Divergent Approaches to IEPs: A Comparative Study of Gifted and Special Education Teachers in Segregated Programs in Kuwait

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ممارسات متباينة للخطط التعليمية الفردية: دراسة مقارنة بين معلمي مدارس الموهبة ومعلمي ذوي الاحتياجات الخاصة في البرامج المنفصلة بدولة الكويت

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مستخلص البحث.

تهدف هذه الدراسة إلى استكشاف مدى المعرفة والوعي والممارسات لدى معلمي مدارس الموهبة مقارنةً بمعلمي التربية الخاصة فيما يتعلق بتنفيذ الخطط التعليمية الفردية (IEPs) في بيئات مدرسية منفصلة ومختلفة. شملت الدراسة على عينة قوامها ١٤٣ معلم ومعلمة من مؤسسات التعليم النوعي المختلفة في دولة الكويت (٩ مدارس نوعية حكومية)، حيث أكمل المشاركين استبانة إلكترونية مبنية على ثلاثة محاور رئيسة ولكل محور عدد من الأبعاد. كما اشتملت الاستبانة في نهايتها على سؤال مفتوح حول التحديات المتعلقة بتطبيق الخطة التربوية الفردية بشكل فني وفعال. ومن خلال استخدام التحليل الكمي والنوعي، أظهرت النتائج أن كلا المجموعتين من المعلمين يتمتعون بوعي عالٍ حول الخطط التعليمية الفردية، ولكن هناك فجوات واضحة في المعرفة التفصيلية، خاصة عند معلمي الموهوبين. كما حددت الدراسة تحديات كبيرة تعوق تنفيذ الخطط التعليمية الفردية، مثل نقص التدريب أثناء الخدمة، وعدم كفاية الدعم المقدم من المؤسسات التعليمية للمعلمين، ونقص الموارد المتاحة. وتتفاقم هذه التحديات بسبب الاختلافات في تطبيق الخطط التعليمية الفردية عبر البيئات التعليمية المختلفة، حيث أظهر معلمو التربية الخاصة ممارسات أكثر اتساقًا مقارنة بزملائهم في التعليم الموهوبين. وبعد مناقشة النتائج خرجت الدراسة بجملة من التوصيات لتعزيز التطوير المهني، وتحسين الدعم المؤسسي، ومراجعة السياسات المتبعة لضمان إعداد المعلمين بشكل أفضل لتنفيذ الخطط التعليمية الفردية بفعالية.

الكلمات المفتاحية: الخطط التعليمية الفردية (IEPs)، مارس الموهبة، مدارس التربية الخاصة، وعي المعلمين، ممارسات المعلمين، الكويت.

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ABSTRACT

This study aims to explore the knowledge, Perception, and practices of teachers in specialized schools for gifted students compared to those of special education teachers regarding the implementation of Individualized Education Programs (IEPs) in separate and distinct educational environments. The study included a sample of 143 teachers from various specialized educational institutions in Kuwait (nine government specialized schools). Participants completed an electronic survey that was structured around three main scales, each with multiple dimensions. The survey also included an open-ended question at the end regarding the challenges related to the effective and technical implementation of IEPs. Through the use of quantitative and qualitative analysis, the results revealed that both groups of teachers possess a high level of Perception regarding IEPs. However, there were clear gaps in detailed knowledge, particularly among teachers of gifted students. The study also identified significant challenges hindering the implementation of IEPs, such as a lack of in-service training, insufficient support provided by educational institutions to teachers, and a lack of available resources. These challenges are exacerbated by differences in the application of IEPs across various educational environments, with special education teachers demonstrating more consistent practices compared to their counterparts in gifted education. Following a discussion of the findings, the study put forth a set of recommendations aimed at enhancing professional development, improving systemic support, and reviewing policies to ensure that teachers are better equipped to effectively implement IEPs.

Keywords: Individualized Education Programs (IEPs), Gifted Education, Special Education, Teacher Perception, Teacher Practices, Kuwait.

1. Introduction

Individualized Education Programs (IEPs) are a cornerstone of special education, designed to meet the unique educational needs of students with specific needs. These programs provide a tailored approach to education, ensuring that each student's precise requirements are addressed. Thus, IEPs is an important strategy to meet short- and long-term needs of each student without negatively affecting the general curriculum of the program. The effectiveness of IEPs largely depends on the teachers' knowledge, attitudes, and experiences in implementing these plans.

In isolated school programs, where students are taught in separate settings based on their needs, the application of IEPs can vary significantly between teachers of different specializations. This variation presents an opportunity to explore how different educational backgrounds influence the understanding and implementation of IEPs. Gifted education teachers and disability education teachers often operate within distinct educational paradigms. While gifted education focuses on accelerating and enriching the curriculum to meet the advanced needs of gifted students, disability education aims to support students with disabilities through customized instructional strategies and accommodations. Despite these differences, both types of educators play a crucial role in applying IEPs, albeit with potentially different approaches and levels of effectiveness. Understanding these differences is vital for enhancing the overall quality of education provided to students with diverse needs.

IEPs in Gifted Education

Individualized Education Programs (IEPs) are essential in addressing the unique educational needs of gifted students. The primary goal of IEPs is to ensure that these students receive a tailored educational experience that fosters their intellectual and creative capabilities while accommodating their individual learning styles and paces. As Renzulli and Smith (1983) articulate, the IEP model for gifted students is designed to emphasize individual strengths rather than weaknesses, focusing on higher levels of thinking, creativity, and task commitment within relatively unstructured learning situations.

IEPs for gifted students are crucial because they provide a structured yet flexible approach to education that accommodates the advanced learning needs and paces of gifted individuals. The significance of IEPs is further highlighted in various studies, which suggest that

properly implemented IEPs can lead to significant improvements in academic performance and personal development for gifted students (Callahan, Moon, & Oh, 2014). Moreover, IEPs can help mitigate the risk of underachievement and disengagement among gifted students by providing appropriately challenging and stimulating educational experiences (Reis & Renzulli, 2010).

The role of teachers in the successful implementation of IEPs for gifted students cannot be overstated. Teachers' Perception, practices, and knowledge significantly influence the effectiveness of IEPs. According to Johnsen, Parker, and Farah (2015), teachers need to be well-versed in identifying the unique needs of gifted students and in designing and implementing IEPs that cater to these needs within a response-to-intervention framework. This requires comprehensive professional development and ongoing support to ensure that teachers can create and sustain an educational environment conducive to the growth of gifted students.

Effective IEPs rely on teachers' ability to assess individual students' strengths, interests, and learning styles accurately. This process involves gathering detailed information through various assessment tools and methods, including informal observations, peer and parent evaluations, and student self-evaluations (Renzulli & Smith, 1983). Teachers must then use this information to develop and implement individualized plans that include appropriate enrichment and acceleration activities, ensuring that gifted students remain engaged and challenged.

A few empirical papers underscore the importance of teacher involvement and professional development in the success of IEPs for gifted students. Studies have shown that when teachers are adequately trained and supported, they are more likely to implement effective IEPs that lead to positive outcomes for gifted students. For instance, Robinson, Cotabish, Wood, and Biggers (2009) found that mentoring and professional development for teachers significantly improved the implementation of gifted education programs, particularly in providing differentiated instruction and addressing the needs of culturally diverse gifted students. Furthermore, evaluations of gifted education programs have demonstrated that well-implemented IEPs can lead to improvements in students' academic achievement, self-regulation, and self-esteem (Baum, 1988; Baum et al., 1999). These findings highlight

the critical role of teachers in fostering an educational environment that nurtures the intellectual and personal growth of gifted students.

IEPs in Special Education

Special education involves adapting instruction to meet the unique needs of students with disabilities, necessitating appropriate educational environments and resources. Central to these efforts is the IEPs, a crucial tool that facilitates the instruction, assessment, and progress monitoring of students with special needs (UNICEF, 2014). IEPs, first introduced under the Education for All Handicapped Children Act of 1975 in the United States, have become a global standard (Mitchell, Morton, & Hornby, 2010). Despite their widespread adoption, the implementation of IEPs presents numerous challenges for special education teachers, particularly regarding their attitudes, knowledge, and practical application.

Research indicates that special education teachers often hold varied attitudes towards the implementation of IEPs, significantly impacting their effectiveness. Teachers' Perception is influenced by their motivation, collaboration with colleagues, and confidence in implementing IEP goals. A prevalent challenge is a lack of motivation, often exacerbated by the administrative burdens associated with IEPs (Akcin, 2022; Baglama et al., 2019). Negative attitudes towards collaboration, particularly with parents who may have unrealistic expectations, further complicate the implementation process (Fu et al., 2018). Conversely, positive attitudes correlate with enhanced IEP outcomes, emphasizing the need for supportive work environments and comprehensive in-service training (Kozikoğlu & Albayrak, 2022).

The successful implementation of IEPs also hinges on the knowledge and skills of special education teachers. Challenges often include a lack of understanding of IEP concepts, insufficient training on data collection methods, and an inability to develop effective criterion-referenced tests (Hott et al., 2021). Teachers' skills in IEP preparation, collaboration, and evaluation are equally crucial. Studies have highlighted that teachers frequently lack the skills necessary for preparing comprehensive IEP reports, collaborating effectively with parents and other stakeholders, and monitoring the progress of students with special needs (Shao et al., 2022; Al-Shammari & Hornby, 2019).

Practical experience with IEPs varies significantly among teachers, influenced by factors such as years of experience, professional development, and institutional support. Teachers with less experience or those without professional titles are often less involved in IEP

preparation due to a lack of confidence and perceived competence (Fish, 2008). Effective IEP implementation requires ongoing professional development to ensure that teachers are equipped with current best practices and are confident in their ability to meet the diverse needs of students (Kukanja Gabrijelčič, 2014). Additionally, the involvement of teachers in the IEP process is essential for creating tailored educational plans that promote the holistic development of students with special needs (Košnik, 2021).

Recent research underscores the importance of teacher involvement and professional development in the success of IEPs for special education students. Studies have shown that when teachers are adequately trained and supported, they are more likely to implement effective IEPs that lead to positive outcomes for students. For instance, Rashid and colleagues (2023) identified significant challenges faced by teachers, including knowledge gaps and insufficient skills in IEP implementation, which can be eased through targeted training and support (Rashid, 2023). Moreover, Groh (2021) highlighted the administrative and emotional burdens teachers face, emphasizing the need for systemic support to enhance teacher efficacy in IEP implementation (Groh, 2021).

The effectiveness of IEPs in special education relies heavily on the attitudes, knowledge, and practical experiences of the teachers who implement them. Addressing the challenges faced by teachers, such as lack of motivation, insufficient knowledge, and inadequate skills, is crucial for improving the quality of education for students with special needs. Comprehensive training programs, supportive work environments, and active collaboration with all stakeholders can enhance teachers' capabilities and positively influence the outcomes of IEPs.

Significance and Research Questions:

The current study addresses a significant gap in existing literature. While numerous studies have examined the implementation of IEPs within specific special education contexts, there is limited research comparing these practices with those in gifted education. By exploring the knowledge, attitudes, and experiences of teachers across these diverse educational landscapes, this research seeks to provide a comprehensive understanding of how IEPs are perceived by teachers from different segregated school programs. Such a goal could bring varied experiences and strategies to the table. It will help educators,

administrators, and policymakers recognize the unique challenges and strengths of each group, contributing to more effective IEP practices and better educational outcomes for students with diverse needs. Thus, the current study aims to find out answers for the following questions

1. How do gifted education teachers perceive the importance and effectiveness of IEPs?
2. What is the level of Perception, practices, and knowledge about IEPs among gifted education teachers and various special education teachers?
3. What challenges and strategies do teachers encounter and utilize in the application of IEPs?

By investigating this area of study, it is expected to reach several outcomes such as, highlighting detailed comparison of knowledge levels about IEPs among different teacher groups, as well as offering Insights into the varying Perception of IEPs across gifted and special education teachers. Also, it could provide rich descriptions of the experiences of teachers in implementing IEPs, highlighting similarities and differences, besides Identifying common challenges and effective strategies in IEPs. Eventually, it may generate specific recommendations for professional development and policy changes to enhance IEP effectiveness in segregated school programs.

Methodology:

Terminology

Perception is the cognitive state that the mind experiences, or it is a term that expresses what a person possesses in terms of viewpoints and ideas about life concepts and the external environment" (Al-Shammaa, 2009: 82). It is described as personal or subjective assessments and judgments that do not necessarily meet the objective criteria required for validation. As Thompson (1992) pointed out, perception is often justified by reasons that do not conform to established procedures for evaluating or judging their validity, leading to a lack of general agreement on how they should be assessed. Nespor (1987) further defined perception as a form of "personal knowledge" due to their static nature, emphasizing that b Perception, unlike knowledge, are not easily subjected to change or evaluation through specific criteria. Therefore, perception can be defined as an acquired response by the individual toward a certain subject, and based on the individual's past

experiences, this response will be either positive or negative (Pickens, 2013).

Knowledge, on the other hand, is tied to objective truth and general agreement regarding the procedures for its evaluation, as highlighted by Pajares (1992). Thompson (1992) explained that knowledge must meet established standards of evidence and be subject to validation, making it less disputable than beliefs. Kagan (1992) argued that professional knowledge can be seen as beliefs that have been validated by objective evidence or consensus, suggesting that as teachers' experiences develop, so does their knowledge, ultimately shaping their belief systems.

Individualized Education Plan (IEP): A documented educational strategy tailored to the individual learning needs and educational goals of a student with disabilities. This plan is developed collaboratively by teachers, parents, and specialists to ensure personalized educational support (Friend & Bursuck, 2018).

Population and Sample

The study population consists of teachers from governmental special education schools in Kuwait, totaling ١٦٧٢teachers according to the annual statistics of the Ministry of Education for the year 2023/2024 (Ministry of Education, 2024,). The study sample consisted of 143 teachers working in specialized education programs for individuals with special needs. The sample was selected using simple random sampling, representing 8.55% of the study population, a high percentage according to the Richard Geiger statistical formula. Nineteen schools (9 boys' schools and 10 girls' schools) from special education schools in Kuwait were selected to distribute and send the questionnaire electronically (Google Forms) to the teachers. The sample included teachers from various educational stages, with varying years of experience, scientific departments, student categories, and academic qualifications.

Table 1: Distribution of Teachers According to the Demographic Variables

Variable	Level	Number	Percentage	Total
Gender	Male	60	42%	143
	Female	83	58%	
Academic Qualification in Special Education	Yes	75	52.4%	143
	No	68	47.6%	
Educational Stage	Elementary	73	51 %	143
	Middle	56	39.2%	
	High School	14	9.8%	
EXPRENICE	5 years or less	31	21.7%	143
	6 to 10 years	17	11.9%	
	11 to 15 years	49	34.3%	
	16 years or more	46	32.2%	
Teachers' special provision	Gifted school	20	14%	143
	Intellectual disabilities	43	30.1%	
	Physical & sensory disabilities (blindness, deafness, & mobility)	47	32.9%	
	Specific learning difficulties (Spld)	33	23.1%	

As shown in Table 1, there is a comprehensive demographic overview of the teachers involved in the study. It shows a higher percentage of female teachers (58%) compared to male teachers (42%). Over half of the teachers (52.4%) have academic qualifications in special education, highlighting a well-qualified teaching staff. The majority of teachers work at the elementary level (51%), followed by middle (39.2%) and high school (9.8%).

In terms of experience, a significant number of teachers have extensive teaching experience, with 34.3% having 11 to 15 years and 32.2% having 16 years or more. A smaller percentage of teachers (21.7%) have 5 years or less experience. The special provision distribution indicates that the largest group of teachers works with physical and sensory disabilities (32.9%), followed by intellectual disabilities (30.1%), specific learning difficulties (23.1%), and the smallest group in gifted schools (14%). This distribution underscores the diverse expertise and focus areas of the teaching staff in the study.

Teacher's experience of EIP Questionnaire

The questionnaire was developed by drawing on previous studies and theoretical literature related to the research topic. This approach aimed to compare the current study's tool with those used in previous studies, including international research such as Boelens, Voet & De Wever (2018), Suprayogi, Valcke & Godwin (2017), Wan (2016), Valiandes (2015), and Njagi (2014), as well as Arabic studies such as Al-Sultani (2018), Ramadan and Assal (2017), Quraishi (2017), Al-Hassan and Al-Zubair (2016), and Al-Zabon et al. (2016). Additionally, studies conducted in Kuwait, such as Abbas (2014), Al-Dhafiri and Abbas (2015), Al-Shammari & Hornby (2019), and (Alqallaf et al., 2020), were considered. The questionnaire comprised 58 items divided into five sections.

The first section included six demographic questions aimed at gathering information about gender, years of professional teaching experience, academic qualifications in special education, course subjects, grade levels taught, and the student categories they work with. The second section consisted of 22 close-ended items measuring the level of Perception towards EIPs, encompassing four dimensions: basics of individual differences, instructional strategies, planning and preparation, and the educational environment. The third section focuses on teachers' implementations, which consisted of 19 close-ended items measuring teachers' IEP practices, encompassing three dimensions: designing activities, pedagogical implementations, and collaboration with others. While the fourth section examines teachers' knowledge of IEPs by answering 10 multiple choice questions. The questionnaire ends with an open-ended question that enables participants to address the challenges and difficulties and needs for effectively applying EIPs.

The items of teachers' Perception were assessed using a five-point Likert scale (Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree), with responses assigned numerical values (5, 4, 3, 2, 1) respectively. Similarly, the items of teachers' practices were assessed using a five-point Likert scale (Always, Often, Sometimes, Rarely, Never), with responses assigned numerical values (5, 4, 3, 2, 1) respectively. meanwhile, the last section scores teachers' knowledge from 10 points. High scores on this questionnaire indicate high Perception, high practices whereas low scores indicate a lack of Perception and poor practices of IEPs. Participants' responses were

interpreted using three levels: low Perception/ practice (1-2.33), moderate Perception/ practice (2.34-3.66), high Perception/ practice (3.67-5).

Validity and Reliability

The initial development of the research instrument involved a comprehensive review by three experts from the Department of Special Education at the College of Basic Education. These experts were tasked with evaluating the accuracy and clarity of the language used in the items and questions, as well as their relevance to the dimensions being measured in the study. Their feedback led to the refinement of the tool, which included the rephrasing of two items and the correction of typographical errors. This process enhanced the content validity of the instrument, ensuring that the items effectively measured the intended constructs.

To further assess the construct validity of the instrument, it was administered to a pilot sample of 30 teachers who were not included in the main study sample. Pearson's correlation coefficient was used to determine the relationship between each item and its corresponding dimension, as illustrated in Tables 2 and 3.

Table 2: Correlation Between Items and Dimensions regarding teacher's Perception

Dimensions	Individual differences		Instructional Strategies		Planning and Preparation		Educational Environment	
	Item	Correlation	Item	Correlation	Item	Correlation	Item	Correlation
Teacher's Perception	1	.409	8	.731	6	.477	13	.768
	2*	.695	9	.686	7	.537	14	.726
	3*	.679	10	.656	11	.785	15	.565
	4*	.650	21	.577	12	.753	18	.731
	5	.504	22*	.650	16	.727	19	.673
	--	--	--	--	17	.675	20	.739

*Negative items were reversed before applying construct validity and reliability tests.

As shown in Table 2, the correlations for items within the "Teacher's Perception" dimensions ranged from .409 to .785, all of which were statistically significant at the 0.05 level. This indicates a strong alignment between the items and their respective dimensions, supporting the strength of the instrument.

Table 3. Correlation Between Items and their dimensions of teacher's practice

Dimensions	designing activities		pedagogical implementations		collaboration with others	
	Item	Correlation	Item	Correlation	Item	Correlation
Teachers' practices	23	.783	24	.741	32	.539
	26	.682	25	.773	33	.640
	30	.793	27*	.706	38	.800
	34	.919	28	.781	39	.681
	35	.888	29*	.720	40	.825
	36*	.6.26	31	.723	41	.791
	37	.889				

*Negative items were reversed before applying construct validity and reliability tests.

Similarly, Table 3 illustrates the strong correlations between items and their respective dimensions within the "Teachers' Practices" category. Correlation coefficients ranged from .539 to .919, further affirming the instrument's validity.

Moreover, Pearson's correlation coefficient was calculated between the total score of each dimension and overall Perception and practice, as presented in Table 4.

Table 4. Correlation Between dimensions and overall Perception and practices

Dimension	Individual Differences	Instructional Strategies	Planning and Preparation	Educational Environment
Overall Perception	.604**	.750**	.590**	.790**
Dimension	designing activities	pedagogical implementations	collaboration with others	
Overall practice	.920**	.915**	.923**	

The results in Table 4 demonstrate that the dimensions are highly and significantly correlated with overall Perception and practice, with correlation scores ranging from .590 to .923. This underscores the strong construct and content validity of the instrument.

Reliability of the instrument was confirmed by calculating the Cronbach's Alpha Reliability Coefficient for each dimension, along with the Spearman-Brown Split-Half Reliability Coefficient, as shown in Table 5.

Table 5: Reliability Levels According to Cronbach's Alpha and Split-Half Coefficients

Scale	Dimension	Number of Items	Items	Cronbach's Alpha	Split-Half
Total Perception	Individual Differences	5	1, *2, *3, *4, 5	.507	.627
	Instructional Strategies	5	8, 9, 10, 21, *22	.627	.670
	Planning and Preparation	6	6, 7, 11, 12, 16, 17	.708	.740
	Educational Environment	6	13, 14, 15, 18, 19, 20	.716	.688
Total Practices	Designing Activities	7	23, 26, 30, 34, 35, 36*, 37	.783	.889
	Pedagogical Implementations	6	24, 25, 27*, 28, 29*, 31	.872	.884
	Collaboration with Others	6	32, 33, 38, 39, 40, 41	.862	.857

*Note: Negative items were reversed before applying construct validity and reliability tests.

The reliability analysis reveals that most dimensions of the questionnaire achieved acceptable levels of reliability. The Cronbach's Alpha coefficients ranged from .507 to .716, with the Spearman-Brown Split-Half coefficients ranging from .627 to .889. Although some dimensions did not reach the conventional threshold of .7, these results are considered acceptable, particularly given that Cronbach's Alpha tends to be lower when the number of items per domain is fewer than 10 (Pallant, 2010).

In conclusion, the instrument demonstrates strong validity and reliability, making it a robust tool for assessing teachers' Perception, practices, and knowledge regarding Individualized Education Programs (IEPs). This ensures that the findings derived from the instrument will be both accurate and consistent, providing valuable insights for future research.

Data Analysis

The Statistical Package for the Social Sciences (SPSS) version 23 was used to perform the necessary analyses and statistics for the questionnaire data. Reliability coefficients were calculated using the internal consistency method according to Cronbach's Alpha, and the Spearman-Brown Split-Half Reliability Coefficient was also

employed. Percentages, frequencies, means, standard deviations, and relative weights were extracted to determine the level of Perception and practices of the teachers.

An Independent Samples T-Test and One-Way ANOVA were utilized to identify any differences between the mean scores of overall Perception, practices and their dimensions, and their relationship with variables such as gender, years and type of the special provision. A Post-Hoc Test was conducted using Tukey's method to identify the sources of statistically significant differences.

For the open-ended question, participant responses were entered into MAXQDA 2022 for organization and categorization. The open responses were then analyzed to extract codes and classify them into main themes using the Coding Frame Strategy. According to Wilkinson (2000), "a coding frame is often used to assist in sorting and analyzing data. This technique is used in many research institutions as a method for categorizing data and deriving themes from it" (p. 79). By using this strategy, diverse responses were narrowed down into a few main themes, with relevant texts classified under appropriate themes. This process allowed for the frequency of each theme to be determined, along with examples of participant responses for each theme, facilitating the collection of main results and identifying similarities and differences between participant answers. To ensure the credibility of the qualitative data analysis, two researchers were involved in the coding process to enhance the reliability and validity of the analysis. In the case of discrepancy or disagreement, the coders discussed dissimilar codes to reach a consensus and ensure the accuracy of the coding.

Findings

Gifted teachers and EIP

The first research question aims to reveal gifted teachers' understanding, knowledge, and practices to explore how EIP is perceived in gifted education schools. Thus, several statistical tests were conducted to answer the first research question.

Table 6. gifted education teachers' Perception, practices, and knowledge of EIP

Domain	Gifted Teachers	*M*	*SD*	Minimum	Maximum	level
Perception of EIP	20	4.35	.41	3.77	4.82	High
Practices of EIP	20	3.98	.58	2.95	4.79	high
Knowledge of EIP	20	٤,١٥	١,٠٤	2	7	Low

The results in table 6 indicate a high level of Perception (M = 4.35, SD = .41) among the teachers, with scores ranging from 3.77 to 4.82. This suggests that gifted education teachers are generally well-informed about the importance and application of IEPs in their educational settings. The practices of IEPs also show a high level (M = 3.98, SD = .58), with scores ranging from 2.95 to 4.79. These findings imply that the teachers are actively engaging in practices that align with the principles of IEPs, though there is some variability in the extent to which these practices are implemented. However, the knowledge of IEPs among gifted education teachers is reported at a lower level (M = 4.15, SD = 1.04), with scores ranging from 2 to 7 out of 10. This indicates a potential area for improvement, as the teachers' knowledge about the specific details and technical aspects of IEPs might not be as strong as their overall Perception and practices.

Table.7 dimensions of gifted education teachers' Perception and practices

Domain	**Gifted Teachers**	***Dimension***	***M***	***SD***	**level**
Perception of EIP	20	Individual differences	4.09	.59	High
		Instructional Strategies	4.4	.43	High
		Planning & preparation	4.2	.79	High
		Educational Environment	4.68	.34	High
Practices of EIP	20	Designing activities	3.61	.71	moderate
		Pedagogical applications	4.06	.66	High
		Collaboration	4.34	.61	High

Table 7 further breaks down the dimensions of Perception and practices related to IEPs among gifted education teachers. The Perception dimension is consistently high across various aspects, including individual differences (M = 4.09, SD = .59), instructional strategies (M = 4.4, SD = .43), planning and preparation (M = 4.2, SD = .79), and the educational environment (M = 4.68, SD = .34). These results reflect a strong understanding of the various components required to effectively implement IEPs in gifted education settings. Regarding the practices dimension, there is a moderate level of engagement in designing activities (M = 3.61, SD = .71). However, higher levels are observed in pedagogical applications (M = 4.06, SD

= .66) and collaboration (M = 4.34, SD = .61). These findings suggest that while teachers are effectively collaborating and applying pedagogical strategies, there may be room for enhancing their activity design to better support the diverse needs of gifted students.

Table8. comparing means between male and female gifted education teachers

Domain	**gender**	***N***	***M***	***SD***	**Equality of variances**	**df**	**T**	***Sig***
Perception of EIP	Male Female	8 12	4.09 4.53	.46 .27	assumed	18	-2.729	.014*
Practices of EIP	Male Female	8 12	3.67 4.19	.72 .363	assumed	18	-1.972	.٠47*
Knowledge of EIP	Male Female	8 12	3.88 4.33	1.12 .98	assumed	18	-.964	.٣٤٨

Table 8 compares the means between male and female gifted education teachers in terms of their Perception, practices, and knowledge of IEPs. The results show significant differences in both Perception (t(18) = -2.729, p = .014) and practices (t(18) = -1.972, p = .047), with female teachers scoring higher than their male counterparts. Specifically, female teachers demonstrate higher levels of Perception (M = 4.53, SD = .27) and practices (M = 4.19, SD = .363) compared to male teachers (Perception: M = 4.09, SD = .46; practices: M = 3.67, SD = .72).

However, no significant difference was found in the knowledge of IEPs between male and female teachers (t(18) = -.964, p = .348), indicating that both groups have similar levels of knowledge about IEPs despite the differences in Perception and practices. These findings highlight the importance of addressing gender differences in professional development and support for IEP implementation, ensuring that all teachers, regardless of gender, have the knowledge and resources necessary to effectively utilize IEPs in gifted education.

Table 9. correlation between teachers' Perception, practice and knowledge

		Knowledge	Perception	Practice
Knowledge	Pearson Correlation	1	.465*	.422
	Sig. (2-tailed)		.039	.064
Perception	Pearson Correlation	.465*	1	.896**
	Sig. (2-tailed)	.039		.000
Practice	Pearson Correlation	.422	.896**	1
	Sig. (2-tailed)	.064	.000	

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 9 presents the correlation analysis between teachers' Perception, practice, and knowledge of Individualized Education Programs (IEPs). The results indicate a statistically significant positive correlation between teachers' knowledge and Perception of IEPs ($r = .465$, $p < .05$). This suggests that as teachers' knowledge about IEPs increases, their Perception also tends to increase, indicating a close relationship between these two factors.

However, the correlation between knowledge and practice, although positive ($r = .422$), did not reach statistical significance ($p = .064$). This implies that while there is a relationship between knowledge and practice, it may not be as strong or consistent across all teachers. Additionally, there is a strong and statistically significant correlation between Perception and practice ($r = .896$, $p < .01$), indicating that teachers who are more aware of IEPs are also more likely to effectively implement practices related to IEPs.

able 10. Correlations among dimensions of teachers' Perception and practices

		erception's dimensions						ractice's dimensions			
		ifferences	ndividual	rategies	nstructional	reparation	lanning &	nvironment	ducational	ctivities	esigning	pplications	edagogical	ollaboration
nowledge	earson orrelatio	038	)47	506*		193		411	448*					233
	ig. (iled)	)53	344	)23		416		)72	)48					323
erception	earson orrelatio	98**	526**	358**		751**		747**	346**					775**
	ig. (iled)	)01	)03	)00		)00		)00	)00					)00
ractice	earson orrelatio	70**	444	302**		553**		394**	347**					388**
	ig. (iled)	)01	)50	)00		)02		)00	)00					)00

. Correlation is significant at the 0.05 level (2-tailed).

*. Correlation is significant at the 0.01 level (2-tailed).

Table 10 extends the correlation analysis by examining the relationships among the dimensions of teachers' Perception and practices related to IEPs. The results reveal several key findings:

- There is a significant positive correlation between Perception of individual differences and several practice dimensions, including pedagogical applications ($r = .846$, $p < .01$) and collaboration ($r = .775$, $p < .01$). This suggests that teachers who are aware of the importance of individual differences are more likely to engage in effective pedagogical practices and collaborate well with others.

- Perception of instructional strategies is also significantly correlated with various practice dimensions, including designing activities ($r = .747$, $p < .01$) and collaboration ($r = .775$, $p < .01$). This indicates that teachers who are knowledgeable about instructional strategies are more likely to implement these strategies in their teaching practices.
- Planning and preparation, a key dimension of Perception, shows a strong correlation with all practice dimensions, particularly pedagogical applications ($r = .802$, $p < .01$) and collaboration ($r = .888$, $p < .01$). This highlights the importance of thorough planning and preparation in effectively implementing IEP practices.

Overall, these correlations underscore the interconnectedness of Perception, knowledge, and practice in the successful implementation of IEPs. Teachers who are more knowledgeable and aware of IEP principles are better equipped to apply these practices in their classrooms, leading to more effective educational outcomes for students with special needs. The findings emphasize the need for continuous professional development and support to enhance teachers' knowledge and Perception, which in turn can positively influence their practice.

Gifted teachers and special teachers

One-way ANOVA was conducted. This analysis aimed to compare the Perception, practices, and knowledge of Individualized Education Programs (IEPs) among these groups. Specifically, the study examined whether there were significant differences in these domains between teachers of gifted students and those teaching students with mental disabilities, sensory disabilities, and specific learning disabilities (SpLD). Tukey's HSD post hoc tests were performed to identify any significant differences between the groups.

Table 11. one-way ANOVA between gifted education teacher and special education teachers

ANOVA					Tukey HSD		
domain	**Group**	***M*(*SD*)**	**F (3-139)**	**Sig**	**Other groups**	***M* (*SD*)**	**Sig**
Perception of EIP	Gifted teachers	4.35(.41)	.057	.982	Mental disability teachers	4.33 (.33)	.997
					sensory disability teachers	4.31 (.53)	.986
					Spld teachers	4.30 (.42)	.983
Practices of EIP	Gifted teachers	3.98 (.58)	1.182	.319	Mental disability teachers	3.76 (.57)	.588
					sensory disability teachers	3.67 (.67)	.255
					Spld teachers	3.80 (.69)	.767
Knowledge of EIP	Gifted teachers	4.15 (1.04)	2.786	.043	Mental disability teachers	4.93(2.19)	.438
					sensory disability teachers	4.3(1.92)	.992
					Spld teachers	3.67(1.92)	.810

The one-way ANOVA results indicate no significant difference in the Perception of IEPs among the different teacher groups (F(3, 139) = .057, p = .982). Gifted education teachers had a mean Perception score of 4.35 (SD = .41), which was similar to the scores of teachers working with students with mental disabilities (M = 4.33, SD = .33), sensory disabilities (M = 4.31, SD = .53), and SpLD (M = 4.30, SD = .42). The Tukey HSD post hoc tests confirmed that there were no statistically significant differences in Perception between any of the groups, suggesting that all teacher groups have a comparable level of Perception regarding IEPs.

Similarly, the ANOVA for practices related to IEPs did not reveal any significant differences among the teacher groups (F(3, 139) = 1.182, p = .319). The mean score for gifted education teachers was 3.98 (SD =

.58), which was slightly higher than the scores for teachers of students with mental disabilities (M = 3.76, SD = .57), sensory disabilities (M = 3.67, SD = .67), and SpLD (M = 3.80, SD = .69). However, the differences between these groups were not statistically significant according to Tukey HSD post hoc tests. This suggests that, regardless of the specific student population they serve, teachers generally engage in similar practices when implementing IEPs.

The results for knowledge of IEPs showed a significant difference between the groups ($F(3, 139) = 2.786$, $p = .043$). Gifted education teachers had a mean knowledge score of 4.15 (SD = 1.04), while teachers of students with mental disabilities had the highest mean score at 4.93 (SD = 2.19). Teachers of students with sensory disabilities and SpLD had mean scores of 4.3 (SD = 1.92) and 3.67 (SD = 1.92), respectively. Tukey HSD post hoc tests revealed that the knowledge level of teachers working with students with mental disabilities was higher compared to SpLD teachers. The overall significant finding suggests that there is variability in knowledge about IEPs across different types of special education teachers, with those working with mental disabilities showing slightly higher knowledge levels.

These findings highlight the need for targeted professional development to ensure that all teachers, regardless of the student population they serve, have a robust understanding of IEPs and can apply this knowledge effectively in their teaching practices.

Qualitative Findings

The open-ended question regarding the difficulties and challenges of implementing Individualized Education Programs (IEPs) revealed two primary categories of challenges: internal challenges and challenges related to the educational system.

Internal Challenges

The first category, internal challenges, predominantly revolves around the teachers' lack of knowledge about IEPs and the inadequacy of in-service training programs. This theme was highlighted by 29 codes, reflecting concerns from teachers across various special education provisions. A female teacher from a gifted education program articulated this issue, stating, "Most of us are experts in our majors and we are knowledgeable of the latest updates regarding our teaching subject. however, in terms of educational information, we need in-service courses about dealing with gifted students and about the best strategies to meet their needs" (Participant 36). This sentiment

underscores the gap between subject matter expertise and the pedagogical skills necessary for effectively implementing IEPs.

Another perspective was provided by a teacher working with students with intellectual disabilities, who remarked on the challenges of adopting IEPs in segregated special education settings. The teacher noted, "I think special schools are different than inclusive schools; students with special needs in segregated programs could be considered a homogeneous group, so such an idea makes it hard to adopt an individual plan for each student. Perhaps in mainstream schools, we must implement IEPs" (Participant 47). This statement reflects the complexity of applying IEPs in environments where students' needs are perceived as less diverse, potentially leading to a resistance to individualized planning.

Furthermore, many teachers identified specific reasons for their lack of knowledge about IEPs. One teacher noted that "the curriculum encourages teachers to differentiate their teaching strategies and meet students' needs as a general guide; however, there are no clear regulations and instructions on how to implement IEPs" (Participant 102). Another teacher highlighted the lack of collaboration within schools, stating, "Absence of teamwork inside schools because each teacher focuses on his major tasks. Even the social worker and the principal, everyone focuses on his tasks" (Participant 71). These insights suggest that the absence of clear guidelines and collaborative practices contributes significantly to the challenges teachers face in implementing IEPs.

Challenges Related to the Educational System

The second category focuses on challenges stemming from the broader educational system, which many teachers believe limits their ability to effectively implement IEPs. A common issue raised by the teachers is the lack of resources and support provided by the system. One participant noted, "The system does not provide teachers with enough supplements and materials, such as resource rooms, budgets for IEPs, and experts if needed" (Participant 56). This statement reflects a widespread frustration with the lack of essential resources that are necessary for the successful application of IEPs.

Another systemic issue highlighted by the participants is the outdated approach of the educational system in supporting special and mainstream schools, particularly concerning the provision of teaching assistants (TAs). One teacher expressed concern, stating, "The system

is late and outdated regarding providing special and mainstream schools with teaching assistants" (Participant 12). A gifted education teacher further emphasized the critical role of TAs, stating, "How can I apply IEPs for each student without TAs? Our program is not ready for accelerating gifted students because of several problems, and the absence of TAs and co-teaching is one of the major problems" (Participant 7).

Similarly, a teacher of students with specific learning disabilities (SpLD) affirmed the importance of TAs, noting, "The Ministry of Education needs to have an urgent plan regarding TAs in special programs. TAs play an important role in applying IEPs" (Participant 84). The recurring mention of co-teaching, TAs, and in-service courses among the participants highlights these areas as critical components that need addressing to improve the implementation of IEPs in both special and gifted education programs.

In summary, the qualitative findings reveal that the successful implementation of IEPs is hindered by both internal and systemic challenges. Internally, teachers face gaps in knowledge and a lack of in-service training, while systemically, they are constrained by inadequate resources and outdated support structures. Addressing these challenges is crucial for enhancing the effectiveness of IEPs and improving educational outcomes for students with diverse learning needs.

Discussion

The findings of this study provide critical insights into the understanding, Perception, and practices of gifted education teachers and special education teachers regarding the implementation of Individualized Education Programs (IEPs). These findings contribute to the broader discourse on the application of IEPs in segregated school programs, highlighting both commonalities and distinctions across different educational settings.

Perception and Knowledge of IEPs

The study revealed that teachers, regardless of their specialization, generally exhibit a high level of Perception about IEPs. This is consistent with previous research indicating that Perception of IEPs is a fundamental aspect of special education and gifted education, essential for tailoring educational experiences to meet the diverse needs of students (Johnsen, Parker, & Farah, 2015; UNICEF, 2014). According to Alqallaf, Alsahou, and Almusawi (2020), teachers in Kuwait demonstrate a high level of Perception of differentiated

learning, which is crucial in catering to the individual needs of students with special educational needs. However, the study also identified a significant gap in the depth of knowledge about IEPs, particularly among gifted education teachers. While they demonstrate an understanding of the importance of IEPs, their knowledge of the specific processes and technical aspects of IEP implementation appears to be less robust. This aligns with findings by Robinson et al. (2009), who emphasized the need for comprehensive professional development to enhance teachers' knowledge and skills in implementing IEPs effectively.

Implementation Practices

The practices related to IEP implementation varied across the different teacher groups. The study highlighted that gifted education teachers are actively engaged in IEP practices, particularly in areas such as collaboration and pedagogical applications. However, there is variability in the extent to which these practices are implemented, with some areas, like the design of activities, showing moderate levels of engagement. This suggests that while teachers are making efforts to implement IEPs, there is room for improvement, especially in creating more tailored and innovative educational activities that meet the specific needs of gifted students (Baum, Renzulli, & Hébert, 1999).

In contrast, special education teachers, particularly those working with students with mental disabilities, exhibited higher levels of knowledge and more consistent practices in IEP implementation. This finding is supported by research from Hott et al. (2021), which highlighted that special education teachers often have more structured training and experience in developing and applying IEPs, particularly in environments that demand highly individualized attention.

Challenges in IEP Implementation

The study also uncovered significant challenges related to the implementation of IEPs, categorized into internal challenges and those related to the broader educational system. Internally, the lack of in-service training and the absence of clear regulations and collaborative practices were identified as major barriers. This finding is in line with a recent study by Al-Shammari (2024), which highlights that special education classroom teachers often face challenges due to inadequate pre-service and in-service training, particularly in co-teaching environments. This lack of preparedness can negatively impact the effectiveness of teaching in classrooms. Teachers expressed a need for

more specific guidance and teamwork within schools to effectively implement IEPs, a challenge also noted by Fu et al. (2018) in their exploration of special education teacher competencies.

Systemically, the lack of resources, such as teaching assistants, Co-teaching and adequate support materials, was a recurring theme. This is consistent with the findings of Rashid et al. (2023), who emphasized the need for systemic changes to provide teachers with the necessary tools and support to implement IEPs effectively. The study underscores the importance of addressing these challenges to improve the quality of education provided to students with diverse learning needs. Alqallaf, Alsahou, and Almusawi (2020) also discuss the challenges teachers face in implementing differentiated learning strategies, particularly in terms of inadequate resources and the need for more professional development opportunities to enhance their ability to meet diverse student needs. Also, the teachers emphasized the urgent need for infusing Co-teaching and TAs in the educational approaches adopted in special educational needs programs. As Al-Shammari (2024) confirmed that professional development programs tailored to co-teaching strategies can significantly enhance teachers' abilities to implement inclusive and special education effectively, fostering better academic outcomes for students with special needs. A recent study highlighted the significance of enabling teachers, Al-Amour (2023) confirms the educational system has strong impacts on teachers' decisions inside the school and classrooms , therefore, the system should support EIP by providing teachers with appropriate resources, details instructions, and latest evidence based practice implementations.

Implications and Recommendations

Based on the findings of this study, several recommendations can be made to improve the implementation of Individualized Education Programs (IEPs) in both gifted education and special education settings:

1. **Enhanced Professional Development**: There is a clear need for targeted professional development programs that focus on the specific knowledge and skills required for effective IEP implementation. These programs should be designed to address the identified gaps in understanding, particularly among gifted education teachers. Professional development should include comprehensive training on the legal requirements, best practices, and technical aspects of IEPs, as well as strategies

for differentiating instruction and collaborating with colleagues and parents.

2. **Systemic Support and Resources**: The study highlights the need for increased systemic support to facilitate the successful implementation of IEPs. Educational policymakers should prioritize the allocation of resources such as teaching assistants, specialized materials, and dedicated resource rooms. Additionally, schools should be provided with adequate budgets to support the development and execution of IEPs, ensuring that teachers have the tools they need to meet the diverse needs of their students.
3. **Collaboration and Teamwork**: Schools should foster a culture of collaboration among teachers, administrators, and support staff. Encouraging teamwork and shared responsibilities in the IEP process can enhance the effectiveness of these programs. Schools could implement regular team meetings, joint training sessions, and collaborative planning periods to ensure that all educators are aligned and working together to support each student's individualized plan.
4. **Regular Review and Evaluation of IEPs**: It is important for schools to establish a process for the regular review and evaluation of IEPs to ensure that they are meeting the students' evolving needs. This process should involve all stakeholders, including teachers, parents, and students, to gather feedback and make necessary adjustments. Continuous monitoring and assessment can help in identifying areas of improvement and ensuring that IEPs remain relevant and effective.
5. **Policy Revisions**: Educational policies should be revisited to ensure they provide clear guidelines and expectations for IEP implementation across different educational settings. Policies should be flexible enough to accommodate the unique needs of both special and gifted education students, while also providing clear directives to teachers on how to execute these plans effectively.

Limitations and Future Research Directions

Sample and Generalizability: The study's findings are limited by the relatively small sample size of teachers from Kuwait, which may not fully represent broader educational contexts. Future research should

aim to include a larger, more diverse sample from various regions to improve the generalizability of results.

Self-Reported Data: As the study relies on self-reported survey data, the potential for response bias exists. Future studies could incorporate observational methods or longitudinal data to provide more objective insights into teacher practices and IEP implementation over time.

Qualitative Depth: The qualitative component of the study, based on open-ended questions, may not fully capture the complexities of IEP implementation. Future research could integrate more in-depth qualitative methods, such as interviews or focus groups, to explore teacher challenges and perspectives more comprehensively.

Professional Development Impact: The study identifies the need for better professional development but does not evaluate existing programs. Future research should assess the effectiveness of specific training interventions in improving teachers' knowledge and IEP practices, focusing on how ongoing professional support impacts long-term outcomes.

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