

# **Inclusion of students with specific learning disorders in higher education: a systematic literature review**

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## **Abstract**

The prevalence of students with specific learning disorders in higher education, although still disproportionately low, is increasing rapidly. Given this transformation, students with specific learning disorders remain vulnerable, as the lack of inclusion of their learning disability impedes the learning required at university level and has a negative impact on their academic performance. A systematic literature review was conducted to investigate via VOSviewer software the status of teaching integration of students with specific learning disabilities in universities. There is a large literature in the field of specific learning disabilities and research interest is expanding, however, research on specific learning disabilities in higher education is rather limited. Relevant data were revealed that should be adopted to reduce barriers to learning and create an inclusive environment in universities.

*Keywords:* accommodations; higher education; inclusive university; specific learning disorders; support services

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## **1. Introduction**

Higher Education is shifting toward a more pragmatic approach toward becoming inclusive and providing access to a greater population, especially with the digitalization process, remote teaching has become the new formal way of education (Baten et al., 2022). The inclusive settings and better supportive systems for students with disabilities during their high schools' students, enables a student with special education to pursue a university program. The prevalence of students with SLD in higher education, whilst still disproportionately low, is increasing fast (MacLeod et al., 2018). The challenge for universities is to rapidly adapt to the diversity of their students. Moreover, universities must adapt also considering the pandemic crises to a hybrid and remote learning environment. Considering that transformation, students with SLD remain vulnerable as they do not outgrow their learning disability and the virtual learning environment has a rather negative impact on their academic performance (Edwards, 2014; Steed et al., 2021). Consequently, the loss of face-to-face interaction, structure and routine, and the switch to online learning is more challenging for some students compared to others (Baten et al., 2022; Krassadaki et al., 2022; Kyriakidis et al., 2024; Tudor et al., 2023).

## **2. Theoretical framework**

### *2.1. Specific Learning Disorders*

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) (2013) defines the term-specific learning disorder (SLD) as a complex impairment in

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reading (dyslexia), written expression (dysgraphia), and mathematic abilities (dyscalculia). Learning disabilities have been defined as an inability to successfully navigate the educational system (Pratt et al., 1999), failure to learn that is not due to ability or inadequate teaching (Semrud-Clikeman & Bledsoe, 2011). The literature distinguishes (Margari et al., 2013) between Specific Learning Disorders (SLD) and Learning Disorders Non-Otherwise Specified (SLD NOS). SLD NOS refers to an impairment in acquiring new information, constructing new knowledge and performing new skills, and cannot be linked only to learning instruments (reading, writing, mathematics), but are linked to other aspects (Margari et al., 2013). SLD significantly affects scholarly and academic life (Mastrothanasis et al., 2018; Zingoni et al., 2021) and provokes low self-esteem (Matteucci & Soncini, 2021), anxiety, insecurity (Jorgensen et al., 2018; Panicker & Chelliah, 2016), sadness (Davis et al., 2009) and other forms of psychological distress (Zingoni et al., 2021; Matteucci & Soncini, 2021).

## *2.2 Higher education support services for students with Specific Learning Disorders*

The number of students with SLD in universities has been increasing over the years (del Bianco & Grigg Mason, 2021; Schwartz et al., 2021) therefore universities seek universal and specific measures to facilitate the access to higher education for all students' diversity. Young and adults do not outgrow their SLD, and its characteristics interfere with learning and studying at university (Schwartz et al., 2021), causing frustration (Panicker & Chelliah, 2016).

Students with SLD experience a range of challenges in their university's studies, thus impacting their academic performance (del Bianco & Grigg Mason, 2021), due to the lack of support mechanism, techniques, or motivations. The drop-out rate of students with SLD remains high (Rußmann et al., 2023). Higher education students with SLD often face challenges with basic learning skills, such as typing on computers, which is now the primary mode of writing for academic tasks (Abecassis et al., 2023).

Higher Education institutions explore ways to improve faculty students' interaction, to understand their complex and individual need, to identify students' needs for their learning (Puțaru & Rusu, 2023). Research comes from diverse socio-economic backgrounds with a broad range of experiences (Coman et al., 2020) aim to reduce the gap with respect to non-dyslexic students. Higher education institutions must develop services to assist and support students during their professional development, including students with SLD, to support their studying, socio-emotional regulation, metacognitive skills, resilience and mental health being (Vasiou & Andriopoulou, 2023). Those services should develop intervention and assistive plans to support students with SLD based on their strengths and weaknesses (Ramjia & Fosterb, 2023; Semrud-Clikeman & Bledsoe, 2011; Shaikh et al., 2024).

Improving access to educational opportunities and increasing achievements are crucial to any student, including those with SLD (MacLeod et al., 2018; Mastrothanasis et al., 2021). Higher education institutions have given lower priority for students with SLD and any other disability than the other disadvantaged group (MacLeod et al., 2018). The situation is changing nowadays, academia seeking to create services to accommodate educational and learning needs for their students and reducing barriers and stress factors (Mental Health of Students in Higher Education, 2011). The University of Arizona, USA (del Bianco & Grigg Mason, 2021) shares a good practice with the creation of Strategic Alternative Learning Techniques that provides academic supervision and coaching, allows the use of educational technology support and offers psychological and counseling support. Still, there is a lot to do.

## **3. Aim of the Systematic Literature Review**

Information and studies on SLD are growing exponentially on simple research based on the terms SLD and University, 105.961 items were generated, and during the

last years the great number of studies made it difficult to navigate and summarize the immense available data. There is a great deal of literature in the field of SLD and the research interest is expanding, however most of the research is conducted at an early stage (children, adolescents), research on SLD in higher education is rather limited. The relevance of this SLR is to bring attention to the fact that SLD is a life-long condition, that learning continues life-long, and the challenges encountered by students in universities must be addressed. There is an interest from universities and other adult education institutions in adjusting their programs to a better match with the educational needs of the diverse population that are pursuing a higher education program nowadays.

This paper conducts a SLR of relevant studies on the inclusion of students with SLD in higher education programs. The research questions of this literature review were:

RQ1: What are the challenges and academic strengths of students with SLD?

RQ2: Are higher education institutions equipped to provide an inclusive environment and support services for students with SLD?

RQ3: What types of support are currently available, and what improvements are recommended?

The purpose of this SLR is as follows to explore the state of the art of the didactic inclusion of students with SLD in universities. To attain the proposed purpose, several objectives were established:

O1: To identify the barriers to accessing higher education for students with SLD and identify the best practices in supporting students with SLD through their university studies.

O2: To identify and explore available support services and accommodation techniques to support the inclusion of students with SLD into Higher Education.

#### **4. Methodology**

This study followed a systematic literature review methodology, with the aim to extract as much relevant data to comprehend the state of the art of inclusion process of students with SLD in higher education, to identify types of available evidence, approaches, strategic planning for infrastructure, counseling and support services provided, and any research gaps. The methodology of this review based on the PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analysis) methodology (Linares-Espinós et al., 2018; Moher et al., 2016) and Covidence software comprised the following steps: (i) a clear formulation of the research questions, (ii) elaborating of a protocol for research identification (inclusion and exclusion criteria), (iii) performing a detailed and broad literature search and (iv) screening the abstracts of the studies and selecting the research sample of eligible studies for the quality evaluation (see Figure 1).

A systematic search of the literature was conducted across four databases: PsycINFO, PubMed and Web of Science. The search was conducted on the 31st of May 2023. The key search terms were as follows: ("higher education" OR "post-secondary education" OR "college" OR "university" OR "tertiary education") AND ("learning disorder\*" OR "learning disability\*" OR "specific learning disorder\*" OR "dyslexia" OR "dysgraphia" OR "dyscalculia" OR "ADHD" OR "attention deficit hyperactivity disorder" OR "autism spectrum disorder") AND ("inclusion" OR "inclusive education" OR "accessibility" OR "support services" OR "accommodations" OR "integration" OR "equity" OR "support programs" OR "educational support").

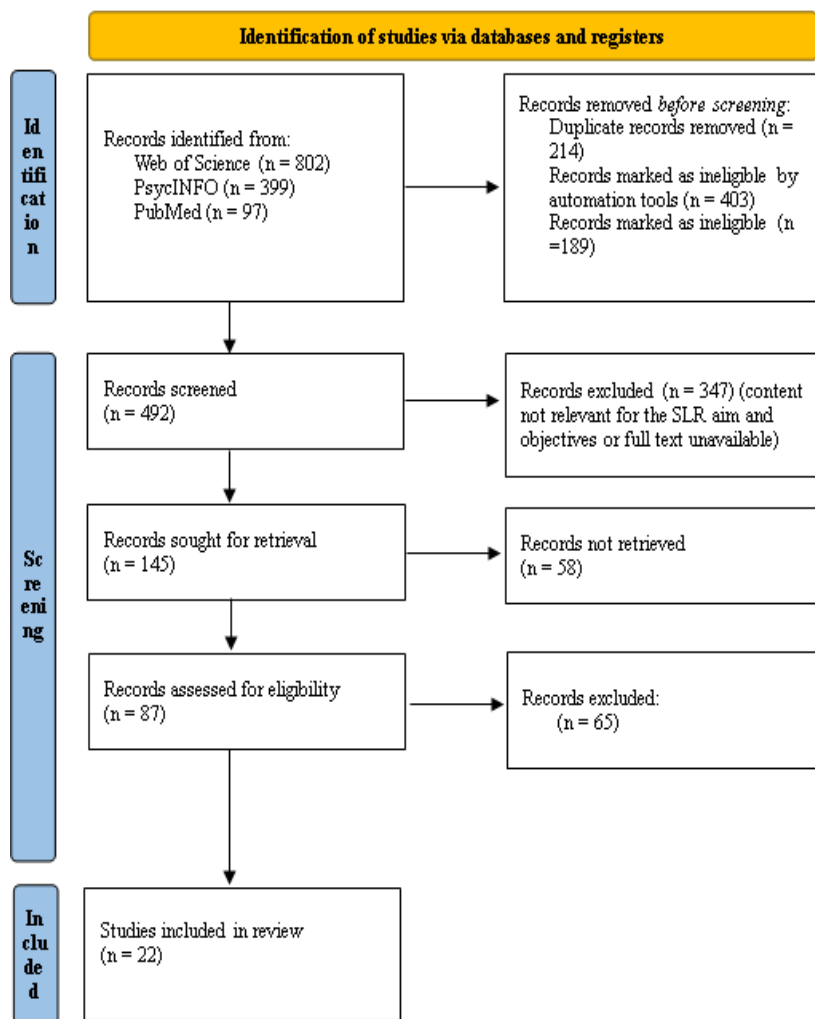


Fig. 1. PRISMA flowchart of the SLR Search Strategy

#### 4.1. Eligibility Criteria

We used the PICOSS (participants, intervention, comparison, outcomes, study design and setting) to determine the eligibility criteria for this review. Table 1 provides a summary of the inclusion criteria.

Table 1. Inclusion Criteria

Review questions	What are the struggles and academic strengths of students with SLD? Are Higher Education institutions equipped to provide an inclusive environment and support services for students with SLD, what type of support is available and what is recommended to be improved?
Participants	Students with SLD, including but not limited to specific learning disorders such as dyslexia, dysgraphia, and dyscalculia, as well as ADHD and autism spectrum disorder. Participants must be enrolled in higher education institutions, including universities, colleges, and other post-secondary educational settings.
Intervention/ Phenomenon of Interest	Studies must investigate the inclusion practices, support services, accommodation, and integration strategies implemented in higher education for students with SLD. Research exploring the effectiveness of specific programs, policies, and interventions aimed at facilitating the inclusion and academic success of these students will be considered. Studies that include comparisons between students with learning disorders and those without, in terms of educational outcomes, access to services, and overall inclusion in higher

	education, will be eligible.
Comparisons	Comparisons between different types of interventions or support services provided to students with learning disorders will also be considered.
Outcomes	Primary outcomes of interest include academic performance, retention rates, graduation rates, and overall quality of educational experience. Secondary outcomes include psychosocial outcomes such as self-esteem, social integration, mental health, and perceived support from the institution.
Study Design	Eligible studies will include quantitative, qualitative, and mixed-methods research.
Setting	The research must refer to inclusion in educational mainstream settings only.

We have included studies that focused on university students with SLD and managed to assess the state of the art of the inclusion process of students with SLD in higher education. To capture an historical perspective on the inclusion of students with learning disorders in higher education, we have included articles published between 2013 to 2023. Studies were not included if (1) they were a review of previous studies, editorials, commentaries or opinion pieces, (2) they focused on students with disabilities other than learning disorders, such as physical disabilities, sensory impairments, or intellectual disabilities, will be excluded unless they specifically include students with learning disorders as a distinct subgroup, (3) they referred to students in settings other than higher education.

All references were saved using reference management software, Covidence software, to remove duplicates and maintain a detailed record of the selection process (Veritas Health Innovation, 2021). Two reviewers independently screened the titles and abstracts of the retrieved papers. Any discrepancies in their initial assessments were resolved through discussion until they reached an agreement. During the full-text screening phase, if the full text of a study was unavailable, the author was contacted to request the complete document. The reviewers then independently reviewed the full texts and discussed and resolved any conflicts. Both reviewers were responsible for data extraction and quality assessment, and they collaborated to reach a consensus on the quality scores for each study.

#### 4.2. Data Extraction

Specific data from the selected papers were transferred into a pre-formatted Excel sheet: (1) the study name; (2) authors; (3) year of publication; (4) a brief description of the study design; (5) sample size; (6) participant details such as gender, mean age, and occupation; (7) outcome measures, including means and standard deviations; and (8) inclusive practices in higher education for students with SLD.

#### 4.3. Quality Assessment

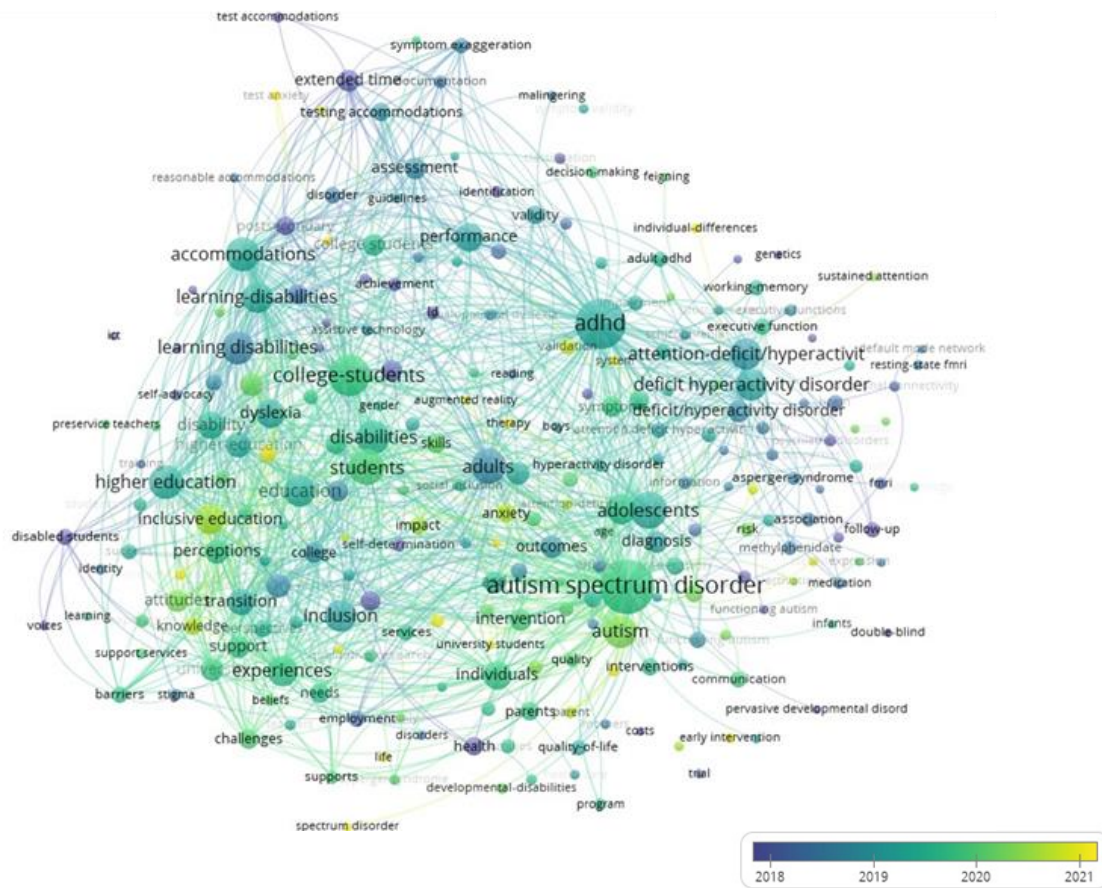
After the screening process, the papers were independently assessed by the two reviewers based on Weight of Evidence of Framework (Gough, 2007) to examine the quality and relevance of studies including three main aspects: (i) integrity and solidity of studies; (ii) the suitability of the study design for answering the research questions; and (iii) relevance of the study outcomes for the SLR. The exclusion criteria were as (i) poor data in supportive systems; (ii) incidence and prevalence studies; (iii) insignificant results for the SLR. After this process, 22 articles were selected for further processing. During this step, detailed screening, coding, data extraction and a qualitative analysis were taken, examining the quality and relevance of findings (Table 2). Qualitative analysis was based on an analytical framework (Figueiró & Raufflet, 2015), thematic analysis and coding system. The coded system comprised (i) policies; (ii) types of support; (iii) best practices; (iv) limits and barriers; (v) recommendations. All articles were scanned and reviewed based on the codes defined, and all relevant data were organized, investigated through interpretive, comparative, and relational analyses (Bazeley, 2013).



such as “higher education,” “inclusive education,” “students,” “learning disabilities,” and “transition.” This cluster emphasizes the inclusion of students with learning disabilities in higher education, exploring topics like accessibility, support services, and educational transitions.

The yellow cluster includes terms like “learning disabilities,” “dyslexia,” “accommodations,” and “college students”. Research in this cluster is likely centered on specific learning disabilities such as dyslexia, focusing on accommodation and the experiences of college students. The blue cluster, with the central term “autism spectrum disorder,” and related terms like “autism,” “individuals,” “parents,” “quality of life,” and “interventions”, highlights research on autism spectrum disorder, focusing on interventions, the impact on individuals and families, and quality of life. As we can see, terms related to inclusive education and support services appear prominently, indicating a significant focus on how educational systems can better support students with learning disorders. There is a clear emphasis on various learning disorders (e.g., ADHD, dyslexia, autism spectrum disorder) and their impact on educational outcomes and needs for specific accommodations. The inclusion and experiences of students with learning disabilities in higher education settings are major research themes. The network highlights the importance of understanding and supporting students with learning disorders in educational settings, particularly higher education. The connections between clusters suggest that research on learning disorders is interdisciplinary, involving psychology, education, and health sciences. Areas with fewer connections might indicate gaps in the research, presenting opportunities for future studies. For example, exploring the long-term outcomes of interventions for students with learning disorders in higher education could be a valuable direction.

Figure 3 is a visualization generated by VOSviewer software, color-coded according to a timeline from 2018 to 2021. This timeline indicates when specific terms were most frequently used. Research in the green cluster focuses on the inclusion and experiences of students with learning disabilities in higher education, with significant discussions around inclusive education practices and transition processes. Terms such as “higher education,” “inclusive education,” “students,” “learning disabilities,” and “transition” are central. In the blue cluster, terms like “ADHD,” “adults,” “performance,” “disabilities,” and “college students” are prominent. This cluster highlights research on ADHD and other disabilities, particularly focusing on adult populations and their performance in academic settings. The yellow cluster consists of more recent terms such as “autism spectrum disorder,” “autism,” “inclusive education,” “support services,” and “integration.” There has been a growing interest in autism spectrum disorder and related support services in recent years, emphasizing integration and inclusive education practices. Analysis the temporal trend of the literature from the Web of Science data base, we can state that earlier research focused on foundational terms and established concepts such as “higher education,” “inclusive education,” and “learning disabilities”. There was a significant emphasis on understanding the broader landscape of disabilities in education and exploring basic support mechanisms. More recent studies have shifted towards specific disorders like “autism spectrum disorder” and “ADHD,” reflecting an increasing granularity in research focus. There is also a noticeable trend towards practical applications and support mechanisms, such as “support services,” “integration,” and “accommodations”. The shift from general discussions on inclusive education to specific focus areas like autism spectrum disorder and ADHD indicates an evolving research landscape that is becoming more specialized. The increasing prominence of terms related to support services and accommodation suggests a growing emphasis on practical interventions to aid students with learning disabilities. The interconnectedness of terms across clusters highlights the interdisciplinary nature of research in this field, involving education, psychology, and health sciences. Given the timeline, there is an opportunity for more longitudinal studies to track the progress and long-term outcomes of students with learning disabilities in higher education.



**Fig. 3.** Temporal Network Visualization of Research on Learning Disabilities in Higher Education (2018-2021) (generated by VOSviewer)

*Note:*

*Blue/Green:* Terms more commonly used in earlier years (2018-2019).

*Yellow:* Terms more prevalent in recent years (2020-2021).

*Density:* The network is dense, indicating a high level of interconnectivity between terms.

Based on the insights gained from the bibliometric analysis, we will present the results of our systematic literature review on the inclusion of students with SLD in higher education. This review aims to help with the understanding of the current state of research, identify gaps, and suggest directions for future studies in this area. This SLR, as shown in Figure 1, was built upon 22 articles, including here the students with Autism Specific Disorders (ASD), following the rational of our study to examine the way universities and faculty seek to accommodate the needs of the new diversity of their students. The articles of the sample group comprised several methodological approaches, the predominant were theoretical and qualitative studies (n=9), mixed-methodology (n=6), and empirical studies (n=7). The greatest number of theoretical and qualitative studies are probably explained by the need to explore and identify the state of the art of higher education services and policies toward inclusion of SLD. The results of the included studies were categorized into factors relating to answering our research questions and research objectives (see Table 2).





**Table 2.** *Quality assessment of articles included in the SLR*

Article	Methodology	Respondents	Academic strengths	Practices for Inclusion	Types of support	Difficulties during higher education	Improvements Needed
Zingoni et al., 2021	Mixed-Methodology	University Students with Dyslexia	-	+	+	+	-
Chiappetta Cajola, 2020	Mixed-Methodology	University Students with SLD	-	+	+	+	+
Mental Health of Students in Higher Education, 2011	Theoretical Study	-	-	-	+	+	+
Matteucci & Soncini, 2021	Empirical Study	University Students with SLD	-	-	+	+	-
Longobardi et al., 2019	Mixed-Methodology	University Students with SLD	-	-	+	+	+
Del Bianco & Grigg Mason, 2021	Qualitative study	-	-	+	+	-	+
di Palma et al., 2019	Qualitative study	-	+	-	+	-	-
Schwartz et al., 2021	Empirical Study	University Students with SLD	-	-	+	+	-
Kumar & Agrawal, 2019	Theoretical Study	-	-	-	-	-	+
Lindgrén & Laine, 2011	Mixed-Methodology	University Students with SLD	-	-	+	+	-
Edwards, 2014	Mixed-Methodology	Faculty, Universities	-	+	-	+	-
Dymond et al., 2017	Empirical study	Parents, University personnel	+	+	+	+	+
Van Hees et al., 2015	Theoretical Study	-	+	-	+	+	+
MacLeod et al., 2018	Empirical study	Student Support departments	-	+	+	+	+
Ala'i-Rosales et al., 2010	Theoretical Study	-	+	+	+	+	+
Roll-Pettersson et al., 2020	Theoretical Study	-	-	-	+	-	-
Lefler et al., 2023	Empirical study	Professors, University Students with SLD	-	-	+	+	+
Pfeifer et al., 2020	Qualitative study	University Students with SLD	+	+	+	+	+

Spenceley et al., 2020	Empirical study	University Students with SLD	-	+	+	+	+
Kreider et al., 2021	Qualitative study	Mentors of undergraduate mentees with learning disabilities and attention-deficit/hyperactivity disorder	-	+	+	+	+
Kreider et al., 2018	Mixed-Methodology	University Students with SLD	+	+	+	+	+
Weis & Beauchemin, 2020	Empirical study	University Students with SLD	-	+	+	+	+

## 6. Discussion

This SLR aimed to summarize and analyze the inclusion process of SLD in higher education, and to identify types of available evidence, approaches, strategic planning for infrastructure, counseling and support services identified by relevant studies. The focus of the research was on SLD, however other disorders that co-exist with SLD and do not limit the access of persons having ASD and ADHD to university programs were used.

Topical investigation provided some recurring data on the academic strengths of students with SLD, on their difficulties during higher education, on policies, best practices in inclusive higher education environment, types of support and improvements needed to support the academic success of students with SLD.

### 6.1. Difficulties of students with SLD during Higher Education

Five common themes that emerged across our SLR related to difficulties of students with SLD during pursuing a university degree. These themes include (a) SLD characteristics that interfere with learning, (b) transition to the university, (c) available services and supports, (d) barriers, and (e) needed improvements (Dymond et al., 2017).

**Table 3.** Frequency of themes and subthemes on difficulties students with SLD encounters during their university studies

Themes	Subthemes	References
SLD characteristics	Reading difficulties	Zingoni et al., 2021
	Text comprehension difficulties	
	Understanding Uncommon Words	
	Concentration difficulty while studying	
	Concentration difficulty during in-class lessons	
	Concentration difficulty during online lessons	
Academic skills	Verbal short-term memory impairment	Dymond et al., 2017
	Staying focused during class	
	Critical thinking	
	Executive functioning skills (such as organization skills, time management, and generalization of learned skills)	
	Studying effectively for tests	
	Study scheduling	
	Note-taking difficulties	
	Lack of time to prepare for exams	
	Difficulties in overseeing the large amount of new information	
Social skills and peer interaction	Processing information and time management in fits and starts	van Hees et al., 2015
	Procrastination before taking on tasks	Dymond et al., 2017
	Social understandings	
Social interactions		
Faculty interaction	Social and communication skills (such as initiating and maintaining social interactions and friendships)	van Hees et al., 2015
	Exhausting but necessary social contacts	
	Striving hard to fit in	
	Difficulties managing social demands	
	Awareness of social problems	
	Lack of access to an extended social network	
	Faculty interaction	
Limited knowledge about their students' adjustment at the university		
Limited training opportunities for faculty, peers, and		

	university staff on the characteristics and needs of students with ASD and SLD negative impact on students' confidence to socially engage with others and to invest further in maintaining contact and friendships	
Transition preparation to Higher Education	Insufficient preparation within the school or home environment	Dymond et al., 2017
	Impact of limited transition planning on student adjustment	Zingoni et al., 2021
	The disparity in reach and visibility of the services for students with SLD in different universities	Longobardi et al., 2019
	Lack of structure and predictability in typical higher education programs made time management and daily organization difficult	Van Hees et al., 2015
	Worries about the transition to employment	
Mental health	Anxiety	<i>Mental Health of Students in Higher Education, 2011;</i> Dymond et al., 2017;
	Motivational or self-beliefs issues	Lee et al., 2015;
	Emotional difficulties	Dymond et al., 2017 Van Hees et al., 2015
	Stress, anxiety and fatigue	Feeling Overwhelmed, Stressed, Anxious, Depressed, Tired and Isolated Motivational or self-beliefs issues Matteucci & Soncini, 2021
Daily skills	Managing time	Dymond et al., 2017
	Independent living skills	
	The difficulty of sharing information with the family	van Hees et al., 2015
	The lack of services available in the evening and at night	
	Independent living skills, such as grooming, getting up in the morning, and taking medications on time	
Struggling with a new situation and unexpected changes		

Table 3 represents a summary of the data coded across the sample group of articles (n=22) on barriers and difficulties identified by students, parents, teachers, faculty. It is expected that students with SLD to struggle with reading and text comprehension at the university level, although their struggles are less significant. The explanation is the fact that they identified during their previous learning experiences necessary compensatory tools and techniques by the time they entered the university (Zingoni et al., 2021).

Less data on academic strengths of students with SLD is available from the analysis of the articles during the SLR, only three articles provide some examples of students with SLD strengths: passionate interests, a desire to be right, adherence to rules, students' intellectual capabilities (Dymond et al., 2017), dedication, willingness to listen to others, analytic skills, remarkable powers of observation, sincerity, impartiality (van Hees et al., 2015), unique and useful resources to make them excel in sports (di Palma et al., 2019).

## 6.2. Support recommendations

Furthermore, according to our second objective, the findings show that data on the recommendations on support available and needed for students with SLD were generated the most. The recurrent themes that were identified during the analysis were the following: (a) legal and economic support; (b) academic; (c) technological; (d) mental health support; (e) social (see Table 4).

**Table 4.** Frequency of themes and subthemes on the type of support necessary for students with SLD during their university studies, identified in the sample papers.

Types of support	Frequencies
<i>Legal and economic support</i>	
- Financial advice	3
- Clear legislation	1
- Accessible living accommodations	4
- Work transition	3
- Advocating on their own needs	1
- University smooth transition	2
<i>Academic</i>	
- Counseling in identifying appropriate study techniques	10
- Alternative study forms (personal tutoring)	12
- Pedagogical services (innovative teaching and learning methods)	24
- Metacognition and learning methods	2
- Self-assessment skills and assessment accommodations	9
- Time management	5
- Reducing writing tasks	2
- E-course notes	6
- Planning tools	2
<i>Digital and technological support</i>	
- Multimedia and assistive technology (e.g., recording courses; audio reproduction of the documents; video lessons)	23
- Inclusive E-learning environment	
- A database of teaching gambits for teaching conceptual issues and running in-class practical	7
	2
<i>Mental health support</i>	
- Motivation strength	1
- Preventive support for mental health	1
- Independent living skills	2
- Emotional support	2
- Psychosocial support	1
- Leisure activities and enough rest	2
<i>Social Support</i>	
- Students' associations to exchange information	2
- Support groups	4
- Ask-for-help skills	1
- Check in contact (Dymond et al., 2017)	1
<i>Cultural</i>	
	1

From the sample group of articles for the SLR, 10 studies provide much data on the support that students with SLD are receiving or were identified by them, the recurrent type of support target implementing pedagogical accommodation (24), followed by the impact of multimedia and assistive technology (e.g., recording courses; audio reproduction of the documents; video lessons) on supporting the students with SLD during their university studies (23). Implementing string support services in different areas (academic, social, mental health, economic) positively impacts the academic performance of students with SLD and ASD.

### 6.3. Recommendations for Institutions for Higher Education

Reducing barriers in accessing higher education programs and improving educational opportunities and achievements are key elements to increasing the chances of students with SLD to pursue a university degree and become an active citizen. Some improvement ideas are identified through most of the studies reviewed

and they are focused on the priority to design services more inclusive learning environments by responding to individual needs, a more positive identity in joining higher education, actions to raise awareness of disability, creating a network of supportive professionals (MacLeod et al., 2018); enhancing the academic and personal support available to mentally troubled students (Mental Health of Students in Higher Education, 2011). The abovementioned report recommends that universities develop a formal mental health policy and implement health promotion campaigns. Some studies (Dymond et al., 2017) recommend providing additional training for faculty on students with disabilities and making the services visible by disseminating intensely to study all available services on campus. There is also a demand for organized and well-thought coordination process of all services available for students in need (Dymond et al., 2017). The authors claim that close and constant communication with a person responsible for all supportive services has an impact on creating a more positive experience at the university by identifying and providing accommodation to meet the unique needs of each student with SLD. Another aspect discussed is the need to develop services that would help future students with SLD to move from high school to university and from university to workplace, by designing transition activities that appropriately prepare students for university life and offering more structured orientation activities on campus (Hotez et al., 2018; Safta & Suditu, 2022; White et al., 2017). The insight on providing support before and after the university (e.g., how to identify an appropriate job, how to apply for a job, what to do in an interview, self-determination and independent living skills) bring a wholistic approach to the social inclusion of students with disabilities. However, Dymond et al. (2017) poses an important question concerning designing, creating and providing support for students with SLD, in paying attention not to limit independent living skills and self-determination of students with disabilities. A balance between helping students with SLD and encouraging autonomy and independence (Vasiou et al., 2024). Studies confirm that universities must guarantee the access to knowledge and professional development, a great opportunity to encourage the inclusion of students with SLD, in terms of learning and participation (Chiappetta Cajola, 2020).

## **7. Conclusion**

This literature review of this study on 22 articles revealed that support services are needed for students with SLD during their university studies. investigation on the state of the art of services and programs available for students with SLD or other disabilities are limited. As the number of students with SLD continues to grow, universities are in the phase of identifying appropriate services to accommodate and meet the unique needs of this population (Dymond et al., 2017). The urgent need for evidence-based supportive programs is strengthened by the risk of academic and personal failure of students with SLD and other disabilities. Studies (MacLeod et al., 2018) reported cases of students with SLD and ASD that made sense of their achievements during their university studies and have an important story of success to share. The inclusive dimension of Higher Education is a crucial milestone during the learning path toward achieving success valued by our society. Students with SLD prefer supporting strategies to supporting tools (Zingoni et al., 2021). The extent to which these students are ultimately successful in their pursuit of higher education will depend in large part upon whether appropriate support and services are available (Dymond et al., 2017; Drosinou Korea & Alexopoulos, 2024). The SLR revealed some relevant data that needed to be adopted to reduce barriers to learning and create a more inclusive environment in universities.

## **8. Implications for Research and Practice**

Findings from the SLR show that higher education institutions seek to provide more individualized support for their students. Future research should explore the experiences from students with SLD and faculty or other personnel that provide support, that help identify factors that facilitate and improve students' university

experiences. Moreover, it would be interesting to analyze the transition process of students with SLD to the employment and independent life, studies that will provide relevant data to predict a successful outcome. Some questions remain open: (a) what competence students with SLD should acquire for an easier transition to higher education, (b) the extent to which universities should accompany students during their studies to encourage independency and autonomy and learning and working? Also, the bibliometric analysis, done through network visualization, show the latest research trends, key focus areas, and evolving topics within the study of students with learning disabilities in higher education. This analysis can inform future research priorities and policy developments to better support these students.

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\*Study included in this review