguish by ear words that differ in 1-2 sounds. Each of the sounds in the process of work corresponded to a certain letter.

The work on differentiation of the contrastive consonant sounds was carried out: B-P, D-T, G-K, 3-S, Zh-Sh, S-Sh, Z-Zh, Ts-S, R-L, Ch-Shch. Before the task, we provided correct pronunciation and auditory image of each of the confused sounds. Then, we taught junior schoolchildren to compare the confused sounds, each of which corresponded to a certain letter. We believe that the work on the differentiation of sounds should be carried out in close connection with the development of phonematic analysis and synthesis. Parents were offered examples of verbal and written tasks for the development of these mental functions in junior students.

As part of our work on the development of language analysis and synthesis, we taught students to determine the number and sequence of words in a sentence and syllables in a word. At the initial stage, this work was carried out with reliance on the aids (claps, graphical schemes of words, sentences), which were demonstrated to parents. After that, the language analysis and synthesis actions were carried out by children mentally.

CONCLUSIONS.

The undertaken research has proven a high relevance of the stated problem and a need for further deeper exploration of issues related to the study of readiness of junior schoolchildren to acquire the writing skills, raising the pedagogical competence of parents and their involvement in the corrective and developmental work to prevent and correct disorders in the written speech.

As it was found, junior schoolchildren with difficulties in writing often have poor visual and spatial perceptions, graphical and motor skills, phonematic hearing, language analysis and synthesis. It should be noted that what the students of this group have is not the singular gaps in separate mental functions, but a systemic impairment of the functional basis of the writing process. Deficiency of basic components of activity and preconditions for its formation can not only aggravate and complicate their symptomatology, but also constitute an independent cause of writing disorders.

It is necessary to work with parents, to instill a sense of involvement and responsibility for the effectiveness of correctional work targeting written speech disorders in junior schoolchildren, to raise pedagogical competence, which consists in good understanding of dysgraphia mechanism and the ability to follow recommendations and perform tasks given by a speech therapist, as well as to apply interesting speech therapy techniques at home.

Regular cooperation between a speech therapist and parents on the prevention of dysgraphia in junior schoolchildren will help to minimize difficulties in developing the writing skills.

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