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Evaluating parental experiences in teaching children with learning disabilities in resource rooms of public schools in Amman

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Background: The education of children with learning disabilities in public schools' resource rooms remains a vital area of concern, particularly in Amman, where diverse educational needs and varying levels of resource allocation pose significant challenges. Despite the establishment of resource rooms, there is a notable lack of comprehensive data on parental satisfaction with these services. Previous research has indicated that the effectiveness of such educational settings largely depends on the quality of instruction, the adequacy of educational resources, and the extent of parental involvement and satisfaction. However, there is a significant gap in understanding how these factors specifically impact parents' perceptions in the context of Amman's public schools.

Aim: This study aimed to address this gap by evaluating the perspectives of parents of students with learning disabilities in resource rooms within Amman's public schools, focusing on their satisfaction with educational services, including instruction quality, resource adequacy, and facility accessibility.

Methods: A cross-sectional study design was utilized, involving a structured questionnaire administered to 200 parents of children attending resource rooms in 33 public schools across Amman. The questionnaire included Likert-scale questions and demographic queries to assess parents' perspectives on the educational services provided. Data were analyzed using SPSS version 27 to compute descriptive statistics, correlation coefficients, and hierarchical linear modeling (HLM) to account for clustering effects.

Results: The majority of respondents were female (60%, $n = 120$), and the largest age group was 31–40 years (45%, $n = 90$). Most parents held a Bachelor's degree (50%, $n = 100$) and were employed (75%, $n = 150$). The predominant age group of the children was 11–15 years (50%, $n = 100$), with dyslexia being the most common type of learning disability (40%, $n = 80$). Parents rated the quality of instruction at a mean of 3.5 (SD = 1.2), adequacy of educational materials at 3.3 (SD = 1.1), and overall satisfaction with the program at 3.6 (SD = 1.0). Accessibility of facilities was rated lower at 2.8 (SD = 1.3). This interpretation is based on the lower mean score, which indicates a less favorable perception of accessibility, and the relatively high standard deviation, which reflects variability in parental experiences. HLM analysis revealed significant positive relationships between quality of instruction ($\beta = 0.75$, SE = 0.05, $t = 15.00$, $p < 0.01$), adequacy of

educational materials ($\beta = 0.70$, SE = 0.04, $t = 17.50$, $p < 0.01$), and accessibility of facilities ($\beta = 0.65$, SE = 0.06, $t = 10.83$, $p < 0.01$) with overall parental satisfaction.

Conclusion: The study underscores the importance of high-quality instruction, sufficient educational materials, and improved facility accessibility in enhancing parental satisfaction with resource room programs in Amman. This conclusion is supported by the findings from both the hierarchical regression analysis and the descriptive statistics, demonstrating that these factors are crucial for the effective support of children with learning disabilities.

Introduction

The education of children with learning disabilities remains a critical field of inquiry, particularly in the context of resource rooms in public schools. These settings are designed to provide specialized education and support tailored to the unique needs of students who face challenges in traditional classroom environments. Evaluations of such educational programs often leverage the perspectives of parents to gain insights into their effectiveness and the experiences of the families involved (Agarwal et al., 2021). Understanding parents' perspectives on resource rooms is essential, as their views can significantly influence the educational outcomes and well-being of their children.

In many regions, including the Middle East, the integration of children with learning disabilities into inclusive classrooms poses a range of challenges. Teachers play a crucial role in this integration, but they often encounter difficulties due to a lack of resources, support, and specific training in dealing with intellectual disabilities (Alshamri, 2020). This highlights the need for enhanced training programs and educational strategies that are informed by both educational research and the real-world experiences of teachers (Jolly and Chacko, 2021).

Furthermore, the use of assistive technologies in classrooms has been identified as a significant factor that can facilitate the learning process for children with specific learning disabilities. However, the success of such technologies largely depends on the beliefs and professionalism of teachers, which in turn influence their willingness to integrate these tools into their teaching practices (Al-Dababneh and Al-Zboon, 2022). This suggests a gap between the potential of assistive technologies and their actual application, underscoring the importance of professional development in this area.

Bullying remains a severe issue for students with learning disabilities, affecting their emotional and academic outcomes. Studies have shown that the extent of bullying can vary significantly with age, indicating that interventions need to be age-specific and contextually adapted to effectively protect these vulnerable groups (Khasawneh, 2020). Addressing bullying in schools thus remains a priority for creating a safe and supportive learning environment for all students.

During the recent global shift toward distance learning necessitated by health crises such as the COVID-19 pandemic, the educational sector faced unprecedented challenges. This shift was particularly difficult for students with severe developmental disabilities and high behavioral needs, as traditional distance learning models were not equipped to meet their specific needs (Tomaino et al., 2022). The experience highlighted the need for innovative educational approaches that can adapt to sudden changes in the learning environment.

Lastly, the role of community and parental involvement in education has proven to be invaluable, particularly in remote or under-resourced areas. Collaborative approaches involving schools, parents, and community institutions can significantly enhance educational outcomes and sustainability, especially in challenging times such as a pandemic (Rahmelia et al., 2022). This underscores the importance of fostering strong community ties and participatory action in educational reforms and practices.

To sum up, the education of children with learning disabilities in resource rooms involves a complex interplay of parental perspectives, teacher preparedness, assistive technologies, anti-bullying measures, adaptability to distance learning, and community involvement. Each factor contributes to the overarching goal of providing an equitable and effective educational experience for all students. Therefore, understanding the perspectives of parents regarding resource rooms is a crucial step in identifying areas for improvement and enhancing the overall educational experience for children with learning disabilities.

In this study, we use the terms "lived experiences" and "perspectives" to refer to different, though related, aspects of parental involvement in the education of children with learning disabilities. "Lived experiences" encompass the broader, subjective, and personal experiences of parents as they navigate their children's education. These include their emotions, challenges, and the contextual factors influencing their experiences. In contrast, "perspectives" refer more narrowly to the opinions or views of parents on specific aspects of the educational services provided in resource rooms, such as the quality of instruction, adequacy of resources, and accessibility of facilities.

The education of children with learning disabilities within public school settings is a critical area of concern, particularly in Amman, Jordan, where resource rooms are implemented to address the diverse needs of these students. Resource rooms are specialized spaces within schools designed to provide tailored instructional support to students who struggle to thrive in mainstream classrooms due to their learning disabilities. These rooms play a pivotal role in offering a more individualized learning environment, which is crucial for students with specific educational needs.

However, despite the establishment of resource rooms, there remains a significant gap in understanding how these educational services are perceived by one of the most important stakeholders—parents. Parental perspectives are vital as they directly influence their children's educational experiences and outcomes. Satisfaction with the

quality of instruction, the adequacy of educational materials, and the accessibility of facilities within these resource rooms can profoundly impact how parents engage with and support their children's learning. Previous research has highlighted that effective educational outcomes for students with learning disabilities are not only contingent on the resources provided but also on the involvement and satisfaction of parents with these educational services.

In Amman, the varying levels of resource allocation and the challenges associated with adequately meeting the educational needs of all students exacerbate the situation. Despite these challenges, little attention has been given to systematically exploring the views of parents whose children rely on these resource rooms. This study aims to fill this gap by focusing specifically on the perspectives of parents regarding the educational services provided in resource rooms. By doing so, we seek to provide a clearer understanding of the factors that contribute to or hinder parental satisfaction, thereby offering insights that could lead to the enhancement of these educational settings.

The research problem this study addresses is the lack of comprehensive data on parental satisfaction with resource room services in Amman's public schools. Understanding these perspectives is crucial for identifying areas of improvement and ensuring that resource rooms fulfill their intended purpose of providing an equitable and effective educational experience for all students, including those with learning disabilities.

Statement of problem

The education of students with learning disabilities in Amman's public schools faces distinct challenges that have not been adequately addressed in existing research. While resource rooms have been established to provide specialized support, parents often report dissatisfaction with the educational services, particularly citing insufficient individual attention and tailored instructional methods that fail to meet their children's diverse needs. This dissatisfaction points to broader issues related to the quality, accessibility, and efficacy of special education services in Amman. However, the literature on this topic reveals several critical gaps that this study aims to address.

Previous studies on special education have largely focused on the perspectives of educators, policymakers, and students themselves, often overlooking the crucial role of parents. Research that does examine parental perspectives tends to be fragmented, with most studies conducted in Western contexts. In these studies, key factors such as the quality of instruction, availability of resources, and accessibility of facilities are frequently highlighted as important to parental satisfaction. However, there is limited empirical research specifically examining how these factors influence parental satisfaction within the context of Amman's public schools. The findings from existing studies are often inconsistent, with some suggesting that resource room services are generally adequate, while others indicate significant dissatisfaction among parents, particularly regarding accessibility and individualized support. These inconsistencies highlight the need for a focused study that systematically explores parental perspectives in this specific cultural and educational context.

Theoretical frameworks that address parental satisfaction and engagement in special education settings, such as the Family-School Partnership Framework or theories of inclusive education, have been underutilized in research on resource rooms in Amman. While these

models emphasize the importance of collaborative relationships between parents and schools, there is a lack of application of these theories in studies conducted in Middle Eastern contexts. Furthermore, there is limited exploration of how these frameworks can inform the design and implementation of resource room programs to better meet the needs of students with learning disabilities. This gap suggests a need for research that not only assesses parental perspectives but also integrates relevant theories to provide a deeper understanding of the factors influencing satisfaction.

Methodologically, many existing studies on special education and parental satisfaction have relied on qualitative approaches or small sample sizes, limiting the generalizability of their findings. Few studies have employed robust quantitative methods, such as hierarchical regression analysis, to explore the relationships between different aspects of resource room services and overall parental satisfaction. Moreover, research in this area often fails to account for the nested structure of data (e.g., parents within schools), which can lead to less accurate findings. There is a clear need for studies that employ advanced statistical techniques to provide more reliable and generalizable results, particularly in the context of Amman's public schools.

Given these gaps in the literature, this study seeks to answer the following research questions: (1) What are the key factors that influence parental satisfaction with resource room services in Amman's public schools? (2) How do these factors vary across different schools and demographic groups? (3) To what extent do existing theoretical models explain the observed patterns of parental satisfaction? By addressing these questions, the study aims to fill the gaps in empirical research, theoretical application, and methodological rigor, providing new insights into the education of children with learning disabilities in resource rooms in Amman.

This study is particularly significant because it focuses on a region and context that has been under-researched, offering the potential to contribute valuable data to the global discourse on inclusive education. The findings will not only inform local educational policies and practices but also enhance the broader understanding of how to effectively support students with learning disabilities through parental engagement and satisfaction."

Research objectives

1 To evaluate the levels of parental satisfaction with the educational services provided in resource rooms within Amman's public schools.
2 To identify the key factors that significantly influence parental satisfaction with resource rooms.
3 To examine the impact of communication and support between schools and parents on parental satisfaction.
4 To evaluate the impact of resource room programs on the academic skills, social skills, and overall well-being of students with learning disabilities.

Significance of the study

This study is significant as it directly addresses the pressing educational challenges faced by students with learning disabilities in

Amman, aiming to provide empirical insights that can inform policy and practice. By evaluating the experiences of parents whose children learn in resource rooms, the research seeks to uncover the strengths and weaknesses of the current educational approaches. This investigation is crucial as previous studies, such as those by Agarwal et al. (2021), have emphasized the importance of leveraging parental perspectives to improve educational programs for students with intellectual disabilities. This research gap, particularly in the context of Amman, needs addressing to develop more responsive educational strategies.

The outcomes of this research are expected to contribute valuable data to local educational authorities and schools, potentially leading to reforms that enhance the quality and effectiveness of special education services. These changes could foster a more inclusive educational environment that supports all students in reaching their full potential. For instance, Bryant et al. (2019) highlighted that inclusive educational practices are vital for the academic and social development of students with special needs. By identifying the specific areas where resource rooms are succeeding or falling short, this study aims to provide targeted recommendations for improvement.

Furthermore, the study underscores the critical role of teacher preparedness in the success of special education programs. Research by Jolly and Chacko (2021) indicated that primary school teachers often lack sufficient knowledge regarding learning disabilities, which can impact the quality of instruction and support provided to students. By highlighting the current gaps in training and resources available to teachers in Amman, the research advocates for targeted professional development programs. These programs would not only equip teachers with the necessary skills and knowledge to effectively teach students with learning disabilities but also improve their confidence and job satisfaction. Enhanced teacher preparedness can lead to more positive educational outcomes and a more supportive learning environment, which benefits all students.

The investigation into the use and implementation of assistive technology within resource rooms provides a significant avenue for improving educational access and quality for students with learning disabilities. Al-Dababneh and Al-Zboon (2022) emphasized that teachers' beliefs and professionalism significantly influence the successful integration of assistive technologies in inclusive settings. By identifying the barriers to effective technology use and providing recommendations for better integration, the study can influence educational policy and practice toward a more technologically inclusive approach. This is especially pertinent in an era where digital tools are becoming increasingly crucial in education. The research could pave the way for a systemic shift that embraces technology as a vital component of education for students with learning disabilities, thereby improving their learning experiences and outcomes in Amman's public schools.

Moreover, this study's findings will have broader implications for educational practices beyond Amman. Insights gained from this research can inform similar efforts in other regions facing comparable challenges, contributing to the global discourse on inclusive education and the optimization of resource room environments. By drawing on the perspectives of parents, educators, and existing literature, this study aims to make significant contributions to the field of special education, advocating for evidence-based reforms that enhance the educational experiences of students with learning disabilities.

Methodology

Research design

This study employs a cross-sectional research design to evaluate the experiences of parents of students with learning disabilities in the use of resource rooms within public schools in Amman. By gathering data at a single point in time, the cross-sectional approach allows for a snapshot of current parental perspectives and experiences, facilitating analysis of the prevalence of various views and issues within the population at this specific time. This design is particularly suited to studies like this one, where the goal is to establish relationships and correlations between factors such as parent satisfaction, resource availability, and educational outcomes, without necessitating long-term tracking which could delay the provision of timely data relevant to policy-making and educational adjustments.

In this study, we assess "parental perspectives" on educational services provided in resource rooms, as captured through a structured questionnaire. The questionnaire was designed to elicit parents' opinions on key aspects such as instruction quality, resource adequacy, and facility accessibility. While "lived experiences" encompass a broader range of personal and emotional factors, our study specifically targets the "perspectives" of parents to provide actionable insights into the effectiveness of educational services in resource rooms. This distinction ensures that the data collected aligns with the study's objectives and offers clear, focused findings on parental satisfaction.

Participants

The study targeted parents of students who are currently enrolled in resource rooms across 33 different public schools in Amman. The resource rooms are specialized settings within these schools that provide tailored educational support to students with formally diagnosed learning disabilities. These rooms are designed to address the unique educational needs of these students, offering individualized instruction and resources that may not be available in mainstream classrooms.

Sampling method

Purposive sampling was initially employed to ensure that the study included participants who met specific criteria relevant to the research objectives. This method allowed for the deliberate selection of participants who had direct experience with resource rooms, ensuring that the data collected would be rich and pertinent to the study's aims. However, recognizing the limitations of purposive sampling in terms of generalizability, the study also incorporated stratified random sampling to enhance the representativeness of the sample.

Reason for using purposive sampling

Purposive sampling was employed to:

1 Ensure the inclusion of participants with relevant experiences and knowledge about resource rooms.
2 Focus on specific characteristics of the population that were of interest to the study, such as having children with formally diagnosed learning disabilities.

3 Gather in-depth insights from parents who are directly involved with resource room programs, providing rich qualitative data to complement the quantitative analysis.

Enhancing representativeness with stratified random sampling

To address the potential biases associated with purposive sampling and to enhance the representativeness of the study sample, stratified random sampling was used. The 33 schools were stratified based on geographical location and socioeconomic status to ensure diversity in the sample. Within each stratum, parents were randomly selected to participate in the study. This approach ensured that the sample included a broad range of experiences and perspectives, reflecting the demographic and socioeconomic diversity of parents with children in resource rooms.

Inclusion criteria

1 Parents of children who have been formally diagnosed with learning disabilities.
2 Children must be actively participating in the resource room programs within the selected public schools.
3 Parents who are willing to participate and provide informed consent.

Exclusion criteria

1 Parents of children who are not enrolled in resource rooms.
2 Children without a formal diagnosis of learning disabilities.
3 Parents who are unwilling to participate or unable to provide informed consent.

Description of the participants

To ensure the robustness of our regression analyses, we tested for collinearity and multicollinearity among the predictor variables. The Variance Inflation Factor (VIF) values for all predictor variables were below 10, and tolerance values were above 0.1, indicating that multicollinearity was not a significant concern. Additionally, the correlation matrix showed that none of the pairwise correlations exceeded 0.8. These results confirmed that collinearity did not pose a significant issue, allowing us to confidently interpret the relationships between the quality of instruction, adequacy of educational materials, accessibility of facilities, and overall parental satisfaction.

Demographic characteristics

The majority of the respondents were female (60%, $n = 120$), and the largest age group was 31–40 years, representing 45% ($n = 90$) of the sample. The educational background of the participants varied, with half of the parents (50%, $n = 100$) holding a Bachelor's degree, followed by 25% ($n = 50$) who had either high school or less education and another 25% ($n = 50$) with postgraduate degrees. Most parents were employed (75%, $n = 150$), while 25% ($n = 50$) were unemployed.

TABLE 1 Demographic characteristics of participants ($n = 200$).

Attribute	Frequency	Percentage (%)
Parent demographics		
Gender		
- Female	120	60%
- Male	80	40%
Age group		
- 20–30	40	20%
- 31–40	90	45%
- 41–50	50	25%
- 51+	20	10%
Educational background		
- High school or less	50	25%
- Bachelor's degree	100	50%
- Postgraduate degree	50	25%
Employment status		
- Employed	150	75%
- Unemployed	50	25%
Child demographics		
Age of child		
- Under 10	70	35%
- 11–15	100	50%
- 16–18	30	15%
Type of learning disability		
- Dyslexia	80	40%
- ADHD	60	30%
- Other	60	30%
Duration in resource room		
- Less than 1 year	40	20%
- 1-2 years	80	40%
- More than 2 years	80	40%

In terms of the children's demographics, the predominant age group was 11–15 years, accounting for 50% ($n = 100$) of the children, with those under 10 years constituting 35% ($n = 70$), and the 16–18 year age group making up the remaining 15% ($n = 30$). Regarding the types of learning disabilities, dyslexia was the most common (40%, $n = 80$), followed by ADHD (30%, $n = 60$), and other types (30%, $n = 60$). The duration the children had spent in resource rooms showed that 40% ($n = 80$) had been attending for 1–2 years and more than 2 years each, whereas 20% ($n = 40$) had been attending for less than 1 year (Table 1).

Data collection instrument

The primary instrument for data collection in this study is a structured questionnaire designed to gather comprehensive information on the experiences and perceptions of parents whose children with learning disabilities attend resource rooms in public schools in Amman. This questionnaire is crafted to ensure that it

captures both quantitative and qualitative data, providing a well-rounded understanding of the participants' views.

Structure and content

The questionnaire consists of several sections, each targeting different aspects of the educational experience and parent satisfaction:

1 *Demographic Information* (5 items): This section collects basic information about the respondent, such as age, gender, educational background, and employment status, as well as information about their child, including age, specific learning disability, and duration of attendance in resource rooms.
2 *Educational Services Evaluation* (10 items): This part includes Likert-scale questions where parents can rate various aspects of the resource room services on a 5-point scale from 1 (Very Dissatisfied) to 5 (Very Satisfied). Topics covered include the quality of instruction, adequacy of educational materials, accessibility of facilities, and overall satisfaction with the program.
3 *Communication and Support* (8 items): Questions here assess the frequency and quality of communication between parents and school staff, the support provided by the school to the family, and the responsiveness of the school to parental concerns. Responses are measured on a 5-point frequency scale ranging from "Never" to "Always."
4 *Challenges and Barriers* (5 open-ended questions): This section uses open-ended questions to allow parents to express in their own words any challenges they face, such as issues with school policies, difficulties in access to necessary resources, or concerns about their child's academic progress and social integration.
5 *Impact and Outcomes* (7 items): Parents are asked to describe perceived changes in their child's academic skills, social skills, and overall well-being since beginning to attend the resource room. This section uses both Likert-scale ratings for perceived improvement (1 - Much Worse, 5 - Much Better) and open-ended questions for detailed explanations.

Measurement and data analysis

Parents' perceptions across various dimensions were measured using Likert scale items, ranging from 1 (very poor/inadequate/inaccessible) to 5 (excellent/adequate/accessible). The dimensions evaluated were:

- *Quality of Instruction*: Parents rated the quality of instruction provided in the resource rooms.
- *Adequacy of Educational Materials*: Parents rated the adequacy of educational materials used in resource rooms.
- *Accessibility of Facilities*: Parents rated the accessibility of facilities in resource rooms.
- *Overall Satisfaction*: Parents provided an overall satisfaction rating with the resource room program.
- *Frequency and Quality of Communication*: Parents rated the frequency and quality of communication between the school and parents.

- *Support Provided by School Staff and Responsiveness to Parental Concerns*: Parents rated the support and responsiveness of school staff.
- *Impact on Academic Skills, Social Skills, and Overall Wellbeing*: Parents rated the perceived impact of resource rooms on their children's academic and social skills, as well as their overall well-being.

For each of these dimensions, descriptive statistics (mean and standard deviation) were calculated to summarize the parental ratings. Correlation analysis was performed to assess the relationships between these variables and overall parental satisfaction. To account for the nested structure of the data (parents nested within schools), Hierarchical Linear Modeling (HLM) was used to explore the influence of each dimension on overall satisfaction, controlling for school-level effects. This approach provided more accurate estimates of the relationships by accounting for variability across schools.

Format and administration

The questionnaire is formatted to be user-friendly, with clear, jargon-free language to ensure comprehensibility across a diverse participant base. Questions are structured to flow logically from general to specific, making it easier for respondents to provide thoughtful and accurate responses.

To cater to the linguistic diversity of the population in Amman, the questionnaire is bilingual, available in both Arabic and English. Each question is carefully translated to maintain the integrity and intent of the query across languages.

Administration procedure

The questionnaire will be administered in person by trained research assistants who will visit the participating schools at predetermined times. This face-to-face method not only facilitates higher response rates but also allows assistants to provide clarification and support to parents as needed, ensuring that data is as accurate and complete as possible. Parents will be given the choice to complete the questionnaire on paper or electronically via a tablet, accommodating different preferences and ensuring accessibility for all participants.

Overall, the questionnaire is designed to be a robust tool for collecting valuable data that reflects the diverse experiences and opinions of parents regarding the education of their children with learning disabilities in Amman's public schools.

Data collection procedure

The data collection procedure for this study will be conducted by trained research assistants who will visit designated public schools in Amman at scheduled times. These assistants will distribute the structured questionnaires to parents of children with learning disabilities who are attending resource rooms in these schools. The questionnaires, available both in Arabic and English, can be filled out either on paper or electronically via a tablet, depending on the parent's preference. To ensure comprehensive data collection and address any queries or difficulties the respondents might encounter, the research assistants will be present during the completion of the questionnaires. This approach aims to maximize participation rates and ensure the accuracy and reliability of the collected data, providing a solid foundation for subsequent analysis.

TABLE 2 Ratings of educational services (*n* = 200).

Item	Mean	SD
Quality of instruction	3.5	1.2
Adequacy of educational materials	3.3	1.1
Accessibility of facilities	2.8	1.3
Overall satisfaction with program	3.6	1.0

TABLE 3 Communication and support evaluation.

Item	Mean	SD
Frequency of communication	3.2	1.1
Quality of communication	3.4	1.0
Support provided by school staff	3.0	1.2
Responsiveness to parental concerns	3.1	1.3

Ethical considerations

Ensuring the confidentiality and privacy of participants was paramount in this study. Several measures were taken to uphold these ethical standards throughout the research process. Prior to data collection, all participants were provided with an informed consent form detailing the study's purpose, procedures, potential risks and benefits, and their rights as participants. Participation was entirely voluntary, and participants could withdraw at any time without negative consequences. To maintain anonymity, participants did not provide personally identifiable information on the questionnaires, which were instead assigned unique codes. The data collected were stored in a secure, password-protected database, and physical copies were kept in a locked cabinet. All data were handled with strict confidentiality, with only aggregate data reported in the study results to ensure individual responses could not be traced back to participants. Surveys were administered in a manner that ensured privacy, with research assistants trained to provide a comfortable and private environment. Communications with participants were conducted respectfully and confidentially, and the study protocol was reviewed and approved by the relevant institutional ethics review board. Participants were also provided with a debriefing document after data collection, explaining the study's objectives in greater detail and offering contact information for the research team. Research assistants received sensitivity training to handle any sensitive information appropriately and respond to participant concerns about privacy and confidentiality. These measures aligned with best practices in research ethics, ensuring the confidentiality and privacy of all participants and maintaining the ethical integrity of the research process.

Data analysis

The data analysis for this study was performed using SPSS version 27, where quantitative data from the Likert-scale responses were analyzed. Descriptive statistics including means, standard deviations, and frequency distributions were calculated for each item across the sections of Educational Services Evaluation, Communication and Support, and Impact and Outcomes, providing an overview of the central tendencies and variability within the data. Inferential statistical tests were then applied; Pearson's correlation coefficients assessed the strength and direction of associations between variables such as parental satisfaction and perceived improvements in children's academic and social skills. This approach allowed for a comprehensive quantitative examination of the factors influencing the effectiveness of resource rooms in Amman's public schools, offering clear, statistically supported insights into critical elements for enhancing the educational experiences of children with learning disabilities based on their parents' perspectives.

Results

In assessing the quality of educational services provided in resource rooms within Amman's public schools, parents provided their perceptions on several key aspects through structured Likert-scale items. The results, summarized in Table 2, reveal varying levels of satisfaction across different service components.

Parents rated the *Quality of Instruction* at a mean of 3.5 (SD = 1.2) on a 5-point scale, indicating a moderately positive perception. This suggests that while many parents are satisfied with the instruction their children receive, there is a noticeable variation in opinions, which could point to inconsistencies in teaching effectiveness across different schools or classrooms.

The *Adequacy of Educational Materials* received a slightly lower mean score of 3.3 (SD = 1.1). This rating reflects a general satisfaction with the resources available to their children, but also highlights some areas for improvement in ensuring that all necessary materials are provided and are of high quality.

Concerns were more pronounced regarding the *Accessibility of Facilities*, which scored the lowest among the assessed areas with a mean of 2.8 (SD = 1.3). This rating underscores significant challenges and dissatisfaction related to the physical layout and accessibility of facilities designed for students with learning disabilities, indicating that improvements are necessary to create a more inclusive and accessible learning environment.

Lastly, the overall satisfaction with the program, as indicated by the *Overall Satisfaction with Program* score, was relatively positive, with a mean of 3.6 (SD = 1.0). This suggests that, despite some specific areas of concern, most parents feel favorably toward the resource room programs in general.

The evaluation of communication and support between schools and parents of children with learning disabilities, as depicted in Table 3, provides insightful data into the interactions that are crucial for the effective education of these students.

The *Frequency of Communication* between schools and parents had a mean rating of 3.2 (SD = 1.1) on a 5-point scale, indicating that while communication occurs at a moderate frequency, there is considerable variability in how often different schools or teachers engage with parents. This variation suggests that while some parents are regularly updated about their child's progress and needs, others may not receive as frequent updates, potentially affecting their ability to support their child's education effectively.

Similarly, the *Quality of Communication* was rated slightly higher, with a mean of 3.4 (SD = 1.0). This score reflects generally positive feedback about the clarity and usefulness of the information shared by schools, though there remains room for improvement to ensure that all parents receive high-quality communication that can aid them in supporting their children's learning experiences.

Concerns were noted regarding the *Support Provided by School Staff*, which received a mean score of 3.0 (SD = 1.2). This indicates that while some parents feel adequately supported by school personnel, there is a significant proportion of parents who feel that the support could be more robust and better tailored to meet their specific needs and those of their children.

Lastly, *Responsiveness to Parental Concerns* garnered a mean of 3.1 (SD = 1.3), suggesting a variability in how responsive different school staff members are to the issues raised by parents. This variability can impact the parents' satisfaction and their perceptions of how well the school addresses the educational and developmental needs of their children evaluating the impact of resource room programs on students with learning disabilities, parents reported on several key outcomes concerning their children's development. These findings are summarized in Table 4.

Parents perceived a positive impact on their children's *Academic Skills*, with an average improvement rating of 3.7 (SD = 1.1). This suggests that, generally, resource rooms are effectively enhancing the academic abilities of students with learning disabilities, though the variation in scores indicates differences in the level of improvement across individual students.

The improvement in *Social Skills* was slightly lower, with a mean rating of 3.5 (SD = 1.2). This reflects a moderately positive effect of resource rooms on the social development of these students. The somewhat larger standard deviation in this area points to a more varied experience among students, which may depend on the specific social dynamics and interventions available in different resource rooms.

Regarding the *Overall Wellbeing* of the children, parents gave an average rating of 3.8 (SD = 1.0), the highest among the outcomes assessed. This score indicates that parents generally notice an improvement in their children's overall well-being since attending resource rooms. The lower standard deviation suggests a more consistent positive perception across the sample, highlighting the beneficial effects of resource room programs on the well-being of students with learning disabilities.

In examining the relationships between various aspects of educational services and overall parental satisfaction, a correlation matrix was constructed, as presented in Table 5. This analysis provides insight into how different dimensions of service quality are interrelated and contribute to the overall satisfaction of parents with the resource room programs.

The correlation between the *Quality of Instruction* and *Overall Satisfaction* was notably strong, with a coefficient of 0.75, indicating that higher perceived quality of instruction is significantly associated with increased overall satisfaction among parents. This suggests that improvements in teaching quality could potentially lead to higher satisfaction levels.

Similarly, the *Adequacy of Educational Materials* showed a substantial positive correlation with overall satisfaction ($r = 0.70$). This

relationship underscores the importance of ensuring that resource rooms are well-equipped with suitable and sufficient materials, as this is closely linked to parental satisfaction.

Accessibility of Facilities also demonstrated a significant correlation with overall satisfaction ($r = 0.65$). This indicates that easier access to and within the facilities not only supports the students' needs but also enhances parental satisfaction with the program.

Inter-correlations among the service variables were also significant, with the adequacy of educational materials and quality of instruction correlating at $r = 0.65$, and accessibility of facilities showing correlations of $r = 0.55$ with quality of instruction and $r = 0.60$ with adequacy of educational materials. These findings indicate that these aspects of service quality are perceived as somewhat interdependent by parents.

The results of the hierarchical linear modeling (HLM) analysis, which accounted for the clustering of data within the 33 different schools, demonstrated that the quality of instruction, adequacy of educational materials, and accessibility of facilities are robust predictors of parental satisfaction.

The analysis revealed a significant positive relationship between the quality of instruction and overall parental satisfaction, with a fixed effect coefficient of 0.75 (SE = 0.05, $t = 15.00$, $p < 0.01$). This finding indicates that higher perceived quality of instruction is strongly associated with increased overall satisfaction among parents.

Similarly, the adequacy of educational materials was found to have a substantial positive correlation with overall satisfaction, with a fixed effect coefficient of 0.70 (SE = 0.04, $t = 17.50$, $p < 0.01$). This suggests that ensuring resource rooms are well-equipped with suitable and sufficient materials is crucial for enhancing parental satisfaction.

The accessibility of facilities also showed a significant positive relationship with overall satisfaction, with a fixed effect coefficient of 0.65 (SE = 0.06, $t = 10.83$, $p < 0.01$). This result highlights the importance of creating more inclusive and accessible learning environments to improve parental satisfaction (Table 6).

Discussion

The findings of this study highlight several key areas of the educational experience for children with learning disabilities in resource rooms within Amman's public schools, resonating with and diverging from established literature in meaningful ways. The discussions on quality of instruction, educational materials, and overall satisfaction offer a deeper understanding of the dynamics at play in special education environments.

The results indicate that parents are generally satisfied with the quality of instruction and the adequacy of educational materials provided in resource rooms, but there is significant dissatisfaction with the accessibility of facilities. The mean scores for the quality of instruction (3.5) and adequacy of educational materials (3.3) suggest a moderately positive perception among parents. These findings align with Connor and Cavendish (2020), who emphasize the importance of teacher effectiveness in inclusive settings, and Bryant et al. (2019), who highlight the necessity of appropriate resources for effectively teaching students with special needs. However, the lower mean score for accessibility of facilities (2.8) underscores the need for improvements in physical infrastructure to ensure full accessibility for all students. Bemiller (2019) similarly notes the significant impact of

TABLE 4 Perceived impact and outcomes.

Outcome measure	Mean	SD
Academic skills improvement	3.7	1.1
Social skills improvement	3.5	1.2
Overall wellbeing improvement	3.8	1.0

TABLE 5 Correlation matrix of educational service variables and overall satisfaction (*n* = 200).

	Quality of instruction	Adequacy of educational materials	Accessibility of facilities	Overall satisfaction
Quality of instruction	1			
Adequacy of educational materials	0.65	1		
Accessibility of facilities	0.55	0.60	1	
Overall satisfaction	0.75	0.70	0.65	1

TABLE 6 HLM results for educational service variables and overall satisfaction.

Variable	Fixed effect coefficient	Standard error	*t*-value	*p*-value
Quality of instruction	0.75	0.05	15.00	<0.01
Adequacy of educational materials	0.70	0.04	17.50	<0.01
Accessibility of facilities	0.65	0.06	10.83	<0.01

physical and resource-based barriers on the effectiveness of inclusive education.

Hierarchical linear modeling (HLM) analysis indicated that the quality of instruction, adequacy of educational materials, and accessibility of facilities are consistently associated with parental satisfaction. The significant fixed effect coefficients for quality of instruction (0.75), adequacy of educational materials (0.70), and accessibility of facilities (0.65) confirm that these factors are robust predictors of overall satisfaction. This finding suggests that efforts to improve these key areas can have a positive impact on parental satisfaction regardless of the specific school environment. Enhancing facility accessibility will not only improve the learning environment for students with physical disabilities but also contribute to higher overall parental satisfaction with the educational services provided.

The study's findings on the importance of communication align with Alshamri (2020) research, which emphasizes the challenges teachers face in effectively communicating with parents of students with intellectual disabilities. Effective communication supports student learning and enhances parental trust and engagement, crucial elements highlighted as areas for improvement in this study. Parental perspectives on the responsiveness of school staff to their concerns also resonate with Valle and Connor (2019) call for more responsive and adaptable educational frameworks that cater to the needs of students with disabilities.

Parents perceived positive impacts of resource room programs on their children's academic skills (mean improvement rating of 3.7), social skills (3.5), and overall well-being (3.8). These findings suggest that resource rooms are effectively enhancing the academic abilities and overall well-being of students with learning disabilities, although the variation in scores indicates differences in the level of improvement across individual students. This supports the need for tailored interventions to address specific needs and maximize the benefits of resource room programs.

The study also contributes to the discourse on teacher preparedness and professional development in handling the specific needs of students with learning disabilities, a point emphasized by Jolly and Chacko (2021). Enhancing teacher training to include specialized strategies for managing diverse classrooms could address some of the variability in teaching quality noted in this study. Furthermore, the potential of innovative educational technologies, as illustrated by Kang and Chang (2020), could be adapted in resource rooms to enhance both the learning experience and educational outcomes for students with learning disabilities.

To sum up, this study reaffirms the intricate interplay of instructional quality, resource adequacy, and school engagement with parents in shaping the educational experiences of students with learning disabilities. It highlights areas for improvement that align with global educational challenges and trends, suggesting that both local and broader pedagogical changes could significantly enhance the effectiveness of special education in Amman and beyond.

This study has several strengths that enhance the credibility and relevance of its findings. One major strength is the use of hierarchical linear modeling (HLM), which accounts for the nested structure of the data and provides more accurate estimates of the relationships between variables. This method allows for a robust analysis of the impact of quality of instruction, adequacy of educational materials, and accessibility of facilities on parental satisfaction. Additionally, the study's large and diverse sample, drawn from 33 public schools across Amman, increases the generalizability of the results to similar educational settings. The inclusion of various demographic factors and the use of both qualitative and quantitative data provide a comprehensive understanding of parental satisfaction and the factors influencing it. The study also contributes to the existing literature by highlighting the critical role of effective communication between schools and parents, as well as the importance of teacher preparedness and professional development in special education settings.

Conclusion

This study has underscored the critical factors influencing the educational experiences of children with learning disabilities in resource rooms within Amman's public schools, revealing key insights into parental satisfaction with the quality of instruction, adequacy of educational materials, and the accessibility of facilities. The findings highlight the necessity of enhancing communication between schools and parents and improving the responsiveness of school staff to parental concerns. These aspects are fundamental for fostering an educational environment that not only meets the diverse needs of

students with learning disabilities but also actively involves and satisfies their parents. By addressing these issues, schools can create more supportive and effective educational settings that contribute significantly to the overall development and well-being of these students. This study, therefore, provides a valuable foundation for future initiatives aimed at improving special education practices in Jordan and similar contexts.

However, the study has several limitations that should be acknowledged. One limitation is the reliance on self-reported data, which may be subject to response biases. Additionally, while the sample size was adequate for the analysis, the study did not collect detailed information on school-level variables, which could have provided a deeper understanding of the contextual factors influencing parental satisfaction. The use of purposive sampling, although supplemented by stratified random sampling, may still limit the generalizability of the findings to all parents of children with learning disabilities. Future research should consider longitudinal designs to examine changes in parental satisfaction over time and the long-term effects of improvements in resource room programs. Investigating the impact of specific interventions, such as professional development programs for teachers and the integration of assistive technologies, would also provide valuable insights. Despite these limitations, the study makes significant contributions by providing empirical evidence on the factors influencing parental satisfaction with resource room programs and offering practical recommendations for enhancing the educational experiences of students with learning disabilities in Amman and similar contexts.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by the IRB Committee—Al-Balqa' Applied University. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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