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Early Signs of Specific Learning Disabilities in Early Childhood

Ozge Sultan Balikci [1]
ORCID: 0000-0003-4632-1275

Macid Ayhan Melekoglu [2]
ORCID: 0000-0002-9933-5331

Abstract

Since comprehensive evaluation of academic skills cannot be extensively conducted in early childhood, specific learning disabilities cannot be diagnosed in preschool-aged children. To evaluate academic skills, children must be school-aged and interventions cannot begin in the preschool period. However, specific learning disabilities in children may also be noticed during preschool. Preschool teachers need to determine which kids are at risk of having specific learning disabilities so that they can be detected early and an intervention provided. Preschool teachers need to be aware of the early signs of specific learning disabilities to distinguish between typically developing children and those at risk of having specific learning disabilities. In this review, studies describing the preschool characteristics of students at risk of having specific learning disabilities are examined, and the early signs of specific learning disabilities and early intervention processes are described based on the literature. Research suggests that the signs of specific learning disabilities can be seen in early childhood. The need for preschool teachers and families to be sensitive to the characteristics of children at risk of specific learning disabilities in the context of early intervention is discussed.

Keywords: specific learning disabilities, early intervention, early symptoms, preschool, early childhood

Statistical data on special education categories indicates that specific learning disabilities (SLD) are among the most commonly observed disabilities in special education. According to the 40th Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act in the United States of America, the proportion of children with SLD among all students with special educational needs is 38.6% (US Department of Education, 2018). When the situation in Turkey is examined in terms of SLD, clearly there are serious difficulties in the diagnostic process due to the lack of screening and diagnostic tools and inexplicit diagnostic criteria (Özyürek, 2010). In Turkey, all students with SLD receive education in inclusive education environments, and the proportion of SLD among all students with special educational needs is approximately 3% (Çakıroğlu, 2018). While evaluating this low proportion of students with SLD, the deficiencies in the diagnosis of SLD, the concerns of the Guidance and Research Centers over diagnosing SLD, and the limited availability of special education and support training for students with SLD in Turkey should be noted.

According to the Regulation on Special Education Services published in 2006 by the Ministry of National Education (MEB) in Turkey, SLD is defined as difficulty in the information retrieval processes required to understand and use language. It manifests in listening, speaking, reading, writing, spelling, attention, and doing mathematics (MEB, 2018). It is expected that once children start primary

[1]M.Ed., Eskisehir Osmangazi University, Education Faculty, Special Education Department, Eskisehir, TURKEY.
e-mail: ozgesultant@gmail.com
*Corresponding author.
[2]Ph.D., Eskisehir Osmangazi University, Education Faculty, Special Education Department, Eskisehir, TURKEY.
e-mail: macidayhan@gmail.com

start primary school, they will show significant deficiencies in reading, writing, spelling, or mathematical processing compared to their peers, leading to an SLD diagnosis. It is not possible to evaluate the skills mentioned in the definition of SLD before starting primary school, especially in the preschool period, since SLD is viewed within the framework of a lack of academic skills. Therefore, students with SLD are expected to show academic failure (Smith, 1994). For this reason, it is not possible to diagnose children who are at risk of having SLD in early childhood. However, to diagnose and provide intervention services to children with SLD, expecting significant academic failure in their primary school years may cause an irreversible problem that can lead to permanent learning issues for those children.

Signs related to SLD are generally not considered as symptoms that appear suddenly in primary school (Coleman, Buysse, & Neitzel, 2006). Children at risk of having SLD may exhibit some preliminary symptoms in earlier periods. The symptoms that may be observed in early childhood can be seen in areas such as reading, speaking, motor skills, and predicting skills (Smith, 1994). In addition, deficiencies in SLD, such as the regulation of learning methods, knowledge, and visual analysis skills, and in some other skills that may be associated with SLD are also indicators of SLD. As the development of academic skills is not at the forefront in early childhood, the degree of inadequacy in the developmental areas with the potential to predict academic failure can be observed rather than academic failure itself (Smith, 1994). It is important to recognize those possible delays in the developmental areas and start intervening early.

Intervention in early childhood, known to be critical for a child's cognitive and affective development, affects the child's mental performance and later academic success. However, being successful in education in early childhood does not ensure children's academic success in subsequent years. However, in the early childhood education period, children who fail to show proper development and have continuous failures often have trouble in many areas including academic skills in the following educational periods. If an early diagnosis and intervention system is applied, the failure rate in primary school can be reduced by approximately 50%, and the positive effects of this early intervention can continue until adulthood. Studies indicate that problems in these areas can be largely prevented or improved by providing diagnostic and intervention processes for problems related to learning, socialization, and emotional development in children with SLD (Mercer, 1997). The impact of early interventions to reduce or eliminate children's problems is not limited to the academic field.

As in many areas of special education, the negative situations that may affect individuals as a result of the interventions applied to SLD and the negative social consequences caused by these situations can be prevented (Hallahan, Llyod, Kauffman, Weiss, & Martinez, 2005). Therefore, if any difficulty related to special needs is determined at the earliest stage and effective intervention programs are started immediately, many difficulties and irreversible negative consequences can be prevented (Walker & Shinn, 2002). Since early childhood education is not directly related to academic subjects, it is not possible to say that the children in this period are academically behind. Since all skills and developmental areas except academic skills are generally similar in this age group, prediction is preferable to identification. When predicting SLD in early childhood, two main factors make it difficult to foresee learning difficulties. First, problems with SLD may be mild. Many of these children are seen as smart and competent until they face basic academic activities such as reading and spelling. Unlike other children with special needs, these children may not be directly noticed because SLD is a hidden special need. Second, it is often difficult to decide whether there is a developmental delay or slow maturation in the child concerning the difference compared to his/her peers. Many children with incompetence can follow a slow developmental process but can later catch their peers (Hallahan & Kauffman, 2000).

There is increased sensitivity toward not diagnosing SLD in early childhood. Experts generally prefer to use more general expressions such as developmental delay or under risk for these students due to the various skill-related problems they face in the early childhood education process.

Different areas can be observed as a sign of SLD in early childhood.

Early Childhood Problem Areas for Specific Learning Disabilities

Recognizing the symptoms in many areas during early childhood and implementing preventive intervention programs positively affects future learning experiences. In early childhood, there are problem areas in which early signs may be observed, with a high risk of reflection in future learning. These problems are generally observed in pre-academic skills, motor development, language development, and behavior. In one study, preschool teachers were asked about the possible elements related to these problems in students during the early years of primary school (Rimm-Kaufman, Pianta, & Cox, 2000). The teachers stated that these students frequently have problems with pre-academic skills during early childhood, face problems with social skills and following guidelines, and experience difficulties in individual and group work. It has been shown that children in early preventive intervention programs that can support their development in early childhood have improved intelligence levels, practical thinking, hand-eye coordination, and hearing and speaking skills, and they are more ready to read when they start school (Mustard, 2002).

It is thought that knowledge of the problem areas and behaviors that may be observed in early childhood may guide experts in providing support services by identifying the steps that can lead to success. Early intervention and educational support for children with symptoms of SLD starting school make it possible for them to be more successful before and after school.

Preliminary Academic Skills and Early Literacy

The symptoms of SLD in early childhood manifest in pre-academic skills. Preventive intervention programs should be implemented as soon as possible after recognizing those symptoms. There is a need for more predictive assessment tools to help families and experts identify the early signs of SLD in early childhood.

The most accurate predictors of SLD are pre-academic skills (Foorman, Francis, Shaywitz, Shaywitz, & Fletcher, 1997), which are behaviors that begin before formal education such as recognition of sounds, numbers, colors, and shapes (Hallahan & Kauffman, 2000). One of the important pre-academic skills for reading is phonological awareness.

Children with normal development who have no deficiency in any area usually have early phonological awareness skills. Children having problems with phonological awareness in the early period are known to be at risk of reading difficulties when they start school. Children can face difficulty learning to read when they cannot break the words into syllables and sounds. Thus, problems related to sound information are considered as the strongest predictors of reading difficulties (Hallahan & Kauffman, 2000). Pre-skills related to reading include recognizing the sounds that correspond to letters, distinguishing the first sounds, voice awareness, managing sounds, writing letters, spelling, and sentence formation (Foy & Mann, 2003). Phonological awareness and the naming of letters are among the best predictors of reading performance (Bast & Reitsma, 1998; Caravolas, Hulme, & Snowling, 2001; Schatschneider, Fletcher, Francis, Carlson, & Foorman, 2004; Høien, Lundberg, Stanovich, & Bjaalid, 1995; Muter, Hulme, Snowling, & Stevenson, 2004; Müller & Brady, 2001; Vellutino, Fletcher, Snowling, & Scanlon, 2004).). It has been stated that poor phonological awareness increases the risk of having SLD caused by reading problems (Most, Al-Yagon, Tur-Kaspa, & Margalit, 2000). While phonological awareness is an important clue, problems in pre-academic skills related to mathematics can also provide information about SLD.

Mathematics skills are taught in the context of preschool preparatory skills. Early on, children start to acquire preliminary information about numbers. Children at risk of SLD may exhibit preliminary symptoms in mathematics skills in early childhood. These can include number recognition, number counting, and numerical problems (Mazzocco & Thompson, 2005). These difficulties in mathematics can be a sign of the difficulties children may face in their future learning. However,

signs of SLD risk may also be observed in cognitive domains.

Early childhood involves preliminary preparation for academic skills. If children progress at an average level in coordination, language, attention, and perception, they become ready for academic skill areas such as reading, writing, spelling, and mathematics that require a higher level of cognitive skill. If children do not show balanced improvement in other skills or have difficulty, it is predicted that they may have difficulty with some or all of the academic skills (Pickering, 2002). Therefore, problems related to coordination, attention, and perception in children may be a sign of SLD.

Early recognition of children at risk of having difficulty in reading due to SLD constitutes the first step in decreasing the degree and frequency of reading difficulties. The fact that children with symptoms in the early period are not noticed until primary school or no intervention is carried out could make the situation more difficult by strengthening the source of reading difficulties. As the literature recommends, studies should elucidate how to recognize these children as early as possible (O'Connor & Jenkins, 1999).

Early Symptoms of Specific Learning Disabilities in Motor Functions

Early childhood motor development problems are among the early signs of SLD. Children with early motor development problems have difficulty performing higher functions during adulthood (Ridler et al., 2006). Students with SLD may have problems with activities requiring motor skills (Smits-Engelsman, Wilson, Westenberg, & Duysens, 2003). These problems may be related to delays in performing a movement and disorders in the motion control system.

Students with SLD often perform below expectations in hand-eye coordination and ball play and balance skills. Problems related to hand-eye coordination, which forms the basis of many academic skills such as reading and writing, can also be negatively reflected in school preparation skills (Binsted, Chua, Helsen, & Elliott, 2001). In this context, students' motor skills and academic skills affect each other (Vuijk, Hartman, Mombarg, Scherder, & Visscher, 2011). In addition to hand-eye coordination problems, problems in other motor skills can also be observed.

Communication/Language Development Area

Symptoms related to SLD in early childhood are also observed in the area of language development. Language and speech skills are not sufficiently developed in children who are at risk of SLD. The speech of these children is generally unclear. Delays in expressive language may also indicate delays in future learning experiences (Rescorla, 2002). Children with problems in both receptive and expressive language may have a greater risk of persistent language problems in the future (Thal, Jackson-Maldonado, & Acosta, 2000; Thal, O'Hanlon, Clemmons, & Fralin, 1999). Children with problems in verbal language may face language, reading, and general academic difficulties in subsequent years (Bishop & Adams, 1990; Catts, Fey, Tomblin, & Zhang, 2002). In a study examining the relationship between language and reading in children with normal language development who had problems in expressive language, phonological awareness and verbal language were found to contribute to reading success (Proctor-Williams & Fey, 2007).

A study on second- and third-grade students with reading difficulties revealed that receptive and expressive words were very closely related to the readiness to obtain reading skills and that the words used in expressive language were significantly correlated with comprehension and single-word reading (Wise, Sevcik, Morris, Lovett, & Wolf, 2007). Children with verbal language problems in the early period have a special risk of SLD (Snowling, Bishop, & Stothard, 2000). In addition, children's vocabulary repertoire and phonologic awareness are among the best predictors of short-term memory, instant object naming, and reading performance (Carroll & Snowling, 2004; Catts et al., 2001; Lyytinen et al., 2004; Pennington & Lefly, 2001). However, Vervaeke, McNamara, and Scissons (2007) stated that vowel usage is the strongest predictor of future reading success, with 80% accuracy. Therefore, difficulties observed in

language development in early childhood may be a predictor of SLD.

Early Symptoms of Specific Learning Disabilities: Social-Emotional Adaptation Skills

In early childhood, attention deficit, irregularity, lack of willingness to study, hyperactivity, poor listening skills, behavioral problems, and inappropriate behaviors can be observed. It is known that most students with SLD have attention problems (Hallahan, Kauffman, & Lloyd, 1999). Dunlap (2009) pointed out that difficulty following guidelines, getting distracted easily, irregularity, and a short attention span are early signs of SLD. In addition, behavioral problems may also signify SLD.

Behavioral problems in early childhood characterize children in the risk group who need intervention (Mercer, 1997). These behavioral problems may sometimes be accompanied by hyperactivity. Meyen and Skrtic (1995) evaluated SLD and showed hyperactivity as an early symptom.

Children at risk of SLD may have lower social acceptance from their peers and insufficient social adaptation skills (Most, Al-Yagon, Tur-Kaspa, & Margalit, 2000). Their lack of social skills may affect their participation in group activities. Therefore, social deficiencies in children who are at risk of SLD may be another symptom to be tracked (McClelland & Morrison, 2003). In terms of behavioral characteristics, skills such as self-management (Agostin & Bain, 1997), maintaining tasks, organizing necessary tools, following instructions, and self-monitoring can also affect academic performance (McClelland & Morrison, 2003).

Risk factors for SLD may be affected by different family characteristics. These include behavioral adjustment problems, child's characteristics, environmental variables related to the mother and family, and the way the mother perceives the child's attachment. Regarding the family, developmental delays; the child's temperament, gender characteristics, understanding of the mother's speech, understanding of their environment, manageability, sense of control, sense of coherence and family harmony; and the attachment of safe, timid, and anxious-unstable children should also be taken into consideration. The consistency of the mother, family cohesion, healthy companionship, mismatch in behaviors, harmonious behaviors, loneliness, and the child's sense of consistency can be evaluated through self-assessment and mother and teacher interviews (Al-Yagon, 2003).

Various intervention programs can be implemented for children who are at risk of having SLD. Early intervention programs supporting social and emotional development play a significant role in children's linguistic and cognitive competences (Shonkoff & Phillips, 2000). Thanks to emotional and social early intervention programs, academic failure and lack of schooling are seen less frequently, success in school increases, and higher education attendance rates improve (Mustard, 2002).

Early childhood includes all social, mental, and communication initiatives of life (Özmert, 2008). Considering that support for a child's academic, linguistic, motor, and social development in early childhood has a significant impact on the individual and society (Özmert, 2008), so it is necessary to take into account the indicators of SLD. The earlier the intervention, the faster it can ameliorate the potential negative consequences for children and families (Dunst, 2000; Shonkoff & Phillips, 2000; Wolery & Bailey, 2002). Early preventive intervention programs need to be implemented with the goal of protecting children's rights, which will enable all children to meet their physical, mental, social, and emotional potential.

Individuals with SLD may exhibit different cognitive and social-emotional problems. The problems start in early childhood but are not limited to this period and can last for a lifetime. Children with SLD in early childhood that receive appropriate support can catch their peers and sustain their gains when they start primary education (Coyne, Kame'enui, Simmons, & Harn 2004; Torgesen & Davis, 1996). Being sensitive to the early symptoms of SLD can prevent children in the at-risk group from being diagnosed with SLD in the future. In the early period, identifying children facing problems with pre-academic skills, motor development, language development, and differences in the social field and providing early intervention

programs for these children reduces the risk of SLD.

Understanding and Preventing the Symptoms of Developmental Problems

School-wide practices exist for the early diagnosis and intervention of SLD. These practices include evaluating existing theory, knowledge and practice, providing in-service training, preparing a school-wide progressive intervention system, and establishing a school-wide early diagnosis system. Information on how children learn and how to provide effective learning environments is updated. They periodically guide schools on how to provide staff with services, how to teach them, and reflect on their practices (O'Shaughnessy, Lane, Gresham, & Beebe-Frankenberger, 2003). Research on effective expert development states that educational changes are a long process that requires in-service training. It takes time for educators to reflect theoretical knowledge in practice, learn new methods, and create innovative subjects for their profession (Malouf & Schiller, 1995). School-based intervention programs are used to prevent an increase in their severity.

Primary, Secondary, and Tertiary Prevention Programs

Prevention is usually defined as primary, secondary, and tertiary depending on when and what preventive steps are performed (Hallahan et al., 2005). The first phase of preventive work on early intervention in SLD is indicated as a primary measure. The primary measure is to reduce or alleviate the extent of children's SLD as much as possible. It is aimed to reduce or eliminate the causes of SLD. Primary prevention can be used without reducing the possibility of postpartum brain injury, improving teachers' teaching skills and behavior control, or teaching parents child-rearing skills (Hallahan et al., 2005). SLD may still occur despite primary prevention.

When primary measures are not taken or are delayed, the second step is taken. Secondary measures targeting the existing problem are defined as compensatory teaching, which prevents the worsening of inadequacy. When a child's learning problems are noticed and the aim is to eliminate them or prevent them from getting worse, the secondary measures are activated. When children face serious problems in reading, any kind of prevention activity can be secondary or tertiary (Hallahan et al., 2005).

The last stage of progressive intervention programs for SLD is called tertiary measures. It means preventing the spread of the problem or inadequacy to other functional areas, and the aim is to prevent the development of additional problems. From elementary school on, students with SLD struggle with reading, but they can be helped by teaching them skills that will prevent problems in finding and maintaining a job after high school. One tertiary measure is when a remedial remission intervention is initiated long after the problem has progressed (Hallahan et al., 2005).

Early Detection of Learning Difficulties

To prevent failure in the subsequent periods and provide auxiliary services, it is necessary to identify the problem as early as possible and provide appropriate support. In Turkey, the importance of early recognition of SLD within the scope of a preventive approach with a developmental focus, which is included in the principles of the Law on Special Education, is emphasized (MEB, 2018). This situation emphasizes the need for early intervention by considering the early preventive model.

It is possible to work on the early recognition of SLD. Early identification programs must focus on screening, risk and preventive factors, systematic observations, and comprehensive evaluation. An effective early diagnosis program requires the consideration of many biological, environmental, and cultural factors that may affect the child's course of development.

Screenings should be done first to identify children who are at risk of early learning difficulties. The purpose of screenings is to decide whether additional assessment is necessary and, if so, which developmental areas should be its focus (NCLD, 2007). After the screenings are completed, the risk and preventive factors are investigated.

Environmental, biological, genetic, and prenatal conditions may be risk indicators of children with SLD, who may not be able to demonstrate the expected progress in certain developmental areas. Carefully monitoring the child's development and providing high-quality learning opportunities are some preventive factors (Hallahan & Kauffman, 2000). Regular observations may be required for SLD symptoms in children.

Early developmental differences can be determined by systematic observations. Systematic observations are the process of examining children's abilities and behaviors over time. In order to increase the validity and reliability of systematic observations, it is possible to use informal or standard observation protocols in different contexts and times, such as preschool education centers and playgroups, where the family is included. Children are evaluated extensively through the screening, risk factor analysis, and systematic observations to determine SLD in the early period.

In a comprehensive evaluation, children's expected skills are evaluated based on normal development. This evaluation aims to determine the individual abilities and needs of the child and provide appropriate resources by identifying learning and behavioral problems as early as possible. To ensure normal development, a comprehensive assessment is made of skills in all developmental areas.

Evaluation Areas for Symptoms

Cognition, communication, early literacy, motor skills, sensory functions, and social-emotional adaptation skills are evaluated according to the child's situation and needs. Perceptual arrangements, memory, contextual construction, attention, and problem-solving skills are examined in the cognitive field. In the field of communication, the language/speech form, context, and language used to express and understand language constitute the basis of evaluation. In addition, early literacy phonological awareness, writing awareness, number recognition, and understanding contexts, including the ability to understand, are evaluated. In motor functions, gross, fine, and oral motor abilities are examined. Sound, touch, motion, and visual systems are evaluated in the sensory field. Besides, social-emotional adaptation skills are evaluated in the context of temperament, emotion, self-management, play, and social interaction. Individuals with the most opportunities to observe children's performance in these areas in early childhood are preschool teachers. Therefore, the opinions of preschool teachers are used to evaluate students in this age group.

Preschool teachers' opinions are very important for early learning problems. Problems in pre-academic skills such as recognizing voices, words and letters, and numbers can be noticed by teachers in the preschool period. In fact, 55% of students had problems according to statements by preschool teachers and succeeded in only a few academic fields, and 16% performed below expectations in all fields (Taylor, Anselmo, Foreman, Schatschnieder, & Angelopoulos, 2000). This study indicates that the observations and opinions of preschool teachers can be trusted. If probable problems related to SLD are found through comprehensive evaluations, it is useful to obtain the opinions of experts in the developmental areas.

Symptoms of Specific Learning Disabilities After Evaluation

Studies on different skill areas can be done in the school environment for SLD. Some tips may help preschool teachers ensure good first school experiences for children. Some of these tips are using familiar tools with the children; providing individual workspaces and providing choices in activities (Steele, 2004).

Observable differences or problems may be encountered in children during the follow-up period, indicating learning difficulties in the early period. Systematic screening should include the provision of support and services that focus on the individual needs and strengths of the students and prioritize learning problems or developmental delays based on risk factors, preventive factors, and comprehensive evaluations. Priority is given to the planning of studies to provide special educational interventions to meet the developmental, behavioral, and learning needs of the child; to provide quality preschool

programs; and to improve the language and literacy environments at home. Services and support provided to prevent learning difficulties should be based on science, developmentally appropriate, family-centered, and culturally and linguistically sensitive. In terms of the time spent with the child in early childhood, families are very important. It is vital that the family be included in the provided support plans.

Families play a crucial role in providing support services for children who are observed to be problematic after a comprehensive evaluation. The task of assisting families and caregivers in recognizing, understanding, and accepting the problems of the child belongs to the experts. Experts are responsible for supporting the child's individual needs by selecting programs to create family support groups and preparing a training program, finding suitable services and facilities suitable to the family, finding appropriate interventions and resources from private and public schools resources, and enabling the development of the child in home and care settings. With these responsibilities, experts become guides.

Preschool teachers: They should be professionals who can make comprehensive and detailed assessments of different developmental areas to identify learning difficulties. To predict SLD, teachers should identify the issue and provide guidance to the caregivers. Interdisciplinary team personnel who can take part in the services provided to these children by supporting their learning opportunities are as follows:

Language and speech therapists: Take part in preventive programs in the areas of communication, language, speech, voice, and swallowing health. They work to raise awareness of risk factors that may cause voice, speech, and language disorders. They conduct and implement assessments, therapy, and rehabilitation planning for patients with language, speech, voice, and swallowing pathologies as directed by the relevant specialist physician.

Audiologists: Diagnose, select, and program devices to be used for the rehabilitation of hearing and conduct diagnostic tests with the guidance of a specialist physician in the diagnosis of hearing and balance disorders.

Special education teachers: Participate in the preparation and implementation of individualized educational programs by taking into account the educational performance of students and the objectives they need to realize.

Occupational therapists: Evaluate the functional potential of the individual in the home, work, and school environments and make recommendations to maximize his/her performance and help them adapt to their environment.

Physiotherapists: Plan and implement individual physical activity and exercise programs to regulate the physical activity of individuals and increase their mobility.

Guidance counselors: Provide guidance and psychological counseling services in educational institutions, guidance centers, and universities; and provide guidance and psychological counseling in the fields of psychological services, education, and personnel training.

Specialist audiologists: Experts who can be consulted in the field of children's hearing, specialized language and speech therapists in the field of speech, expert physiotherapists who specialize in physical development, and expert counselors in the field of behavioral social development. Field experts can make a deep, comprehensive, and detailed assessment of the developmental area they are interested in and help to determine whether the observed problem is developmental or not. If the field experts state that the problem is not due to development and the development is normal, comprehensive support may be required.

When probable delays are identified, there are many activities that preschool teachers can implement. Providing opportunities for success in all developmental areas can help the development of these students (Steele, 2004). Researchers may investigate which kind of activities are used by preschool teachers concerning children displaying developmental gaps in early childhood educational settings.

While preschool teachers are practicing this work, they also need to involve the family in the process. Considering development as a whole, joint studies can be carried out in different interrelated areas. It is recommended that an interdisciplinary

approach be used to take the individual learning characteristics of the family and caregivers into account when deciding on the method and approach to be used. Future studies may focus on how to improve the collaboration between professionals during the evaluation process.

As a result, it is possible to be aware of prospective differences and problems with the cooperation of preschool teachers working continuously with experts from different fields. This process is expected to be seen as a start, not as a result. However, there is a need for knowledge of the early signs of SLD, awareness of children's needs and appropriate interventions, and opening the path for success by preventing failure. In fact, future studies may investigate pre-school teachers' awareness of the early signs of specific learning disabilities.

Awareness of the early signs of developmental problems in language, motor, social, and academic fields leads to the provision of early diagnosis and support services. It is thought that early interventions can be very effective in preventing failures caused by learning difficulties and increasing students' success. Researchers may develop early educational programs to support students at risk of SLD. Furthermore, all students enrolled in preschool could be screened to reveal the early signs of SLD.

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