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## ANALYSIS OF THE EFFECTIVENESS OF SPECIFIC EDUCATIONAL METHODS IN EDUCATING STUDENTS FROM SOCIALLY DISADVANTAGED BACKGROUNDS

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### ABSTRACT

In this paper we describe some effective specific educational methods and exercises that significantly help students from socially disadvantaged backgrounds. In the introduction, we describe the difficulties of students that we encounter at school and propose educational methods that help them improve their cognitive impairments, and thus improve their school performance and school success.

**KEYWORDS:** method, education, socially disadvantaged student

### INTRODUCTION

Pupils from socially disadvantaged backgrounds have significant learning difficulties at school. Difficulties in acquiring school knowledge usually appear at the beginning of the first year. Students have difficulty remembering letters and recalling their printed and written forms, they have difficulty analyzing and synthesizing syllables and words, and reading is slow, uncertain, distorted. Even for this failure, these students are the target of ridicule from their classmates, they are considered lazy, comfortable, incompetent, not preparing for school. At present, we have many experienced educators who are able to identify in the beginning all the manifestations of developmental learning disabilities, and will also point out the difficulties to parents, with whom they will agree to solve these difficulties. A socially disadvantaged student has the most significant failure in auditory and visual perception and motor skills. We designed and applied specific educational methods to these areas, which were significantly effective for students.

**Materials and methods:** First, we performed diagnostics of selected students from socially disadvantaged backgrounds to determine impaired abilities in the areas of auditory and visual differentiation and the level of motor skills. We used testing tools for this, with which professional employees work in the centers of pedagogical-psychological counseling and prevention.

### The results:

#### *1. Method for the development of fine motor skills and graphomotor skills*



Many muscles are involved in writing. Excessive strain on muscles and muscle groups causes fatigue, which is transmitted to the whole body, so it is very important for writing:

- correct body position
- position of the lower limbs
- distance of the head from the paper
- holding the writing instrument (pencils, pens) correctly.

*Development of gross motor skills:*

Before writing, we performed exercises in the upper limbs (hands) in order to loosen the shoulder girdle. If the release of the whole hand and shoulder girdle is not enough, writing is convulsive, the child is too animal and presses on a writing instrument (pen, pencil ...), the font is not smooth, the hand soon begins to hurt, the child is tired, loses interest in work. While writing, we also included exercises aimed at training the whole body, neck muscles and torso.

*Upper limb exercises:* waving, circling, imitation of chopping, swimming, flying, alternating stretching (stretching both hands outstretched to the sides) and stretching (stretching both whole hands over the head, next to each other), forearm circling (winding the wave on the ball joint, mixing).

*Exercises of palm movements:* circling the palms, waving, swinging, pressing the palms against each other and then releasing pressure, clapping, clapping (on the knees), closing, opening the palms, gently hitting the palms on the mat.

*Development of fine motor skills:*

A whole range of different exercises is used to develop fine motor skills, which can also be performed within other activities and subjects. Modeling, mixing, tearing and folding paper, stringing beads, coloring books are suitable for the development of fine motor skills (small movements of the hand and fingers). Before writing, but also during it, it is advisable to include the following types of exercises:

*Exercises focused on finger movements:* tapping your fingers on the mat, imitating rain, snow, touching each other with your fingers, gradually touching your thumb with other fingers, imitating cutting, playing the piano, circling with your fingers, fingertip, thumb and forefinger.

*Movement memory exercises:* repetition of exercises performed by another person, joining individual exercises into short sets, repetition of movement sequences.



### **Evaluation:**

We started with relaxation exercises focused on the development of gross and fine motor skills. We gradually increased the difficulty of exercises, especially hand exercises, we paid attention to the accuracy and precision of movements, proper coordination and sequence in the order of individual steps and exercises in sequences. These exercises have improved the overall flexibility of our hands, reduced muscle tension and cramps, and accelerated our pace when writing. We have also developed motor memory, which is the first essential prerequisite for mastering the fast pace of writing.

#### *Preparatory exercises for writing:*

Preparatory or relaxation exercises are the first stage of learning, practicing real writing. Under the term preparatory exercises we understand:

- writing straight lines from top to bottom, from bottom to top, from left to right, from right to left,
- writing slashes from top to bottom, from bottom to top, from left to right, from right to left,
- writing circles, wavy arcs, and loops.

#### *We carried out the preparatory exercises in the following sequence:*

- first in space (writing in the air - it should always be properly motivated and pay attention to the right direction of writing),
- then on a vertical surface (the best is the board),
- later on, a sloping surface (smaller tables are suitable, which are supported on the back, ie sloping)
- and finally on a flat surface (on paper, in a notebook).

*We used various writing materials to write preparatory exercises:* chinks, crayons, wax crayons, pencils, pens, but even brushes, carbon ... The basic condition is that the writing instrument must easily leave a mark - that is, the writing instrument must be such, which does not need to be pressed to see anything at all. When we got to the stage of writing on the desktop, we followed the following sequence and did not immediately write in small lines in the notebook:

- we started writing in large formats - on wrapping paper or another large area,
- We gradually reduced the format to the size of writing in a notebook.

We practiced preparatory exercises for writing several times a day, paying particular attention to the starting point of writing (if the child is to write lines from bottom to top, then he must lead the movement from bottom to top and not vice versa - it's not just about writing a line, but also about technique writing). The goal, however, is not a completely accurate imitation of shapes, but the fluency of writing. We practiced the exercises at any time, and preferably before each writing. Parents were also notified of this procedure. Relaxation exercises are not only intended for first-year students, but should also become a common part of writing for students with dysgraphia in higher grades.



*Writing letters and connections between them:*

A large part of the problems of pupils with dysgraphia also lies in the fact that during the practice of writing a given letter in the 1st year of elementary school they could not sufficiently or not at all learn the correct technique of writing a given letter (where they start writing, what is the direction). Although they write the letters, since they did not notice (or simply did not master) the writing technique, they created their own. As a result, they can write the letter independently, but a big problem arises in a situation where the letters need to be combined into wholes (syllables, words). Therefore, it is very important to check which letters the student writes correctly and which he writes according to his way - and it is therefore necessary to learn this way, respectively. to such an extent that it can also be used to combine letters.

*We followed the following procedure during the training:*

- the shape of the letter should be written first on the board (at home on a large vertical area - eg on wrapping paper attached to the wall), writing the letter must also be commented - also describe the direction of writing (eg when practicing the written letter t - diagonally upwards, straight bottom, small arch (or head), large arch (foot))
- the child embraces the prescribed shape,
- then we encourage the child to write and at the same time help him with a verbal instruction (indicating the direction), which we gradually abandon - if the child manages to write,
- it is also suitable to write letters in the air, but also in flour, snow, sand ...,
- when the child manages to write the letters individually, we move on to connecting them to the syllables,
- again, we first explain and show the technique of writing, then we motivate the child to write,
- many dysgraphs still have trouble remembering the shape of the letter sometimes throughout school, so it is advisable to have an overview of the alphabet at home or in class (on the wall, on the side board - in a visible place) and teach the child that if he cannot remember look - this way you will prevent the child from feeling a sense of failure and subsequent demotivation to write.
- From syllables we go to writing words, later sentences and only then short texts.

**Evaluation:**

By practicing preparatory exercises for practicing letter writing, we practiced basic graphic habits, because without mastering drawing horizontal, vertical and oblique straight lines in different directions, later wavy lines and curved lines, controlling hatching and dashing, and drawing parallel lines, we cannot expect students to legible and correct. After mastering these preparatory exercises, we started with the practice of writing individual graphemes, we practiced the correct mutual connections between graphemes. By constantly repeating the letters, we improved the students' memorization of the shape of individual letters, thus speeding up the pace of writing, the font ceased



to be torn, interrupted, and the overall editing of the text also improved. We placed emphasis on all components of writing - dictation, transcription and write-off, we practiced writing syllables, then simple one-syllable, two-syllable words, and in the end we also practiced words with consonant clusters. When choosing words, we respected the boy's impaired communication skills and wrote down only those letters that he already had correctly fixed.

## ***2. Methods for the development of phonemic and auditory differentiation***

Phonemic differentiation (so-called phonemic hearing) is the ability to actually distinguish the distinctive features of the phonemes of the mother tongue, e.g. numbness-numbness, orality-nasality, sharpness-dullness. Only when the ability of phonemic differentiation is at such a level that the student can differentiate these distinctive features of practiced phonemes and correct pronunciation from incorrect pronunciation, it is possible to begin successful practice of correct pronunciation of disturbed sounds and practice of auditory analysis and synthesis.

We do this by telling the student the words in which the sound is being observed, articulating it in the right or wrong way - the way the student speaks it. He signals (with a handshake) when we have spoken the sound incorrectly.

When practicing phonemic differentiation, we follow the pictures, the names of which contain opposite phonemes. We present a pair of pictures, naming one of them. The student has to show which picture we named. We repeat this method several times, alternating pairs of pictures and names. We make sure that the student knows the pictures and concepts and must not see the speech therapist's mouth.

When practicing auditory differentiation, we tell the student a pair of words and he only has to hear whether the words are the same or different. Even during this exercise, the student does not look at the speech therapist's mouth. When differentiating R and L in words, we allow the student to involve a tactile sense in the exercise - with R he raises his hand, with L he touches the cheek, after practice we no longer use tactile sense, but the student has to say what sound he heard. This exercise is important if the child pronounces R and L incorrectly and R pronounces L, resulting in difficulties in dictation when confusing letters.

In developing auditory differentiation without visual support, we performed the following exercises:

- distinguishing syllables, determining whether they are the same or not (these are long syllables - short, soft-hard, voiced - unvoiced, nasal - non-nasal)
- distinguishing between words - meaningless (klaš-kleš) and meaningful (nose-night) - only determination of similarity and difference



- precise identification of the vowel by which the words differ from each other, the words differ by the vowels at the beginning, in the middle and at the end of the word
- determining the vowel with which we can change the word to another (furnace - dog - change c to s)
- formation of sentences from words that differ by one vowel.

**Evaluation:**

Therefore, we performed these exercises most often, we changed them so that they would not be boring and stereotypical for the child. At the beginning of the exercise we had a high error rate, we needed to practice phonemic differentiation according to the pictures for a long time, until a month later we could start training without support.

**3. Methods for the development of auditory analysis and synthesis**

When practicing auditory analysis and synthesis, we proceed from the simplest to the most complex task. We start from sentences that are a means of communication and have their content. The aim of the decomposition of sentences is to arrive at a sound image of the word as a semantic and formal unit. We begin by decomposing a sentence into words, followed by decomposing a word into syllables, and then decomposing a word into vowels.

Exercises:

- determining the number of words in a sentence
- determining the order of words in a sentence
- formation of sentences from given words
- word division into syllables
- recognizing a given syllable in a word
- search for words with the given syllable at the beginning of the word
- determining the first, last, middle syllable in a word
- identifying the same syllables in words
- word football - specifying a word that begins with a syllable ending the previous word
- composing words from syllables
- creating new words by replacing the syllable
- word formation from shuffled syllables
- cognition of the sound in the word; searching for words that contain the vowel at the beginning, middle and end of the word
- decomposition of words into vowels - we proceed from the simplest words to heavier and longer words
- composing words from vowels
- composing words from sounds with a loop
- decomposition of words into vowels and formation of new words



- creating new words - by adding and removing sounds, replacing sounds
- formation of words from mixed letters.

In all exercises, a clear articulation of the student is necessary. We classify the exercises often and regularly; we use words from texts that we read at school or are from the dictation that the student has to write.

### **Evaluation:**

Success in writing and reading is also greatly influenced by a well-developed ability to analyze and synthesize. Through diagnostics, we found out at what level this ability is already acquired in the boy, so that we do not bore him with unnecessary simple words. We always worked with new words, we started with simple ones and proceeded to the most difficult ones, with consonant clusters, with diphthongs, we alternated activities - a few words for analysis, a few for synthesis. We have always rewarded the boy with successes. We also managed to develop this area well and we noticed an improvement in reading and writing.

### **4. Methods aimed at improving performance in the optical field**

Weakening in the optical area is manifested by the fact that children do not like activities focused on visual perception. At school, this weakening manifest itself in the acquisition of the first letters. This weakening has its own characteristics, e.g. the child has difficulty writing off letters and text, the font is illegible, the letters have different sizes, in the dictation it changes b-d, omits the letters and does not know how to find a mistake, writes letters and numbers in a mirror, swaps letters when reading. The essence of the exercise is to create the most effective connection between activated areas of the brain in order to create connections to use all the abilities of the brain.

We divide the partial attenuation of power in the optical area into three groups.

1. Differentiation of basic optical figures - is the ability to see and read a graphic figure from the background. Children with this impairment have difficulty reading and writing, it is difficult for them to recognize and memorize letters.

*Training procedure:* The task of training the weakening is to transfer the figures drawn in squares. On the A4 sheet, 42 squares are drawn in six rows. In odd rows there are pre-drawn figures, even rows are empty. The figures are made up of two to four dashes, the number of dashes determines the difficulty. We always start with two commas, gradually the difficulty increases. We will present the child with a letter with pre-drawn figures. The child should transfer them to empty squares at a steady pace. He should transfer the figures at once, not in individual lines. The exercise should last 7-10 minutes a day, during the exercise it is necessary to talk to the child about things that are not related to the task. We exercise continuously every day without missing for three months. The child may be



wrong, we do not evaluate mistakes negatively.

*Other exercises:*

- perception of changes in clothing on the model, changes in the picture
- Fill in the missing part of the image from several options
- distinguishing between two or more objects, objects drawn on top of each other
- tracing a line between other commas
- orientation in the labyrinth
- drawing overlapping geometric shapes.

2. *Optical differentiation* - is the ability to perceive more complex images and words as a whole. Children with impaired optical differentiation write dictations better than write-off, they repeat everything they write for themselves and compensate for the impairment by hearing.

*Training procedure:* in optical differentiation, we train the perception of details of more complex units. The training consists of folding a table with pre-drawn pictures, where one table has 12 pictures in total and the other is cut into individual pictures. The child should notice the small details in the pictures and fold the table so that the pictures placed on top of each other are identical. We practice until all the images are placed correctly. The training takes place daily for three months. When folding the table, it is important to unlock the acoustic apparatus, so we talk to the child again about things not related to exercise. When checking, we select the wrong pictures and the child saves them again. The exercise is finished if all the pictures are placed correctly. It can only switch to a new image if it composes the original spreadsheet without error within 5 minutes for several consecutive days.

*Other exercises:*

- search for objects by shape, regardless of color and size, first we use real objects, then symbols
- Search for items by size regardless of color
- sorting items by color
- a combination of distinguishing by color, shape and size, creating groups
- marking of shapes that differ from others (not differences in position in space)
- marking two identical shapes.

3. *Optical memory* - is the ability to remember reality based on optical perception. Children with impaired optical memory fail in those performances where it is not possible to support visual perception through perception through another sense. Such children find it difficult to remember the written form of the word, they do not remember the location of the place on the map.





*Training procedure:* We train using the same pairs of pictures (Pexeso is suitable), whose motifs correspond to the age of the child. We present eight cards in front of the child and ask him to remember them. In addition, we talk together, the child answers questions unrelated to the themes in the pictures. If he feels that he remembers the order of the pictures, he rotates the pictures. The teacher hands the paired cards to the child and the child attaches them according to how he remembers where they are. The teacher is still talking to the child. The child can change the cards until he is sure that it is correct. The teacher checks the placement, does not save the incorrectly placed cards again. We exercise once a day for three months.

*Other exercises:*

- the child monitors two, three or more objects, memorizing them after covering them; when naming objects, we also require the determination of the mutual position of the objects - which lay in front, behind
- drawing of the first monitored sets of beads, cubes, dominoes, arranged objects
- short-term exposure of letters, syllables, words; the child then repeats or writes, draws them
- exposing three or more letters, searching for them and marking them among other letters.

### **Evaluation:**

We started the training of visual discrimination with simple exercises, searching for and sorting the same shapes according to color, size, searching for differences in pictures. We commented on all the exercises, described them, and created drawings in order to involve as many senses as possible in the exercise. Similar to verbal, we also trained visual analysis and synthesis, we composed cut-out pictures, cubes, we added pictures, we composed letters printed from commas. We also trained the visual perception of the figure-background to teach the student to choose the most important from several stimuli and keep it in mind, in the center of attention. Distinguishing reverse figures and practicing eye movements to practice correct reading, as well as quick perception, also contributed to the success of reading and writing. We also regularly trained visual memory and visual differentiation.

### **5. Methods aimed at improving performance in the acoustic field**

Weakening in the acoustic area is manifested in ordinary school practice by characteristic symptoms, e.g. the child has problems when writing letters and when writing at all, when writing dictations he replaces shapes, sound-like sounds, swaps long and short vowels, when writing spam he omits letters, adds letters where they do not belong, lets himself be easily distracted by every sound, has difficulty in mathematics, because he always forgets some data of a dictated assignment. The child has a reduced ability to concentrate on the teacher's voice, is unable to filter out the sounds around him, there is inattention and behavioral problems. Vocabulary and pronunciation are often affected. We also divide this weakening into three groups.



1. *Differentiation of basic acoustic figures* - means the ability to concentrate on listening to what is important and not perceive side sounds and stimuli.

Training procedure: The training is aimed at improving the ability to differentiate individual words / figures from the speech stream. We divide it into two phases. In the first phase, we recite a group of words to the child, one of which is repeated. The child's job is to determine who it is. We exercise 7-10 minutes a day, unless the child can exercise for several days in a row without mistakes. The shortest time for this exercise is 14 days. In the second phase, we focus on the practice of perceiving a certain word from a continuous stream of speech. We tell the child or read the story and the child responds to the pre-agreed word (clapping, tapping the pencil). We exercise daily for 7-10 minutes. The total training period lasts 3 months.

2. *Acoustic differentiation* - it is the ability to distinguish between identical and different syllables and words. Training procedure: Training is done using words that do not make sense. We read pairs of such words to the child at a steady pace. Its job is to determine if they are the same or not. Training must take place daily for 7-10 minutes. We divide it into three stages. In the first stage, we read pairs in an undisturbed environment. If the error rate drops to zero, we move on to the second stage, but not before 14 days. In the second stage, the procedure is the same, but in the background there is quiet music. We practice again until the error rate is eliminated, but at least 14 days. In the third stage, we proceed as in the previous stages, only in the background is a cassette with the spoken word. The total time to train all stages is 3 months.

3. *Acoustic memory* - is the component of memory that allows you to remember what you hear. Weakening of acoustic memory is manifested especially in the practice of poems, lessons, learning foreign words and the use of less frequent words.

Training procedure: We use four-line rhymes or poems to train the attenuation in the acoustic memory. The texts are appropriate to the age of the child. The procedure is as follows: We read the whole poem.

Step 1 - we read the first line, the child repeats it.

Step 2 - we read the second line, the child repeats it.

Step 3 - we read the first and second lines together and the child repeats them.

Step 4 - we read the third line, the child repeats it.

Step 5 - read the fourth line, the child repeats it.

Step 6 - We read the third and fourth lines together and the child repeats them.

Step 7 - we read the whole poem and the child repeats it.

If the child manages the first to fifth steps without mistakes, we continue with the sixth and seventh



steps. If he does not remember the whole poem and cannot repeat all the words in the correct order, we repeat with him only those sections where he makes mistakes. We train daily for three months.

**EVALUATION:**

This area is closely related to the development of phonemic and auditory differentiation. In addition to the exercises, we mentioned above in the section on phonemic differentiation, we regularly practiced listening, distinguishing different sounds and words, we trained auditory memory, formed words for the same initial letter or syllable. At the same time, we developed vocabulary, language feeling, reproduced rhythm and also trained phonological and phonemic awareness.

**CONCLUSION:**

The described specific educational methods developed in students from socially disadvantaged backgrounds weakened abilities in the field of auditory and visual perception and motor skills. These skills are important in practicing reading and writing. A good level of reading comprehension and writing is the first prerequisite for students' school success, for receiving and independently acquiring new information.

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