

TEACHING READING SKILLS MORE EFFECTIVELY

Julia Koifman

Beit Ekstein Rupin high school, EmekHefer, Israel

ABSTRACT

It is hard to disagree that reading is one of the most important skills in learning. Children learn to read very early, and before they start school, they are supposed to be able to read. Nevertheless, some of them struggle. For instance, some of them confuse letters or may have difficulty reading comprehension, while others may have difficulty remembering, which might be the consequence of learning difficulties (LD), for instance, dyslexia, one of the most common cognitive disorders. It often affects reading and language skills. Researchers have found out that about 40 million people in the USA suffer from dyslexia, but only about 2 million of them have been diagnosed with such a disorder. At the same time, about 30% of people diagnosed with dyslexia also suffer from autism spectrum disorders (ASD) and attention deficit hyperactivity disorder (ADHD) to one degree or another.

KEYWORDS

Dyslexia, dysgraphia, dyspraxia, ADHD, ASD, learning difficulties, neuro diversity.

1. INTRODUCTION

Dyslexic people often face many types of organizational problems – for instance, time management while writing, finding words, and memorizing new vocabulary and abbreviations. At the same time, they struggle with pronunciation, incoherent or erratic writing, spelling, and reading speed. They often change the sequence of letters or numbers and many more. Since dyslexic kids find it difficult to learn new vocabulary and memorize the spelling of words, such problems cause misunderstanding of texts, and they struggle with reading comprehension. Moreover, due to ADHD, they cannot get focused. As a result, they read slowly and often need to reread to comprehend the text better.

In regular classrooms, educators use mainly the traditional sound method based on the alphabetic principle. It is based on teaching the pronunciation of letters and sounds, and when the child accumulates sufficient knowledge, he moves first to syllables formed from the fusion of sounds and then to whole words. While many teachers teach reading skills, make kids read a lot, and gain reading rules, it might be insufficient, especially if they have problems with sensory integration theory [7]. Since these difficulties make learning stressful and overwhelming, it means that they need to be overcome or at least reduced. Therefore, LD kids need correction of their sensory system functioning as the basis for forming higher mental functions - reading, writing, thinking, and attention.

Therefore, problems when a child pronounces sounds poorly, reads with difficulty, and cannot sit straight in class, often have one root - incorrect functioning of the proprioceptive systems. "Proprioception is an essential component of sensorimotor control, and several studies have

reported sensorimotor impairments in developmental dyslexia" [13]. And working with the effect, such as articulation and attention, and not the cause has very little effect. To get results in all areas of a child's life - learning, playing, and everyday skills -, the specialist uses the knowledge of sensory integration.

2. NEURODIVERSITY AND READING DIFFICULTIES

2.1. Dyslexia

The ability to read is one of the basic human social skills, so most educators think the child should acquire basic reading skills before entering school: this will make it easier to adapt to the educational process [20]. The development of the child's cognitive abilities follows certain patterns and certain stages, it is undesirable to change it or accelerate it, and often it is completely impossible. Until the age of five, children think figuratively - in pictures, and it is difficult for them to perceive information in the form of letters, numbers, or other signs [16]. And even having understood the general principle of reading, little students read but cannot understand the essence of what is written. Thus, "the delayed neural commitment framework proposes that abnormal temporalities in the development of distributed neural networks lead to reading and other learning disabilities" [13].

One of the most typical reasons for poor reading skills is dyslexia, which can be innate or occur later because of head trauma or an infectious disease, for instance, meningitis [3]. Such a disorder affects involved in language acquisition, comprehension, and production. Dyslexia in children is a reading disorder caused by a violation of higher mental activity when some mental functions are underdeveloped or damaged for some reason [15]. This disorder greatly affects the perception of printed text: a child with such a problem does not always perceive the meaning of what is read correctly and loses whole words and sentences, which also affects oral speech and psychological well-being in the future [1].

2.2. Other Disorders

Most often, dyslexia is diagnosed in younger students in preparation for education or in the first grade. Teachers and parents notice that the child does not reproduce or mispronounce individual sounds while reading [14]. There may also be a problem with recognizing punctuation marks, which is why the child places the intonation incorrectly when reading, confusing the beginning and end of the sentence. In most cases, signs of dyslexia in younger schoolchildren and adolescents are combined with symptoms of dysgraphia, dyscalculia, dyspraxia, ADHD, ASD, and other disorders of higher mental activity [26].

A child who has signs of a reading disorder must undergo a full speech therapy examination, which consists of a consistent assessment of speech, writing skills, reading, and the quality of non-speech processes, such as mindfulness, the ability to focus on a text, memorization, and many more. "They may experience some sensory processing issues, difficulties with coordination and social skills" [26]. Therefore, the specialist also checks the state of articulation and clarity of diction and characterizes speech, manual-motor, and social skills.

2.3. The Importance of Early Diagnosis

Many children were born with atypical brains [21]. In most cases, parents turn to specialists for advice when the child is 7-8 years old when the first problems arise with school performance. However, it is recommended to diagnose much earlier. If parents or kindergarten teachers notice

a slowdown in the development of motor skills or speech in a child, the appearance of problems with memory and attention, if there are difficulties in mastering the training program in kindergarten, then most likely your child is shown an examination to identify symptoms, causes of LD. And if any are found, it must be necessary to prescribe timely treatment and to compose a corrective program after the range of consultation with related specialists. The main diagnosis is possible only after a comprehensive diagnosis [23].

If the nervous system does not work properly, many skills, including education, are violated. As a result, a hypersensitive student cannot concentrate on the lesson because he experiences severe discomfort from irritants; a child with hyposensitivity registers only intense sensations and does not feel his body and face. Children with sensory seeking are constantly looking for a way to stimulate activity, so they constantly move and touch objects and people. They cannot sit still and keep their attention. This is the reason for numerous educational difficulties or executive dysfunction [4].

Building a diagnostic hypothesis and finding ways for helping to a neuro divergent child, creating an individual program will be effective only if the specialist understands the key features of distorted development options, and correct psychological and pedagogical diagnosis is already half the success. Modern science claims that poor reading might result from sensory processing disorder and recommends that remedial teachers practice a multisensory approach in teaching kids with dyslexia and dysgraphia [17].

3. SENSORY INTEGRATION

3.1. How the Sensory System Works

Jean Ayres developed the theory of sensory in the 1950s. Its essence is that "a person has 7 perception systems: smell, taste, sight, hearing, tactile system, vestibular apparatus, and a sense of one's own body" [8]. When sensory information from the body is correctly perceived, a sense of the environment arises. This usually happens automatically and without our control, and at sensory input, we receive information from sensory systems. Further, we process and evaluate this information. The brain selects a response option. There is a motor or behavioral output - we issue a reaction to the incoming signal [22].

"Patients lacking proprioceptive sense due to large fiber neuropathies have profound deficits in motor coordination" [27]. If the brain processes sensory information incorrectly, one of the stages, for instance, input-processing-reaction fails, and the child cannot give an adequate response to this signal. Such children cannot stand noise or bright light and can have a cognitive overload. Moreover, "dyslexic children may experience visual and auditory processing difficulties, similar to hyper or hypo sensitivity often associated with ASD"[11]. Thus, restless, and hyperactive children look for them: they bite their nails, self-harm, and do not feel danger, which is typical in children whose LDs are accompanied by ASD.

3.2. Who needs sensory integration?

Some ASD kids are selective in food and do not tolerate certain materials in clothing. For the same reason, they dislike other people touching them. Others have poor motor skills and problems with coordination. "Children who are clumsy are often bullied." [6].As a result, they feel overwhelmed and depressed and avoid sports and other group activities, which worsens their problem and leads to poor learning and even social isolation. The research claims that although

autism is not a LD, it often causes such challenges as poor reading and writing, difficulties with attention and working memory, inability to build relationships, and many more [24].

At the same time, many schoolchildren suffer from multiple LDs but not ASD [11]. Thus, they do not have problems with communication, their coordination is good, and they do sports quite well. Moreover, they may be talented at playing musical instruments or painting, and their handwriting is readable and neat, but they still have severe problems with reading and spelling. "Many researchers have reported that reading disability is associated with sensory deficiencies in processing particular visual and auditory stimuli." [12]. Viana et al. [28] suggest that "multisensory integration is slightly affected in dyslexic children." Therefore, remedial teachers need to know about sensory integration and follow it as a part of the methodology.

3.3. Sensory Integration Therapy

Sensory integration therapy is a set of therapeutic measures to develop the child's senses. If a child, for any reason, has a sensory processing disorder, this leads to dysfunctions in motor skills, cognitive development, and behavior. Therefore, sensory integration methods should be included as an integral part of classes with any teacher. Through the development of sensory skills, the child receives a mechanism for cognition of the world [9]. Therefore, it is impossible to underestimate the importance of stimulating the sensory perception of the world. Thus, in Israel, sensory integration therapy, often together with occupational therapy, helps children in elementary school to correct handwriting, trains their working memory, and enables dyslexic kids to read better.

Before planning the correction program, specialists in the rehabilitation centers must learn as much as possible about each child's family history and cultural background. Thus, Israeli therapists observed children from Jewish, Christian, Muslim, and Bedouin communities and claimed that "children from traditional families had lower scores in languages, cognitive, gross and fine motor and social-personal functions than children of modern families." [18]. For the same reasons, kids from big families with low incomes have more LDs and need more treatment. Therefore, specialists consult parents on how to work with children at home. Otherwise, if they attend special education schools, they get therapy there.

Israeli medical and rehabilitation centers, sensory integration therapy is applied to the intervention group as a 45-minute session. Moreover, 15 minutes are given for family information once a week. It is done for eight weeks, in addition to the special education sessions they receive twice weekly at special education institutions. Sensory integration therapy includes a sensory diet and activities consisting of tactile, vestibular, proprioceptive, auditory, and visual stimuli. Sensory integration classes are held twice a week for eight weeks. Reading, writing, sequencing, arithmetic, language, organization, and memory are used in special education classes.

4. METHODS OF TEACHING READING

4.1. Traditional and Modern Methods

"The traditional method emphasizes phonemic awareness, phonics, and alphabetic knowledge" [19]. It develops a child's phonemic hearing and allows kids to hear and highlight sounds in words. This technique does not require a lot of expensive teaching didactic material in the form of cards, diagrams, textbooks, or exercise books. Teachers can also encourage students to type on a tablet or computer instead of trying to write by hand. Flashcards are a big help, as is the use of

bookmarks or a ruler to help the reader stay on track. Another effective reading tool is text-to-speech [24]. For the last three decades, this method has been enhanced with the help of learning technology and sensory integration.

There are many ways to help students with dyslexia improve their reading skills. Since the traditional method is teacher-centered, it does not seem suitable for them because LD students need methods in accordance with their level and learning styles [5]. In special education classes for the last few decades, teachers have used multisensory methods in accordance with learning styles, such as auditory, visual, and kinesthetic. For example, listening to audiobooks on students' personal devices. Undoubtedly, it can be a huge help that enables them to see and hear the texts simultaneously. Kinesthetic learners can also tap their desks following the intonation of the reader and memorize the music of the oral speech.

The first reading lessons should be carried out in the format of a game so that kids will love it [10]. In this way, the material will be absorbed by the child easier and better, the child will not have time to lose concentration during the lesson and avoid stressful experiences. Today there are many methods to teach a child to read, it is important to choose the one that is right for your child. Perhaps the most popular technique is classes in the classical alphabet. The kid quickly remembers the letter, which will now be associated with a certain picture. Later, you can move on to another well-known book - the primer, and study reading by syllables from it.

4.2. Sensorimotor Integration

It is suggested that "dyslexic children experience difficulties in sensorimotor integration due to mild cerebellar deficit"[28]. With carefully chosen sensory integration exercises for your child, he can improve:

- visual and auditory abilities, which are trained while reading words orally or repeating them after the teacher;
- attention and concentration that are required while playing word games or making sentences of given words;
- gross and fine motor skills, especially while writing letters and words on the sand or making them of plasticine;
- vestibular movements while writing letters in the air with their fingers and hands;
- self-esteem and self-awareness.

"Many studies have reported that reading disability is associated with sensory deficits in processing particular visual and auditory stimuli "[12]. Therefore, in special education classes, teachers must use multisensory ways that should include:

1. The literal method is synthetic and involves learning letters by combining them into syllables and words [9].
2. Synthetic sound method - training begins with studying rebound sounds and then the corresponding letters. After learning a certain number of sounds and letters, children learn to connect sounds and letters and make syllables and words through synthetic exercises. Sight words, which are especially difficult for dyslexic kids, should be learned in this way [25].
3. Auditory or syllabic-auditory method - the decomposition of syllables into sounds, combining sounds into syllables, reading syllables, and their pronunciation.

4. Sound analytical-synthetic method, which combines the processes of analysis and synthesis, a system of analytical and synthetic exercises with sounds, syllables, and words. A distinctive feature of this method is the introduction to the practice of teaching a large volume of sound work, which has a multidimensional nature and prevails at all levels of education [2].

5. Video exercises were presented by sensory integration therapy practitioners[25].

Teachers can complicate the exercises by blindfolding them, relying only on the tactile sensations of kids. When kids know the main phonemes and letters and recognize the sight words, it is time to read short texts in accordance with their level. In order not to overwhelm them, teachers should practice storytelling. In the beginning, kids answer the questions and then try to retell stories themselves to train their active speaking and pronunciation. Teaching a child to read is not enough - therefore, educators and parents still need to make kids interested in reading. Only when they love this activity will they progress[10]. View your favorite books and read them, study the illustrations, and get acquainted with the adventures of the characters. It is important that older family members show the child that reading is an amazing learning opportunity and not a hateful duty. It will be useful if the child saw people with books in his close circle. Then, imitating them, he himself will want to plunge into the world of literature [14].

5. CONCLUSION

For many reasons, pre-schoolers and young schoolers struggle in reading. It happens mainly due to LDs, such as dyslexia and dysgraphia, which might be accompanied by ADHD and ASD [29]. Kids with such disorders cannot memorize the reading rules, confuse letters, and often misspell them. While some decades ago, teachers used mainly the traditional method, nowadays, there are lots of ones that enable kids with severe disorders to read and write successfully, and they work better if teachers use sensory integration.

Phajane [19] claims that the advantage of the traditional method of reading is teaching kids how the words are spelled. This method has been used for centuries and is unsuitable for everyone. Moreover, its main disadvantage is that it is teacher centered. "The teacher plays a key role in the learner's literacy development by choosing what learners have to read or write, learners seem to be mere recipients, and there is little room for them to experiment and construct the learning activities on their own with the teacher's support." [19].

Sensory integration enables children to give the brain the necessary environmental information. It happens when external stimuli affect human sensory systems. The best way for children to get new sensory experiences is by giving them special games that involve movements. During such games, balancing occurs, and the central nervous system's effective processing of sensory stimuli develops [22]. The combination of sensory and motor tasks is one of the main conditions for mental education, which is carried out in the process of all educational activities. The article describes sensory integration techniques in teaching reading and writing to younger students with speech disorders.

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