

Implementing Applied Behavior Analysis by Support Teachers in Inclusive Public Schools: A Competency-Based Program for Learning Disabilities

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The goal of the current study is to find out how support teachers in inclusive public schools in Northern Jordan employ Applied Behavior Analysis (ABA) approaches to assist students with learning difficulties. The target population for the study, which used a descriptive survey technique, consisted of 199 support instructors from the towns of Irbid, Jerash, Ajloun, and Mafraq, 83 males and 116 females. A questionnaire was used to collect the data. Findings revealed that ABA techniques are applied at a high level across all aspects. Four-way ANOVA yielded statistically significant differences among support teachers in the application of ABA techniques with respect to their educational qualifications and years of experience, with medium effect sizes ($\eta^2 = 0.066$ & 0.113 , respectively). However, no significant effects were found by gender or region. Findings highlight the significance of professional qualifications and years of experience on ABA practice. Taking into consideration the dearth of research in the Arab world, this paper calls for a competence-based training program in ABA in Jordan.

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INTRODUCTION

Students with learning disabilities represent one of the most prominent groups facing educational challenges that hinder the acquisition of essential academic skills such as reading, writing, and mathematics, despite possessing average or above-average intellectual abilities. Consequently, these students require supportive educational environments that adequately address their individual differences and unique learning needs. Recent studies have demonstrated that students with learning disabilities often encounter substantial difficulties with written expression, linguistic organization, and learning motivation, which negatively affect their academic achievement and overall educational performance (Obeidat et al., 2025). Within this context, the teacher plays a pivotal role in supporting these learners by the implementation of flexible and diverse instructional strategies, including differentiated instruction and technology-supported teaching approaches, both of which have proven effective in enhancing students' motivation and academic competencies (Alkenani et al., 2025). Furthermore, previous research has emphasized the importance of equipping teachers with specialized training in instructional tools and educational technologies tailored to the diverse needs of learners with learning disabilities. Such practices contribute significantly to fostering positive classroom environments characterized by continuous encouragement and constructive feedback, thereby enhancing students' self-confidence, academic engagement, and social participation (Khazaleh et al., 2024; Obeidat et al., 2025).

Learning disorders are among the most complex and difficult issues in education. Known as "hidden disabilities," they differ widely in nature and intensity and may not necessarily be apparent. Such complexity requires comprehensive methods and measures for diagnosing and helping students according to their unique characteristics. Learning disabled students face problems that make it necessary to receive individualized assistance and support to ensure proper inclusion and academic performance.

One of the most efficient evidence-based models is ABA, an applied scientific approach designed to bring about positive change in socially relevant behaviors in real-world settings. Through identification of the environmental factors that impact human behavior, applied behavior analysis helps the teacher develop interventions that enhance and build strong adaptability and prevent maladaptation (Koltonski & Shaw, 2023). Along with PBS, applied behavior analysis can be described as a highly structured and evidence-based model.

The application of ABA has been further cemented by legal frameworks like the IDEA of 1997 and 2004, which stipulated that FBA and PBS should be used. The 2006 IDEA also pushed for RTI, which was based on ABA tenets of constant monitoring, tiered instruction, and data-based decision-making (Shepley & Grisham-Brown, 2019; Snyder, 2025). According to Stevenson, Bethune, and Gardner (2025), these applications comply with the IDEA requirements and improve educational opportunities for students.

International evidence also supports AsBA's effectiveness. A systematic review by Lowry et al. (2024) confirmed the impact of FBA- and ABA-based interventions in reducing challenging behaviors in general education settings. In the Arab context, Al-Sheikh (2018) documented positive effects of ABA in inclusive classrooms, particularly in improving students' communication, social interaction, self-regulation, and academic outcomes. Likewise, Ajarmah and Al-Khatib (2018) emphasized that teachers equipped with ABA knowledge are better positioned to support learners using validated and intentional strategies.

Evidence notwithstanding, real classroom implementation is still uneven. This divide is highlighted by research conducted in the Arab world. Alhossein (2015) found low levels of ABA knowledge among pre-service teachers in Saudi Arabia. Ajarmah and Al-Khatib (2018) reported relatively high application levels among special educators in Amman with variations by academic qualification. Al-Sheikh (2018) revealed only moderate to low use among general teachers in Riyadh. Moreover, the same shortcomings can be seen in the case of Kuwait (Mubarak, 2021) and Turkey (Gojibakan & Sazak, 2022). The one major drawback that has been evident in all these studies is that they depend upon survey results based on self-reporting and have not considered practical applications in classrooms. What is more, almost all the research has concentrated on general and special education teachers only.

Nevertheless, Finland, Canada, and Australia have achieved great strides in training their teachers in ABA through structured programs that emphasize practice (Irvine et al., 2010; Jahnukainen, 2011; Loreman, 2002). For instance, Australia has provided adequate funding for its Helping Children with Autism program to ensure ABA services are professionally executed. Similarly, despite attempts by nations like Saudi Arabia and Kuwait to use ABA methodologies in their educational institutions (Ashoor & Bagadood, 2022; Dokhi & Jarrar, 2015), these projects are not well organized or evaluated. Although certain organizations, such as the ABA Resources Academy, have begun training teachers in ABA in Jordan, implementation is hampered by the absence of standardized methods and certification procedures (Al Sheyab, 2025; Murshid, 2011).

The current study evaluates the practical use of ABA techniques by support teachers in Jordanian public schools, especially in the northern governorates, to close local and regional disparities. The research intends to create a national competency-based training program in line with worldwide standards but tailored to Jordan's educational and cultural environment by building on this evaluation.

This research's practical focus is what makes it significant. It offers a framework for instructional design, policy formation, and training to the body of literature. The study's findings could help decision-makers improve inclusive policies and offer a validated tool for special education competence evaluation, professional development, and future research.

From field observations conducted by the researcher, there appear to be notable discrepancies when implementing ABA techniques through support teachers in Jordanian resource rooms. These discrepancies highlight the immediate need to implement scientifically based training programs that ensure the consistency of such practices. This study intends

to measure the level of ABA implementation and develop the foundations of a scientifically based teacher training program.

1. What is the degree of implementation of ABA techniques by support teachers teaching in inclusive public schools while assisting learning disabled students from the teachers' point of view?

2. Is there a significant difference between the degree of implementation of ABA techniques by support teachers teaching in inclusive public schools based on gender, educational background, experience, and location at $\alpha=0.05$ significance level?

3. What will be the structure of a competency-based training program aimed at improving support teachers' use of ABA techniques among learning disabled students?

LITERATURE REVIEW

The efficacy of ABA has been established for students with disabilities' academic, behavioral, and social success. The effective use of ABA strategies in inclusive education is greatly influenced by the support of teachers' competence in this regard. Although the benefits of ABA have been established, some support teachers struggle to implement ABA effectively due to their limited training. This suggests that competency-based ABA training programs would be very valuable at this point.

Learning Disabilities

Learning disabilities constitute some of the most difficult and enigmatic issues in education. Commonly called "hidden disabilities" because of their cryptic presentation, vast array, and different levels of intensity, they necessitate accurate diagnosis and appropriate intervention techniques. The concept was originally coined by Kirk (1962), who described learning disabilities as disorders affecting one or more psychological processes related to comprehension and use of oral and written language, such as problems associated with listening, reasoning, speaking, reading, writing, and mathematics. They were considered to be caused by a neurological disorder of the brain other than intellectual or sensory deficits (Hamadneh, 2017).

According to Al-Waqfi (2009), learning disabilities may affect cognitive processing functions, including attention, perception, and memory. Such factors negatively impact learners' academic and social skills. As noted by the National Advisory Committee on Handicapped Children (cited in Hamadneh, 2017), learning disabilities refer to mental disorders manifested in problems with listening, speaking, thinking, writing, arithmetic calculations, or reading and cannot be explained as a result of intellectual impairment. In addition, it can also be said about CEC that learning disabilities imply problems with understanding and utilizing language, including reasoning, calculating, spelling, or reading (Al-Khatib, 2013).

Qamish and Al-Jawalda (2012) noted that students with learning disabilities often exhibit disturbances in one or more fundamental learning processes, particularly in understanding and using language, and typically struggle with listening, writing, and oral expression. Thapa et al. (2024) further emphasized that these disorders typically emerge early in life and

may persist into adulthood, affecting personal, academic, and professional domains.

Different factors have been identified in the diagnosis of learning disabilities, such as discrepancy, exclusion, special education, and developmental immaturity (Gupta & Yadav, 2024). The behaviors of children with learning disabilities depend on the nature of their problems. They can be classified into five main groups: academic achievement problems, perceptual-motor problems, language and speech problems, thinking problems, and behavior and emotions (Abdelhamid & Saber, 2013; Gupta & Yadav, 2024; Hamadneh, 2017). The social skills of children with learning disabilities are affected, as they may show social withdrawal, aggression, dependence, and poor self-concept (Al-Batayneh et al., 2018).

Government Inclusive Schools in Jordan

Great progress in inclusive schools has been observed in Jordan, which can be attributed to cooperation between the governmental organization and international bodies. In partnership with UNICEF and Australia, the Jordanian Ministry of Education started an initiative in 2018. This is to ensure the formation of inclusive educational institutions. For this purpose, two pilot schools have been selected in Amman and Irbid. These schools have been provided with facilities such as sensory rooms and trained 1,600 teachers regarding inclusive education (UNESCO, 2023). There are plans to extend this inclusive model across all public schools until 2028, following the recommendations of the National Strategy for the Education of Persons with Disabilities (Benson et al., 2024).

Despite all the measures taken, there were several barriers to implementing them. According to research conducted by the Tamkeen Center for Support and Assistance, about 79% of persons with disabilities of school age are deprived of any form of education. The reasons for this include underdeveloped infrastructure in public schools, insufficient vocational education of teachers, and inadequate curricula that fail to cater to the special needs of disabled children (The Jordan Times, 2022). Other research has indicated issues of overcrowded classrooms, lack of appropriate educational materials, and lack of understanding among communities regarding inclusive education (The Jordan Times, 2023a).

Regarding these issues, the Ministry of Education has come up with an initiative to set up 30 inclusive schools in different governorates with the help of the US Agency for International Development (USAID) and the Higher Council for the Rights of Persons with Disabilities. The purpose of this initiative is to develop schools to have well-trained teaching faculty and an inclusive educational environment and ensure at least 11% enrollment of children with disabilities per school (The Jordan Times, 2023b). The Ministry has also developed a comprehensive strategic plan (2020–2030) to enhance the training of “shadow teachers,” modify curricula, and provide psychosocial support to students. It has also implemented training programs in cooperation with UNESCO that positively impacted more than 700 students with disabilities and 1,100 refugee students in 30 model schools (UNESCO, 2023).

The Role of the Support Teacher

It is the responsibility of students with disabilities to work with the lead teacher to develop IEPs, adjust instructional materials, and provide personalized support services. As per the guidelines issued by the Ministry of Education (2024), it is the obligation of the support teachers to develop IEPs, conduct assessments, adjust instructional strategies, evaluate students' performance, and interact with the parents. It is also expected of support teachers to practice professional ethics and upgrade their skills through continuous development initiatives.

Applied Behavior Analysis

ABA emerged as an evolution of behavior modification, expanding to emphasize the interaction between behavior and environmental variables. It is defined as a systematic application of behavioral principles to improve socially significant behaviors. ABA is described as a scientific discipline focused on the analysis and modification of meaningful behaviors through data-driven, measurable interventions (Cooper et al., 2020). Baer, Wolf, and Risley (as cited in Al-Zreikat, 2018) further characterized ABA as a systematic application of behavioral principles to significantly improve human performance.

Researchers have identified several key methodological dimensions of ABA: behavioral, analytical, applied, technological, effective, and generalizable (Al-Khatib, 2017; Al-Otaibi, 2022). The standard ABA process includes the following steps: identifying the target behavior, measuring it, designing the intervention, implementing it, monitoring progress, and modifying procedures as needed (Al-Zreikat, 2018).

ABA aims to enhance individuals' quality of life by improving social, attentional, language, academic, and functional skills, while reducing maladaptive behaviors, such as aggression and inattention (Leaf et al., 2022; Matson, 2023; Shepley et al., 2019). It has demonstrated significant effectiveness in inclusive education settings by supporting students with learning disabilities and fostering their participation in both academic and social contexts (Koltonski & Xu, 2023).

New studies have highlighted the importance of utilizing ABA techniques in inclusive classrooms. As stated by Goryl and Grima-Farrell (2022), behavior modification strategies using empirical knowledge have been found to increase engagement and reduce disruptive behaviors in general education settings. Additionally, Saunders (2023) notes that support instructors play a crucial role in guaranteeing the effectiveness and dependability of ABA therapies, especially when addressing complex behaviors. The three primary types of ABA techniques are as follows:

- Techniques to promote desired behaviors, which include modeling, behavioral contracts, shaping, prompting, and reinforcement (Miltenberger, 2016; Saunders, 2023).
- Techniques to reduce undesirable behaviors, which include overcorrection, exclusion, response cost, punishment, and extinction (Cooper et al., 2020; Hemmeter et al., 2022).
- Target behaviors shaping techniques, which include precise target behavior identification, stimulus antecedent analysis, approximation reinforcement, and response cost method application (Al Fandi & Zaharudin, 2023; Al-Khatib, 2017).

ABA offers a scientifically based framework for creating customized solutions to meet the various requirements of children, improving inclusion and learning results. The support teachers will be instrumental in implementing these approaches to meet educational and behavioral objectives (Alberto & Troutman, 2013). Behaviorism is not just concerned with behavior management but also a science whose effects are profound on academic performance, emotional regulation, and behavioral adjustment in students. The scientific and individualistic nature of behaviorism allows it to address the complexities in the connection between cognitive functioning, behavior, and emotions, especially in disabled students.

1. Academic Outcomes: The effects of ABA on learning and academic achievement have been the subject of recent research, especially when the method is applied throughout the learning process. Gore et al. (2023) found that students' reading comprehension and fluency were considerably improved by an ABA teaching technique focused on task analysis and reinforcement. Like this, the study carried out by Healy and Holloway (2022) revealed that the use of ABA techniques in math classes improved precision and task performance, which reduced the gap between them. It is worth noting that ABA promotes executive function development, such as self-control, working memory, and attention. These executive processes are frequently absent in students with learning difficulties; the use of ABA techniques, including self-management and antecedent tactics, has raised involvement and increased engagement with complex academic materials (Leaf et al., 2022).

2. Behavioral Outcomes: To overcome disruptive behaviors hindering learning in classroom settings, stimulus management and reinforcement approaches are essential. Mueller and Nkosi, for instance, conducted research involving 90 functional analyses in a public-school setting. Their results indicated that using Functional Behavior Assessments (FBA) and ABA interventions led to a marked decrease in dysfunctional behavior among pupils in inclusive settings; in many cases, such dysfunctional behaviors were diminished by more than 50 percent following functional intervention. Moreover, ABA fosters positive replacement behaviors that allow learners to communicate their needs and interact socially. A meta-analysis by Go and Bambara (2012) found that individualized positive behavior support based on FBAs in schools consistently reduced problematic behaviors and enhanced students' routine social behaviors. These changes are often sustainable, particularly when scaled up in different settings and supported by ongoing teacher involvement and rigorous implementation, i.e., the BACS model (Goryl & Grima-Farrell, 2022).

3. Emotional and Social Impact: Another useful function of ABA lies in facilitating self-regulation of emotions and the development of socio-emotional competence among students. The implementation of coping techniques and the ability to express emotions make ABA an effective approach for managing anxiety, frustration, and impulsive behavior associated with attention and learning problems. Du et al. (2023) have shown that students who were undergoing ABA interventions not only managed to reduce their episodes of throwing tantrums and harming themselves but also enhanced their skills to label their own emotions and

solve interpersonal conflicts. Emotion-based behavior support, another recent component of ABA, focuses on identifying the causes behind emotional disturbances and creating strategies that not only produce positive outcomes but also promote emotional well-being (Hemmeter et al., 2022). This shows a transition from the strictly behaviorist approach of ABA to a more holistic framework.

Study Theory

The present study is grounded in the Theory of Planned Behavior (TPB), which explains how individuals' beliefs influence their intentions and subsequent behaviors through three key constructs: attitude, subjective norms, and perceived behavioral control (Grigoropoulos, 2024). TPB has been widely applied in educational research to explain teachers' adoption of evidence-based instructional practices because classroom implementation is often influenced not only by professional knowledge but also by teachers' beliefs, perceived social expectations, and confidence in their own capabilities.

TPB is particularly appropriate for the current study because the implementation of ABA techniques requires teachers to make intentional instructional decisions based on their perceptions of ABA effectiveness, the support available within their schools, and their confidence in applying behavioral interventions. Although ABA is recognized as an evidence-based approach for supporting students with learning disabilities, teachers differ considerably in the extent to which they implement its techniques in classroom practice. TPB provides a theoretical explanation for these differences by suggesting that teachers' implementation behavior is influenced by their attitudes toward ABA, the social expectations surrounding its use, and their perceived ability to apply it effectively.

Within the context of this study, attitude refers to teachers' beliefs regarding the usefulness and effectiveness of ABA techniques in improving students' academic performance, classroom behavior, and learning outcomes. Teachers who believe that ABA produces positive educational outcomes are expected to demonstrate stronger intentions to implement its strategies. Evidence supporting this relationship was reported by Dierendonck et al. (2024), who found that positive attitudes toward competence-based educational practices significantly strengthened both behavioral intentions and actual implementation among teachers.

The second TPB construct, subjective norms, refers to the perceived expectations and support teachers receive from school administrators, colleagues, parents, and the broader educational environment. Supportive professional environments encourage teachers to adopt innovative and evidence-based instructional practices, including ABA. Recent research has shown that social support significantly enhances teachers' behavioral intentions (Mentel et al., 2024). Likewise, Pang et al. (2024) demonstrated that positive social norms surrounding inclusive education directly influence teachers' intentions, which subsequently predict their classroom practices.

The third construct, perceived behavioral control, represents teachers' confidence in their ability to implement ABA techniques successfully. This includes their professional qualifications, teaching experience, access to resources, specialized training, and perceived competence in applying

behavioral interventions. Teachers who perceive greater control over implementing ABA are more likely to use its techniques consistently in their classrooms. Previous studies have confirmed that teacher preparedness, available resources, and administrative support significantly influence both teachers' intentions and their actual implementation of evidence-based behavioral practices (Mentel et al., 2024; Pang et al., 2024).

Accordingly, TPB suggests that teachers are more likely to implement ABA techniques when they (a) hold positive beliefs about the effectiveness of ABA (attitude), (b) perceive encouragement and support from administrators, colleagues, and parents (subjective norms), and (c) feel confident in their professional competence and ability to apply ABA strategies (perceived behavioral control). These three constructs collectively contribute to the actual implementation of ABA techniques, which represents the behavioral outcome examined in the present study.

Table 1 illustrates how the TPB constructs are operationalized within the current study.

Table 1
Operationalization of the Theory of Planned Behavior Constructs in the Current Study

TPB Construct	Variables
Attitude	Teachers' beliefs regarding the usefulness and effectiveness of ABA techniques
Subjective Norm	Support and expectations from school administration, colleagues, and parents
Perceived Behavioral Control	Professional qualification, teaching experience, ABA training, available resources, and perceived competence
Behavior	Actual implementation of ABA techniques by support teachers

Conceptual Framework

To provide a clearer representation of the theoretical relationships underlying the current study, a conceptual framework based on the TPB is proposed. The framework illustrates how teachers' professional qualification and years of teaching experience contribute to their perceived behavioral control, while attitude toward ABA and subjective norms jointly influence the implementation of ABA techniques. Accordingly, the framework demonstrates the theoretical pathways through which these factors are expected to explain variations in teachers' implementation of ABA practices.

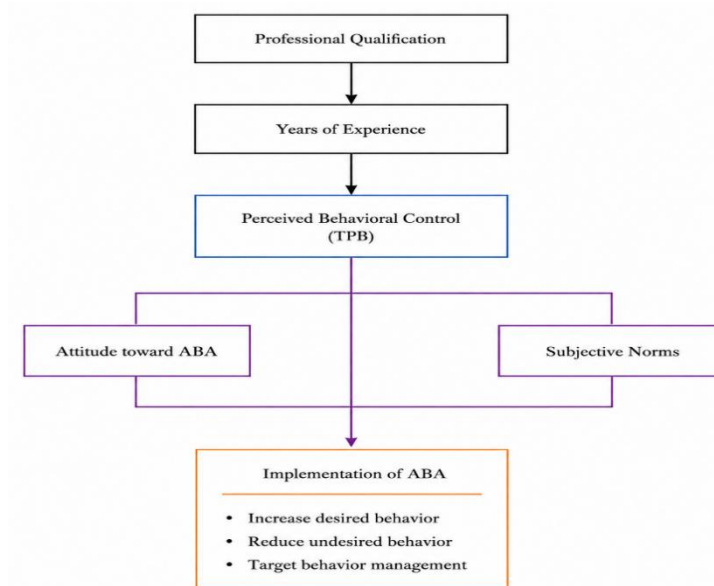


Figure 1 Conceptual Framework of the Study Based on the TPB

Figure 1 illustrates the conceptual framework guiding the current study. Professional qualification and years of teaching experience are considered background factors that contribute to teachers' perceived behavioral control. Together with teachers' attitudes toward ABA and perceived subjective norms, these constructs are expected to influence the actual implementation of ABA techniques, including increasing desired behaviors, reducing undesired behaviors, and managing target behaviors in educational settings.

METHODS

The study employed the descriptive survey method because it fits with the goals and nature of the present research, which looks at how successfully learning support instructors apply ABA approaches with children who have learning difficulties. It also looks for statistically significant variations in these behaviors according to years of teaching experience, academic credentials, and gender.

Study Population

During the second semester of the 2024–2025 school year, all support teachers working in public schools connected to the education directorates in northern Jordan (Irbid, Jerash, Ajloun, and Mafrq) comprised the study population. The directorates' official figures indicate that there are about 241 teachers in this category, with 110 in Irbid, 33 in Jerash, 40 in Ajloun, and 58 in Mafrq; of them, 112 are male, and 129 are female.

Study Sample

The study sample was chosen from the broader community of support teachers at inclusive public schools in northern Jordan using a stratified

random sampling technique. There were 199 individuals in the final sample (116 females and 83 males). The number of individuals who participated in the study was established based on Krejcie and Morgan's (1970) finite population sample table. This ensured the research would have sufficient statistical power and a representative sample.

To increase the validity of the study results, the sample was stratified according to four major demographics, namely, gender, educational background, years of teaching experience, and geographic location. Participants were randomly selected from each stratum in proportion to its representation in the target population. The subjects who were included in the study were those who were currently working in public schools under the Jordanian Ministry of Education during the second term of the 2024/2025 academic year (refer to Table 2 below).

Table 2
Distribution of the Study Sample According to Gender, Academic Qualification, Years of Experience and Region

Variable	Category	Freq.	%
Gender	Male	83	41.7
	Female	116	58.3
Academic Qualification	Bachelor's Degree	150	75.4
	Postgraduate Studies	49	24.6
Years of Experience	Less than 10 years	105	52.8
	10 years or more	94	47.2
Region	Irbid	85	42.7
	Jerash	30	15.1
	Ajloun	34	17.1
	Mafraq	50	25.1
	Total	199	100.0

The total number of learning support teachers as respondents for this study is 199. The gender of the respondents is presented in Table 2. Female teachers form the majority in the education field, as they constitute 58.3% (n=116), whereas the remaining 41.7% (n=83) are male teachers. Moreover, about the academic qualifications of the respondents, most of the teachers have completed their studies up to the bachelor's degree level, which constitutes 75.4% (n=150). However, some teachers have acquired postgraduate degrees. This is evident from the percentage of 24.6% (n=49). On the other hand, 52.8% (n=105) have been teaching for less than 10 years.

Study Instrument

The main instrument used in this study to gather data on support teachers' application of ABA strategies to students with learning difficulties was a structured questionnaire. The instrument was constructed after a thorough analysis of the pertinent literature (Al-Ajarmah & Al-Khatib, 2018; Alhossein, 2015; Alsheikh, 2018). The 16 items in the first round of the questionnaire were split equally across three primary

domains: 1. methods for boosting desirable behavior; 2. methods for reducing unwanted conduct; and 3. strategies for controlling target behavior.

The essential components for implementing ABA in inclusive settings are listed below. Since Arabic is the native tongue of the study participants, the questionnaire was created in that language to ensure accurate findings. Testing and content validation were used to validate the questionnaire.

A five-point Likert scale, spanning from strongly agree (5) to strongly disagree (1), was used to gauge the pupils' responses. The data were interpreted using the following classification criteria:

- Low level of implementation: 1.00–2.33
- Moderate level of implementation: 2.34–3.67
- High level of implementation: 3.68–5.00

The categorization was obtained using the following formula:

$$(\text{Highest Value} - \text{Lowest Value}) / (5 - 1) / 3 = 1.33$$

The participating instructors' application of ABA methods was judged through a methodical and comprehensible assessment that was made possible by this structured scoring procedure. Additionally, it provides information on the development of the three domains' respective strengths and opportunities.

Although the questionnaire measured teachers' actual implementation of ABA techniques rather than TPB constructs directly, the instrument was conceptually informed by the Theory of Planned Behavior. The measured behavioral domains represent the behavioral outcome of teachers' intentions, while professional qualifications and years of experience are interpreted as contextual indicators that support perceived behavioral control.

Validity and Reliability Study Instrument

Validity of the Instrument: To determine the validity of the study instrument, a panel of ten experts from Jordanian higher education institutions, specializing in special education and educational assessment, evaluated the original version of the questionnaire. The experts were selected based on their prior involvement in instrument creation or validation procedures, job experience (five or more years in special education or educational evaluation), and academic qualifications (Master's degree and above). The statements' clarity, relevance, and consistency with the field and study objectives were evaluated by the experts. Eighty percent of the expert review responses recommended that certain statements be updated; following the adjustments, sixteen items were ultimately developed across three domains: increasing desirable behavior (Items 1–5), decreasing undesirable behavior (Items 6–10), and managing target behavior (Items 11–16).

Construct validity was further examined through a pilot study with 30 learning support teachers outside the main sample. Item–total correlations ranged from 0.49 to 0.78, and item–domain correlations ranged from 0.41 to 0.67, all statistically significant at the 0.05 level. Correlations between the domains and the total score also demonstrated significant associations, confirming the instrument's construct validity.

Reliability of the Instrument

The reliability of the scale was estimated via test–retest and internal consistency techniques. A small-scale sample of 35 instructors excluded from the main study participated in the survey twice, separated by two weeks. Test-retest reliability indices had high values, ranging from 0.81 to 0.86 in individual domains and 0.90 for all items combined. Additionally, the first administration's Cronbach's alpha coefficients showed an overall alpha of 0.86 with reliability values ranging from 0.77 to 0.80 in certain categories.

It is important to note that the questionnaire items were conceptually based on ABA principles and drew from earlier research (Al-Ajarmeh & Al-Khatib, 2018; Alhossein, 2015; Al-Sheikh, 2018). To ensure conceptual consistency and compatibility with the theoretical framework, each item was meticulously mapped to one of the three domains of ABA (raising desirable behaviors, reducing undesirable behaviors, and regulating target behaviors).

RESULTS

Results of Research Question 1: "1. What is the degree of implementation of ABA techniques by support teachers teaching in inclusive public schools while assisting learning disabled students from the teachers' point of view?"

The means and standard deviations of the respondents' answers regarding their self-reported level of applying ABA techniques were calculated. Table 3 illustrates the results.

Table 3
Means and Standard Deviations of Support Teachers' Self-Reported Level of Applying ABA Techniques, Arranged by Domain

Rank	N	Domain	M	SD	Level
1	1	Techniques for Increasing Desirable Behavior	4.15	0.43	High
2	3	Techniques for Target Behavior Management	4.00	0.48	High
3	2	Techniques for Decreasing Undesirable Behavior	3.45	0.47	Moderate
		Overall Score	3.88	0.36	High

According to Table 3, the average score for the total implementation of ABA techniques is relatively high ($M = 3.88$, $SD = 0.36$). For example, the technique for increasing desirable behavior has obtained the highest average value ($M = 4.15$), followed by the target behavior management technique ($M = 4.00$), both considered "high." On the other hand, the technique for decreasing undesirable behavior has achieved an intermediate average value ($M = 3.45$).

Results of Research Question 2: "2. Is there a significant difference between the degree of implementation of ABA techniques by support teachers teaching in inclusive public schools based on gender, educational background, experience, and location at $\alpha=0.05$ significance level?"

The means and standard deviations of the respondents' estimates concerning the level of application of ABA techniques were calculated according to the variables of gender, academic qualifications, years of experience, and region. Table 4 presents these descriptive statistics.

Table 4

Means and Standard Deviations of the Level of Implementation of ABA Techniques by Learning Support Teachers with Students with Learning Disabilities According to Gender, Academic Qualification, Years of Experience and Region

Variable	Category		M Domain 1 SD Techniques for Increasing Desirable Behavior	Domain 2 Techniques for Target Behavior Management	Domain 3 Techniques for Decreasing Undesirable Behavior	Overall Score
Gender	Male	M	4.18	3.50	4.10	3.94
		SD	0.40	0.51	0.49	0.33
	Female	M	4.13	3.42	3.93	3.83
		SD	0.44	0.42	0.45	0.36
Academic Qualification	Bachelor's Degree	M	4.01	3.34	3.83	3.74
		SD	0.46	0.39	0.43	0.32
	Postgraduate Studies	M	4.30	3.57	4.19	4.03
		SD	0.31	0.50	0.45	0.32
Years of Experience	Less than 10 years	M	4.08	3.39	3.91	3.80
		SD	0.44	0.42	0.44	0.32
	10 years or more	M	4.37	3.64	4.27	4.10
		SD	0.28	0.55	0.49	0.35
Region	Irbid	M	4.13	3.44	3.97	3.86
		SD	0.40	0.44	0.45	0.32
	Jerash	M	4.14	3.47	4.06	3.90
		SD	0.55	0.53	0.59	0.47
	Ajloun	M	4.19	3.51	3.99	3.90
		SD	0.43	0.52	0.45	0.39
	Mafraq	M	4.16	3.41	4.02	3.88
		SD	0.37	0.43	0.47	0.30

From the results in Table 4, it is clear that the use of ABA procedures among support teachers shows a pattern in the number of years of experience and academic achievement attained through training. Teachers with more than ten years of experience, as well as teachers with postgraduate qualifications, reported higher means. This result indicates that experience and education play a role in promoting the proper use of ABA methods. As for gender, the differences between male and female teachers are minimal. Although male teachers reported higher means, geographical differences between regions are marginal.

The highest domain means were reported in the increasing desirable behavior domain, while the lowest means were recorded in the decreasing undesirable behavior domain. A four-way MANOVA and a four-way

ANOVA were used to establish the statistical significance of the differences, as illustrated in Tables 5 and 6, respectively.

Table 5
Four-Way Multivariate Analysis of Variance (MANOVA) for the Effects of Demographic Variables

Source of Variance	Domain	Sum of Squares	df	Mean Square	F Value	Sig.	Partial Eta Squared
Gender Hotelling's Trace = .021 Partial Eta Squared = .020	Techniques for Increasing Desirable Behavior	.505	1	.505	3.252	.073	.017
	Techniques for Target Behavior Management	.017	1	.017	.082	.774	.000
	Techniques for Decreasing Undesirable Behavior	8.18	1	8.18	.000	.984	.000
Academic Qualification Hotelling's Trace = .072 Partial Eta Squared = .067	Techniques for Increasing Desirable Behavior	1.285	1	1.285	8.276	.004	.041
	Techniques for Target Behavior Management	1.143	1	1.143	5.595	.019	.028
	Techniques for Decreasing Undesirable Behavior	1.575	1	1.575	8.157	.005	.041
Years of Experience Hotelling's Trace = .137 Partial Eta Squared = .121	Techniques for Increasing Desirable Behavior	2.836	1	2.836	18.266	.000	.087
	Techniques for Target Behavior Management	1.252	1	1.252	6.128	.014	.031
	Techniques for Decreasing Undesirable Behavior	3.304	1	3.304	17.110	.000	.082
region Wilks' Lambda = .983 Partial Eta Squared = .006	Techniques for Increasing Desirable Behavior	.097	3	.032	.208	.891	.003
	Techniques for Target Behavior Management	.263	3	.088	.429	.733	.007
	Techniques for Decreasing Undesirable Behavior	.200	3	.067	.345	.793	.005
Error	Techniques for Increasing Desirable Behavior	29.807	192	.155			
	Techniques for Target Behavior Management	39.236	192	.204			

Total	Techniques for Decreasing Undesirable Behavior	37.082	192	.193
	Techniques for Increasing Desirable Behavior	35.797	198	
	Techniques for Target Behavior Management	43.277	198	
	Techniques for Decreasing Undesirable Behavior	45.500	198	

The results of the four-way MANOVA presented in Table 5 indicate that the effects of demographic variables on support teachers' implementation of ABA techniques varied across the examined factors. Regarding gender, the multivariate test revealed no statistically significant effect on the overall application of ABA techniques (Hotelling's Trace = .021, $p > .05$), with a very small effect size (partial $\eta^2 = .020$). Although male teachers reported slightly higher mean scores in some domains, the findings suggest that gender does not represent a substantial factor influencing the implementation of ABA practices.

In contrast, academic qualification demonstrated a statistically significant multivariate effect on the application of ABA techniques (Hotelling's Trace = .072, $p < .05$), with a small-to-moderate effect size (partial $\eta^2 = .067$). The univariate results further indicated significant differences across the three domains of ABA implementation, including techniques for increasing desirable behavior ($F = 8.276$, $p = .004$, partial $\eta^2 = .041$), target behavior management ($F = 5.595$, $p = .019$, partial $\eta^2 = .028$), and decreasing undesirable behavior ($F = 8.157$, $p = .005$, partial $\eta^2 = .041$). These findings indicate that higher academic preparation may contribute to enhanced competency in applying ABA procedures, possibly due to greater exposure to theoretical knowledge and evidence-based behavioral interventions.

Similarly, years of teaching experience showed a statistically significant multivariate effect on ABA implementation (Hotelling's Trace = .137, $p < .001$), with the largest effect size among the demographic variables examined (partial $\eta^2 = .121$). Significant differences were observed in increasing desirable behavior ($F = 18.266$, $p < .001$, partial $\eta^2 = .087$), target behavior management ($F = 6.128$, $p = .014$, partial $\eta^2 = .031$), and decreasing undesirable behavior ($F = 17.110$, $p < .001$, partial $\eta^2 = .082$). This finding highlights the important role of accumulated professional experience in developing teachers' practical competence and confidence in applying ABA techniques within inclusive educational settings.

Conversely, geographic region did not demonstrate a statistically significant multivariate effect on ABA implementation (Wilks' Lambda = .983, $p > .05$), and the associated effect size was negligible (partial $\eta^2 = .006$). The absence of significant regional differences suggests that support teachers working across the northern Jordanian regions demonstrate

relatively similar levels of ABA application, which may reflect the consistency of Ministry of Education policies, professional requirements, and training opportunities provided across these regions.

Overall, the findings indicate that professional characteristics, particularly academic qualification and teaching experience, are more influential predictors of ABA implementation than demographic characteristics such as gender and geographic location. These results emphasize the importance of continuous professional development and targeted training opportunities to strengthen support teachers' competencies in evidence-based behavioral practices.

Table 6
Four-Way ANOVA Analysis of the Impact of Gender, Years of Experience, Academic Qualification, and Region on the Application Level of ABA Techniques by Learning Support Teachers in Inclusive Public Schools

Source of Variance	Type III Sum of Squares	df	Mean Square	<i>F</i>	Sig.	Partial Eta Squared
Gender	.071	1	.071	.711	.400	.004
Academic Qualification	1.343	1	1.343	13.509	.000	.066
Years of Experience	2.426	1	2.426	24.398	.000	.113
region	.094	3	.031	.315	.814	.005
Error	19.092	192				
Total	3014.117	198				

The results of the four-way ANOVA presented in Table 6 examined the effects of gender, academic qualification, years of teaching experience, and geographic region on the overall level of implementation of ABA techniques among learning support teachers in inclusive public schools. The findings revealed that the effects of demographic and professional characteristics varied considerably across the examined variables.

The results indicated that gender did not have a statistically significant effect on teachers' overall implementation of ABA techniques ($F = 0.711$, $p = .400$), with a very small effect size (partial $\eta^2 = .004$). This finding suggests that male and female support teachers demonstrate comparable levels of ABA application, indicating that gender is not a determining factor in teachers' behavioral intervention practices.

In contrast, academic qualification had a statistically significant effect on the level of ABA implementation ($F = 13.509$, $p < .001$), with a small-to-moderate effect size (partial $\eta^2 = .066$). This result indicates that teachers' educational preparation contributes to differences in their ability to apply ABA techniques. Teachers with higher academic qualifications may possess greater theoretical understanding and methodological preparation, which can enhance their capacity to implement evidence-based behavioral strategies effectively.

Furthermore, years of teaching experience emerged as the strongest predictor among the examined variables, demonstrating a statistically significant effect on ABA implementation ($F = 24.398$, $p < .001$), with the largest effect size (partial $\eta^2 = .113$). This finding indicates that accumulated professional experience plays an important role in developing

teachers' practical competence, classroom management skills, and confidence in applying ABA procedures with students with learning disabilities.

Conversely, geographic region did not significantly influence the overall implementation of ABA techniques ($F = 0.315, p = .814$), and the effect size was negligible (partial $\eta^2 = .005$). This suggests that support teachers across the different regions included in the study exhibit similar levels of ABA implementation, possibly due to the standardized nature of educational policies, professional guidelines, and training opportunities provided by the Jordanian Ministry of Education.

Overall, the findings demonstrate that professional factors, particularly academic qualification and teaching experience, are more influential in explaining variations in ABA implementation than demographic factors such as gender and geographic location. These results highlight the importance of sustained professional development initiatives that strengthen teachers' knowledge, practical skills, and applied competencies in ABA-based interventions.

Results of Research Question 3: "3. *What will be the structure of a competency-based training program aimed at improving support teachers' use of ABA techniques among learning disabled students?*"

The proposed national training program, titled "Applied Competency Program in ABA for Support Teachers," was designed to enhance teachers' practical skills in implementing ABA techniques within inclusive classroom environments across various regions.

The Delphi method was used to verify the validity of the "Applied Competencies in ABA for Supporting Teachers' program. This method is most widely used in developing educational programs and assessing their validity through professional consensus among experts (Skulmoski et al., 2007). The Delphi method was applied in three consecutive rounds with the participation of ten experts specializing in special education and behavior analysis from Jordanian universities and official training institutes. The first round presented the program in its initial form and obtained experts' evaluations and qualitative comments on the objectives, content, and implementation mechanisms. The second round included reviewing the program after initial modifications and presenting it with an evaluation form consisting of four main domains using a Likert scale (from 1 to 5). The experts' content validity ratio (CVR), which varied from 0.80 to 1.00, was used in the third round to confirm the level of consensus. The suggested program's content validity is improved by these high percentages, which show a high degree of agreement. This measure indicates that the program has an acceptable degree of professional validation and methodological content and is suitable for pilot application within professional development programs for support teachers working in inclusive education.

1. Vision and Objectives

1. Vision: To empower support teachers in Jordan with advanced and systematic competencies in implementing ABA techniques to support students with learning disabilities within inclusive educational settings.
2. Specific Objectives:

- 1. To improve comprehension of the concepts and techniques related to applied behavior analysis.
- 2. To develop competencies in developing customized BIPs.
- 3. To develop competencies in observation, assessment, and data analysis.
- 4. To employ evidence-based methods to increase desired behavior and reduce undesired behavior.
- 5. To help teachers with poor qualifications and those having fewer than 10 years of teaching experience.

3. Target Group

- Participants: support teachers in inclusive classrooms in Jordanian public schools.
- Priority: holders of a bachelor's degree or less and less than ten years of teaching experience.

2. Program Content

The proposed competency-based training program is directly informed by the empirical findings of the current study. Specifically, the moderate performance observed in techniques for decreasing undesirable behavior justified the inclusion of a dedicated training module addressing ethical behavior-reduction strategies. Likewise, significant differences in professional qualification and teaching experience guided the prioritization of novice teachers and teachers holding a bachelor's degree.

Table 7

Competency-Based Training Program

No	Module	Subtopics	Duration
1	Introduction to ABA	Key principles – Core concepts – Educational applications	6 hours
2	Techniques for Increasing Desired Behavior	Types of reinforcement – Reinforcement schedules – Motivation strategies	8 hours
3	Techniques for Reducing Undesired Behavior	Positive/negative punishment – Extinction – Ethical considerations	6 hours
4	Designing Individualized Behavior Intervention Plans (BIP)	Behavior identification – Functional analysis – Goal setting – Implementation	10 hours
5	Behavioral Observation and Data Analysis	Recording tools – Graphing – Documentation and reporting	6 hours
6	Practicum & Classroom Observation	Case studies, Role - playing, Feedback sessions	8 hours
Total Duration			44 Training Hours

Based on the findings of the current study, a competency-based training program was proposed to enhance support teachers' competencies in implementing ABA techniques with students with learning disabilities. The proposed program was not developed as a general training framework; rather, it was designed to address the specific areas of need identified through the empirical results. In particular, the findings highlighted the importance of strengthening teachers' competencies in reducing

undesirable behaviors and indicated that academic qualification and teaching experience were associated with variations in ABA implementation. Therefore, the proposed training program incorporates targeted modules that respond to these findings and prioritize practical application, guided practice, and continuous professional development. Table 8 presents the alignment between the main study findings and the corresponding components of the proposed training program.

Table 8
Alignment Between the Study Findings and the Proposed Competency-Based Training Program

Empirical Finding	Implication for the Proposed Training Program
Lower performance in techniques for decreasing undesirable behavior	Include a dedicated module on evidence-based and ethical behavior-reduction strategies.
Significant differences according to academic qualification	Prioritize teachers holding bachelor's degrees for foundational ABA training.
Significant differences according to years of teaching experience	Provide intensive practical training and coaching for less experienced teachers.
High performance in techniques for increasing desirable behavior	Include advanced activities to strengthen and extend existing competencies.

3. Training Methodology

- Interactive workshops & hands-on activities.
- Practical training using video analysis & context - specific case studies.
- In-class observation under direct supervision.
- Group-based data analysis and feedback sessions.
- Integration of digital tools and mobile applications for behavioral tracking and analysis.

4 Program Deliverables

- Official certificate of participation accredited by the Ministry of Education.
- A professional teaching portfolio including a complete behavior intervention plan developed by each participant.
- Pre- and post - program assessment to measure skill acquisition and growth.

5. Monitoring and Evaluation Tools

1. Pre-and post-training performance assessment tools.
2. Classroom observation checklists to evaluate real-world implementation.
3. Trainee satisfaction surveys.
4. Post-implementation interviews and feedback sessions for qualitative evaluation.

6. Policy Recommendations

It is recommended that the program be integrated into the Ministry's official Continuous Professional Development (CPD) framework. Also,

the program should be mandated for newly appointed support teachers within their first two years of service. In addition, an online learning community is suggested that includes training materials, video lectures, and discussion boards. Finally, it is recommended that a national case bank of behavioral problems collected from Jordanian classrooms be curated.

DISCUSSION

As seen from the findings, there is a great deal of application of the ABA methodology ($M = 3.88$). The findings can be interpreted by employing the seven dimensions of the ABA as identified by Baer et al. in 1968: application, behavior, analysis, technology, conceptual system, effectiveness, and generality. Apart from the theoretical framework of ABA, they act as the basis for evaluating its applications in education.

The first point to note is that the applied aspect is evident from the stress laid by the teachers on the need to increase desirable behavior ($M = 4.15$). The socially significant behaviors that affect the learners' functioning are stressed in this aspect. This is supported by the fact that modeling and reinforcement techniques are preferred for the learning support teachers.

Second, the instructors' ability to identify and modify target behaviors indicates the behavioral and analytical dimensions ($M = 4.00$). This result indicates that the two dimensions highlight the significance of behavior and the functional relationship between behavior modification and the implemented intervention. From the results, it can be deduced that the teachers understand how to measure behavior very well.

Nevertheless, the moderately good score on the dimension of decreasing undesirable behaviors ($M = 3.45$) suggests some shortcomings in fulfilling the technological and conceptual systematic dimensions. The technological dimension denotes the clarity and replicability of the procedures, whereas "conceptual systematicity" means that the employed techniques have been developed based on sound behavioral theories. The relatively poor application of behavior reduction techniques can be viewed as evidence of low procedural skills or a lack of awareness of the ethical application of certain techniques involving punishment, extinction, or response cost. This result confirms Hemmeter et al.'s (2022) earlier observations that teachers, particularly those working in inclusive settings, might not have adequate knowledge of such behavioral techniques.

Concerning the effectiveness and generality dimensions, the study's findings suggest strong potential. The high prevalence of reinforcement approaches, together with good application of behavioral planning, indicates that support teachers are indeed bringing about behavior change in a generalizable way. However, the reduction methods for relatively weak behaviors may hinder the sustainability and generalizability of results, especially because some learners suffer from both learning and behavior difficulties.

In conclusion, while the current implementation of ABA among support teachers aligns with many of Baer et al.'s (1968) foundational dimensions, especially the applied, behavioral, and analytic, it also reveals critical areas for professional development. Specifically, enhancing teachers' competence in behavior-reduction strategies and deepening their understanding of technological and ethical frameworks would further align

their practices with the comprehensive vision of ABA as a science of meaningful, effective, and socially valid change.

The findings of the present study provide additional evidence regarding the implementation of ABA techniques by support teachers in Jordanian public schools. Interpreting these findings through the TPB offers a clearer explanation of the factors associated with teachers' implementation of ABA practices.

The study found no statistically significant differences in the implementation of ABA according to teachers' gender. From the perspective of TPB, this finding suggests that male and female support teachers may hold comparable attitudes toward ABA, perceive similar professional expectations (subjective norms), and experience similar levels of perceived behavioral control when implementing ABA practices. Consequently, gender alone does not appear to influence teachers' implementation behavior. This finding differs from earlier studies conducted by Alhossein (2015) and Mubarak (2021), which reported gender-related differences. These discrepancies may reflect differences in educational contexts, professional development opportunities, or institutional conditions across studies rather than gender itself.

In contrast, significant differences were observed according to teachers' professional qualifications and years of teaching experience. From a TPB perspective, teachers with postgraduate qualifications and greater teaching experience are likely to possess stronger perceived behavioral control, reflecting greater confidence in their ability to implement ABA techniques effectively. Advanced academic preparation provides teachers with deeper theoretical understanding, stronger analytical skills, and greater familiarity with evidence-based instructional practices. In the meantime, professional experience enhances their competence in adapting behavioral interventions to authentic classroom situations. These findings are consistent with the TPB assumption that individuals who perceive themselves as capable of performing a behavior are more likely to engage successfully with this behavior. They also align with the scientific principles of ABA, which emphasize systematic observation, data-based decision-making, and evidence-based intervention planning (Baer et al., 1968).

The results also indicated no statistically significant differences in ABA implementation according to the geographical location. Within the TPB framework, this finding may indicate that support teachers across the participating governorates experience comparable professional expectations (subjective norms) and similar levels of perceived behavioral control regarding ABA implementation. Because the present study did not examine differences in institutional resources, school leadership, or regional educational policies, these factors cannot be confirmed as explanations for the observed findings. Instead, the results suggest that teachers' professional characteristics, particularly qualification and experience, may play a more influential role than geographical context in explaining variations in ABA implementation.

Although cultural values and ethical considerations may influence teachers' preferences when selecting specific ABA procedures, particularly those involving behavior reduction strategies, the present study did not directly investigate these factors. Therefore, their influence

cannot be confirmed based on the current data and should be explored in future qualitative or mixed-methods research to provide a more comprehensive understanding of teachers' decision-making processes when implementing ABA practices.

Overall, the findings support the usefulness of the Theory of Planned Behavior as a framework for explaining teachers' implementation of ABA techniques. Specifically, professional qualification and teaching experience appear to strengthen teachers' perceived behavioral control, thereby increasing their confidence in implementing ABA strategies effectively. At the same time, the absence of significant differences according to gender and geographical location suggests that implementation behavior is influenced more by professional competence than by demographic characteristics.

The findings also have practical implications for teacher preparation and professional development within inclusive education. From a TPB perspective, strengthening teachers' perceived behavioral control through competency-based training, supervised practice, and continuous professional development may enhance their ability to implement ABA techniques consistently and effectively. Consequently, educational authorities may consider integrating structured ABA training into pre-service teacher education and in-service professional development programs to improve teachers' implementation of evidence-based behavioral practices.

Finally, the findings may have implications for inclusive education policies that support the broader objectives of Sustainable Development Goal 4 (SDG 4), particularly improving teachers' professional competence and promoting equitable educational opportunities for students with learning disabilities. However, because the present study did not directly measure educational quality or SDG-related outcomes, these implications should be interpreted with appropriate caution. Future research should examine whether improvements in teachers' ABA implementation translate into measurable gains in student learning, behavioral outcomes, and inclusive educational quality.

RECOMMENDATIONS

Considering the current results, a great need arises to develop and adopt a strategy at the national level that aims to improve the competence levels of learning support teachers concerning the implementation of ABA techniques. This is because ABA is vital in helping children with special needs integrate into regular schools. It is therefore recommended that the Ministry of Education should take the lead in developing a unique and sustainable program that integrates ABA theoretical and practical skills. Specifically, much effort should be directed towards advanced techniques, including response cost, extinction, and overcorrection, to prove effective in altering behavior and developing the academic and social abilities of students. Furthermore, there must be a significant role by the directors of education, especially from the Irbid governorate, in training teachers in a way that fits their needs regularly. Training should be done for teachers without high educational qualifications or the required number of teaching years, reducing the differences between inexperienced teachers and

experienced teachers. In this connection, learning support teachers should be encouraged to acquire higher-level qualifications through incentives.

In addition, the directorates of education, particularly in the governorate of Irbid, need to take an initiative in organizing training programs for teachers to respond to their needs. Training programs must focus on teachers with fewer educational qualifications and years of experience, thus reducing the competency gap between teachers with fewer years of experience and those with more experience. The guide would offer practical examples on how to implement ABA principles within the Jordanian educational context. To enhance the effectiveness of the training program, it is recommended to adopt a collaborative supervisory model. Through this model, experienced teachers would be able to mentor their colleagues by working in supervision sessions.

In the end, the researchers and educational researchers are supposed to conduct future experimental research on the effectiveness of the training programs for acquiring professional competence among learning support teachers. This type of scientific investigation will help improve the quality of education provided to disabled children. Future research is advised to use the longitudinal method in studying the sustainability and effect of ABA interventions in educational establishments. The mixed method, which involves quantitative data and qualitative data obtained during interviews with teachers, can help provide a more complete understanding of the topic under discussion. It would be helpful to conduct future research not only in Amman but also in other regions of Jordan or other Arab countries.

CONCLUSION

The current research study looked at how support teachers used ABA principles in their work with students who have learning disabilities in Jordanian public schools. The results indicated a high degree of implementation in terms of promoting desirable behavior, followed by behavior targeting and undesirable behavior reduction. The level of implementation showed significant variation in educational qualifications and number of years of teaching experience, favoring teachers who have obtained postgraduate degrees and those who have had at least ten years of teaching experience. Nevertheless, there were no significant differences based on gender. This result highlights professional training programs according to the educational and teaching background of the teachers. In light of these results, a national competency-based training program was crafted to improve the professional capabilities of support teachers in the effective and ethical use of ABA techniques.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Nevertheless, along with the valuable information acquired during this research, certain limitations need to be addressed. The first one concerns the possibility of biasing responses with the help of the questionnaire used for data collection. Second, although certain demographic variables, namely gender, education level, years of professional experience, and geographic location, were taken into account. Other variables, such as teachers' attitudes towards the use of technology, school infrastructure, and students' characteristics, were disregarded. Future studies should take into

consideration these limitations, and, for this purpose, a broader survey should be carried out involving a larger sample group of teachers from different geographic locations and with diverse characteristics. In addition, it would be beneficial to continue research using a longitudinal approach. Furthermore, an investigation could be conducted on qualitative approaches to enrich current findings with qualitative information. Furthermore, it might be useful to carry out a comparative study to examine the effects of a new national competency-based training program.

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