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Teachers' perceptions of obstacles to adapting assessment and instructional materials for students with learning disabilities in mainstream education

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ABSTRACT

The adaptation of assessment and instructional materials within the curriculum is essential for improving the academic performance of students with learning disabilities and for achieving intended learning outcomes. This study aimed to examine teachers' perceptions of the obstacles to adapting assessment and instructional materials for students with learning disabilities in the Kingdom of Saudi Arabia. It also investigated whether these perceptions differ according to teachers' years of experience, educational qualifications, and gender. A descriptive survey method was employed, and data were collected through a questionnaire administered to 299 teachers working in public schools that offer learning disability programs. The participants were selected using simple random sampling. The results show that teachers face a high level of obstacles in adapting assessment and instructional materials. In addition, statistically significant differences were found based on years of experience, with less experienced teachers reporting greater challenges. However, no statistically significant differences were identified in relation to educational qualifications or gender. Based on these findings, the study recommends prioritizing and providing continuous in-service professional development for teachers.

1. Introduction

The Saudi Ministry of Education in 2020 defined learning disabilities as disturbances in one or more of the basic psychological processes involving the understanding and use of (written or spoken) language that appear in disorders of listening, thinking, speaking, reading, writing, spelling, and performing mathematical calculations, which are not due to hearing, visual, or intellectual impairment, emotional disturbance, or environmental, cultural, or economic factors.

Students with learning disabilities encounter a range of cognitive and behavioral challenges that significantly affect their academic performance. These challenges include attention deficits, working memory impairments, and difficulties with fundamental academic skills such as reading, writing, and mathematics. Furthermore, these students may face obstacles in time management, organization, abstract thinking, and fine motor skills. As a result of these pervasive difficulties, they often exhibit lower academic achievement despite regular attendance in class (Gabriel and Börnert-Ringleb, 2023).

Inclusive education is defined as an educational system that ensures the integration of all students, including those with disabilities, within a single learning environment while providing equitable educational opportunities for everyone. This system aims to foster equity and equality in education and to develop students' academic and social competencies. However, the Kingdom of Saudi Arabia faces challenges in its full implementation. The most prominent of these challenges include a lack of adequate teacher training for dealing with students with disabilities, the unpreparedness of the school environment, and the need to develop and modify the curriculum to address the diverse needs of all students.

The Kingdom of Saudi Arabia is gradually moving toward the implementation of the principles of Universal Design for Learning (UDL). This trend reflects the Kingdom's commitment to providing

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equitable and inclusive learning environments and ensuring equality of opportunity for all students, aligning with its vision to develop its educational system and enhance the quality of learning. UDL contributes to the improvement of teaching practices by encouraging teachers to utilize multiple strategies and innovative instructional materials, which ultimately support students in realizing their academic potential and reducing educational disparities (Altowairiki, 2023). UDL recommends that teachers consider student diversity from the initial stage of instructional planning by integrating flexible and varied assessment and instructional materials. This proactive approach minimizes the need for subsequent accommodation and helps establish more inclusive and integrated learning environments.

UDL is a research-based educational framework that aims to create flexible learning environments responsive to individual learner differences. The UDL framework is based on three main principles: providing multiple ways to represent content, offering multiple options for expressing knowledge, and providing diverse methods for motivation and engagement.

These principles can be described as constructive and have a positive impact on all students in mainstream education, including students with disabilities. Because it focuses on facilitating universal access to all educational services and other physical and educational facilities included in UDL, the approach aims to overcome all the challenges inherent in traditional educational curricula.

UDL equips learning environments with sufficient flexibility to accommodate the diverse abilities and needs of students, demonstrating that some students in classrooms are not necessarily disabled, but rather are provided with unsuitable educational experiences. It also emphasizes that needs are unique and distinct from one student to another, like fingerprints, thus underscoring the urgent need for appropriate educational curricula (Al Hazmi and Ahmad, 2018). Therefore, adapting assessment methods and educational materials for students with learning disabilities is essential for the success of UDL.

The adaptation of assessment methods for students with learning disabilities aims to grant them equitable opportunities to demonstrate their capabilities, requiring the use of flexible tools that correspond to their diverse learning styles. The assessment of students with learning disabilities is defined as a systematic process of data collection intended to understand a student's strengths and weaknesses, which is essential for making accurate educational decisions and formulating individualized plans that match their specific needs (Pierangelo and Giuliani, 2022). This data is used to determine the student's level of academic and behavioral performance, thus aiding in the design of effective educational interventions that contribute to improving their academic achievement and developing their skills (Salvia et al., 2016). To ensure a comprehensive understanding, assessment relies on multiple tools and methods, such as standardized tests, classroom observations, and performance-based assessments, thereby making it a vital instrument in supporting the learning process for students with learning disabilities (Overton, 2020).

Instructional materials are defined as tools and resources, such as visual media, digital technologies, and modified texts, that are utilized to support teaching and enhance understanding and engagement. A key requirement for these materials is that they must be engaging, flexible, and responsive to diverse cognitive needs, thereby allowing the student to interact with the content in a manner that aligns with their capabilities (Bryant et al., 2019; Hallahan et al., 2022).

Research indicates that failing to adapt the learning environment to satisfy the needs of these students can lead to a decline in academic achievement, increased feelings of frustration, and a loss of motivation to learn (Elliott and Grigorenko, 2024). The adaptation of assessment and instructional materials is a fundamental component of the overall process of curriculum adaptation aimed at meeting students' needs, particularly those with learning disabilities. Effective adaptation involves ensuring that students can access content, express their knowledge, and develop their skills through means that are compatible with their individual abilities and diverse learning styles.

Moreover, some assessment tools contain complex linguistic instructions and a cluttered visual structure, which complicates comprehension for students with disorders such as dyslexia or attention deficit disorder. Changes made to assessment tools and methods must ensure that the principle of equity in assessment is achieved. Students with learning disabilities often face challenges in traditional skills such as reading and writing, which consequently affects their performance on standardized tests. Therefore, research recommends offering flexible alternatives such as open-ended assessments, oral presentations, and the use of authentic tasks to assess comprehension.

In addition, the study confirmed a low level of use of these technologies among teachers, which was attributed to a shortage of supportive devices and software, weak technical infrastructure, and insufficient specialized training. Furthermore, the study revealed a statistically significant positive correlation between the extent of educational technology use and teachers' attitudes toward inclusion, indicating that enhancing technological resources and providing proper training contribute to improving teachers' acceptance of inclusive education and its effective implementation (Abdelrasheed and Saeed, 2025).

Instructional materials, such as textbooks, visual aids, and digital tools, need adaptation. These materials must be culturally and linguistically appropriate and adapted in terms of difficulty level to match learners' abilities. Assistive technology—specifically assistive applications, including screen

readers and speech-to-text software, are effective tools for enhancing accessibility and stimulating learning (Smith and Tyler, 2010). Assistive technology has become a fundamental pillar in curriculum adaptation for students with learning disabilities, enabling them to interact with content through non-traditional methods, such as using text-to-speech software, visual dictionaries, and self-regulation applications (Al-Azawei et al., 2016).

Additionally, educational curricula often lack the necessary flexibility, rendering them unable to address the specific needs of students with learning disabilities. This lack of flexibility often prevents the integration of adaptive instructional materials within the classroom, which subsequently diminishes the effectiveness of the educational process for these students and restricts their benefit from modern methods (Flanagan et al., 2013). It is important that instructional materials be simplified in terms of language, design, and information organization, without compromising the essential scientific content. This simplification includes reducing the number of concepts presented on a single page, using clear fonts, and applying contrasting colors to highlight important concepts. Such measures alleviate visual distraction and enhance student concentration (Kormos, 2016).

The use of technology-based instructional materials remains limited within the field of special education, with teachers utilizing them to a low degree in their instruction. This is often attributed to the teachers' belief that the technology does not suit the nature and needs of the students. It may also be due to teachers' lack of knowledge and limited skills in using educational assistive technology devices (Chukwuemeka and Samaila, 2020).

The findings of several studies have demonstrated that the adaptation of assessment methods and instructional materials for students with disabilities continues to encounter numerous challenges that limit their effectiveness in the educational process. Research has shown that obstacles to adapting instructional materials for students with disabilities include a shortage of teacher training and poor awareness of assistive technology, in addition to limited access or unavailability in some educational settings, thereby hindering their efficacy in supporting students (Fernández-Batanero et al., 2022). Other results have highlighted the weakness of technical infrastructure, such as the limited availability of devices, internet connectivity, or software, compounded by the low digital literacy skills of some students, limited time to effectively use the tools, and the lack of involvement of experts in decision-making regarding the use of educational technology (Hsiao et al., 2023).

A study conducted in the Kingdom of Saudi Arabia revealed that the challenges facing teachers in using assistive technology in special education schools include a dearth of specialized training, the low availability of technology within classrooms, and the disparity in teachers' experience when selecting appropriate educational tools for students' needs. Identifying these obstacles is crucial, as research in this area contributes to the development of innovative educational strategies and the provision of necessary support for teachers. This aligns with the goals of Saudi Vision 2030 to build a comprehensive and advanced educational system that ensures equality of opportunity and quality education for all students.

Schools face significant challenges in providing appropriate learning environments for students with learning disabilities, particularly regarding the adaptation of assessment tools and instructional materials. This consequently restricts students' potential. Therefore, the adaptation of assessment and instructional materials that are sensitive to individual differences is considered a fundamental step toward achieving equity and fairness and ensuring authentic participation within classrooms (Darling-Hammond et al., 2020).

Teachers of students with learning disabilities encounter numerous obstacles that impede their ability to adapt assessment and instructional materials within the curriculum offered to them. These difficulties are exacerbated by a lack of specialized professional training. The findings of one study demonstrated that teachers lack adequate training and necessary resources, which subsequently reduces the effectiveness of adaptations in both assessment and instructional materials (Chakraborty et al., 2024).

Understanding the obstacles that teachers encounter during the adaptation of assessment and instructional materials is important to ensure the effectiveness of the educational process and achieve the goals of inclusive education. The teacher acts as the primary agent in implementing adaptation strategies within the classroom, and any challenges that prevent them from doing so directly impact the quality of education provided to students (Flanagan et al., 2013). Therefore, the identification and analysis of these obstacles contribute to guiding professional development programs and refining educational policies. Furthermore, it aids in designing a flexible and inclusive learning environment, as teachers require a supportive context that includes continuous training, the provision of resources, and administrative empowerment to effectively and equitably implement adaptations (Smith and Tyler, 2010).

Based on the above, the following research questions were formulated:

Q1: What are the perceptions of teachers of students with learning disabilities concerning the obstacles to the adaptation of assessment and instructional materials in the curriculum provided to their students in mainstreaming programs?

Q2: Do the perceived obstacles to adapting assessment and instructional materials in the curriculum vary significantly according to teachers' years of expertise, educational qualifications, and gender?

2. Methodology

The study sample consisted of 299 teachers from Riyadh, Kingdom of Saudi Arabia, comprising 141 males and 158 females. All participants were employed in public schools that provide learning disability programs for elementary-level students. The study tool was deployed throughout the initial semester of the 2024/2025 school year. The demographic characteristics of the participants are detailed in Table 1.

The questionnaire utilized in the current study was designed to ascertain the perceptions of teachers of students with learning disabilities regarding the obstacles to the adaptation of assessment and instructional materials in the curriculum provided to their students. The development of this questionnaire was based upon a comprehensive literature review of prior studies related to the topic. The finalized questionnaire was submitted to a panel of twelve subject-matter experts specializing in special education and learning disabilities. Their input was essential for confirming the tool's appropriateness in addressing the study's objectives. This process resulted in the modification of several items on the questionnaire to ensure its appropriateness for achieving the intended research goals.

The questionnaire, in its final format, was structured into two principal parts. The first part contained information about the purpose of the study, informed consent for data collection, and demographic information about the participants (years of expertise, educational qualification, and gender). Years of experience were classified into three categories (less than 5 years, 5 to 10 years, and 10 years or more), based on educational literature that distinguishes between stages of professional teacher development. The early years represent the formative years, followed by the professional stability phase, and then the advanced experience phase. This classification was used because it can reveal statistically significant differences in professional practices and attitudes.

The second part comprised the questionnaire's dimensions, consisting of a total of 13 items divided into two dimensions. The first dimension included obstacles related to assessment, and the second dimension included obstacles related to instructional materials. These items specifically address several key concerns: the use of alternative and comprehensive assessment methods to evaluate various aspects of student development; the incorporation of both spoken and written language in evaluation, ensuring the validity and reliability of the assessment tools; the availability of appropriate technologies for curriculum adaptation; the provision of diverse instructional materials (e.g., illustrated, electronic, or audio books); the periodic development of technological means to be responsive to the requirements of students with learning disabilities; and, finally, factors such as the sufficiency of class time for instructional material use and the availability of internet and network connectivity within the school.

The questionnaire employed Likert scale responses where participants selected from five options: Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree, which received corresponding scores of 5, 4, 3, 2, and 1, respectively. A pilot study was carried out with a sample of 70 male and female teachers. The questionnaire's psychometric properties were subsequently established by determining the internal consistency through the correlation coefficient between each item and its respective dimension's total score. Statistical analysis using SPSS 27 software revealed strong correlation coefficients ranging between 0.868 and 0.889 for both dimensions, with all item-to-total score correlations being statistically significant at the 0.01 level, thus confirming the questionnaire's internal consistency. Furthermore, the questionnaire's reliability coefficient was calculated using the split-half method, yielding reliability scores of 0.90 for the assessment dimension and 0.87 for the instructional materials dimension. This study employed the descriptive method, utilizing an electronic questionnaire created via Google Forms software following formal approval from the Ministry of Education in the Kingdom of Saudi Arabia. The questionnaire was designed for use with male and female public-school teachers of students with learning disabilities. The questionnaire link was disseminated to the targeted teachers through the school principals. Following data collection, the information was analyzed using SPSS 27 software to address the study's questions. The analysis employed several relevant statistical methods, including percentages, arithmetic means, and standard deviations. The normality of the data distribution was rigorously assessed using both the Kolmogorov–Smirnov test and the Shapiro–Wilk test. Subsequently, a one-way ANOVA and t-test were used to conduct inter-group comparisons.

3. Results

In response to the first question, arithmetic means, standard deviations, and percentages were calculated for the teachers' responses on the questionnaire, assessing their perceptions of the obstacles to the adaptation of assessment and instructional materials in the curriculum provided to their students with learning disabilities. The responses were captured using a five-point Likert scale. To enable a meaningful interpretation of the findings, the researchers used the following method to specify the response level for the tool's two dimensions. Each response alternative was assigned a weight: Strongly Agree = 5, Agree = 4, Neutral = 3, Disagree = 2, and Strongly Disagree = 1. These responses were then classified into five equal-range levels: Very High (4.21–5.00), High (3.41–4.20), Moderate (2.61–3.40), Low (1.81–2.60), and Very Low (1.00–1.80). The full results for the first question are presented in Table 2.

Table 1: Demographic characteristics of the participants

Variable	Category	Frequency	Percentage
Gender	Male	141	47.2%
	Female	158	52.8%
	Total	299	100.0%
Years of expertise	Less than 5 years	87	29.1%
	5 to 10 years	86	28.8%
	More than 10 years	126	42.1%
	Total	299	100.0%
Educational qualification	Bachelor's Degree	206	68.9%
	Postgraduate Studies	93	31.1%
	Total	299	100.0%

Table 2: Descriptive statistics of teachers' responses to questionnaire items on obstacles to the adaptation of assessment and instructional materials

No.	Item	SA	A	N	D	SD	Mean	Std. deviation	Rank
First dimension: Obstacles related to assessment									
1	Alt. assessment methods	59	129	57	49	5	3.63	1.03	4
2	Cognitive assessment	52	133	72	39	3	3.64	0.95	3
3	Affective assessment	55	132	85	24	3	3.71	0.89	2
4	Skill assessment	52	124	81	37	5	3.61	0.97	5
5	Written & spoken tools	58	123	61	53	4	3.6	1.03	6
6	Validity & reliability	64	134	64	32	5	3.74	0.97	1
Second dimension: Obstacles related to instructional materials									
7	Tech availability	103	124	42	27	3	3.99	0.97	2
8	Material diversity	101	125	34	36	3	3.95	1.01	3
9	Tech development	98	114	50	32	5	3.9	1.03	4
10	Material selection	72	118	55	52	2	3.69	1.04	5
11	Material suitability	69	120	55	51	4	3.67	1.05	6
12	Time limitation	74	100	63	52	10	3.59	1.14	7
13	Internet/network quality	109	108	61	18	3	4.01	0.95	1

SA: Strongly agree; A: Agree; N: Neutral; D: Disagree; SD: Strongly disagree

Table 2 illustrates that, in terms of obstacles to the adaptation of assessment and instructional materials in the curriculum, the participants indicate a high level of perceived obstacles.

For the second question, a one-way ANOVA was performed, following confirmation of normality of distribution, to identify the significance of differences among more than two independent groups regarding the years of expertise variable. Furthermore, the t-test was used to identify the differences between two independent groups for the variables: educational qualification and gender. The results obtained from these analyses are shown in Table 3.

Table 3: One-way ANOVA results for differences in perceived obstacles based on years of teaching experience

Dimension	Source	Sum of squares	Degrees of freedom (df)	Mean square	F	p
Assessment adaptation	Between	20.56	2	10.28	20.55	< 0.001
	Within	148.13	296	0.50		
	Total	168.69	298			
Instructional materials	Between	10.79	2	5.40	11.55	< 0.001
	Within	138.24	296	0.47		
	Total	149.03	298			

Table 3 demonstrates that the F-values are statistically significant at the 0.01 level across the dimensions of obstacles related to assessment adaptation and obstacles related to instructional material adaptation. The significance level for these dimensions is calculated as 0.000. This suggests that there are statistically significant differences in the participants' responses regarding the obstacles to adaptation of assessment and instructional materials in the curriculum provided to students with learning disabilities across these dimensions, attributable to the varying years of expertise among the participants. The Scheffé post hoc comparison test was employed to determine the direction and source of the observed differences. Table 4 illustrates these findings.

Table 4: Scheffé post hoc comparisons of perceived obstacles across years of teaching experience

Dimension	Years of expertise	Arithmetic mean	Less than 5 years	5 to 10 years	More than 10 years	Difference in favor of
Assessment adaptation	Less than 5 years	3.97	-	-	*	Less than 5 years
	5 to 10 years	3.76	-	-	*	5 to 10 years
	More than 10 years	3.36	-	-	-	-
Instructional materials adaptation	Less than 5 years	4.00	-	-	*	Less than 5 years
	5 to 10 years	3.99	-	-	*	5 to 10 years
	More than 10 years	3.61	-	-	-	-

The symbol (*) indicates a statistically significant difference at the 0.05 significance level (α = 0.05), whereas (–) indicates no statistically significant difference between the means

Table 4 shows the existence of statistically significant differences at the 0.05 level. There are statistically significant differences in the obstacles to adaptation of assessment and instructional materials between teachers with more than ten years of experience and those with less than five years of experience, in favor of the group with less than five years of experience. Similarly, there are statistically significant differences between participants with five to ten years of experience and those with more than ten years of experience, in favor of the group with five to ten years of experience.

The t-test was used to determine the presence of statistically significant differences among the participants' responses regarding their perceptions of obstacles to the adaptation of assessment and instructional materials in the curriculum provided to their students, for the educational qualification variable. The results are detailed in Table 5.

As demonstrated in Table 5, the t-values are non-significant in both dimensions (obstacles related to assessment adaptation and obstacles related to instructional material adaptation). This suggests the absence of statistically significant differences among the study sample's responses, which is attributable to the difference in the sample individuals' educational qualifications. The t-test was used to determine any statistically significant differences in the participants' responses concerning obstacles to the adaptation of assessment and instructional materials in the curriculum according to the gender variable. The findings are summarized in Table 6.

Table 5: Independent samples t-test results for differences in perceived obstacles based on educational qualification

Dimension	Group	N	Mean	Std. deviation	t	df	p
Assessment adaptation	Bachelor	206	3.65	0.74	0.24	297	0.809
	Postgraduate	93	3.67	0.79			
Instructional materials	Bachelor	206	3.82	0.72	0.35	297	0.725
	Postgraduate	93	3.85	0.69			

Table 6 shows that the t-values are non-significant in both dimensions (obstacles related to assessment adaptation and obstacles related to instructional material adaptation). This suggests the absence of statistically significant differences among the study sample's responses, which is attributable to the difference in the participants' gender (male–female).

Table 6: Independent samples t-test results for differences in perceived obstacles based on gender

Dimension	Group	N	Mean	Std. deviation	t	df	p
Assessment adaptation	Male	141	3.63	0.77	0.49	297	0.623
	Female	158	3.67	0.74			
Instructional materials	Male	141	3.80	0.66	0.57	297	0.571
	Female	158	3.85	0.74			

4. Discussion

The aim of this study was to investigate teachers' perceptions of obstacles to the adaptation of assessment and instructional materials in the curriculum provided to students with learning disabilities. The statistical analysis related to the first question revealed that all teacher responses in the first dimension, obstacles related to assessment adaptation, have been rated as high (Agree). This indicates that teachers of students with learning disabilities are aware of the existence of these obstacles. Specifically, the respondents viewed all items within the first dimension as high-level obstacles.

Regarding the second dimension, obstacles related to instructional material adaptation,' all teacher responses yielded a high rating (Agree). This finding suggests that teachers of students with learning disabilities are acutely aware of these obstacles. Specifically, the respondents reported that every item included within this second dimension constituted a high-level obstacle.

The study findings demonstrate that the responses of teachers of students with learning disabilities were rated as high (Agree) across all questionnaire items. This clearly signifies that these teachers encounter a set of considerable obstacles when conducting assessments and utilizing instructional materials for students with learning disabilities. Accordingly, the discussion of the research findings was organized around a set of main themes, in line with the research questions and objectives, to present and analyze the results systematically and clearly.

4.1. First theme: Obstacles related to resource provision

The study results revealed several major obstacles facing schools in their efforts to provide appropriate instructional materials that help adapt curricula for students with learning disabilities. Among the most prominent of these obstacles is the limited capacity of schools to provide modern and diverse instructional materials, such as picture books and audiovisual media, which are essential for meeting the specific needs of these students. This deficiency is mainly due to insufficient budgets allocated to educational resources, as schools struggle to allocate the necessary funding to purchase or develop these materials in accordance with educational requirements. This leads to poor-quality materials, making it difficult to effectively adapt curricula to accommodate the individual differences among students with learning disabilities. Furthermore, the technological infrastructure in schools is another significant

obstacle. Weak or non-existent communication networks reduce opportunities to use digital and interactive educational tools, which play a fundamental role in supporting the education of students with disabilities. This lack of infrastructure limits teachers' ability to effectively utilize technology to facilitate lesson comprehension and motivate students. This aligns with the findings of a study by Dimiri and Sunday (2025), which confirmed that the absence of appropriate educational resources and interactive technology constitutes a major obstacle to achieving inclusion goals in mainstream education. The researchers indicate that providing these resources and technologies is crucial to ensuring that students' specific needs are met and that they succeed in the shared learning environment.

Research has also shown that implementing the principles of UDL faces challenges related to resource and infrastructure shortages, as well as the need for teacher training and institutional support for its effective application in inclusive education. This underscores the importance of developing resources and infrastructure to support the individual differences of students with learning disabilities (Priyadharsini and Mary, 2024).

4.2. Second theme: The role of professional support and experience in teachers' perception of challenges

Teachers face challenges in assessing the diverse aspects of students with disabilities, which are linked to several factors related to their professional knowledge and the practical environment in which they work. One of the most prominent factors is a lack of sufficient familiarity with specialized assessment methods, which negatively impacts the quality of assessment. Teachers' lack of knowledge of appropriate methods reduces their ability to accurately identify students' needs, thus hindering the effectiveness of educational interventions. This finding aligns with the results of several studies, such as Batool and Sultan (2024) and Kaur et al. (2016), which confirmed that a lack of specialized professional development is a major obstacle in this context. Furthermore, a lack of awareness regarding the pivotal role of assessment as a tool for improving educational outcomes means that some teachers may not fully grasp its potential to effectively guide the educational process. On the other hand, obstacles that limit teachers' ability to implement assessment effectively, such as time constraints imposed on class periods and overcrowded classrooms, pose significant challenges in allocating sufficient time for individual student assessment. Studies such as Alsolami and Vaughan (2023) and Batool and Sultan (2024) confirm that environmental and procedural factors reduce the effectiveness of assessment and affect the overall quality of the educational process. A teacher's lack of familiarity with individual differences and the varying educational levels of students with learning difficulties also impacts assessment effectiveness. This leads to the use of inappropriate assessment tools or inaccurate results, weakening the teacher's ability to respond appropriately to these results and improve the educational process, as further emphasized in Batool and Sultan's (2024) study.

The absence of ongoing and specialized professional development programs clearly limits teachers' ability to design and use instructional materials that meet the diverse needs of students. This lack of training negatively affects the quality of education in regular classrooms, as teachers find themselves ill-equipped with the necessary skills and strategies to address the wide range of student levels and educational needs. Consequently, providing an effective and inclusive learning environment that addresses individual differences and supports the holistic learning of all students becomes challenging. Research by Alsolami and Vaughan (2023) and Aldehami (2022) emphasized that the lack of experience among teachers of students with learning disabilities in adapting instructional materials presents a significant challenge. Teachers find it difficult to modify content to meet the diverse needs of these students, negatively impacting their comprehension and the achievement of educational objectives. Therefore, providing specialized training programs to enhance teachers' skills in this area is crucial.

Furthermore, administrative and teaching pressures, coupled with limited class time, reduce teachers' opportunities to prepare instructional materials in advance and effectively implement them during lessons, thus diminishing the chances of achieving positive learning outcomes. A study by Dimiri and Sunday (2025) confirmed that the absence of organizational and administrative support is a critical factor in the decline of teaching quality. This lack of support places additional burdens on teachers and limits their ability to implement effective teaching strategies, particularly in inclusive learning environments that require continuous adaptation and careful consideration of individual needs. Inclusive learning environments require trained teachers capable of implementing flexible and appropriate assessment methods that cater to the individual differences of students with learning disabilities. Administrative pressures and time constraints negatively impact teachers' ability to implement these methods.

The present study's results, regarding the questionnaire items addressing obstacles to the adaptation of assessment and instructional materials, demonstrate strong congruence with the findings of extensive preceding studies. Teachers' perceptions in these studies unanimously converge on the existence of multifaceted obstacles that directly inhibit the effective use of appropriate assessment methods and instructional materials in the curriculum in a way that is commensurate with the needs of students with disabilities. Specifically, the findings concerning the assessment dimension align directly with the conclusions drawn by Batool

and Sultan's (2024) study, while the outcomes for the instructional materials dimension are compatible with the study by Dimiri and Sunday (2025).

4.3. Third theme: The role of demographic variables in perceiving obstacles

The results showed statistically significant differences in the average responses of participants regarding the obstacles preventing the adaptation of assessment and instructional materials for students with learning disabilities, based on their years of experience. It was found that teachers with less than five years of experience perceived these obstacles as more severe and impactful compared to their colleagues with more than ten years of experience, in terms of obstacles to both adapting assessment and adapting instructional materials. This can be explained by the fact that less experienced teachers are still in the stages of professional development and may lack sufficient support and guidance, in addition to a scarcity of practical adaptation strategies to help them overcome these obstacles. They may also lack the practical skills related to assessment and adapting instructional materials to meet the needs of students with learning disabilities. This highlights the necessity of providing specialized training and ongoing professional support for new teachers to enhance their ability to effectively address the challenges related to adapting assessment and instructional materials.

The findings of this study are consistent with those of Alsolami and Vaughan (2023), which indicated that more experienced teachers rely on their accumulated experience to overcome obstacles related to assessment and instructional materials. In contrast, less experienced teachers perceive these obstacles more readily, negatively impacting the effectiveness of student assessment and the implementation of instructional materials.

The results indicate that there are no statistically significant differences in participants' responses regarding the obstacles related to assessment and instructional materials for students with learning disabilities based on educational qualification (bachelor's/postgraduate studies) or gender (male/female). This finding may be explained by the fact that both male and female teachers of students with learning disabilities work under comparable professional conditions, including access to similar training and development programs. Furthermore, the availability of educational resources and instructional materials tends to be distributed with relative parity across the schools, and the learning environments supporting these teachers are largely analogous. Given the standardized curriculum utilized for students with learning disabilities, the responsibilities necessitate equivalent effort from teachers of both genders in adapting assessment tools and instructional materials to effectively address students' needs. Collectively, these factors logically account for the absence of significant differences between groups. The results of the present study are consistent with those reported by Guillemot et al. (2022), who found no statistically significant differences based on the educational qualification variable and the absence of statistically significant differences based on the educational qualification variable. This suggests that educational qualifications do not influence the study outcomes.

The education system in Saudi Arabia is an integrated system encompassing ministries and educational institutions striving to develop education at all levels, with a growing focus on integrating students with disabilities into mainstream education, in line with the Kingdom's Vision 2030, which emphasizes promoting inclusive education. However, the education system faces numerous organizational and administrative challenges, including limited material and human resources, weak technological infrastructure, and a gap in the practical implementation of educational policies supporting inclusion (Aldousari, 2025).

Considering this overall picture, the research findings reflect significant obstacles related to adapting assessment and instructional materials for students with learning disabilities. These obstacles can be explained within this systemic context. Limited budgets and equipment, weak professional and training support, time constraints, and overcrowded classrooms are challenges rooted in the organizational structure of the education system. Therefore, the obstacles identified by teachers in this research are not individual or isolated challenges, but rather a direct reflection of the weakness of resources and institutional support within the Saudi education system. This hinders the effective implementation of assessment and educational materials that are compatible with the needs of students with learning disabilities.

5. Conclusion

Teachers' perceptions of obstacles to the adaptation of assessment and instructional materials in the curriculum provided to students with learning disabilities were rated highly (Agree) across all questionnaire items. Furthermore, the number of years of expertise was found to significantly influence these perceptions. Conversely, differences in educational qualifications and gender were not found to impact the teachers' adaptation of assessment and instructional materials in the curriculum, as both genders operate under the same circumstances and are provided with equivalent training.

This study adds to the pioneering research carried out in the Arab context and the Kingdom of Saudi Arabia to investigate the obstacles to the adaptation of assessment and instructional materials in the curriculum designed for students with learning disabilities. The adaptation of both assessment and instructional materials is considered a crucial factor in establishing an efficacious and inclusive education within the school setting, both for students with disabilities in general and those

with learning disabilities specifically. This adaptation is essential to meet the demand for a flexible curriculum that accommodates individual student differences and allows learners to achieve their maximum potential learning outcomes based on their special abilities. Given the contemporary educational trends emphasizing inclusive education and the principle of education for all, there is a growing imperative to develop and modify assessment and instructional materials in the curriculum so they are inherently adaptable and can promote the academic and social achievement of students with learning disabilities in Arab nations.

6. Recommendations

The study recommends the provision of specialized educational resources and appropriate technological infrastructure to support the adaptation of assessment and instructional materials for students with learning disabilities. The critical redesign of teacher training programs should incorporate more applied and practical components to help enhance the quality of assessment and instructional materials provided to students with learning disabilities, focusing on alternative assessment and the application of Universal Design for Learning (UDL) principles. The study further urges the provision of diverse instructional materials that adequately fulfil the needs of students with learning disabilities. It emphasizes the crucial role of school administrations in supporting the continuous availability and updating of these materials. Additionally, the study highlights the importance of reducing administrative burdens placed on teachers of students with learning disabilities, thereby enabling them to apply instructional materials more effectively in their classrooms. The study underscores the need for active teacher involvement in the development of assessment tools; moreover, a systematic evaluation of curricula should be carried out, ensuring that they are characterized by flexibility and suitability for all students.

Additional studies may be conducted utilizing a qualitative or mixed-methods approach to investigate these identified obstacles in greater depth and gain a richer, more profound understanding of teachers' perceptions directly within the Saudi Arabian context. Moreover, comparative studies are recommended, either between different regions of the Kingdom or across various educational stages.

7. Limitations

It is important to note that the study contains certain limitations that should be considered when interpreting its findings and evaluating their generalizability. These limitations include the specific educational policies and learning environment where the study was implemented, as this setting possesses distinct characteristics. The limitations also encompass the level of teacher preparation and their training programs, which could influence or mitigate potential obstacles. Furthermore, the instructional materials and their environmental congruence, particularly regarding language, may be another limitation. Therefore, it is recommended that future studies encompass a variety of educational contexts, considering that the variation in curricula across the Kingdom of Saudi Arabia may restrict the generalizability of the findings to other educational settings.

List of abbreviations

A	Agree
Alt.	Alternative
ANOVA	Analysis of variance
D	Disagree
df	Degrees of freedom
F	F-statistic
N	Neutral
p	Probability value (significance level)
SA	Strongly agree
SD	Strongly disagree
SPSS	Statistical package for the social sciences
Std. deviation	Standard deviation
UDL	Universal design for learning
α	Alpha level (significance threshold)

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Compliance with ethical standards

Ethical considerations

Ethical approval for this study was obtained from the Ethics Committee at Imam Mohammad Ibn Saud Islamic University (Approval No. 638623681656319867). All participants provided their written informed consent prior to participation in the study.

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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