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Enhancing elementary school teachers' competence in recognizing and supporting gifted students with learning disabilities in Saudi Arabia

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This research investigates the competence of elementary school teachers in Saudi Arabia in recognizing and supporting gifted students with learning disabilities. Two research questions guided the inquiry: RQ1: How do elementary school teachers in Saudi Arabia perceive the impact of professional development, on increasing awareness about students with giftedness and learning disabilities? RQ2: How do elementary school teachers in Saudi Arabia perceive the academic challenges addressed by the series of workshops that created collaborative groups for the discussion of student needs? Using a qualitative approach, in-depth interviews were conducted with 10 certified elementary teachers in Medina City. The study identified two key themes through thematic analysis. The first theme emphasizes the impact of professional development on increasing teachers' awareness of students with giftedness and learning disabilities. Training provided insights into identifying students with learning disabilities and recognizing those with giftedness, emphasizing the need for ongoing training and collaboration. The second theme emerged from workshops creating collaborative groups for discussing student needs, highlighting the power of recognizing individual differences and collaborative efforts for supporting diverse needs. The findings underscore the importance of ongoing professional development and collaboration in improving the capacity of elementary school teachers in Saudi Arabia. These insights have implications for enhancing teacher training programs and developing inclusive educational policies for twice-exceptional learners.

KEYWORDS

twice exceptionality, professional development, elementary school teachers, Saudi Arabia, collaborative support

1 Introduction

Twice-exceptional learners, characterized by giftedness and learning disabilities, often have diverse traits that go unnoticed during the identification process for support services. Despite possessing unique talents, such as higher-level intellectual abilities and creativity, these students encounter challenges in areas such as reading, writing, organization, and self-esteem (Ritchotte and Zaghlawan, 2019; Firat and Bildiren, 2023). Identification and support are critical for twice-exceptional students to reach their full potential.

Defining the concept of twice exceptionality remains elusive, indicating the difficulty in reconciling understandings of giftedness and learning disabilities (Chimhenga, 2016; Levi, 2019). Primary education teachers, in particular, lack the necessary understanding and experience to effectively support the complex needs of twice-exceptional learners (Lee and Ritchotte, 2019). Research suggests that primary teachers' perspectives directly impact the progress and well-being of twice-exceptional learners (Alsamani et al., 2023). Those with specialized training or experience in gifted education exhibit a deeper understanding, dispelling myths and enhancing support for these students (Alsamiri, 2018; Mohammed, 2020).

As classrooms increasingly demand diverse roles from teachers, addressing the multifaceted needs of students becomes crucial, especially in Saudi Arabia and impoverished environments (Alsamani et al., 2023). Despite the growing awareness of twice-exceptionality, there is a notable lack of programming strategies to support these students (Amiri, 2020; Öpengin and Sezerel, 2023). It is vital to develop programming that focuses on both strengths and weaknesses for the social, emotional, and academic needs of twice-exceptional learners (Khan and Khan, 2023; Tortop and Ilgaz, 2023). However, teachers often lack the necessary training to identify and support these students, highlighting the need for integrated pre-service and in-service training programs (Bianco and Leech, 2010; Ronskley-Pavia, 2020).

Effective support requires collaboration among stakeholders, including teachers, principals, parents, and students (Firat and Bildiren, 2023). Classroom teachers should receive support from both gifted and special educators to implement appropriate strategies for the unique needs of twice-exceptional learners (Bracamonte, 2010).

In the Saudi context, there is limited research on elementary school teachers' awareness of twice-exceptional students (Alsamani et al., 2023). The lack of knowledge about gifted students, coupled with difficulties in identifying learning disabilities in K-6, further complicates the situation (Wellisch, 2016).

While empirical studies on twice-exceptional students in elementary schools have increased, a significant gap exists in our understanding of teachers' knowledge and preparation for this population (Alsamani et al., 2023). This lack of preparation causes twice-exceptional students to be underserved, resulting in an inequality of access to appropriate services (Van Tassel-Baska, 2012). Teachers, who play a crucial role in nominating students for screening, may overlook those who do not fit traditional archetypes of giftedness due to limited staff development opportunities (Khan and Khan, 2023).

Research on how elementary teachers can enhance their ability to support twice-exceptional students has focused on various strategies and perceptions. Evidence-based strategies have been identified for teachers to consider when supporting and instructing twice-exceptional students in elementary school (Josephson et al., 2018). Experts have identified strategies that include offering movement breaks, teaching social-emotional learning (SEL) skills, and building perseverance among twice-exceptional students (Tahmaseb, 2023). There have been studies about how elementary school teachers' perceptions of twice-exceptional students are influenced by their experiences and training in gifted and special education (Alsamani et al., 2023). Alsamani et al. (2023) claimed that inadequate training and lack of preparedness among general education teachers to recognize and support twice-exceptional students have been noted,

emphasizing the need for additional support and training opportunities. Alsamani et al. (2023) explored elementary school teachers' perceptions and understanding of twice-exceptional students, revealing gaps in their knowledge and readiness to support these students effectively. They have claimed that teachers in Saudi Arabia are often insufficiently prepared to recognize and assist twice-exceptional students, but willingness to help increases when relevant training and support are provided. Moreover, there have been studies about professional development centered on the cognitive and social-emotional characteristics of twice-exceptional students that can better prepare teachers (Foley-Nicpon et al., 2013). However, a notable disparity persists in improving elementary school teachers' proficiency in recognizing and assisting these students. This research seeks to fill the existing gap in studies concerning the perceptions of gifted students with learning disabilities among Saudi elementary school teachers. Through an examination of teachers' comprehension and conceptualization of these students, the study aims to pinpoint areas of deficiency and advocate for professional development initiatives. The ultimate goal is to improve early identification and support within the general classroom. To respond to this objective study seeks to answer the following questions:

RQ1: How do elementary school teachers in Saudi Arabia perceive the impact of professional development, on increasing awareness about students with giftedness and learning disabilities?

RQ2: How do elementary school teachers in Saudi Arabia perceive the academic challenges addressed by the series of workshops that created collaborative groups for the discussion of student needs?

2 Methods

This study used a qualitative approach to grasp a full understanding of the knowledge and skills required to recognize and assist students with giftedness and learning disabilities in Saudi Arabia. The choice of a qualitative research design was based on the research goals, which focused on exploring, understanding meanings, and deeply exploring the perspectives of elementary school teachers. The data collection process involved a single session with the participants. However, there were two earlier visits conducted to screen potential participants prior to the data collection phase. During these initial visits, participants underwent screening to determine their eligibility and suitability for inclusion in the study. Once screening was completed, the approved participants came in for one session where the actual data was gathered.

2.1 Participants

Upon receiving approval to initiate the research, the investigator initially contacted primary schools in the city of Medina through electronic mail, outlining the study's details and the standards for selecting participants. The first requirement stipulated that only licensed primary instructors from Medina city were eligible to participate. Secondly, recognizing that only a subset of teachers possessed adequate knowledge of students with exceptional abilities

and learning difficulties, the researcher specifically invited primary teachers who self-identified as aware of such students in public schools and had a minimum of 5 years of experience teaching them. Teachers with less than 5 years of experience and those lacking experience in instructing students with exceptional abilities and learning difficulties were excluded. The initial inquiry garnered 30 responses, with 20 teachers disqualified for not meeting one or more inclusion criteria. Consequently, a final cohort of 10 teachers participated in the study, sharing their perspectives through interviews. Prior to conducting the interviews, the researcher obtained signed consent forms from each participating teacher. The study involved 10 primary school instructors, with six females and four males. Participant ages ranged from 28 to 45 years, and their teaching experience spanned 5–14 years. The majority of participants ($n=8$; 80%) held an undergraduate degree, while the remainder possessed a graduate degree.

2.2 Design and apparatus

The research tool employed was a semi-structured, in-depth interview comprising eight questions aimed at eliciting insights into the participants' perceptions and lived experiences (Van den Berg, 2005). The initial eight questions were reviewed by two experts in special education from a Saudi university. Based on their review, two questions were removed and four were modified to make them easier to understand for the participants. This resulted in the final six questions used in each interview. Additional questions were asked during the interviews based on what each participant said. These follow-up questions were used to either get more details or have participants explain their answers further. The main goal of the interview questions was to understand the participants' views on how to improve elementary school teachers' knowledge and abilities for identifying and supporting students with special talents or learning challenges in Saudi Arabia.

2.3 Data collection

The interviews were conducted in a private room within the individual interviewee's school in Saudi Arabia in year 2023, and each interview was 35–55 min in length. The author applied for and received ethics approval from the human research ethics committees Hail University Saudi Arabia. The author employed a qualitative research design to gain an in-depth understanding of knowledge and skills to identify and serve students with giftedness and learning disabilities in Saudi Arabia.

3 Procedure and results

The data analysis employed a thematic analysis, a method aimed at identifying, analyzing, and reporting patterns (themes) within the dataset (Braun and Clarke, 2006). The analysis unfolded in three distinct stages.

In the initial stage, data samples underwent open coding, a systematic process of identifying noteworthy features within the data and collating relevant information for each code (Braun and Clarke, 2006). The results of this open coding were then compared between

two researchers, utilizing Cohen's Kappa as a metric to assess agreement between raters (Bland, 2008). The comparison yielded a high Cohen's Kappa agreement, indicating the highest level of agreement possible. Moving to the second stage, the researchers exchanged results of the coding in multiple meetings, engaging in discussions regarding the derived codes, sub-categories, and categories. Upon achieving consensus, a careful comparison of all themes, categories, and sub-categories ensued to identify any overlaps (Bengtsson, 2016). To ensure the credibility, validity, and trustworthiness of the analysis, the authors practiced triangulation by involving themselves in every stage of the data analysis (Flick, 2018). This comprehensive approach aimed to strengthen the rigor of the thematic analysis and enhance the robustness of the identified patterns and themes within the dataset.

3.1 Findings

The researcher conducted a thematic analysis of the data and identified two key themes (see Table 1). Two prominent themes emerged from the analysis of the teacher interviews. The first theme was that the professional development increased awareness about students with giftedness and learning disabilities. This theme aligned with Research Question 1 and examined how the training impacted teacher understanding. The second major theme was that the series of workshops created collaborative groups for discussion of student needs. This theme correlated to Research Question 2 and explored how the teachers perceived academic challenges being addressed. Both themes highlighted key benefits reported by teachers regarding their professional learning experience. The following outlines the description of two themes that were identified.

The first theme, "professional development increased awareness about students with giftedness and learning disabilities," emerged from the discussions on the impact of professional development training on teachers' awareness. The analysis revealed that prior to the training, many teachers lacked appropriate knowledge for recognizing and serving such students in their classrooms. The theme encompassed three categories: professional development opportunity, recognition of learning disabilities, and recognition of students with giftedness and learning disabilities.

Under the category of professional development opportunity, participants discussed elements of the training that enhanced their knowledge and skills, with specific tools and takeaways mentioned by some. The training provided insights into identifying students with learning disabilities, such as slow processing, difficulty decoding, and big picture thinking. Participants expressed how this newfound awareness prompted them to modify assignments and recognize students with exceptionalities. Some participants acknowledged that, without the training, they would not have identified certain students as twice exceptional or would not have been aware of the term "students with giftedness and learning disabilities." Recognition of students with giftedness and learning disabilities was another category under first theme. Participants noted the lack of opportunities in schools for recognizing these students, citing insufficient resources, and training. Teachers emphasized the need for in-service training to understand the characteristics of students with giftedness and learning disabilities. Collaborative efforts were deemed essential, and teachers expressed a desire for formal in-service training programs to improve

TABLE 1 Thematic analysis results.

Theme	Subtheme	Description	Supporting quotes	%	
Theme 1: Professional development increased awareness about students with giftedness and learning disabilities	Professional development opportunity	Teachers gained knowledge and understanding of characteristics and identification methods for students with giftedness and learning disabilities through the training.	“I think just in general being exposed to that term and being taught what makes a student with giftedness and learning disabilities was the most beneficial for me” (Participant 6).	40%	
	Recognition of learning disabilities	Teachers acknowledged their previous lack of awareness and resources to identify learning disabilities in their students.	“I think students with giftedness and learning disabilities get left behind academically, especially in a small school because we do not offer any classes that particularly challenge their strengths” (Participant 10).	10%	
	Recognition of students with giftedness and learning disabilities	Teachers expressed the need for increased opportunities to recognize and support students with both giftedness and learning disabilities.	“Okay, honestly, I did not even know that the term students with giftedness and learning disabilities, existed” (Participant 6).	70%	
Theme 2: The series of workshops created collaborative groups for discussion of student needs	Team collaboration efforts	Teachers valued the formation of collaborative groups to discuss individual student needs, including those with giftedness and learning disabilities.	“After we gave our students the Interest tool, we sat down in our grade-level teams and read what they wrote. We talked about each student individually, and what we saw in our classrooms. It was eye-opening for me when I would hear my colleagues talk about their experiences” (Participant 5).	80%	
		Teachers advocated for more intentional collaboration within staff meetings and professional development days.	“The weekly staff meeting should be spent discussing student strengths and how we can provide effective accommodations. We need to do a better job in utilizing those days to collaborate for the greater good of all our students” (Participant 5).	50%	
		Teachers suggested a collaborative model involving mainstream, special education, and gifted teachers to address student needs more effectively.	“The needs of SGLD could be addressed through collaboration between mainstream, special education and gifted teachers” (Participants 3).	30%	
	Understanding the whole students		Teachers emphasized the importance of understanding each student’s unique strengths, interests, and weaknesses to provide individualized instruction and support.	“Teachers have an opportunity to be creative in their classrooms and create opportunities for students to use their strengths and build on their weaknesses” (Participant 10).	70%
			Teachers found that tools and assessments offered valuable insights into students’ perspectives and challenged their own assumptions.	“The information students would give from the tools you gave us, they are giving you way more information than you ask for generally, and the overall awareness of the concept led me to see students in a different way now than I could have before” (Participants 4).	60%

their knowledge and support for such students. In summary, Theme 1 highlights the importance of professional development in increasing awareness and recognition of students with giftedness and learning disabilities among teachers. Participants emphasized the need for ongoing training and collaboration to better serve these students.

Theme 2, “the series of workshops created collaborative groups for discussion of student needs,” emerged from interviews demonstrating teachers’ recognition and support for individual student differences, including those with giftedness and learning disabilities. Two categories were identified: team collaboration efforts and understanding the students.

Team collaboration efforts involved teachers gathering as a group and within grade-level teams to discuss individual student needs, strengths, and weaknesses. The collaboration opportunity, facilitated by tools from professional development, was considered

valuable. Teachers recommended allocating time in weekly staff meetings for discussing student strengths and effective accommodations. They emphasized the improvement in staff collaboration and the need to utilize professional development days for the greater good of all students. The category of understanding the whole students highlighted teachers’ abilities to know and understand students’ strengths, interests, and weaknesses. Teachers recognized each student’s unique way of learning and the importance of individualizing instruction. This understanding evolved throughout the training sessions, encouraging teachers to be creative in accommodating students’ strengths and weaknesses. In summary, second theme illustrates the identification of key concepts central to teacher perceptions about students with giftedness and learning disabilities. The theme emphasizes the power of recognizing individual differences among

students and the collaborative efforts essential for supporting their diverse needs.

4 Discussion

The study aimed to explore elementary school teachers' competence in recognizing and supporting gifted students with learning disabilities in Saudi Arabia. A review by [Baccassino and Pinnelli \(2023\)](#) found research on this topic has grown substantially in recent decades but remains uneven globally, with less representation from certain regions like the Middle East. Our study adds understanding of the Saudi Arabian context from the perspective of elementary teachers. The findings of the study revealed that professional development training can significantly increase teachers' awareness and recognition of students with giftedness and learning disabilities. The training provides insights into identifying students with learning disabilities, recognizing students with giftedness and learning disabilities, and modifying assignments to meet the needs of these students. The study also found that collaborative efforts among teachers, facilitated by the training, are essential in supporting individual student differences. Team collaboration efforts involve teachers gathering in groups and discussing individual student needs, strengths, and weaknesses. Participants of present study recommended allocating time in weekly staff meetings for discussing student strengths and effective accommodations is highly important.

This study emphasizes the importance of ongoing professional development and collaborative efforts in improving the capacity of elementary school teachers in Saudi Arabia to identify and support students with giftedness and learning disabilities. The findings carry significant implications for the enhancement of teacher training programs and the development of school policies, underlining the persistent need for training and collaboration to effectively meet the needs of these students. This is further corroborated by the work of [Aladsani \(2020\)](#), which also underscores the critical necessity to strengthen the ability of elementary school teachers to recognize and support students with both giftedness and learning disabilities, particularly within the Saudi Arabian educational context. The study aligns with the present research, shedding light on the unique challenges faced by these students and the specialized approaches required to address their educational needs ([Aladsani, 2020](#)). Additionally, the findings of the present study reveal a prevalent lack of awareness and resources among many teachers regarding students with giftedness and learning disabilities, further underscoring the inadequacy of current teacher training and support systems, as indicated by focus of [Aladsani's \(2020\)](#) on the need to enhance competence.

Similar to the present study, another researcher found that some teachers lacked initial knowledge and understanding of giftedness and gifted education, highlighting a shared need for professional development and resources in this area ([Yaser, 2021](#)). Additionally, [Alsamani et al. \(2023\)](#) emphasized the complexities of identifying diverse strengths and weaknesses, echoing the present study's findings on the need for improved awareness and resources. Their emphasis on differentiated learning and flexible grouping aligns with the present study's findings on teachers' efforts to understand individual strengths and tailor instruction accordingly. These

findings collectively underscore the importance of ongoing professional development and specialized resources to support the diverse needs of gifted students with learning disabilities.

A recent study examining Norwegian primary teachers' attitudes toward gifted students found that culture significantly influences teachers' perspectives ([Furne and Jokstad, 2023](#)). Similar to present study, teachers in Norway reported having little formal training on gifted education. This aligns with our theme emphasizing the need for ongoing professional development to improve teacher competence. However, unlike our study, which focused on in-service teachers, the Norwegian study pointed to gaps in pre-service teacher education as well.

[Alsharif and Alasiri \(2022\)](#) identified obstacles facing gifted students with learning disabilities (GSLDs) from the point of view of the students themselves. The present study proposes professional development training and team collaboration efforts to enhance teachers' competence in recognizing and supporting these students. Similarly, [Alsharif and Alasiri \(2022\)](#) identified the absence of adapted courses or specialized teachers for GSLDs, indicating a need for specialized support for teachers in this area. The findings of the present study align with [Alsharif and Alasiri's \(2022\)](#) work, emphasizing the importance of specialized support and training for teachers to recognize and support gifted students with learning disabilities. By highlighting the need for ongoing training and collaboration, both studies provide valuable insights into strategies for supporting and enhancing the education of gifted learners with learning disabilities.

[Ülger and Çepni \(2020\)](#) work on gifted education and STEM aligns with the present findings, emphasizing the importance of STEM education for gifted learners and the necessity for teacher training and professional development to support these learners. Their study provides a thematic review of studies on scientific giftedness and STEM education contexts, highlighting the significance of specialized support and training for teachers to identify and support these learners. Similarly, the present research underscores the need for ongoing training and collaboration to better serve these students, aligning with the insights provided by [Ülger and Çepni \(2020\)](#). This convergence of findings from multiple studies underscores the critical role of teacher training and professional development in enhancing the education of gifted learners, particularly in the context of STEM education.

4.1 Limitations

The current investigation employed qualitative methods, specifically in-depth, semi-structured interviews, to explore the perspectives on enhancing the knowledge and capabilities of primary school instructors in identifying and supporting students with exceptional abilities and learning difficulties in Saudi Arabia. While this approach facilitated a profound understanding beyond the scope of quantitative methods, its limitation lies in the reduced generalizability of findings to diverse contexts, such as other regions within the country. Additionally, the small sample size of 10 participants further constrains the applicability of the results to the broader population of primary school instructors in Saudi Arabia. Moreover, the relatively young age of the participants may indicate a greater receptivity to contemporary educational trends, including accommodations for students with special

education needs and the significance of instructor awareness in the identification processes for students with varying abilities. It is essential to acknowledge that this study exclusively focused on primary school instructors, limiting the broader understanding of educators' perceptions, including those from special and exceptionally able education instructors. Recognizing these constraints is crucial for contextualizing the study's findings within the specific scope of primary school education in Saudi Arabia.

4.2 Suggestions

The study solely focused on the perceptions of primary school instructors. However, other educators, such as special education instructors, exceptionally able education instructors, school staff, and parents, also play crucial roles in the education of students with exceptional abilities and learning difficulties. Henceforth, investigating the perspectives of these other groups through qualitative research represents a crucial avenue for future inquiry. Moreover, upcoming studies should actively seek input from students possessing exceptional abilities and facing learning difficulties, directly gathering insights into their emotions, perspectives on their educational needs, and the challenges they encounter in the learning process. Additionally, it is imperative to delve into whether educators' at all educational levels perceive students with exceptional abilities and learning difficulties as a distinct and singular population requiring specialized educational support, characterized by a unique set of attributes. This approach aims to avoid relying solely on participants' perceptions of strictly exceptional traits and those intricately linked to the learning challenges faced by this student group.

4.3 Practical implications

Based on the findings, Saudi Arabia's primary school instructors demonstrate awareness of the common characteristics of students with exceptional abilities and learning difficulties. Nonetheless, educators lack the requisite training to adequately assist students who demonstrate both exceptional abilities and encounter learning challenges due to diverse disabilities. Furthermore, the study participants conveyed that referrals for identified students with exceptional abilities and learning difficulties to receive special education services were infrequent. To bridge this crucial gap, it is imperative for stakeholders, especially the Ministry of Education, to allocate resources for training providers and administrators, enabling the development of programs that more effectively cater to the needs of these students. Additionally, providing ongoing professional development is essential to educate teachers about the unique requirements of students with exceptional abilities and learning difficulties. Given that instructors often play a pivotal role in identifying exceptionally able learners for accelerated programs, they are uniquely positioned to recognize when such learners may also contend with disabilities or academic challenges. However, without adequate training, this population may only receive assistance based on their exceptional traits, neglecting the necessary support for their learning difficulties. This oversight can result in persistent academic underperformance and, in severe cases, could lead to academic failure.

5 Conclusion

This study explored elementary school teachers' perspectives on supporting gifted students with learning disabilities in Saudi Arabia. Specifically, it examined the impact of professional development and collaborative workshops on teacher competency. Findings indicate that professional development significantly improved teacher awareness and identification of these unique learners. Training provided insight into learning disabilities and giftedness. It also offered strategies for differentiating instruction to meet student needs. Collaborative workshops facilitated discussion around individual student strengths, challenges, and effective accommodations. This helped teachers recognize diversity and tailor support.

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 human participants were reviewed and approved by the Standing Committee for Research Ethics at Hail University-Research Number: H-2022-394. 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

YA: Conceptualization, Methodology, Resources, Writing – original draft, Writing – review & editing, Data curation, Formal analysis, Investigation, Project administration, Software, Supervision, Validation, Visualization.

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Conflict of interest

The author declares 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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