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Chapter 6

SPECIFIC LEARNING PROBLEMS

Angelka Keskinova[1]
Nergis Ramo Akgün[2]

1 Assoc. Prof. Dr , Ss. Cyril and Methodius University, Faculty of Philosophy, Institute of Family Studies, ORCID ID: 0000-0002-3698-0501 e-mail: angelka@fzf.ukim.edu.mk
2 Assist. Prof. Dr., Çanakkale Onsekiz Mart University, Faculty of Education, Department of Special Education, ORCID ID: 0000-0002-0982-5733 e-mail: nergisramoakgun@comu.edu.tr

Introduction

Strong evidence confirms the existence, i.e., the validity of the concept of specific learning problems (SLP). This evidence is somewhat impressive because it converges between different indicators and conceptualized methodologies. The central concept of SLP includes learning and cognition problems that are essential to the individual. SLPs are specific, because they without exception significantly affect the acquisition of academic knowledge and school achievements. They can occur in combination with other problems and impairments, but they are certainly not indicative of their existence, such as intellectual disability, behavioral problems, social deprivation, or primary sensory impairments.

Learning problems are not a specific term, but a category that contains many specific problems, and each of them is a cause of difficult learning, i.e., disruption in one or more basic processes involved in understanding speech and written language.

Achievement in one or more areas, which are unexpectedly bad in terms of the general intellectual potential, education and motivation of the child, is considered to be a common denominator of specific learning problems (Norman & Zigmond, 1980). Regardless of the slow development of some abilities or skills, children with learning difficulties have a general developmental potential that usually enables typical psychosocial development, and timely recognition and treatment are difficult (Kavale, 1995).

For linguistic reasons, the plural term "learning disabilities" is often used in the literature, which causes the SLP to be neglected as a specific independent condition different from other generalized learning disabilities. In practice, there are "many types of learning disabilities", making SLPs difficult to identify and difficult to distinguish from other "learning disabilities". If the term SLP is understood as a separate category, then a difference will be made in the terms: all students with SLP have learning problems, and all children with learning problems do not have SLP (Ysseldyke et al., 1982). SLP causes a series of confusions in the theory and practice of special education and rehabilitation, in extreme cases their existences are questioned, which is why they are sometimes referred to as "myth" or "imaginary disease" (Algozzine et al., 1995). It is necessary to separate the SLP as a different term, a special condition and to determine its parameters.

According to the Individuals with Disabilities Education Act (Yell et al, 2017), there are 13 categories in which people with special needs are classified: autism, deaf-blind, deaf people, people with emotional disorders, intellectual disability, multiple impairments, orthopedic impairments, health problems, specific learning disabilities, speech or language impairments, traumatic brain injury, and visual impairments and blindness. According to the immediate consensus, the SLP needs to exist

as a separate category that identifies the child as a child with disabilities. At the same time, there is another consensus that the type of disability should be specified, as "specific learning problems", in order to distinguish between children with Special Educational needs and children who have general problems in acquiring academic knowledge.

1. Defining the Specific Learning Problems- SLP

The main problem we encounter in explaining the SLP is its definition. The formal definition of SLP is controversial primarily because it fails to provide an answer to two problems: understanding the concept of learning disabilities, as well as explaining the reasons why a student has those problems. The number of alternative definitions of SLP is a confirmation of the existence of a permanent problem in finding a definition that will fully describe the state of SLP. The main remarks of the existing definitions are the ambiguity and lack of rigor that would enable its implementation in practice (Fuch et al, 2004). Specific learning problems (specific developmental problems in school skills) include a disorder that manifests itself with specific and significant problems in acquiring school skills (Wood, 1988).

The definition of SLP according to the Individuals with Disabilities Education Act is: SLPs indicate a disorder of one or more basic psychological processes involved in understanding or using speech (verbal or written), which can manifest itself through inadequate ability to listen, speak, read, write, spell, or perform. mathematical calculation. Causes can occur as a result of perceptual deficit, brain damage, minimal brain dysfunction, dyslexia, and developmental dysgraphia (Kavkler, 2003).

The Association of students with SLP in 1986 constructs the following definition (Broomfield & Dodd, 2004): SLP is a chronic condition of neurological origin that selectively affects the development, integration, and /or demonstration of verbal and/or nonverbal abilities. SLP exists as a special condition of disability that has different varieties of manifestations with different degrees of severity. Throughout life, the condition can affect self-esteem, education, occupation, socialization, and / or daily life activities.

In 1987. The Inter-Agency Committee on SLP defines the problem as follows (Schuele, 2004): SLP is a generic term that refers to heterogeneous groups of disorders manifested by significant difficulties in acquiring and using the process of listening, speaking, reading, writing, thinking, mathematical abilities, or social skills. These disorders are essential to the individual and are thought to occur as a result of central nervous system dysfunction. Although learning disabilities may occur in combination with other limiting factors (e.g., cultural differences, insufficient or inadequate education, psychogenic factors), and especially with attention deficits, which can cause learning disabilities, SLPs are not directly related to these conditions and their impact (Wallach & Ocampo, 2020).

The National SLP Council in 1997 proposes few changes in the definition (Jovanovic- Simic, 2004): SLP is a generic term that refers to heterogeneous groups of disorders manifested by significant difficulties in acquiring and using the process of listening, speaking, reading, writing, thinking, mathematical abilities, or social skills. These disorders are essential to the individual and are thought to occur as a result of central nervous system dysfunction and persist throughout life. Behavioral problems, social perception, and social interaction problems occur that are common in students with SLPs but are not in themselves learning problems. Although SLPs can occur accompanied by other disorders (sensory impairment, intellectual disability or emotional problems), SLPs do not occur as a result of these conditions and their impact.

Since 1997, an operational definition has emerged that seeks to define SLPs according to the "criterion of distinction": The student with SLP does not achieve proportional results in relation to his age and relevant school experiences, he has a significant, pronounced difference between achievement and intellectual development in one or more areas related to communication skills and mathematical abilities (Hrnjica et al, 1991).

The process of student identification also depends on the way the SLP will be defined. The most common way to operationalize existing definitions is by using the achievement diversity model, according to Barns and Mercer (1997) 90% of countries use the achievement diversity component in identifying these students (Blake et al, 2004). Appropriate standardized tests are used to assess the compatibility of the achievement of the IQ assessment tests and the academic skills assessment tests (Beitchman et al., 1986).

The generalization of the concept of SLP and the inconsistency in the identification criteria leads to problems in the distinction between students with SLP and students with poor achievement. For a long time, it was considered that there was no difference between these two categories of students. This idea was supported by the results of a study in Minnesota that found a number of identical achievements and overlaps in test scores between these two groups of students (Trebjesanin, 2000). However, the identification of the two groups by many authors (Algozzine, Ysseldyke & McGue, 1995) is considered inadequate, and despite similar results, people with lower school achievement have different characteristics and qualitatively different needs, and thus different treatment (Levandovski et al., 1992).

As a result of the problems with the identification of the SLP, the question arises as to the usefulness of using the "model of differences in achievement" as an appropriate identification criterion. Due to that, there has been a need to change the model, and to introduce the "intervention response model" (IRM). According to this model, it is necessary to replace the traditional psychometric methods with a protocol that will emphasize the abilities of the student (Potkonjak, & Pijanovic 1996). IRM

is essentially a model where identification and intervention are closely related (Trebjesanin, 2000).

Students with SLP generally belong to the category of persons with disabilities, who show severe problems in acquiring academic knowledge, as well as neurological delay or dysfunction. The problems they manifest are not the result of intellectual disability, sensory impairment or social deprivation.

In general, it was determined by consensus that students with SLP have the following common characteristics:

1. Unexpectedly poor results in terms of skills or abilities;

2. Deficiency or specific changes in the cognitive process;

3. Neurological basis of changes (Siegel, 2003).

Experts agree that although there is a valid SLP concept, in practice in the identification process teachers encounter problems in determining the existence and intensity of these characteristics (Reynolds, 1985).

2. Identification of students with SLP

The first step in the process of identifying students with SLP is to understand the problem, which essentially involves consulting with state and local education agencies, as well as schools that need to identify the factors and values within their education system that will influence the identification process (Boyadzhieva-Deleva, 2021).

The following graphic shows how a multifactorial problem requires a multifactorial solution. The identification of the SLP includes a number of components (Hale et al., 2010):

Figure 1: SLP components
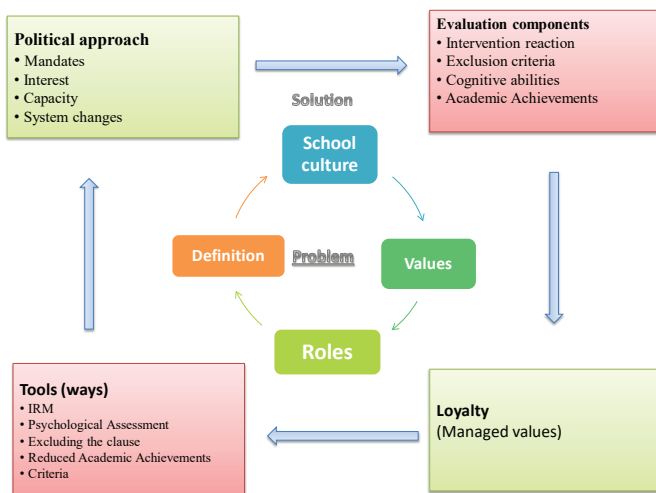
Definition - how schools interpret and operationalize the definition of SLP.

School culture - does the culture in the school support innovations and challenges or are there barriers in the process of implementing innovations?

Perceived roles - How the professional team understands its role in the concept of SLP.

Values - the beliefs and values that guide the actions and decisions of key people.

When all these factors are combined with each other, together with a different definition of SLP and different identification methods, the result will be the emergence of a very heterogeneous group of students with SLP.

The solution to this problem is certainly complex. Among the factors that must be taken into account (Hale et al., 2010):

• Evaluation components - determining the information, criteria used in the comprehensive evaluation;

• Reliability - the intervention method needs to be reliable in the way it is planned and determined;

• Ways - finding an appropriate methodology, such as IRM for identification of students with SLP;

• Political approach - identifying, empowering individuals to adopt new practices or providing initiative processes to identify SLP-related issues.

To identify the problems associated with the identification of SLPs, schools must develop a strong concept for interpreting the objectives as well as identifying alternative mechanisms through which the set objectives would be realized. However, a better concept of work will not eliminate conflicts and controversies, but it will significantly improve the identification process of SLP, prudence and credibility, and thus reduce irrelevant and self-determining policies in schools for identification of students with SLP (Trebjesanin, 2000).

The US National Learning Problems Research Center (NICU) has developed a three-step procedure to reach a consensus in the SLP identification process (Hale et al, 2010):

1. Discussion and development of consensus for working definition (conceptualization) of SLP. This step includes revising the existing definitions, building consensus, setting priorities, setting criteria for distinguishing students with Special educational needs from students with low achievement.

2. Operationalization of the methods for identification of students with SLP.

3. Data collection and analysis of current practical experiences in the identification process.

3. SLP and reading problems

The link between SLPs and reading problems often increases as the models we use place a great deal of emphasis on reading skills. The model interpreted in this way is wrong, although a large number of students with SLP will manifest problems in reading, but they can still see a wide range of problems in the adoption of teaching content, especially mathematical problems (MacMillan & Siperstein, 2002). In the early stages of explaining the SLP, this condition has been often equated with reading problems, under the pretext that all students with reading problems have SLP, but reading problems are not the only parameter covered by SLP, so any identification with them is inadequate and inappropriate (Boyadzhieva-Deleva, 2020).

4. Intervention Response Model (IRM)

Intervention response is an educational model that promotes early identification of students with learning disabilities. IRM is one of the components used by the school in the process of identifying students with special educational needs. In a classroom most students manage to master a satisfactory level of academic knowledge, IRM is used for those students who show learning difficulties and offers intervention in those academic areas where the student shows problems (Frost et al., 2017).

The official document on "Understanding the Response to Intervention in Identifying Learning Disabilities" defines the following features of IRM (Fuchs & Fuchs, 2006):

- High quality research based on school instructions;
- Student assessment by focusing on the classroom;
- Universal screening of academic characteristics and student behavior;
- Continuous student monitoring process;
- Implementation of appropriate research-based interventions;
- Monitoring during the intervention and
- Reliability in the teacher's behavior.

Consensus and common views on IRM in all schools would be very important and significant. It is recommended that the concept of IRM contain the following (Hale et al., 2010):

- Students should receive high quality instruction in the regular educational process;
- The basic educational process should be based on appropriate research;

- The educational staff, teachers and special educators should have a significant role in the process of student assessment;

- School staff should conduct universal screening of academic performance and student behavior;

- Continuous process of monitoring student achievement;

- Continuous process of monitoring specific learning problems;

- Teaching staff should implement specific, science-based interventions to identify student problems;

- The teaching staff should evaluate the effectiveness of the particular intervention and make additional changes if it seems necessary;

- Systematic assessment should be complete through the use of worthy and integrative instructions in the intervention process;

- The IRM used needs to be described, which would make a comparison between the procedures used and the criteria;

- IRM should be designed through the use of a "standardized protocol" or through an individual approach to problem solving.

5. SLP and the model of differences in achievements

According to Vaughn and Fuchs (2003) "At the heart of the controversy in the process of identifying SLPs is the use of differences in IQ achievement." If the concept is properly perceived, the presence of achievement problems is a necessary but not sufficient criteria for identifying a SLP. For the identification process to be adequate, the pattern of differences must be related to the weight of the SLP (Case, 1992).

Another caveat is that students with differences in achievement do not differ from other students. This observation is based on inaccurate assumptions that differences in IQ achievement do not affect academic achievement. Students with or without achievement differences may show low achievement as well as the same level of academic performance. From that point of view, if the groups show similar functional problems and achieve similar academic performance then they should belong to the same group of students with "learning difficulties". According to Keogh (1994), unexpected learning problems are one of the basic elements in defining SLP. However, the differences in student achievement are very heterogeneous, so care must be taken in determining this criterion - learning difficulties.

If the student does not demonstrate significant learning problems, then we can place him/ her in the category of "slow learning students" (these are students with an IQ of 70-85). About 14% of the school population belong to this category. These students have never been, nor should they be, placed in the category of students with SLP. Students who learn slowly do not show unexpected learning problems but their level of achievement

is consistent with the quantitative value of IQ (Corona et al., 2005).

The model of differences in achievement can occur in a range of IQ rankings. Siegel points out the fact that if the student has an IQ of 130 and a reading achievement of 110, then according to the model he has differences in achievement. However, this model should cover only those students who, in parallel with the differences in IQ achievements, have shown problems in adopting academic achievement (Eisenmajer et al., 2005). When identifying students with ASD, care should be taken to ensure that there is another condition that affects the child's overall personality, not just academic performance, such as ADHD or intellectual disability. The pattern of differences in achievement has also been criticized for posting unreliable data with controversial arguments. Students were often classified as SLPs through the use of complete statistical procedures. Therefore, the method itself did not provide adequate identification and real identification of these students (Piaget, 1952). The problem arose after the use of comprehensive studies that examined individuals who had already been identified as students with SLP and the results showed that in some cases over 50% of students did not meet the criterion of differences in achievement (Hinojosa, & Kramer, 1993). Hence the question: Why were students who do not meet the criteria for differences in achievement identified as students with SLP? The problem is not the reliability of the criterion of differences in achievements, but the lack of rigor, rigor in its implementation within the school environment (Krstic, 1999).

The presence of measurement errors in the differentiation model increases the risk of false negative as well as false positive student identifications. Measurement errors most often occur when identification is given to the student without further reassessment. For example, if 15 points are taken as a measure of a differentiation criteria as a limit, then a student who has a difference of 14 points may have SLP as well as a student who has a difference of 16 points, but he or she will automatically be excluded from the category of students with SLP. According to clinical assessment, students who show a difference in achievement, for example between 10 and 20, need to be assessed for other indicators of learning disabilities, such as family history, phonemic problems, poor speech development, or limited working memory. The differentiation model must provide realistic and valid classification information. Creating effective identification instructions should be the primary focus, highlighting only those students who really have a SLP and who need special education (Krstic, 1999).

6. Intervention models and SLP

IRM is an appropriate first step in the SLP identification process. At the end of the implementation of this model as a conclusion we can point out that the student has problems with reading and does not respond positively to the offered intervention. However, non-response to the intervention must not be used as the sole criteria for identifying the SLP. Reading problems

can occur as a consequence of SLP, but must not be the primary cause in the identification process. SLP is a complex problem, and the IRM model presents only one criterion, which by itself cannot present the complex nature of SLP. The same problem exists with the model of differences in achievements, and it presents only one aspect of the concept of SLP. The advantage of this model over IRM is that it detects the existence of problems in school achievement in general, while IRM indicates problems in only one aspect, i.e., reading. Using the model of differences in student achievement we can conclude two things (Frost et al., 2017):

1. Has an average IQ (necessary component of SLP problems),

2. The presence of problems in school achievement was unexpected.

If achievement problems are seen as necessary, but not the only ones in the classification of students with SLP, then the diagnostic process should strive for the validity of other prescribed criteria in order to finally identify the student as a student with SLP (Maceshic- Petrovic, 1996). Kavale and Forness (2000) offer a scheme of components that in combination with the functional definition attempt to explain the complexity and complexity of the SLP. Hierarchically set in five levels define the identification process through (Ocic, 1998):

1. Smaller achievements defined by the difference between abilities and achievements;

2. Significant deficit in basic skills (reading, writing, language, mathematics);

3. Problems in learning efficiency;

4. Problems in psychological processes (attention, memory, perception, metacognitive processes and social activities) and

5. Exclusion of students whose learning problems are not unexpected, i.e., as a result of intellectual disability, emotional problems, sensory impairment or social deprivation.

Figure 2: Presentation of the functional definition of learning problems
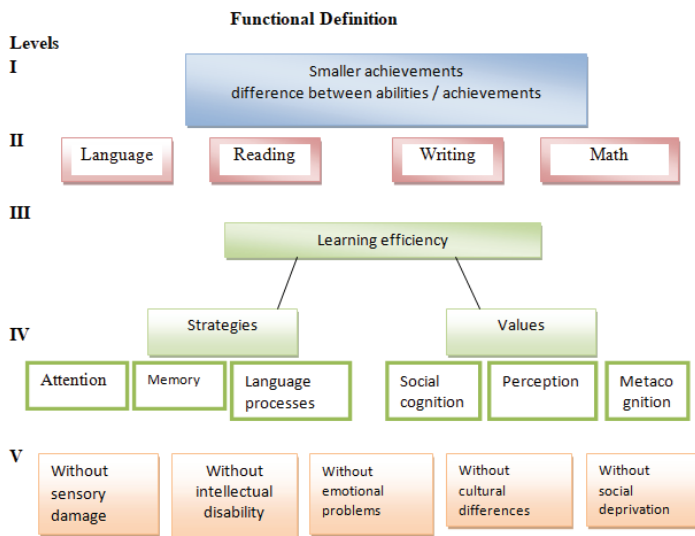
Each level is a necessary characteristic of students with SLP, and in order to make a diagnosis of SLP it is necessary to note all 5 levels in the student.

Flanagan, Ortiz, Alfonso and Mascolo (2006) consider that such a functional definition is of great importance for new paths in practice, but point out that the model does not directly include theoretically set paradigms and there is no specially set model that can be used to effectively measure problems in learning. To extend this model, these authors use the Cattell-Horn-Carroll Cognitive Theory (CHC) as a framework for understanding the nature of cognitive and academic abilities. They propose that the functional definition of SLP be incorporated into this theory, and that they be used to interpret intelligence and achievement tests. The functional definition of the SLP together with the components is shown in the following table (Case, 1992).

Table 1: Comprehensive framework for determining the SLP:

Level	Components	Results
I-A	Analysis of individual academic abilities	Documented specific academic skills or knowledge deficit
I-B	Evaluation of exceptional factors	Identification of alternative explanations for learning problems
II-A	Analysis of individual cognitive abilities	Documented specific cognitive skills

II-B	Re-evaluation of exceptional factors	Identification of alternative explanations for cognitive problems
III	Integrative analysis of abilities - evaluation of reduced abilities	Documents to identify the nature of academic problems (empirical or logical problems)
IV	Functional disability evaluation	Documenting the level of identified disability deficit with functions
	Related skills	Identification of limited abilities in the field of social skills, motor abilities, visual and auditory abilities
	Recommended eligibility	Determining the eligibility for SLP classification

Once learning problems have been documented through informational methods (classroom observation), a compression-based assessment based on CHC theory is performed. For example, at level I-A, an assessment of academic skills is made as shown in the following figure.
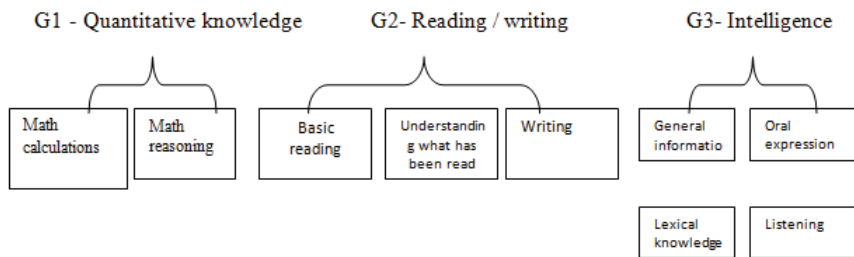
Figure 3: Level I-A: Assessment of specific academic skills and acquired knowledge - Analysis of academic abilities:

The next step is to assess each academic skill separately. Example reading will be assessed using the CHC capabilities shown in the following table:

Table 2: SLP identification capabilities

SLP abilities	Definition
Decoding in reading	Ability to recognize words in the reading process
Verbally Linguistic understanding	General development, or comprehension of words, sentences or paragraphs in the native language, through reading vocabulary measurement and reading comprehension tests.
Reading speed	Time needed for reading certain excerpts or sentences
Phonetic coding: Analysis	Ability to segment a larger set of voices into a smaller one
Phonetic coding: Synthesis	Ability to merge smaller language units together into larger ones

The last step is to select an appropriate test to assess a particular ability. Unlike the hierarchical model of Kavale and Forness (2000), Flanagan and co-workers (2006) use a more feedback and repetitive process because "the information we received in the evaluation at one level can help us make decisions at another level."

Both models demonstrate the possibility of using the theoretical and psychometric model in the process of identifying students with SLP. This confirms the possibility of accepting the concept of SLP together with the theoretical understandings of cognitive and academic functions, in order to create a comprehensive and systematic framework for making a definitive diagnosis of SLP. The set functional definitions provide practical methods for identifying the SLP, which at the same time have the potential to increase consensus on the validity of the SLP classification. Establishing an expert system based on practical experience will provide a diagnostic process for more reliable identification of persons with SLP. Such a process will enable the assessment of academic and cognitive skills, but at the same time will identify the factors that hinder the student's progress. By identifying the goals for intervention, the possibilities for a quality individual approach increase. Even if the student is not included in the special education system, the regular teacher, the parents and the student will have significant information about the problems the student faces in acquiring academic knowledge and recommendations for intervention and the need for special education (Corona et al, 2005).

Cognitive-behavioral therapy is mentioned as one of the effective ways to support students with learning difficulties, and Snyder, Bossomaier and Michell (2004) have confirmed its effect, finding that this therapy enables the achievement of better academic skills, especially in those who show difficulty.

7. The importance of special education for children with SLP

Students with SLP need special education. As defined in the Learning Disabilities Act, the term "special education" itself refers to special instructions adapted to the needs of children with disabilities, which do not represent a financial cost to parents (Fuchs et al, 2004).

Experts and researchers in this field firmly believe in the need and importance of providing special education and appropriate services for all students who have been identified with specific learning problems, i.e., students whose individual characteristics indicate that this type of education is necessary. Research has shown that many schools in the United States use the wrong procedures to identify students with STLs. This wrong approach has resulted in an increase in the number of students with secondary education, because students who achieve lower success, and have no disabilities, are classified as students with secondary education and are considered suitable for inclusion in special educational programs.

Schools should implement a special systematic model for prevention, which should include:

I.   Primary prevention: to provide a high-quality education system for all students;

II. Secondary prevention: to identify the specifics of students who are not sensitive to primary prevention;

III. Tertiary prevention: to provide intensive individual services and interventions for those children who cannot be included in the high-quality educational program and who do not respond positively to the additional activities and interventions of the teacher. Such children suitable for tertiary prevention are essentially children with SLPs who need special educational services.

The current classification criteria must be improved in order to provide special education and appropriate services depending on the identified characteristics and needs of the student (Vaughn & Fuchs, 2003).

8. Etiology of specific learning problems

The etiology of specific learning problems is not yet sufficiently known. It is assumed that some biological factors interact with non-biological factors (such as learning circumstances and the quality of the teaching process). Specific learning problems occur as a result of problems occurring in the prenatal, perinatal, and postnatal periods, resulting in problems with nervous system dysfunction at one or more stages in information processing (Norman & Zigmond, 1980). To date, there have been a number of studies aimed at finding abnormalities and asymmetries in the temporal lobe. The results of previous studies have concluded that there are obvious brain abnormalities, but they do not always have to be present and if they are present, they do not always have to be the same (Reynolds, 1985). In the phase of receiving information, there are difficulties in processing or interpreting the received information - their discrimination, distinguishing between plan and background, and establishing the order of the information. Problems in integration, in the process of identifying and linking information, most often reflect on the order, abstraction and organization of information. Attention problems most often occur during the transition from short-term to long-term memory, so children need much more repetition to memorize information. Difficulties in responding are reflected in motor (problems in gross and fine motor) and speech-language activities (Norman & Zigmond, 1980). Etiological factors include: brain lateralization abnormalities, brain maturation delay, environmental deprivation, genetic factors, minimal cerebral dysfunction, and brain damage.

Abnormalities of brain lateralization - Each hemisphere has its role; it has a greater participation in performing some and less in performing other functions. That is, we call the hemisphere "dominant" or "leading" to certain mental functions. The left hemisphere is dominant for language functions in most right-handed people (over 95%). However, the right hemisphere is not always dominant in left-handed people. In over 60% of cases in left-handed people, the left hemisphere is either dominant in language functions or inseparable from the language process ("combined" dominance). The left hemisphere as dominant is responsible for solving analytical tasks, logical organization, information sequencing, complex motor functions and language. The right hemisphere is responsible for maintaining attention and compiling global patterns, for the relationship of parts to the whole, spatial orientation, sensibility, musical forms, and emotional development (Çolak, 2021).

Delay in brain maturation - Cognitive functions such as speech development, reading and other abilities are developed hierarchically, and the stages of this hierarchical development are arranged individually during ontogeny. If a hierarchical level develops more slowly, a slow overall hierarchical development occurs because the higher functions depend on the integration of the lower ones (Reynolds, 1985).

Specific speech impairment - There are a number of studies that show that specific learning problems occur due to specific language, speech disorders. Rapin and his co-workers (2009) described six different subtypes of developmental speech impairment as the basis for clinical assessment of preschool children's speech:

• Expressive damage- Verbal dyspraxia; Deficiency of phonological programming,

• Impairment that includes comprehension and expression- Mixed receptive-expressive or phonological-syntactic deficit; Verbal auditory agnosia or blindness to words,

• Impairment of central processing and formulation- Semantic-pragmatic deficit; Lexical-syntactic deficit.

Environmental deprivation - It is one of the important factors that affect learning, because the environment in which children grow up can indirectly affect behavior and alter brain development. According to Kavkler (2003), children who start early in first grade are more often classified as children with learning disabilities, compared to those who start school later.

9. Medical approach

Historically, SLPs have been thought to occur primarily as a result of brain damage. James Hinshelwood coined the term "blind for words" to describe a child with unexplained learning difficulties despite an average IQ and normal sensory function. According to Hinshelwood, the child's problems are due to a defect in the angular gyrus region (Delahunty & Garvey, 2010). Another researcher, Samuel Orton, noted that students with learning disabilities often have confusion in reading and writing the letters b and d, p and q, respectively. This phenomenon was termed "strephosymbolia" (inverted symbols) by Orton and occurs in those individuals in whom we do not have a dominant hemisphere, or none of the hemispheres has developed dominant functions (Golubovic, 2000). Research of this type has been continued by other researchers such as Kirk Goldstein (1936) and Alfred Strauss (1947). Goldstein worked with soldiers who suffered brain injuries during World War II. He observed that these soldiers often manifested problems of perception, impulsivity, distraction, and hyperactivity (Golubovic, 2005). Strauss noted that students with intellectual disability have very similar characteristics and theorized that problems occur as a result of brain damage. At that time, the term "children with brain damage" or "minimal brain dysfunction" was used for those students that today we call students with SLP. Strauss speculated that perhaps some extremely subtle brain damage was a major cause of the child having learning difficulties (Bishop & Donlan, 2005). Such assumptions were very unpopular among parents and their relevance was often questioned. The medical impact on the understanding of SLP is still very strong. In practice, for example, the terms dyslexia and dyscalculia are often used to denote reading and counting problems. Today in the research of the connection of the brain with the SLP, very sophisticated methods are used and we are at the beginning of discovering new relations and characteristics of their interconnection (Young et al., 2002).

10. SLP as an academic problem

A turning point in the history of SLPs occurred in 1963, when a meeting of concerned parents in Chicago publicly expressed dissatisfaction with the approach of medical practitioners who described their children as children with brain damage or minimal cerebral dysfunction (Blake et al., 2004). Samuel Kirk (1981), a psychologist with many years of experience working with students with academic problems, coined the term "learning disabilities" to describe those students who have reading difficulties. This has resulted in a change in the perspective of learning problems. Instead of attributing it to organic brain damage, they began to see the connection between these problems and cognitive processes. There were no neurological changes in the students, but they still had problems with psychological processes (e.g., perceptual problems such as visual or auditory discrimination), did not receive visual and auditory stimuli properly, and learning problems occurred.

In this way, the perceptual-motor approach began, which shifted the focus from the medical approach to the academic understanding of learning problems, which resulted in the establishment of criteria for assessment and measurement of basic deficits, as well as appropriate intervention programs (Jerome et al., 2002). The idea was to fix the problems in the perception of the sensory impressions and their processing, and to enable the child to adequately progress in the adoption of the teaching contents. A number of programs have been created and implemented. Unfortunately, designed troubleshooting programs have proven ineffective and assessment tools inadequate. However, the changes that have taken place have influenced the development of SLPs, their understanding and solution in practice (Ripley & Yuill, 2005).

11. Behavioral and cognitive approach

During the 1960s, '70s, and' 80s, new, influential perspectives on learning problems emerged. The first of these was behaviorism. This approach was developed by B. F. Skinner and is based on the theory that there is a functional relationship between behavior (e.g., reading) and the environment. Learning is seen as a hierarchical process in which the child must master the skills in the prescribed order. In this approach the academic assignments are broken down into their component parts and each part is studied in sequence. Learning problems will be best attacked by changing the learning environment. From a behavioral point of view, a highly structured learning environment that responds directly to the student's problems is essential to achieving academic progress. Thus, if the child has reading difficulties, it is necessary to learn the direct skills needed to master that skill, through the use of highly structured instructions. Representatives of the behavioral approach have developed several highly effective teaching approaches: DISTAR (Engelman & Bruner, 1974) and Precision Teaching (Lindsley, 1964) (Mithaug, 2007).

In the 1970s, cognitive approaches to teaching and learning began to influence SLPs. The cognitive perspective focuses on the role of the individual in the learning process (Blake et al., 2004). From this perspective, the key is the interrelationship between the requirements of the environment (for example, assignments and teaching materials) and how the student processes the information. Learning disabilities can result in cognitive deficits such as memory problems and failure to process information effectively (e.g., failure to use an appropriate or effective strategy), or a combination of both. Metacognition (knowledge of one's own cognitive processes) has become especially important. In the 1980s, cognitive approaches became very influential and a number of studies were conducted to determine the cognitive characteristics of students with SLP. Memory research has enabled the development of new models for solving cognitive problems. Perhaps the most important is the information processing model, which was extremely influential because it focused attention on the processes involved in memory and learning (Jerome et al., 2002).

12. Prevalence of SLP

It is difficult to determine the frequency of SLP among students. However, based on research on reading ability conducted in primary schools, it can be noted that:

• High-quality educational instructions are of particular importance to meet the individual needs and abilities of the student with SLP.

• Additional small group work with "problematic" students can reduce the prevalence of learning disabilities (Vaughn et al., 2003).

As previously noted, problems in defining and identifying SLPs often lead to the identification of SLPs with poorer student achievement, thereby increasing the population with SLPs. In some countries this policy has led to an increase of students with SLP by as much as 150% (Keogh, 1994). In general, the frequency of SLPs is usually 10-15% in school children, with reading difficulties occurring in 10-25%, in writing in 8-15%, and in mathematical operations in 6-10% (Mellard, 2004). Some authors, using selective criteria, suggest that the prevalence of learning disabilities is 5% (Kavkler, 2003). In addition to the increasing number of students with SLP, there is a large difference in the percentage of these students in different countries, as well as in different areas within a country. Again, the reasons for this difference are sought in the lack of consensus in the process of identifying the students themselves. Recent research conducted by the National Agency for the Evaluation of Educational Progress in the United States has found that 37% of students in fourth grade do not have adequate reading skills sufficient to complete fourth grade (Vaughn et al., 2003). Regarding all the categories of students with disabilities, greater consistency in prevalence items was found in persons with hearing impairments as well as with physical and multiple impairments (Drew & Hardman, 2004).

13. Conclusion

There is strong evidence that points to the positive effects of the treatment of many students with SLPs when its implementation is consistent and appropriate. In addition to these findings, there are approaches and interventions in these individuals that have proven to be useless and ineffective, but are still used. The education system should cover the following categories:

1. Determining the nature of specific learning problems;

2. Identification of individuals with SLP;

3. Access to appropriate services;

4. Intervention and

5. Professional development.

A series of characteristics should be determined in relation to all categories.

The nature of specific learning problems: The SLP concept should be valid, and supported by strong evidence; SLPs have a neurological basis and are a congenital condition; Individuals with SLP differ in terms of their skills and abilities; SLPs persist throughout life, manifesting themselves through problems of varying intensity in the functioning of the person as well as in responding to the demands of the environment; SLPs may occur in combination with other developmental problems, but are not in themselves an indicator of another condition, such as intellectual disability, behavioral problems, social deprivation, sensory impairment, or multilingualism; SLPs meet in different ethnic, cultural, linguistic and economic groups.

Identification. In the process of identification, the student should take the central place, with a complete evaluation of the child's personality, as well as an appropriate approach to solving or reducing the identified problems. The educational process must be based on high quality instructions and interventions with students at risk, as well as constant cooperation with special educators and appropriate personal services.

Eligibility. The difference in achievements must not be used in the process of determining abilities; Decisions on determining an eligible educational service must be based on a prior assessment of the person, i.e., his or her individual abilities; Decisions must be made by an interdisciplinary team, based on appropriate assessments and in accordance with the needs and abilities of the student; Decisions must be timely; The student who is identified as a student with SLP may need different levels of special education during his / her school experience, the decision for the appropriate service is made on the basis of individual evaluation and constant process of observation.

Intervention. Constant engagement is required for the use of scientifically proven practice. In areas where there is no adequate research and scientific support, activities should be organized on the basis of successful practices. Schools, teachers and special educators must have access to information related to scientifically based practices. Students with SLP need intensive, repetitive and scientifically based treatment. Students with SLP need a continuous process of interventions during regular or special education, throughout all grades. The interventions must be timely and respond to the SLP as well as to the needs of the student. The efficiency of the interventions will be greater if they are implemented consistently, with sufficient intensity and duration. The teacher and the special educator must be coordinated as part of the coherent system, as the main bearers of the responsibility for achieving positive results in the work with the students with SLP.

Professional development. Personal development refers to the need for appropriate knowledge, skills, continuous education in relation to the implemented effective interventions in students with SLP. It is also necessary to ensure a current, coherent and integrated system of professional development.

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