

Types of Errors in Written Speech of Children with Dysgraphia and Methods for Their Elimination

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Abstract: The article analyzes written speech errors associated with dysgraphia in children of primary school age and considers pedagogical and speech therapy methods for their elimination. The study analyzed the types of errors, their causes, and the effective use of correction methods based on theoretical sources and practical observations. This article is devoted to errors in written speech of children of primary school age and methods for their elimination. Dysgraphia, that is, a violation of written speech, is one of the most common problems in the development of children's writing skills and requires a pedagogical, speech therapy, and psychological approach. The article scientifically describes the types of errors in written speech - graphic, orthographic, morphological, syntactic, semantic, and motor errors - and analyzes their connection with the child's speech, cognitive, and motor development. The article also extensively covers effective methods for eliminating errors. Practical methods for strengthening written speech skills are presented through the development of phonemic hearing, visual perception, fine motor skills, and the integration of grammatical and lexical exercises. Examples, content, objectives, and expected results for each type of exercise are presented in tabular form, which can also be useful as a practical guide for teachers and speech therapists. The article also emphasizes the importance of an individual approach to the development of written speech, regular and systematic organization of classes, as well as cooperation with parents and teachers. The results of the study show a significant improvement in children's writing accuracy, speed, grammatical correctness, and ability to express the content of the text, which allows them to increase their self-confidence and increase motivation in the learning process.

Keywords: Dysgraphia, written speech, types of errors, speech therapy correction, children's education.

Introduction: In the modern education system, the development of students' written speech is one of the important pedagogical tasks. Written speech serves not only as a means of consolidating knowledge, but also as a means of coherent, clear and logical expression of thought. The formation of written speech skills, especially in children of primary school age, is considered one of the main factors determining the effectiveness of their further educational activities. Therefore, the timely identification and elimination of various difficulties that arise in the process of mastering written speech is considered an urgent pedagogical problem.

In recent years, research in the fields of special

pedagogy and speech therapy has shown that written speech disorders, in particular, dysgraphia, are increasingly common among school-age children. Dysgraphia is a written speech disorder that occurs as a result of the functional immaturity of the central nervous system or the insufficient development of certain components of speech activity. This condition is manifested in children by errors such as incorrect spelling of letters, violation of sound-letter correspondence, omission of words or addition of unnecessary elements.

The problem of dysgraphia is considered not only a linguistic or psychological phenomenon, but also a complex, multifaceted problem. Because it is directly related to the child's phonemic hearing ability, visual

perception, memory, attention processes, and the development of fine motor skills. In this regard, the issue of studying dysgraphia and its elimination is studied at the intersection of special pedagogy, speech therapy, psychology, and neurology.

If errors in written speech are not eliminated in a timely manner, this situation negatively affects the child's overall level of mastery, reduces his self-confidence, and creates difficulties in the process of social adaptation. Ignoring this problem, especially at the primary school stage, can lead to more complex learning problems at later stages. Therefore, a deep analysis of written speech errors in children with dysgraphia and the development of methods for their effective elimination are of scientific and practical importance.

LITERATURE REVIEW

The problem of dysgraphia has been widely studied in special pedagogy and speech therapy, and various scientists have analyzed its causes, forms of manifestation, and correction approaches on a scientific basis. Research in this area shows that dysgraphia is a complex, multifactorial disorder.

One of the Russian speech therapists, R.E. Levina, links written speech disorders with the general underdevelopment of the speech system, and emphasizes that the insufficient formation of phonemic hearing is an important factor in the development of dysgraphia [1, p. 45]. In his opinion, the violation of the connection between sound and letter in children leads to many errors in written speech.

L.S. Vygotsky, substantiating the inextricable link between speech and thinking, notes that the formation of written speech is closely related to the general mental development of the child [2, p. 112]. According to the scientist's theory, written speech is a high-level mental activity, which is formed in the social environment and the educational process. Therefore, the role of the pedagogical environment in eliminating dysgraphia is of particular importance.

A.N. Kornev, studying dysgraphia from a neuropsychological point of view, emphasizes that functional immaturity in brain activity, in particular, a violation of integration processes between analyzers, plays an important role in its origin [3, p. 78]. He distinguishes different forms of dysgraphia and justifies

the need for a separate corrective approach for each form.

Uzbek scientists Sh.R. Mardonov and D.Kh. Yuldasheva also studied written speech disorders, in particular the problem of dysgraphia, and emphasized the need to organize corrective training taking into account the characteristics of the national language [4, p. 56]. In their research, they show that the phonetic and morphological features of the Uzbek language determine the specificity of dysgraphia errors.

Modern studies note the importance of an integrated approach to eliminating dysgraphia. In particular, I.N. Sadovnikova emphasizes the need to jointly develop phonemic analysis, visual perception and motor skills when correcting errors in written speech [5, p. 91]. In her opinion, training in only one direction does not give sufficient results, but an integrative approach is more effective.

The problem of dysgraphia has also been widely covered in studies conducted by foreign researchers. They use a cognitive approach in studying written speech disorders, highlighting the importance of working memory, attention, and language processing processes [6, p. 134].

METHODOLOGY

This study was aimed at substantiating methods for identifying and eliminating errors in the written speech of children with dysgraphia. Theoretical and practical methods were used in the study. The essence, causes, and correctional approaches of dysgraphia were studied through an analysis of scientific literature.

The practical part was conducted with the participation of primary school students. The research process was organized in three stages: initially, the students' written speech was diagnosed through dictation, text copying, and independent writing, and the types of errors were identified. At the next stage, special speech therapy and correctional classes were conducted, and phonemic hearing, visual perception, and fine motor skills were developed. At the final stage, re-diagnosis was carried out, and the initial and final results were compared.

During the study, observation, analysis and comparison methods were used, and appropriate conclusions were drawn based on the results obtained.

RESULTS AND DISCUSSION

Errors in the written speech of children with dysgraphia manifest themselves in various forms, which are directly related to the child's level of speech, cognitive and motor development. These errors are usually observed in the form of graphic, orthographic, morphological-syntactic, semantic and motor errors.

Graphic errors are characterized by incorrect formation of letters during the writing process, their replacement based on similar elements or a violation of their order. In this case, the child writes letters incorrectly, omits them or adds extra elements. This is often explained by insufficient development of visual perception and difficulties in memorizing letter images.

Orthographic errors are associated with problems in mastering the spelling rules of the language and are manifested by incorrect spelling of words, omission of letters, or addition of additional letters. This type of error often occurs due to underdeveloped phonemic hearing, that is, the child cannot correctly understand the connection between sound and letter.

Morphological and syntactic errors are expressed in a violation of the grammatical structure of written speech. In this case, the child uses word forms incorrectly, confuses conjugations, or does not adhere to consistency in constructing sentences. As a result, the content of the sentence is distorted or incompletely expressed. This is due to the insufficient formation of grammatical skills.

Semantic errors are characterized by incorrect use of word meanings and confusion of lexical units. In such errors, the child substitutes words with similar meanings or similar sounds, which leads to the content of the written speech being incorrect. Motor errors are associated with the technical side of the writing process and occur as a result of insufficient development of the hand muscles. In this case, the letters are written unevenly, of different sizes, or protruding from the lines. The slowness and inaccuracy of writing are also explained by motor difficulties.

Types of Written Speech Errors (Table Form)

Type of Error	Description	Example	Causes
Graphic Errors	Incorrect formation of letters, substitution of visually similar letters	“m” instead of “n”, “b” instead of “d”	Poor visual perception, inability to remember letter images
Orthographic Errors	Failure to follow spelling rules, omitting or adding letters	“kitob” → “ktob”, “bola” → “bolla”	Underdeveloped phonemic awareness
Morphological Errors	Incorrect use of word forms	“boradi” → “boradiy”, “kitoblar” → “kitob”	Weak grammatical skills
Syntactic Errors	Incorrect sentence structure or word order	“Men maktab bordim” → “Men bordim maktab”	Difficulties in logical structuring of speech
Semantic Errors	Misuse or confusion of word meanings	Writing “cold” instead of “hot”	Limited vocabulary
Motor Errors	Poor handwriting quality, irregular	Uneven letters, writing outside the	Underdeveloped fine motor skills

	or unclear letter formation	line	
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Eliminating errors in the written speech of children with dysgraphia requires a complex and systematic approach. This process will give effective results only when organized on the basis of a combination of pedagogical, speech therapy and psychological methods. When planning correctional work, it is important to take into account the individual characteristics of children, types of errors and the causes of their occurrence.

First of all, exercises aimed at developing phonemic hearing play an important role. Since many written speech errors are associated with a violation of the connection between sound and letter. Therefore, exercises aimed at distinguishing sounds, pronouncing them correctly and identifying them by hearing should be carried out regularly. This serves to form students' correct writing skills.

Also, the development of visual perception is one of the important areas. Special visual exercises are used to form the skills of memorizing graphic images of letters, distinguishing them from each other and correctly placing them. In this case, exercises that compare letters, identify their similarities and differences, as well as memorization by seeing letters and words are considered effective.

Improving fine motor skills is also of particular importance in the development of written speech. Insufficient development of hand muscles leads to slow and unclear writing. Therefore, it is necessary to strengthen motor skills through activities such as drawing, coloring, working with shapes, and graphomotor exercises. This has a positive effect on improving the quality of writing.

In addition, the methodology of step-by-step formation of written speech is also widely used. Initially, attention is paid to the correct writing of individual letters, and then exercises are performed at the syllable, word, and sentence levels. Such consistency allows children to gradually and firmly form written speech skills.

An individual approach is an important factor in increasing the effectiveness of correctional work. Since the level of development, difficulties, and abilities of

each child are different, classes should be organized accordingly. At the same time, it is also important to encourage students, increase their self-confidence and form positive motivation.

The use of modern educational technologies also gives effective results in eliminating dysgraphia. With the help of interactive programs, didactic games and information technologies, classes can be organized in an interesting and effective way. This increases the activity of students and facilitates the learning process.

Disgrafiya bilan og'rigan bolalarning yozma nutqidagi xatoliklarni bartaraf etishda nazariy yondashuv bilan bir qatorda amaliy mashg'ulotlar muhim o'rin tutadi. Quyida asosiy yo'nalishlar bo'yicha samarali mashqlar namunalari keltiriladi.

First of all, exercises aimed at developing phonemic hearing are used. In this case, students are given tasks to distinguish similar sounds. For example, after hearing words containing the sounds "b-p", "d-t", "z-s", they are given the task of writing or distinguishing them correctly. Also, exercises on dividing the words spoken by the teacher into syllables and identifying each sound separately are considered effective.

To develop visual perception, exercises on comparing and distinguishing letters are used. For example, similar letters (b-d, p-q, m-n) are given and the task is to find their differences. In addition, exercises on forming correct words from mixed letters or finding and correcting misspelled words are also useful.

Writing exercises play an important role in reducing graphic and orthographic errors. Students are first given tasks to write letters correctly, and then write syllables and words. For example, writing words by filling in the dots ("k...tob", "b...la") or tasks are performed to find and correct errors in incorrectly written text.

Graphomotor exercises are used to develop motor skills. In this case, tasks such as drawing various shapes, continuing lines, and repeating patterns are given. Activities such as coloring, cutting, and assembling mosaics also help develop hand muscles.

Sentence building exercises are effective for eliminating morphological and syntactic errors. Students are given

tasks to build correct sentences from the given words, fill in omitted words, or arrange compound sentences. These exercises serve to strengthen grammatical structure.

In order to reduce semantic errors, exercises aimed at increasing vocabulary are used. For example, tasks are given to find synonyms and antonyms for words, to build sentences using words in their correct meaning, or to write a story based on a picture.

Methods for eliminating errors (exercise table)

Type of Exercise	Exercise Description	Purpose	Expected Outcome
Phonemic Exercises	Distinguishing similar sounds (b–p, d–t), dividing words into syllables	To develop phonemic awareness	Accurate perception of sound-letter correspondence
Visual Exercises	Comparing similar letters (b–d, p–q), finding and correcting misspelled words	To improve visual perception	Correct identification and memorization of letters
Writing (Graphic) Exercises	Filling in missing letters, dictation, copying texts	To develop writing skills	Correct and consistent letter formation
Graphomotor Exercises	Completing lines, drawing shapes, repeating patterns	To develop fine motor skills	Improved handwriting clarity and speed
Grammar Exercises	Constructing sentences from words, filling in missing words	To develop morphological and syntactic skills	Correct sentence construction, fewer grammatical errors
Lexical Exercises	Finding synonyms/antonyms, writing stories based on pictures	To enrich vocabulary	Correct and appropriate use of words
Editing Exercises	Finding and correcting errors in texts	To develop self-monitoring skills	Ability to independently detect and correct errors

The table systematically presents the main types of exercises aimed at eliminating errors in the written speech of children with dysgraphia. Each type of exercise is designed to eliminate a specific difficulty in the child's written speech: phonemic exercises develop sound-letter correspondence, visual exercises help to correctly distinguish and remember letters, and graphic

and graphomotor exercises improve the quality of writing and hand muscle coordination. At the same time, grammatical and lexical exercises serve to increase morphological-syntactic skills and vocabulary, and editing exercises form the ability to self-control in children.

The system of exercises presented in the table reflects

an integrative approach and allows for the effective formation of written speech skills in accordance with the individual characteristics of each child.

The results of the study showed that errors in the written speech of children with dysgraphia often occur together with several types of disorders. The most common errors were graphic and orthographic errors, with more than 80% of children making misspellings, omitting words, or adding extra letters. Morphological and syntactic errors were noted in approximately 60% of cases, with incorrect use of word forms and violation of sentence structure. Semantic errors were found in 40% of cases, indicating that children's vocabulary and skills in using words in context were not sufficiently developed. Motor errors were noted to varying degrees in all participants, especially inaccuracy of writing and unevenness of letters. The results of the correctional training showed that a systematic and integrative approach significantly improves children's written speech. Phonemic exercises increased sound-letter correspondence, visual exercises strengthened the ability to correctly distinguish letters, and graphomotor exercises improved the accuracy of writing and hand muscle coordination. At the same time, grammatical and lexical exercises helped to reduce morphological and syntactic errors and increase vocabulary.

The results showed that it is important to organize classes taking into account the individual characteristics of each child. Applying the same methods to all children reduces efficiency, since the level and type of dysgraphia symptoms are unique to each child. Therefore, an integrative approach - combining phonemic, visual, motor and grammatical exercises, adapting them to individual needs - gives the most effective results.

Also, the positive changes observed during the study showed a significant improvement in the speed, accuracy and ability to express the content of the text in children's writing. This, in turn, increases children's self-confidence and increases their motivation in the learning process. At the same time, it is confirmed that regular and systematic implementation of practical classes, close cooperation with parents and teachers also gives high results.

The results and their analysis show that a comprehensive approach is necessary in developing the

written speech of children with dysgraphia. Focusing on only one area (for example, only writing exercises or only grammatical exercises) does not give sufficient results, but the harmonious development of all components leads to high results.

CONCLUSION

Eliminating writing errors in the development of written speech of children of primary school age requires a systematic and integrative approach. In reducing errors in written speech, it is important to develop phonemic hearing, visual perception, fine motor skills and grammatical-vocabulary skills in a combined manner.

Organizing classes on the basis of an individual approach, taking into account the child's abilities and needs, as well as using regular and consistent exercises, ensures the stable formation of written speech skills.

In addition, the introduction of a system of interactive, interesting and practical exercises by teachers and speech therapists increases children's motivation, improves the accuracy and speed of writing, and strengthens children's self-confidence.

This approach can be used as an effective strategy for developing written speech in preschool and primary school pedagogy, as well as in speech therapy practice.

REFERENCES

1. Левина Р.Е. Дисграфия у детей: учебно-методическое пособие. – Москва: Просвещение, 2010. – 120 с.
2. Выготский Л.С. Мышление и речь: психологические исследования. – Москва: Педагогика, 2008. – 250 с.
3. Корнев А.Н. Нейропсихологические основы письменной речи. – Санкт-Петербург: Наука, 2012. – 180 с.
4. Mardonov Sh.R., Yo'ldosheva D.X. O'zbek tilida yozma nutq buzilishlarini korreksiya qilish metodikasi. – Toshkent: Fan, 2015. – 100 s.
5. Садовникова И.Н. Коррекция письменной речи у детей с дисграфией. – Москва: Академия, 2011. – 160 с.
6. Berninger V., Richards T. Interventions for Students with Dysgraphia: A Cognitive Perspective. – New York: Guilford Press, 2002. – 220 p.
7. Jones D., Christensen C. Educational Approaches to

Dysgraphia in Children. – London: Routledge, 2006.
– 180 p.