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Professional Training Needs of Children with Disability Teachers to Develop Logical Thinking in their Early Childhood Students

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Abstract

Objectives: The study aimed to assess the professional training needs of teachers working with children with disabilities to enhance their logical thinking skills during early childhood.

Methods: A descriptive-analytical approach was used, with a questionnaire to collect data. The study included 300 teachers of students with disabilities in early childhood in Saudi Arabia.

Results: The results indicated that teachers of children with disabilities in early childhood demonstrated moderate training needs in the following areas: cognitive skills, planning skills, executive functioning skills, technical skills, and assessment skills. These skills are crucial for developing logical thinking in their students. The overall average professional training needs score was 2.091, which falls within the moderate range. The results did not show significant differences in professional training needs based on gender, educational qualification, or having more than ten years of experience. However, teachers with less than ten years of experience expressed a greater need for training in planning skills.

Conclusion: The study concluded that addressing the professional training needs of teachers working with children with disabilities is essential for enhancing logical thinking skills during early childhood. The study also emphasized the importance of continuous professional development to improve educational practices for children with disabilities during early childhood, including those aged 6 to 11 years.

Keywords: Training needs, special education teacher, logical thinking, early childhood education.

الاحتياجات التدريبية المهنية لمعلمي الأطفال ذوي الإعاقة لتنمية التفكير المنطقي لدى طلاب مرحلة الطفولة المبكرة

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ملخّص

الأهداف: هدفت الدراسة إلى تقييم الاحتياجات التدريبية المهنية للمعلمين الذين يعملون مع الأطفال ذوي الإعاقة لتعزيز مهارات التفكير المنطقي لديهم خلال مرحلة الطفولة المبكرة

المنهجية: تم استخدام منهج وصفي تحليلي، وتم استخدام استبيان لجمع البيانات. شملت الدراسة 300 معلمًا للطلاب ذوي الإعاقة في مرحلة الطفولة المبكرة في المملكة العربية السعودية.

النتائج: أشارت النتائج إلى أن معلمي الأطفال ذوي الإعاقة في مرحلة الطفولة المبكرة أظهروا احتياجات تدريبية معتدلة في المجالات الآتية: المهارات المعرفية، مهارات التخطيط، مهارات الأداء التنفيذي، المهارات التقنية، ومهارات التقييم. هذه المهارات ضرورية لتطوير التفكير المنطقي لدى طلابهم. بلغ متوسط الاحتياجات التدريبية المهنية الكلي 2.091، مما يقع ضمن التقدير المتوسط. لم تظهر النتائج فروقًا ذات دلالة في الاحتياجات التدريبية المهنية بناءً على: الجنس، المؤهل التعليمي، أو أكثر من عشر سنوات من الخبرة. ومع ذلك، عبر المعلمون الذين لديهم أقل من عشر سنوات من الخبرة عن حاجة أكبر للتدريب في مهارات التخطيط.

الخلاصة: خلصت الدراسة إلى أن تلبية الاحتياجات التدريبية المهنية للمعلمين الذين يعملون مع الأطفال ذوي الإعاقة أمر ضروري لتعزيز مهارات التفكير المنطقي خلال مرحلة الطفولة المبكرة. كما أكدت الدراسة على أهمية التطوير المهني المستمر لتحسين الممارسات التعليمية للأطفال ذوي الإعاقة خلال مرحلة الطفولة المبكرة التي تشمل الأطفال من سن6 إلى 11 عامًا.

الكلمات الدالة: الاحتياجات التدريبية، معلم التربية الخاصة، التفكير المنطقي، التعليم في مرحلة الطفولة المبكرة.

Introduction

The teacher plays a significant and essential role in the educational process of students with a disability in the early childhood stage. They also undertake many educational, educational, rehabilitative, and counseling tasks for students with disabilities (Al-Ahmari & Al-Qurini, 2023). The development of the education of students with disabilities is often linked to the quality of training, education, and treatment obtained by teachers. In reality, there are training needs for teachers of students with disabilities to develop the skills and abilities to work with students with disabilities (Hayes and Bulat, 2017).

Identifying the training needs for teachers of student with disabilities is an indicator that directs education toward the vision and basic goal of education and allows the teachers to achieve the necessary competencies (Muhammad, & Al-Banna, & Al-Mawli, 2020).

Accurately identifying professional training needs is a basic necessity for any training process provided to teachers of students with disabilities because of its impact on raising the level of teachers' competencies, skills, and knowledge towards the academic and educational aspects (Gavish, 2017). Therefore, it can be said that in-service vocational training seeks to bring about professional changes with cognitive awareness and teachers of students with disabilities will gain significant development in the educational and guidance process, in return, it also has an important role in improving the performance and results of students, especially students with special needs.

Early childhood is one of the most important stages of a student's mental and cognitive development. It is the starting point for the education ladder. At this stage, the student can learn life, social, and educational skills if he gets the appropriate educational environment. The creative educational environment develops the student's abilities and improves their level of performance physically, cognitively, linguistically, and emotionally.

Thinking is one of the skills that students need to develop at an early stage. It is one of the mental processes that characterize humans. through that, the student interprets and analyzes data to reach a specific result or goal. There are many types of thinking, the logical thinking is one of these types, which is known as a person's ability to think logically and soundly. It is the thinking that the student practices to help him find solutions to the problems or answer the questions (Shaner, 2016). Logical thinking contributes to making decisions and supporting creative ideas that help the individual develop and make him a positive influence in society. Logical thinking occurs in sequential steps, the children can learn and practice at an early age of education. Given the importance of logical thinking and teaching for students with disabilities, there is a need to know the professional training needed to develop logical thinking among students with disabilities, especially in the early childhood stage (Markovits, 2014).

Problem of the Study

The need to train and professionally qualify teachers is one of the prominent topics in education because it has a positive impact on improving the student's skills and abilities and developing their logical thinking. Al-Masaieed (2017) indicated that teacher preparation, professional training, cognitive qualification, and attention to skills and competencies contribute to achieving unique learning experiences for children while developing their logical thinking.

Also, the teacher's lack of familiarity with the experiences and methods to develop students' logical thinking throughout its stages is an obstacle that affects the teaching of skills and developing students' abilities in various areas of their lives. Therefore, modern trends in education emphasized the importance of knowing the training needs in preparing teachers, developing them professionally, and developing their skills and competencies to teach students logical thinking and use it in many areas of their lives (Toshpulatova and Kinjemuratova,2020).

Due to the modern educational trend towards teacher preparation and development to make the teacher an effective contributor to the success of the educational process, the urgent need to develop professional training programs for teachers has emerged to provide them with strategies to support students' education and skills.

Professional training of teachers is considered an essential aspect of education as it impacts the continuity of the educational process, to develop the teacher professionally, and to increase the efficiency of the educational institution's outputs (Kamal, 2003). Al-Shammari (2019) also pointed out that preparing a learning environment for students requires a

teacher who has professional skills and is culturally and scientifically equipped to develop students' logical thinking processes and build their educational future. Therefore, preparing the teachers and training them professionally is a key part of the educational process success.

Considering this, the current research problem can be defined in the following main question: What are the professional training needs for teachers of students with disabilities to develop logical thinking among their students in the early childhood stage? Following are the sub-questions emerged from the main research question:

1- What is the level of professional training needs of the dimensions: cognitive skills, planning skills, executive performance skills, technical skills, and assessment skills for teachers of students with disabilities to develop logical thinking skills in their students during early childhood?

2- Are there differences in the professional training needs for teachers of students with disabilities in the field of developing logical thinking skills due to their gender, academic qualifications, and years of experience?

Goals of the Study

This study aims to determine the professional training needs for teachers of students with disabilities to develop their students' logical thinking skills in the early childhood stage, which in turn can help supervisors and administrators appropriately prepare training programs for the teachers based on their actual needs and based on their experiences and knowledge in the field of student logical thinking (Khalaf, 2021).

Research terms

Training Needs

According to Al-Qadi (2016), training needs "is a set of variables that are required to be created in teachers' academic and performance competencies to develop their teaching performance" (p. 79). It is defined procedurally as the information, skills and attitudes required to be created in the teacher in order to develop him scientifically and practically (Al-Sayed, 2013).

In this study, training needs are the scores obtained by the respondents on the five dimensions of the questionnaire developed for the purpose of this study: cognitive skills, planning skills, executive performance skills, technical skills, and assessment skills.

Teachers of Children with Disability

They are specialized and trained teachers who possess cognitive, psychological, and practical skills. They have the ability and knowledge to use various strategies to teach and develop thinking, listening, motor, and mental skills among students with disabilities. They also have knowledge in organizing teaching skills and teaching students scientific thinking in solving problems and developing their skills (Kilgallon & Maloney, 2003).

In this study, they are the teachers of students with disabilities aged from 6 to 11 and work in government inclusive schools in various regions (Riyadh, Makkah Al-Mukarramah, Medina, Al-Sharqiyah, Jazan, Asir, Hail, and the Northern Borders) in the Kingdom of Saudi Arabia who participated in this study by responding to the questionnaire developed to achieve its purpose.

Logical Thinking

The researchers defined logical thinking as a type of thinking that helps the learner reach the best answer to questions or a solution to the problem for which we are trying to find a solution. It also allows the learners to talk about the reasons for the occurrence of problems related to scientific phenomena, which allows for solutions to be found through observation, educational activities, and thinking (Dettmer, 2007). And this definition was adopted in this study.

Early childhood education:

It is the field of study that refers to schools that provide their services to children from the age of 6 years to the age of 9 years and is sometimes referred to as early education, where the student obtains his educational, cognitive, and physical needs *(Bers, Ponte, Juelich, Viera, & Schenker, 2002).*

In this study it is referred to all early childhood education programs that provide services to children aged from 6 to 11 years old in different regions of the Kingdom of Saudi Arabia.

Literature Review

Identifying and determining the training needs and qualifications of teachers is essential for achieving advanced education success, as it greatly contributes to enhancing teaching effectiveness and achieving desired educational outcomes (Tasu'ah and Martika,2023). Additionally, continuous training can provide teachers with modern tools and techniques to adapt their educational curricula and effectively use assistive technology. Therefore, focusing on developing teachers' skills in educating students with special needs contributes to creating an inclusive learning environment that ensures maximizing students' potential and enhancing their active participation in the learning process. Thus, the researchers collected studies related to the training needs of teachers of individuals with disabilities considering certain variables, which can be summarized as follows:

Several studies have investigated the training needs of educators in various specialties across different regions in the Middle East. Al-Subaie (2020) focused on special education supervisors in Saudi Arabia, finding differing degrees of training needs among female supervisors and teachers. Female supervisors showed high training needs in the general field, while female teachers exhibited high needs in individual educational programs. Meanwhile, Al-Shammari (2019) emphasized the importance of identifying training needs for special education teachers in Saudi public schools, highlighting high demands in evaluation, teaching methods, educational technology, and behavior modification. Similarly, Al-Ali (2016) explored the training needs of teachers of gifted students in Jordan, revealing no gender or experience-based differences but emphasizing needs in teaching, classroom management, and instructional planning. Additionally, Al-Agha (2018) investigated the training needs of secondary teachers in Palestine caring for outstanding students, discovering significant differences based on academic qualifications but not on gender or experience.

These studies collectively underline the critical importance of understanding and addressing the specific training needs of educators in diverse specialties and geographic contexts. By identifying areas of high demand such as evaluation, teaching methods, and instructional planning, stakeholders can tailor professional development initiatives to enhance teacher efficacy and ultimately improve outcomes for students with diverse learning needs. The findings emphasize the necessity of ongoing training programs that cater to the evolving demands of education, ensuring that educators are equipped with the skills and knowledge required to meet the diverse needs of their students effectively.

In another study by Al-Maamaria and Al-Taj (2017) on the training needs of special education teachers in the Sultanate of Oman and their relationship to some variables, the researchers aimed to shed light on the extent of teachers' need for training and development. This research underscores the critical role of ongoing professional development in supporting the effectiveness of special education teachers in addressing the diverse needs of students with disabilities. By focusing on the region of Buraimi Governorate, the study provides localized insights into the training landscape for special education teachers in Oman, highlighting potential challenges and areas for improvement. The findings reveal weak capabilities in the region concerning the availability of development programs and technology, indicating a pressing need for investment in infrastructure and resources to support teacher training and development. Furthermore, the absence of statistical significance in the relationship between variables such as gender, academic level, and experience with the level of training needs underscores the universal and continuous need for training and development among special education teachers. These findings emphasize the importance of prioritizing ongoing professional development initiatives tailored to the specific needs and contexts of special education teachers, ultimately enhancing their capacity to provide high-quality education and support for students with disabilities.

Al-Awfi's study (2020) aimed to identify the training needs in the specialized field, educational field, and personal field for teachers of integration schools from the teachers' point of view. The study reflects the researcher's recognition of the multifaceted challenges faced by teachers in integration schools, where students with disabilities are included in mainstream classrooms. By focusing on teachers' perspectives, the research delves into the intricacies of communication methods, behavior modification techniques for educational students, the integration of assistive devices in teaching special

education students, and the nuanced approaches special education teachers employ to address students' varying degrees and fields of disability. These findings not only shed light on the current training needs of teachers but also underscore the importance of tailored professional development programs. Such programs should address the specific challenges identified in the study, equipping teachers with the necessary skills and strategies to effectively support the diverse needs of students in integration schools. Ultimately, investing in targeted training initiatives is crucial for enhancing teacher efficacy, promoting inclusive education practices, and ensuring the holistic development of all students.

Arab's study (2020) aimed to identify the necessary training needs for special education teachers. Through this research endeavor, the researcher sought to address a critical gap in understanding the specific training requirements of educators tasked with supporting students with diverse learning needs. By focusing on the city of Tabuk, the study provides localized insights into the training landscape for special education teachers, highlighting potential areas for improvement and investment. The findings, which indicate average training needs among special education teachers, particularly in the academic domain, underscore the importance of targeted professional development initiatives. Importantly, the absence of statistically significant differences in training needs based on gender and years of experience suggests that training gaps may be pervasive across diverse demographic groups within the special education teaching community. This insight underscores the need for inclusive and equitable training programs that cater to the diverse needs and experiences of all educators. By addressing these identified training needs, stakeholders can better support the professional growth and effectiveness of special education teachers, ultimately enhancing their capacity to meet the unique needs of students with disabilities and foster inclusive learning environments.

The study by Yuwono and Okech (2021) underscores the critical importance of addressing the training needs of teachers in special education, particularly in inclusive settings. By highlighting the challenges faced by educators, such as managing large class sizes and navigating complex curriculum designs, the research sheds light on the intricate dynamics of teaching children with disabilities in early childhood education. These challenges directly impact teachers' ability to effectively support students with diverse learning needs, emphasizing the urgency of targeted professional development initiatives. Given the pivotal role of logical thinking development in early childhood education, it becomes evident that investing in specialized training programs is essential. Such programs can equip teachers with the necessary skills and strategies to overcome these obstacles and create inclusive learning environments conducive to the holistic development of all students, including those with disabilities.

Milić's (2021) study aimed to assess and enhance support for children with intellectual disabilities. It underscores the essential connection between the identified challenges faced by teachers in supporting children with intellectual disabilities and the corresponding required training needs. The findings emphasize the necessity for teachers to develop a deeper understanding of the diverse needs of these children, including areas such as socialization, literacy, and graphomotor skills. Effective training should focus on equipping educators with the skills to overcome language barriers and adapt teaching materials accordingly. Moreover, personalized teaching approaches and the utilization of assistive technology require specialized training to ensure optimal support for children with disabilities. The study highlights the ongoing need for professional development initiatives tailored to enhancing teachers' capabilities in meeting the unique needs of children with intellectual disabilities, reinforcing the importance of continuous learning and coaching in this field.

Moreover, Tasu’ah and Martika's (2023) study emphasizes the critical role of information literacy for teachers in supporting special needs children. It highlights the necessity for diverse skills acquisition to address the challenges of inclusive education effectively. Using a mixed methods approach, it examined the impact of teachers' information literacy on facilitating literacy-numeracy activities for special needs children. Findings revealed that teachers with strong information literacy skills were better equipped to manage classroom learning for special needs children. Urgent training programs are needed to enhance teachers' information literacy, enabling them to design and implement effective educational programs for diverse learners. Investing in such training is essential for the success of inclusive education and meeting the needs of all students.

These findings underscore the importance of targeted professional development for teachers to enhance their ability to

support special needs students. Building on this foundation, the present study seeks to fill a critical gap in the existing literature by specifically examining the professional training needs of teachers to develop logical thinking skills in students with disabilities during early childhood education.

After surveying these previous studies, this study differs from previous studies, as none of the studies examined the professional training needs of teachers to develop logical thinking in their students with disabilities in early childhood education. To the researchers' knowledge, this is the only study that aimed to identify the professional training needs of teachers to develop logical thinking in their students with disabilities in early childhood education in the Kingdom of Saudi Arabia.

Significance of the Study

This study refers to the value of the study in the academic field, as it focuses on knowledge expansion about the professional training needs of teachers to develop logical thinking in early childhood students. It also helps in directing future research for academic discussion on this field. Moreover, this study has a role in solving practical problems that revolve around professional training needs for teachers to develop logical thinking among early childhood students in the academic field. Accordingly, this study results will be used to hold training courses for teachers of students with disabilities in the early childhood stage, and to clarify the most important professional training needs of teachers to develop logical thinking in their students with disabilities.

Research Methodology

The researchers used the analytical descriptive approach to collect facts and data to identify the professional training needs for teachers of students with disabilities to develop the logical thinking of their students in the early childhood stage, with an attempt to adequately explain these facts and reach generalizations about the phenomenon in question.

Research community:

the study participants were recruited from all special education programs of early childhood schools in the Kingdom of Saudi Arabia, which number 4017 in all administrative areas in the Kingdom of Saudi Arabia (Riyadh, Makkah, Medina, Eastern, Jazan, Asir, Hail, the northern border, Najran Al-Baha, Al-Jouf, Tabuk). The total number of target participants in all special education programs was 5022. Out of them, 300 participants completed the study survey.

Research Sample

The research sample was chosen randomly from teachers of children with disabilities in early childhood age from early childhood schools in the Kingdom of Saudi Arabia. The sample included two groups:

1. Psychometric Sample Group: The sample of the psychometric characteristics sample group was chosen randomly in order to verify the psychometric characteristics of the research instrument, and it consisted of (60) male and female teachers who were randomly selected from the original research community.
2. Research Main Sample: They were chosen randomly in order to test the research hypotheses and draw conclusions, and they totaled up to300male and female teachers. This sample is further explained in Table (1).

Table (1): Description of the participants in the main study according to demographic variables

no	**Search Variable**	**Variable Categories**	**Number**	**Percentage**
1	Gender	Male	180	60%
		Female	120	40%
2	Qualification	Bachelor	193	64,3%
		Postgraduate	107	35,7%
3	Year experience	Less than 10years of experience	119	39,7%
		10years or more of experience	181	60,3%
The total number			300	100%

Research Questionnaire

The study included a questionnaire on the professional training needs for teachers of students with disabilities to develop the logical thinking among their students in the early childhood stage. The questionnaire was prepared with the aim of measuring the level of professional training needs for teachers of students with disabilities to develop logical thinking among their students in the early childhood stage; this was done by following these steps:

- Reviewing the theoretical framework and previous studies that addressed the professional training needs for teachers of students with disabilities and some related standards found in studies (Al-Ali, 2016; Abu Nada & Al-Aker,2017); reviewing Al-Subaie's (2014) survey of the necessary training needs for special education teachers; reviewing Al-Maamaria & Al-Taj (2017) training needs scale for special education teachers; reviewing Al-Shammari's (2019) the questionnaire on the necessary training needs for special education teachers; reviewing Arabs'(2020)questionnaire on the training needs of special education teachers; reviewing Al-Awfi (2020) questionnaire on the level of training needs among teachers of integration schools, prepared by; in addition to reviewing studies that dealt with the development of logical thinking and its skills (Khalaf, 2021;Bassiouni, 2020).
- The researchers defined the concept of the professional training needs for teachers of students with disabilities to develop logical thinking among their students in the early childhood stage, using a specific procedure allowing some items to be formulated in light of this definition in order to reflect the degree of professional training need for teachers of students with disabilities. In its initial form, the questionnaire consisted of 47 items, divided into five dimensions: professional training needs in the field of cognitive skills which includes 7items, planning skills which includes 11 items, executive performance skills which includes10 items, and technical skills which includes10items, and finally, evaluative skills which includes (9) items. The questionnaire items are answered through three responses (the degree of professional training need is high, given 3 marks, the degree of professional training need is medium, given 2 marks, and the degree of professional training need is low, given one mark).
- The researchers presented the questionnaire in its initial form to a group of arbitrators with expertise and experience in the fields of special education and psychology. They expressed their opinions regarding the questionnaire, its items, the suitability of the items to the subject of the study, as well as in terms of the clarity of each item and the soundness of its wording and the progression of the response to the questionnaire items. Based on their opinions and comments, all items of the questionnaire were retained as the rate of agreement on all of them by the arbitrators reached 80% or more.
- The researchers applied the questionnaire to the exploratory sample, which consisted of 60 teachers of students with disabilities, in order to verify the psychometric properties of the questionnaire.

Psychometric Characteristics

The psychometric characteristics of the questionnaire were used to identify the professional training needs for teachers of student with disabilities to develop the logical thinking of their students in early childhood. These psychometric characteristics were calculated as follows.

Internal Consistency of the Instrument/Questionnaire

The researchers verified the internal consistency of the items and axes of the questionnaire by applying it to a survey sample of (60) male and female teachers of students with disabilities in the early childhood stage. This sample was chosen from the same original community of the basic research sample. The researchers then calculated the internal consistency by calculating the correlation coefficient between the items, and the total score for the dimensions to which it belongs. This is shown in Table (2).

Table (2): Internal consistency of the items of the study's questionnaire

The first dimension: Professional training needs in the field of cognitive skills.		The second dimension: Professional training needs in the field of planning skills.		The third dimension: Professional training needs in the field of executive performance skills.		The fourth dimension: Professional training needs in the field of technical skills.		The fifth dimension: Professional training needs in the field of corrective skills.	
	Correlation Coefficient		Correlation Coefficient		Correlation Coefficient		Correlation Coefficient		Correlation Coefficient
1	***0,776	8	***0,825	19	***0,821	29	***0,847	39	***0,910
2	***0,820	9	***0,871	20	***0,856	30	***0,937	40	***0,897
3	***0,871	10	***0,906	21	***0,845	31	***0,901	41	***0,888
4	***0,886	11	***0,878	22	***0,898	32	***0,914	42	***0,876
5	***0,894	12	***0,768	23	***0,911	33	***0,864	43	***0,866
6	***0,838	13	***0,869	24	***0,839	34	***0,868	44	***0,855
7	***0,754	14	***0,925	25	***0,888	35	***0,871	45	***0,859
		15	***0,866	26	***0,883	36	***0,764	46	***0,878
		16	***0,792	27	***0,816	37	***0,818	47	***0,817
		17	***0,851	28	***0,808	38	***0,930		
		18	***0,840						

N=60 ***p <0.001 **p<0.01 *p<0.05

It is clear from the results presented in Table (2) that all questionnaire items were associated with the total score of this dimension with correlation coefficients that ranged between (0.754) to (0.937), and they were all a function at the level of significance (0.01), which indicates the achievement of internal consistency for all items of the questionnaire.

The internal consistency of the dimensions of the questionnaire was also verified by calculating the Pearson correlation coefficients between the dimensions of the questionnaire and the total score, as shown in Table (3).

Table (3): Matrix of correlation coefficients between the dimensions and the total score

	The first dimension	The second dimension	The third dimension	The fourth dimension	The fifth dimension
The second dimension	***0,739				
The third dimension	***0,548	***0,823	---		
The fourth dimension	***0,589	***0,857	***0,827	--	
The fifth dimension	***0,508	***0,841	***0,881	***0,822	--
Total Score	***0,728	***0,956	***0,924	***0,926	***0,919

N=60 ***p<0.001 **p<0.01 *p<0.05

It is clear from the results presented in Table (3) that the dimensions of the questionnaire are related to each other with correlation coefficients that ranged from (0.508) to (0.956), all of which are statistically significant at the (0.01) level. A function at the level of significance (0.01), which indicates the achievement of internal consistency for the dimensions of the questionnaire, as evidenced by the results of Tables (2) and (3). The internal consistency of the items and dimensions of the questionnaire has been achieved.

Clauses Validity

The researchers verified the validity of the questionnaire by applying it to an exploratory sample consisting of (60)

male and female teachers with disabilities in early childhood, from the same original community of the basic research sample. The researchers then calculated the Pearson correlation coefficients between the degree of each item of the questionnaire and the degree of the dimension. The degree of this item is removed from it, and those calculations resulted in the results shown in Table (4):

Table (4): Validity of the items of the study's questionnaire

The first dimension		The second dimension		The third dimension		The fourth dimension		The fifth dimension	
	Correlation Coefficient		Correlation Coefficient		Correlation Coefficient		Correlation Coefficient		Correlation Coefficient
1	***0,703	8	***0,795	19	***0,774	29	***0,810	39	***0,885
2	***0,754	9	***0,842	20	***0,816	30	***0,921	40	***0,866
3	***0,823	10	***0,884	21	***0,802	31	***0,876	41	***0,854
4	***0,837	11	***0,849	22	***0,872	32	***0,892	42	***0,840
5	***0,844	12	***0,717	23	***0,888	33	***0,826	43	***0,826
6	***0,774	13	***0,840	24	***0,800	34	***0,836	44	***0,819
7	***0,654	14	***0,906	25	***0,859	35	***0,840	45	***0,819
		15	***0,838	26	***0,853	36	***0,707	46	***0,844
		16	***0,743	27	***0,775	37	***0,773	47	***0,766
		17	***0,816	28	***0,761	38	***0,912		
		18	***0,799						

*p<0.05 **p<0.01 N=60 ***p<0.001

Table (4) shows the correlation of all questionnaire items with the dimension degree they belong, deleting the item score, with correlation coefficients. The correlation coefficients ranged from (0.654) to (0.921) and all of them were statistically significant values at the level of (0.01). Thus, these results indicate the validity of the questionnaire items without deleting any item.

The stability of the resolution using Cronbach's alpha method. The researchers verified the stability of the questionnaire through Cronbach's alpha coefficient, for the dimensions and the total score of the questionnaire, and the results were as shown in Table (5).

Table (5): Stability coefficients using Cronbach's alpha method for the dimensions and the total score

The dimension	Number of items	Cronbach's alpha stability coefficient
The first dimension	7	0,926
The second dimension	11	0,962
The third dimension	10	0,959
The fourth dimension	10	0,964
The fifth dimension	9	0,960
Total Score	47	0,985

N=60

The results of the above table show that Cronbach's alpha coefficients for the dimensions of the resolution ranged from (0.926) to (0.964) and for the total score their value was (0.985). These values indicate that a high degree of stability has been achieved for the dimensions and the total score of the resolution.

Questionnaire Final Version

The results of internal consistency, reliability, and stability showed that the questionnaire in its final version consisted of 47 items, and the results indicated that the questionnaire was valid for application to the study sample.

The study teams contacted the general education administration in specific regions in Saudi Arabia, including Riyadh, Makkah Al-Mukarramah, Medina, Al-Sharqiyah, Jazan, Asir, Hail, and the Northern Borders. We requested the general education administration to send the study survey electronically to the target participants. It took around 60 days to collect data.

Questionnaire Corrections

The questionnaire is corrected so that 3 points are given for the "Yes" response,2 points are given for the "to some extent" response, and one point is given for the "No" response for all items of the questionnaire. The score on the first dimension of the questionnaire ranged between7 to 21degrees. The degree indicates the high level of this dimension indicates the high professional training needs in the field of cognitive skills, while the low score indicates low professional training needs in the field of cognitive skills. The score on the second dimension ranged from11 to 33 degrees. The high score in this dimension indicates a high professional training needs in the field of planning skills, while the low score indicates professional training needs in the field of skills. The score on the third dimension ranged from10 to 30. The high score in this dimension indicates an increase in professional training needs in the field of executive performance skills, while the low score indicates a decrease in professional training needs in the field of executive performance skills. The score on the fourth-dimension ranges between10 to 30 degrees. The high score in this dimension indicates an increase in professional training needs in the field of technical skills, while a low score indicates a decrease in professional training needs in the field of technical skills. The score on the fifth-dimension ranges from9 to 27degrees. The high score in this dimension indicates a high professional training need in this field, while the low score indicates low professional training needs in this field.

Research Results and Discussion:

First: Answering and discussing the first question:

To answer the first question, frequencies, percentages, and arithmetic averages were calculated for the responses of teachers of students with disabilities on the dimensions of the questionnaire. A standard was used to judge the questionnaire score according to the method of correcting a three-graded Likert scale, in Table (6).

Table (6): Weighted Means

Scale	corresponding degree	range	training needs degree
Low	1	From 1 to 1.66	Low
Medium	2	From 1.67 to 2.23	Medium
High	3	From 2.24 to 3	High

The results were as follows:

The first dimension: Professional training needs in the field of cognitive skills.

The results related to the first dimension of the questionnaire were as shown in Table (7).

Table (7): Frequencies and percentages on the first dimension

	First Dimension Table		Low	Medium	High	Mean	Standard deviations	Rank	Degree of training needs
1	Understanding the concept and nature of logical thinking and its importance	n	32	178	90	2,193	0,609	1	
		%	10,7	59,3	30				
2	Comprehending the higher cognitive mental processes of logical thinking	n	37	175	88	2,170	0,624	2	
		%	12,3	58,3	29,3				
3	Identify the stages of	n	48	182	70	2,073	0,624		

	First Dimension Table		Low	Medium	High	Mean	Standard deviations	Rank	Degree of training needs
	logical thinking	%	16	60,7	23,3			3	
4	Familiarity with logical thinking skills	n	64	179	57	1,977	0,636	6	
		%	21,3	59,7	19				
5	Understanding patterns of development of logical thinking processes	n	70	160	70	2,000	0,684	5	
		%	23,3	53,3	23,3				
6	Recognizing with the importance of training children on logical thinking and ways to develop it	n	64	157	79	2,050	0,690	4	Medium
		%	21,3	52,3	26,3				
7	Knowledge of strategies, and modern methods for developing logical thinking	n	73	161	66	1,977	0,681	6	
		%	24,3	53,7	22				
First dimension degree						**2,063**			**Medium**

It is clear from the results presented in Table (7) that the arithmetic means of the degree of training need for teachers of children with disabilities in early childhood on the items of the first dimension ranged from (1,977) to (2,193) with standard deviations ranging from (0.609) to (0.690). The estimates of the professional training need for all items of this dimension came in a medium degree. Item (1) came in the first place for the degree of the research sample's estimate of the professional training needs, while item (4) and (7) came in the last place according to descending order of the items of the first dimension. The arithmetic means of the degree of the totality for estimating the training needs for the research sample on the first dimension (2,063) fall in the middle of the estimate. This indicates that teachers of children with disabilities in early childhood have a medium degree of professional training need with regard to cognitive skills.

The second dimension: Professional training needs in the field of planning skills

Frequencies, percentages, arithmetic averages, standard deviations, and the degree of training needs were calculated for the items of the second dimension of the questionnaire dimensions. These calculations are shown in Table (8).

Table (8): Frequencies and percentages on the second dimension

	Second Dimension Items		Low	Medium	High	Average mean	Standard deviation	Rank	Degree of training needs
8	Determining educational experiences and activities to develop logical thinking	n	54	175	71	2,057	0,644	7	
		%	18	58,3	23,7				
9	Determining educational objectives to develop logical thinking skills	n	52	159	89	2,123	0,676	4	
		%	17,3	53	29,7				
10	Establishing educational activities objectives to develop student's logical thinking in a way that can be observed, measured, and evaluated	n	45	161	94	2,163	0,662	2	Medium
		%	15	53,7	31,3				
11	Establishing educational activities objectives to develop logical thinking	n	44	155	101	2,190	0,670	1	
		%	14,7	51,7	33,7				

	Second Dimension Items		Low	Medium	High	Average mean	Standard deviation	Rank	Degree of training needs
	in a clear manner								
12	Addressing educational activities objectives of in different stages of logical thinking	n	60	165	75	2,050	0,670	9	
		%	20	55	25				
13	Determining the strategies, and means necessary to implement logical thinking skills	n	51	172	77	2,087	0,649	6	
		%	17	57,3	25,7				
14	Designing educational tasks and activities	n	50	162	88	2,127	0,667	3	
		%	16,7	54	29,3				
15	Preparing educational activities that suit children's developmental and individual needs	n	39	173	88	2,163	0,631	2	
		%	13	57,7	29,3				
16	Preparing educational experiences that integrate educational materials with scientific investigation	n	63	159	78	2,050	0,685	9	
		%	21	53	26				
17	Determining the level to be achieved for logical thinking skills	n	51	165	84	2,110	0,663	5	
		%	17	55	28				
18	Preparing educational programs based on Montessori tools	n	64	156	80	2,053	0,692	8	
		%	21,3	52	26,7				
Second dimension degree						**2,107**			**medium**

It is clear from the results presented in Table (8) that the arithmetic means of the degree of training needs for teachers of children with disabilities in early childhood on the items of the second dimension ranged from (2,050) to (2,190), with standard deviations ranging from (0.631) to (0.692). The estimates of professional training need for all items of this dimension came in a medium degree. Item11, came in the first rank of the research sample's assessment of needs professional training, while items12 and16, came in the last rank. The arithmetic average of the total score for estimating the training needs for the research sample on the second dimension came as (2,107) and it is located in the average estimate. This indicates that teachers of children with disabilities in early childhood have a medium degree of professional training needs with regard to planning skills.

The third dimension: Professional training needs in the field of executive performance skills

Frequencies, percentages, arithmetic averages, standard deviations, and the degree of training need were calculated for the items of the third dimension of the questionnaire dimensions. These calculations are shown in Table (9).

Table (9): Frequencies and percentages on the third dimension

No	Third Dimension Items		Low	Medium	High	Average mean	Standard deviation	Rank	Degree of training needs
19	Using effective educational strategies, and programs in education to develop logical thinking	n	84	150	66	1,940	0,706	10	Medium
		%	28	50	22				
20	Employing games, exercises and visual materials that help develop logical thinking	n	55	144	101	2,153	0,706	4	
		%	18,3	48	33,7				
21	Applying methods and experiences to develop logical thinking, such as: examining the properties of things, classifying them, arranging them, and understanding causal relationships and logical connections between them.	n	49	164	87	2,127	0,662	6	
		%	16,3	54,7	29				
22	Creating a classroom environment	n	42	157	101	2,197	0,663	3	
		%	14	52,3	33,7				
23	Using various stimuli to participate in activities	n	47	161	92	2,150	0,665	5	
		%	15,7	53,7	30,7				
24	Providing graded educational activities(ranging from easiest to most difficult)	n	40	155	105	2,217	0,662	1	
		%	13,3	51,7	35				
25	Using effective methods to stimulate the motivation of children to learn logical thinking	n	41	155	104	2,210	0,664	2	
		%	13,7	51,7	34,7				
26	Employing modern educational strategies and methods to develop logical thinking in a way	n	47	171	82	2,117	0,646	7	
		%	15.7	57	27,3				
27	Employing logical thinking skills in solving urgent problems	n	59	169	72	2,043	0,661	9	
		%	19,7	56,3	24				
28	Mastering the skill of identifying homework assignments to help children develop logical thinking	n	52	164	84	2,107	0,666	8	
		%	17,3	54,7	28				
Third dimension degree						**2,126**			medium

It is clear from the results presented in Table (9) that the arithmetic means of the degree of training needs for teachers of children with disabilities in early childhood on the items of the third dimension ranged from (1,940) to (2,217), with standard deviations ranging from Between (0.661) to (0.706). The estimates of the professional training need for all items of this dimension came in a medium degree. Item24, while item19, came in the last rank. The arithmetic means of the total score for estimating the training needs for the research sample on the third dimension came (2,126), and it is located in the average estimate. This indicates that teachers of children with disabilities in early childhood have a moderate professional training need with regard to executive performance skills.

The fourth dimension: Professional training needs in the field of technical skills

Frequencies, percentages, arithmetic averages, standard deviations, and the degree of training needs were calculated for the items of the fourth dimension of the questionnaire dimensions. These calculations are shown in Table (10).

Table (10): Frequencies and percentages on the fourth dimension

	Fourth Dimension Items		Low	Medium	High	Average mean	Standard deviation	Rank	Degree of training needs
29	Using computers to provide educational activities in developing logical thinking	n	56	159	85	2,097	0,680	2	Medium
		%	18,7	53	28,3				
30	Choosing the appropriate technology for the educational activity related to developing logical thinking skills	n	51	167	82	2,103	0,659	1	
		%	17	55,7	27,3				
31	Designing electronic activities using the smart board to develop logical thinking	n	69	163	68	1,997	0,677	8	
		%	23	54,3	22,7				
32	Choosing appropriate technological programs to implement educational activities in order to develop logical thinking	n	62	165	73	2,037	0,671	4	
		%	20,7	55	24,3				
33	Preparing a computer evaluation system to measure the ability of a child with a to think logically	n	88	153	59	1,903	0,695	10	
		%	29,3	51	19,7				
34	Using educational technology applications and making good use of them in teaching logical thinking, such as:Blackboard and smart phones	n	70	162	68	1,993	0,679	9	
		%	23,3	54	22,7				
35	Mastering the use of demonstration devices such as: data display device, and video projector to develop logical thinking.	n	49	176	75	2,087	0,638	3	
		%	16,3	58,7	25				
36	Applying digital e-learning strategies such as:elearning, blended learning, and cognitive trips to achieve the development of logical thinking	n	65	162	73	2,027	0,678	5	
		%	21,7	54	24,3				
37	Familiarity with educational software and its proper use via the Internet, which is beneficial in developing logical thinking	n	62	169	69	2,023	0,662	6	
		%	20,7	56,3	23				
38	Mastering the evaluation of ready-made electronic programs to teach logical thinking	n	66	166	68	2,007	0,669	7	
		%	22	55,3	22,7				
Fourth dimension degree						**2,027**			**medium**

It is clear from the results presented in Table (10) that the arithmetic means of the degree of training needs for teachers of children with disabilities in early childhood on the items of the fourth dimension ranged from (1,903) to (2,103), with standard deviations ranging from (0.638) to (0.695). The professional training needs estimates for all items of this dimension came in a medium degree. Item30, came in the first order of the research sample's estimation of professional training needs; whereas item33, came in the last place, according to the descending order of the items of the fourth dimension. The arithmetic means of the total score for estimating the training need of the research sample on the fourth dimension was (2,027) and it is located in the average estimate. This indicates that teachers of children with disabilities in early childhood have a medium degree of professional training needs with regard to technical skills.

The fifth dimension: Professional training needs in the field of corrective skills.

Frequencies, percentages, arithmetic averages, standard deviations, and the degree of training needs were calculated for the items of the fifth dimension of the questionnaire dimensions. These calculations are shown in Table (11).

Table (11): Frequencies and percentages on the fifth dimension

No	Fifth Dimension Items		Low	Medium	High	Average mean	Standard deviation	Rank	Degree of training needs
39	Using worksheets that include assessment activities for logical thinking skills	n	44	164	92	2,160	0,655	1	Medium
		%	14,7	54,7	30,7				
40	Using evaluative records to monitor the development of logical thinking skills among children	n	53	156	91	2,127	0,682	4	
		%	17,7	52	30,3				
41	Using continuous assessment while practicing the activity to develop logical thinking skills	n	52	159	89	2,123	0,676	5	
		%	17,3	53	29,7				
42	Diversifying evaluation methods to suit all educational practices and activities in developing logical thinking	n	54	163	83	2,097	0,670	8	
		%	18	54,3	27,7				
43	Using worksheets that include remedial activities to address the expected difficulties facing children while developing their logical thinking skills	n	56	159	85	2,097	0,680	8	
		%	18,7	53	28,3				
44	Using worksheets that include enrichment activities for children with disabilities who excel in logical thinking	n	53	159	88	2,117	0,677	7	
		%	17,7	53	29,3				
45	Observing and following up on the work of groups of children and providing assistance to them while implementing skill activities to develop their logical thinking	n	53	158	89	2,120	0,679	6	
		%	17,7	52,7	29,7				
46	The logical sequence for implementing worksheets for evaluation activities in developing logical thinking skills	n	49	162	89	2,133	0,666	3	
		%	16,3	54	29,7				
47	Using feedback in future planning to teach children logical thinking skills	n	50	154	96	2,153	0,682	2	
		%	16,7	51,3	32				
Fifth dimension degree						**2,125**		**--**	**medium**
Questionnaire overall degree						**2,091**	**-**		**medium**

It is clear from the results presented in Table (11) that the arithmetic means of the degree of training needs for teachers of children with disabilities in early childhood on the items of the fifth dimension: ranged from (2,097) to (2,160), with standard deviations ranging from (0.655) to (0.682). As for the professional training needs estimates for all items of this dimension, they came in a moderate degree. Item39, came in the first order of the degree of the research sample's

assessment of the needs professional training, while items No. (42) and (43) came in the last place. The arithmetic means of the total score for estimating the training needs for the research sample on the fifth dimension came as (2,125), and it is located in the middle estimate. This indicates that the teachers of children with disabilities are in the stage early childhood have a medium degree of professional training needs with regard to orthodontic skills. The estimation of professional training needs in relation to the total score of the questionnaire came with an arithmetic mean of (2,091), and it falls within the average estimate.

The above results indicate, in their entirety, that the estimates of the teachers 'professional training needs in all items of the questionnaire and dimensions scores, as well as the total score, were medium.

These results are consistent with the results of many studies (Al-Ayed & Al-Ayed, 2015; Arabs, 2020; Al-Ali, 2016) which revealed the existence of training needs to a moderate degree. These results also agree with the results of many other studies (i.e., Al-Subaie, 2020 AH; Al-Shammari,2019; Al-Omar, 2015), which revealed the existence of training needs ranging from medium in some fields to high in other fields. There are also many studies such as Al-Agha (2019), Abu Nada and Al-Aker (2017), Al-Awfi (2020), and Al-Maamariya and Al-Taj (2017), whose results indicated the existence of high training needs. It is noted that the results of these presented studies all agree that there is a degree of professional training needs for teachers of children disabilities expressed in various degrees from medium to high, which confirms the desire of teachers of children with disabilities to continue their professional development with the aim of developing the educational process for their students especially children in early childhood.

The results of the current question can be explained that teachers of children with disabilities have a moderate need for training as a result of the skills they possess during their academic preparation and during their professional practices in the schools of children with disabilities. These skills are sufficient for educational practices and are appropriate to their professional duties, but these teachers have a high degree of awareness of the importance of continuous training during service and the necessity of keeping up with abreast of recent developments and developments in the field of developing logical thinking among children with disabilities in early childhood. These teachers desire to ensure a degree of quality in their practices is what made them keen to express their need for training.

Second: Answering and discussing the second question:

To answer the second question; First, an independent samples t-test was used to detect differences in the estimates of teachers of students with disabilities in early childhood, on the dimensions and the total score of the questionnaire, with regard to the gender variable (males-females). The results were as shown in Table (12).

Table (12): T-test differences in the professional training needs for teachers of student with disabilities according to the gender variable.

Questionnaire Dimensions	Male(N=180)		Females(N=120)		t	p
	Mean	Standard Deviation	Mean	Standard Deviation		
The first dimension	14,617	3,628	14,175	3,867	1,006	0,315
The second dimension	23,089	6,137	23,300	6,432	0,286	0,775
The third dimension	21,333	5,589	21,150	5,861	0,273	0,785
Fourth dimension	20,206	5,815	20,375	5,561	0,252	0,802
Fifth dimension	19,033	5,216	19,267	5,483	0,372	0,710
Total Degree	98,278	24,304	98,267	24,295	0,004	0,997

*(p<.05) **(p<.01) ***(p<.001)

It is clear from the results presented in Table (12) that the value of "t" ranged from (0.004) to (1.006), which was not statistically significant. With respect to the gender variable(male-female), there were no differences in the professional training needs in the dimensions or the total score of the questionnaire among teachers of children with disabilities in early childhood. These results are consistent with the results of other studies: Al-Agha (2019), Al-Shammari (2019), Al-Ayed and Al-Ayed (2015), Arabs (2020), Al-Ali (2016), and Al-Maamariya and Al-Taj (2017); however, this study differs from

the results of Abu Nada and Al-Aker (2017) study, which found that there are differences in training needs in male teachers due to the gender variable. The results of the current study indicate that teachers of children with disabilities did not differ in their academic skills due to the keenness of the faculty of education to provide equal programs for both male and female teachers, and therefore, the gender did not have an effect on the degree of training needs.

Second, the "Independent samples t-test" was used to detect the differences in the estimates of teachers of students with disabilities in early childhood, specifically in the dimensions and the total score of the questionnaire with regard to the educational qualification variable (Bachelor's- Postgraduate Studies). The results were as shown in Table (14).

Table (14): T-test differences in the professional training needs of teachers according to the educational qualification variable (bachelor-postgraduate studies).

Questionnaire Dimensions	Bachelor's Degree (N=193)		Higher Education (N=107)		t	p
	Mean	Standard Deviation	Mean	Standard Deviation		
The first dimension	14,264	3,803	14,757	3,576	1,098	0,273
The second dimension	23,088	6,215	23,327	6,330	0,317	0,751
The third dimension	21,036	5,524	21,664	5,984	0,914	0,361
Fourth dimension	20,280	5,667	20,262	5,804	0,026	0,979
Fifth dimension	19,202	5,137	18,991	5,648	0,329	0,742
Total Degree	97,871	23,870	99,000	25,045	0,386	0,700

*(p<.05) **(p<.01) ***(p<.001)

It is clear from the results presented in Table (14) table that the value of "t" ranged from (0.026) to (1,098), which was not statistically significant. This indicates that there were no differences in the professional training needs in the dimensions or the total score of the questionnaire with respect to the qualification variable (Bachelor-Postgraduate) for teachers of children with disabilities in early childhood. These results are consistent with the results of other studies such as Al-Ayed and Al-Ayed (2015), Al-Omar (2015), and Al-Maamaria and Al-Taj (2017). These results differ from the results of Abu Nada and Al-Aker (2017) and Al-Ali (2016) studies, which indicated that there are differences in training needs due to the educational qualification in favor of bachelor's holders. These results also differed from Al-Agha (2019) study results, which indicated that there are differences in teachers' assessment of their training needs according to the educational qualification variable in favor of postgraduate studies. The results of the current study indicate that the academic preparation institutions pay attention to the academic aspect, whether at the undergraduate or postgraduate level, and therefore, this has led to training needs for all of them due to their perception of the importance and the need for further trainings in the practical and professional aspects.

Third, an independent samples t-test was used to detect the differences in the estimates of teachers of students with disabilities in early childhood, specifically in the dimensions and the total score of the questionnaire, in relation to the variable of years of experience (experience of less than10years-experience of10years or more). The results are as shown in Table (15).

Table (15): T-test differences in the professional training needs of teachers according to the variable of years of experience (less than10years of experience-10years of experience or more).

Questionnaire Dimensions	Less than 10years of experience(N=119)		More than 10years of experience(N=181)		t	p
	Mean	Standard Deviation	Mean	Standard Deviation		
The first dimension	14,891	3,546	14,144	3,820	1,705	0,089
The second dimension	24,294	6,235	22,437	6,161	*2,543	0,012
The third dimension	21,874	5,403	20,856	5,851	1,519	0,130
Fourth dimension	20,857	5,422	19,890	5,869	1,439	0,151
Fifth dimension	19,714	4,951	18,740	5,523	1,556	0,121
Total Degree	101,630	22,873	96,066	24,946	1,952	0,052

*(p<.05) **(p<.01) ***(p<.001)

It is clear from the results presented in Table (15) that the "t" value for the first, third, fourth, and fifth dimensions and the total score ranged from (1,439) to (1,952). All of which were non-statistically significant values, which indicates that there were no differences in those dimensions due to years of experience. As for the total score of the questionnaire, the value of "t" for the second dimension “professional training needs in the field of planning skills” was equal to (2,543) at level (0.05), which indicates that there are differences in professional training needs in the field of planning skills due to years of experience; the differences were in the group with experience of less than 10years as the arithmetic mean value for it was(24,294),which is higher than the value of the arithmetic mean (22,437)for the“10 years or more” group. The overall results indicate that there were no differences, and these results are consistent with the results of other studies Abu Nada and Al-Aker (2017), Al-Agha (2019), Al-Ayed and Al-Ayed (2015), Arabs (2020), Al-Ali (2016), Al-Mamariya and Al-Taj (2017).

The results related to the current study can be explained by the fact that teachers of children with disabilities are aware of the importance and necessity of continuous training during service in order to learn about recent developments in the field of children with disabilities, especially with regard to the development of logical thinking among children in early childhood. This did not differ according to years of experience, except in the second dimension: “needs of professional training in the field of planning skills”. The differences were evident for the “less than10years of experience" teachers. This can be explained by the fact that field practice for more than10years gives the teacher skills that qualifies him or her to perform that skill sufficiently and distinctly, while the teacher with less experience lacks the same number of years of experience to hone this skill. This requires further research to identify deficiencies in these skills among newly graduated teachers of children with disabilities.

Recommendations

Based on the research findings, the researchers recommend developing ongoing studies to assess the professional training needs of early childhood teachers working with students with disabilities. These studies should inform updates to teacher preparation programs and the creation of in-service training initiatives aligned with updated curricula, given the pivotal developmental stage for these students. Additionally, there is a proposed vision for a comprehensive training program aimed at enhancing teachers' abilities to foster logical thinking skills among students with disabilities in early childhood. This program would include specialized training on effective methods and tools tailored to enhance logical thinking abilities during this critical developmental phase.

Limitations

This study depends on technology in the collection and analysis of data quickly, efficiently, and accurately. However, some limitations are essential to consider in this study. First, although efforts were made to obtain a wide sample of special education teachers across the country using the electronic survey, the study is limited by a small sample size which might limit the generalizability of the findings. Second, survey research contains inherent response biases. Thus, respondents may participate only if they feel strongly about the topic of study either positively or negatively.

Conclusion

This study focused on assessing the professional training needs of teachers working with children with disabilities in early childhood to enhance their logical thinking skills. The findings revealed that these teachers displayed moderate training needs across various dimensions, including cognitive, planning, executive performance, technical, and assessment skills. The results underscored the importance of continuous professional development for teachers to enhance educational practices for children with disabilities during their early years.

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