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Teaching Practices to Support the Transition of Students With Intellectual Disabilities to Adulthood

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Abstract: There is a great need to provide transition planning and enhance the success of individuals with intellectual disabilities in employment and independent living through appropriate practices. This study aims to explore the essential components of effective transition services that teachers should include in their instruction of students with intellectual disabilities. A descriptive quantitative research design was utilized, and data were collected through an online survey from 102 teachers of students with intellectual disabilities. The findings indicated that participants sometimes included most of the five essential components of effective transition service components in their teaching. No statistically significant differences were found in participants' responses based on school type, years of teaching experience, or qualifications. However, statistically significant differences were found between male and female participants in responses to two of the main components, namely, student-focused planning and interagency collaboration, with male participants reporting higher mean scores than female participants. The study's implications for practice and future research are also discussed.

Keywords: Adulthood, intellectual disability, teachers, teaching practices, transition services.

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Introduction

School-based initiatives to support individuals with disabilities in the transition to adulthood typically aim to improve students' outcomes of employment, postsecondary education, and independent living. Many countries have adopted transition initiatives similar to American initiatives, where transition is defined and guided by the Individuals with Disabilities Education Act (2004):

A set of coordinated activities for a child with a disability, that (a) is designed to be within a results-oriented process, focused on improving the academic and functional achievement of the child with a disability to facilitate the movement from school to post-school activities and include postsecondary education, vocational education, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation; (b) is based on the individual's needs, taking into account strengths, preferences and interests; and (c) includes instruction, related services, community experiences, development of employment and other post-secondary adult living objectives; and if appropriate, acquisition of daily living skills and functional vocational evaluation. (p. 118)

This definition of transition, which evolved from a more process-oriented approach, promotes systematically developed plans and meaningful, student-driven postsecondary outcomes for young adults with disabilities (Sitlington et al., 2009). Researchers have established strong evidence for transition practices, which currently serve as an important foundation concerning transition programs in schools and teacher preparation programs. This foundation is known as Kohler's taxonomy for transition planning (Kohler, 1996; Kohler et al., 2016). It includes five domains comprising evidence-based practices and related predictors of postschool success described in the Transition Innovation Configuration developed by the University of Florida's Collaboration for Effective Educator, Development, Accountability and Reform Center (Morningstar & Mazzotti, 2014). Teachers must be knowledgeable and skilled in the practices described in these five domains for supporting individuals with disabilities as they transit to adulthood (Mazzotti et al., 2021).

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Student-Focused Planning

Self-determination or self-advocacy and programs of study are two predictors of postschool success that are foundational regarding skills teachers must learn for implementing student-focused planning practices (Morningstar & Mazzotti, 2014). Given these foci, Morningstar and Mazzotti indicated that teachers can implement five practices to ensure a student-focused transition planning process: (a) involving students in transition individualized educational planning, (b) providing skills, (c) incorporating related programs of study, (d) including measurable and appropriate goals, and (e) using a systematic and age-appropriate assessment to inform the plan. It is important to note that considerations regarding cultural and linguistic diversity should inform teachers' approaches to increase student involvement in the transition planning process (Mazzotti & Rowe, 2015).

Student Development

The student development domain of Kohler's taxonomy comprises six skill areas: (a) independent living skills, (b) community participation, (c) employability, (d) work experiences, (e) academics, and (f) self-determination. When preparing teachers to use evidenced-based practices for each area, it is important to consider cultural and linguistic diversity among students (Morningstar & Mazzotti, 2014). Rowe et al. (2015) defined the skill areas and described the essential characteristics of programs that prepare teachers to effectively support student learning in each area across a variety of instructional and community settings. A recent review of syllabi in the United States showed that they had slightly less of a focus on employability or work experience than other areas such as academics (Williams-Diehm et al., 2018).

Family Involvement

The family involvement domain in Kohler's taxonomy highlights the need of the family to be included in transition planning. Morningstar and Mazzotti (2014) discussed the elements to consider in teacher preparation: (a) facilitate the involvement of parents, (b) encourage the involvement of parents regarding planning, (c) understand the perspectives of students regarding the support of their parents, (d) enhance the family expectations, and (e) provide training for parents regarding transition services.

Specifically, Rowe et al. (2015) emphasized the importance of family involvement in the transition including decisionmaking; participation in meetings; ongoing communication and interaction among parents, school, and local agencies; and advocating for the child (Morningstar & Mazzotti, 2014; Rowe et al., 2015). To accomplish this, teacher preparation programs must stress the importance of involving families in the transition process, provide opportunities for training to facilitate family involvement, assist teachers in being culturally responsive to parents of different backgrounds, and enable teachers to help parents as part of their field experiences (Morningstar & Mazzotti, 2014).

Program Structure

Understanding and implementing effective programs relies on teachers' knowledge of all other taxonomy domains (Kohler, 1996). Specifically, Morningstar and Mazzotti (2014) outlined the components of program structure: (a) promoting extended transition service programs, (b) enhancing teaching students with disabilities with their peers without disabilities, (c) providing efficient transition services, (d) supporting students, (e) helping learners achieve graduation requirements, and (f) providing intervention to reduce dropout rates.

Furthermore, to ensure effective program structures, teachers must develop the ability to assess, organize, and coordinate resources and collaborate with stakeholders (Morningstar & Mazzotti, 2014; Morningstar et al., 2018). In the process, it is vital for teachers to bear in mind the four predictors of postschool success: student supports, inclusion in general education, transition programming related to postschool goals, and awareness of exit diploma options (Morningstar & Mazzotti, 2014). Although creating opportunities for preservice teachers to engage in this work can be challenging, this can be accomplished through courses and fieldwork (May et al., 2018; Williams-Diehm et al., 2018).

Interagency Collaboration

Morningstar and Mazzotti (2014) discussed several components of this domain: (a) connect learners and parents to organizations, (b) understand factors regarding collaborative planning, and (c) provide multidisciplinary training. Teachers must improve skills to engage in interagency collaboration regarding students with disabilities. This not only includes collaboration within school structures but also with adult service providers and community partners (Morningstar & Mazzotti, 2014).

Transition Programs in the Kingdom

Based on U.S. legislation, definitions, and programming models, educational researchers in Saudi Arabia have, over the last couple of decades, worked to improve transition services and outcomes related to the education and employability of students with disabilities (Alquraini, 2013). Lines of inquiry identified in English and Arabic academic journals and

dissertations include but are not limited to the provision of supports for early childhood transitions and transitions from elementary to middle school (Aldosiry et al., 2021; Alfurayh, 2020), teachers' perceptions of parental and community business involvement in transition planning (Almalky & Alqahtani, 2021), and postsecondary services for adults with disabilities (Alsalamah & Poppen, 2022). Several studies have focused on teacher and faculty perceptions and attitudes toward the preparation and implementation of transition services (e.g., Alhossan & Trainor, 2017; Almutairi, 2018; Alnahdi, 2013; Alquraini, 2013; Alsalamah, 2023). However, these did not directly examine in-service teachers' preparation to implement the competencies of the transition taxonomy.

For instance, Alnahdi (2013) surveyed teachers in Riyadh. Regardless of age and gender, most participants felt unprepared regarding the provision of such services. However, results also indicated that teachers who had been in this field for a long time struggled with providing transition services and identified more barriers to implementing transition services. Alnahdi recommended embedding transition practices in all teacher preparation programs and the development of a transition specialist certificate for those who were prepared to ensure the implementation of transition services in schools.

Regarding recent in-service teacher perceptions, Almutairi (2018) studied the experiences and perspectives of teachers and practitioners working in programs for students with disabilities. The findings suggested that transition service providers in the Kingdom need to consider the engagement of students, parents, and stakeholders. According to participants, a barrier to full support was a lack of legal and financial support or funding to establish transition programs. With regard to preparation, participants also indicated that professional development was still needed to support transition services. Almutairi also suggested the need for extensive collaboration among stakeholders to implement such services for those individuals. These studies illustrate that there is a continued need for training. However, another recent study indicated that some transition competencies are being addressed in teacher preparation (Alhossan & Trainor, 2017).

Alhossan and Trainor (2017) surveyed 64 faculty members across 20 universities in Saudi Arabia included and valued transition curricula at the teacher education level. The ratings for all 29 transition competencies ranged from "Not covered" to "Covered, but not in depth" and "Covered in depth." The lowest-rated competency in this study was teaching self-determination skills (Alhossan & Trainor, 2017). The second lowest-rated competency was developing students' awareness of careers. Other competencies with low ratings included developing a curriculum that targets transition-related outcomes and identifying and documenting student preferences and needs. In addition, the researchers found that (a) the transition curriculum was taught within courses, and (b) the rate at which the 29 transition competencies were taught varied from university to university.

Indeed, Wehmeyer et al. (2019) described a crisis in the field that requires a change in focus from career development to what they described as life design and career construction skills. Accordingly, skill sets for life design and career construction are needed to prepare young adults for careers comprised of multiple and temporary jobs rather than a single (or a few) long-term employment periods. As a result, they indicated the need to prioritize self-determination and transition planning skills geared toward social and emotional development, study habits, planning, and problem-solving skills, which will be beneficial in postsecondary educational and work settings.

Alsalamah (2023) indicated that special education teachers strongly believe that promoting transition services is still needed. The findings also revealed that legislation and regulation related to individuals with disabilities, transition collaborative work, assessment tools for transition, and professional development for teachers are essential components that teachers indicated would enhance the provision of transition services in schools.

In light of the above discussions on transition services in Saudi Arabia, it can be seen that, although there is a great need to provide transition planning and enhance students' success in employment and independent living (Alsalamah, 2023), transition service practices and the areas indicated by Wehmeyer et al. (2019), Kohler (1996), and Kohler et al. (2016) in Saudi Arabia are diverse and poorly understood. Therefore, the current study aims to explore (a) the essential components of effective transition services that teachers practice or include in their instruction and the extent to which they implement them and (b) statistically significant differences, if any, based on (1) gender, (2) qualifications, (3) years of teaching experience, (4) population of students served, and (5) type of program. In the process, this study contributes new knowledge on teaching practices related to transition services, which will enable researchers, teachers, and other educators to understand transition service practices.

The following research questions were addressed in this study:

- 1. To what extent do special education teachers include the essential components of effective transition programs in their teaching?
- 2. Are there significant differences in teachers' responses based on their (a) gender, (b) qualifications, (c) years of teaching experience, (d) population of students served, and (e) type of program?

Methods

To answer the research questions, a descriptive quantitative research design was employed. The data were collected using an online questionnaire designed by the researchers. The first section involved demographic information (i.e., gender, qualification, type of program, years of experience, and the group of students those participants worked with). The second was based on CEEDAR's Innovation Configuration for Transition Planning and Services (Morningstar & Mazzotti, 2014). It comprised five domains, each including several items, for a total of 25 items. Participants responded to the questionnaire using a five-point Likert scale (1 = "Never," 2 = "Rarely," 3 = "Sometimes," 4 = "Very Often," and 5 = "Always").

After the questionnaire was developed, four reviewers who work as assistant professors in special education checked the validity of the instrument (Lamb et al., 2014). The reviewers verified both versions (Arabic and English) of the questionnaire. Their suggestions for rewording and correcting items were considered. The instrument was then disseminated to 15 teachers, from another region of the country, who did not participate in the study for piloting. The goal was to test the questionnaire, identify strengths and weaknesses, and determine whether there were any issues with its clarity.

To measure the reliability of the instrument, a Cronbach's alpha test was conducted (Cronbach, 1951) using the Statistical Package for the Social Sciences (SPSS) software (version 22). All questionnaire items were checked. The results indicated a relatively high reliability coefficient, with a Cronbach's alpha of .82 for the dimension of student-focused planning, .81 for the dimension of student development, .71 for the dimension of family involvement, .72 for the dimension of program structure, and .80 for the dimension of interagency collaboration, with an overall of .85. According to Field (2005), this range of Cronbach's alpha coefficients indicates that the questionnaire was reliable.

After obtaining permission for conducting this study, we reached out to a school district to help us disseminate the link of the questionnaire. Subsequently, the school district distributed the online questionnaire (Qualtrics), with the first page including the purpose of the study and the informed consent, to all 248 elementary, middle, and high school teachers in mainstream programs and centers that provided instruction to students with intellectual disabilities in the south region of Saudi Arabia. The special education mainstream programs comprise classrooms only for students with intellectual disabilities and other relevant disabilities. We allowed 3 weeks for data collection with a reminder after each week, and then we closed the link and started analysis. We used descriptive and inferential statistics to answer the research questions. For the first research question, we used the means, standard deviation, frequencies, and percentages. To examine the statistically significant differences between the grouping variables, if any, for the second research question (a) and (b), we used an independent sample t-test and for (c) and (d) we used one-way analysis of variance (ANOVA). Assumptions of normality, homogeneity of variance, and independence were tested to ensure they were met before conducting inferential statistics.

Demographic Information

Table 1 demonstrates the characteristics of the study population in terms of years of experience, qualifications, gender, and type of school. There were more male participants (n = 62) than female participants (n = 40). A large number of participants (n = 47) had 6 to 10 years of experience, and only 12 participants had more than 15 years of experience. The highest educational qualification for most participants was a bachelor's degree, and most worked in mainstream schools. *Table 1. Demographic Information*

Variable	Category	Frequency	Percentage
Years of teaching experience	1–5 years	24	23.5
	6– 0 years	47	46.1
	11– 5 years	19	18.6
	More than 15 years	12	11.8
Qualifications	Higher diploma	24	23.5
	Bachelor's	59	57.8
	Master's	19	18.6
Gender	Male	62	60.8
	Female	40	39.2
Type of school	Mainstream schools	69	67.6
	SPED Center	33	32.4
Total		102	100.0

* SPED Centers = special education centers.

Findings

Q1: To what extent do special education teachers include the essential components of effective transition programs in their teaching?

Domain 1: Student-Focused Planning

Regarding the first domain of the study, the overall mean score was 3.17. Descriptive statistics, including frequency, percentage, mean, and standard deviation, for each item in the first domain are illustrated in Table 2.

	Ne	ver	Ra	rely	Som	etimes	01	ften	Alv	ways		
	-	1		-2		·3		-4		-5	Μ	SD
Items	n	%	n	%	n	%	n	%	n	%	_	
Involving students in transition individualized education programs	6	5.9	29	28.4	48	47.1	8	7.8	11	10.8	2.89	1.01
Teaching transition planning skills	10	9.8	38	37.3	35	34.3	12	11.8	7	6.9	2.68	1.03
Including a comprehensive and relevant program of study in the IEP	7	6.9	20	19.6	44	43.1	16	15.7	15	14.7	3.11	1.1
Defining appropriate transition goals in the IEP	3	2.9	9	8.8	37	36.3	42	41.2	11	10.8	3.48	0.9
Utilizing age-appropriate assessment	2	2	15	14.7	21	20.6	39	38.2	25	24.5	3.68	1.06
Overall											3.17	1.02

Table 2. Domain 1: Student-Focused Planning

Domain 2: Student Development

Concerning the second domain, the overall mean score for the participants' responses was 3.63 across six items. As shown in Table 3, the item with the highest mean score was teaching and providing training related to academics (4.50), and the item with the lowest mean score was teaching and providing training related to employment skills (2.70). *Table 3. Domain 2: Student Development*

	Never		Ra	rely	Some	etimes	Of	ten	Always			
		·1	-2		-3		-4		-5		Μ	SD
Items	n	%	n	%	n	%	n	%	Ν	%	-	
Teaching and providing training related to independent living	1	1	3	2.9	21	20.6	37	36.3	40	39.2	4.09	0.89
Teaching and providing training related to community participation	6	5.9	24	23.5	25	24.5	26	25.5	21	20.6	3.31	1.21
Teaching and providing training related to employment skills	14	13.7	32	31.4	33	32.4	16	15.7	7	6.9	2.7	1.1
Teaching and providing training related to work-based experiences	12	11.8	36	35.4	31	30.4	8	7.8	15	14.7	2.78	1.2
Teaching and providing training related to academics	1	1	0	0	7	6.9	32	31.4	62	60.8	4.5	0.71
Teaching and providing training related to self-determination	3	2.9	1	1	9	8.8	34	33.3	55	53.9	4.34	0.9
Overall											3.63	1

Domain 3: Family Involvement

In the third domain of this study (i.e., family involvement), the overall mean score was 3.38. The highest mean score was 3.99 for the fourth item and the lowest (2.46) for the last item (see Table 4).

	Tubi	e 4. Don	ium J	. Funniy		ement						
	Ne	ver	Ra	rely	Sometimes		Often		Always			
	-	·1		-2		-3		-4	-	·5	Μ	SD
Items	n	%	n	%	n	%	n	%	n	%	-	
Facilitating parental involvement, engagement, and support for postschool outcomes	1	1	9	8.8	22	21.6	31	30.4	39	38.2	3.96	1.02
Encouraging parent involvement in transition planning	6	5.9	25	24.5	40	39.2	22	21.6	9	8.8	3.02	1.02
Understanding student perceptions of family support	4	3.9	11	10.8	36	35.3	36	35.3	15	14.7	3.46	1
Promoting positive parental expectations for postschool employment and education	1	1	4	3.9	28	27.5	31	30.4	38	37.3	3.99	0.94
Implementing parental training in transition	20	19.6	36	35.3	30	29.4	11	10.8	5	4.9	2.46	1.07
Overall											3.38	1.01

Table 4. Domain 3: Family Involvement

Domain 4: Program Structure

For the fourth domain (i.e., program structure), the total mean score was 3.65 across all items (see Table 5). The highest mean score (M = 4.34) was for the item promoting student supports, and the lowest mean score (M = 2.69) was for the item implementing dropout prevention interventions for at-risk youth.

	Tuble		ium n	riogie	ini bere	icture						
	Never		Ra	rely	Sometimes		Often		Always			
	-	1	-	-2		-3	-	4	-	·5	Μ	SD
Items	n	%	n	%	n	%	n	%	n	%		
Promoting opportunities for extended transition services	10	9.8	15	14.7	29	28.4	23	22.5	25	24.5	3.37	1.27
Promoting inclusion in general education	3	2.9	4	3.9	10	9.8	37	36.3	48	47.1	4.2	0.97
Ensuring that effective transition programs and services are in place	11	10.8	13	12.7	25	24.5	35	34.3	18	17.6	3.35	1.22
Promoting student supports Ensuring students meet exit exam	1	1	7	6.9	6	5.9	30	29.4	58	56.9	4.34	0.93
requirements and achieve high school diploma status	1	1	8	7.8	22	21.6	37	36.3	34	33.3	3.93	0.97
Implementing dropout prevention interventions for at-risk youth	18	17.6	26	25.5	35	34.3	15	14.7	8	7.8	2.69	1.15
Overall											3.65	1.08

Table 5. Domain 4: Program Structure

Domain 5: Interagency Collaboration

In the fifth and final domain of the study, understanding critical elements of interagency collaboration was the item with the highest mean score (M = 3.08), whereas providing cross-disciplinary training was the item with the lowest mean score (M = 2.74). The total mean score for this domain was 2.88 (see Table 6).

	Never		Rarely	So	Sometimes		Often		Always			
	-1	_	-2		-3		-4	ŀ	-5		Μ	SD
Items	n	%	n	%	Ν	%	n	%	n	%	_	
Connecting students and families to outside agencies	10	9.8	30	29.4	35	34	23	22.5	4	4	3	1
Understanding critical elements of interagency collaboration	9	8.8	27	26.5	27	27	24	23.5	15	15	3	1
Providing cross-disciplinary training	16	15.7	35	34.3	22	22	17	16.7	12	12	3	1
Overall											3	1

Table 7 presents total means and standard deviations regarding each domain as well as the overall score for all domains in the current study. The highest mean score was for the domain of program structure (M = 3.65; SD = 1.08), whereas the lowest mean score was for the last domain (M = 2.88; SD = 1.15).

Domain	Μ	SD
Student-focused planning	42795	44958
Student development	23071	1.00
Family involvement	13940	44927
Program structure	23802	45139
Interagency collaboration	32174	42005
Overall	12479	45047

Question 2A: Are there significant differences in teachers' responses based on their gender?

As demonstrated in Table 8, statistically significant differences in mean scores for domain 1 (t = 2.873, p = .001) and domain 5 (t = 2.374, p = .001) were found for male teachers at a significance level of 0.05, which indicates that p < .05. However, there were no statistically significant differences in teachers' responses based on gender in the other three domains. In other words, the findings indicated that gender had a statistically significant effect on domains 1 and 5.

Domain	Gender	Ν	М	SD	t	р
Student-focused planning	Male	62	16.4839	2.37985	2.873	.001
	Female	40	14.9000	3.17684	-	-
Student development	Male	62	21.8226	2.60846	.489	.895
	Female	40	21.7500	2.84425	-	-
Family involvement	Male	62	16.6613	2.12667	-1.081	.282
	Female	40	17.2750	3.60902	-	-
Program structure	Male	62	21.6290	2.51053	-1.183	.240
	Female	40	22.3250	3.42231	-	-
Interagency collaboration	Male	62	9.0484	2.14573	2.374	.001
	Female	40	8.0250	2.09379	-	-

Table 8. An Independent Sample T-test of All Domains by Gender

Question 2B: Are there significant differences in teachers' responses based on the type of school?

As shown in Table 9, no statically significant differences were found in mean scores for any of the domains. Thus, the findings indicate that the type of program (mainstream school or SPED centers) did not have a statistically significant effect on the domains.

Table 9. An Independent Sample T-test of All Domains by Type of School

Domain	Type of schools	N	М	SD	t	p
Student-focused planning	Mainstream school	69	15.9420	3.02871	.410	.683
r c	SPED Center	33	15.6970	2.33833	-	-
Student development	Mainstream school	69	21.8116	2.90170	.094	.925
-	SPED Center	33	21.7576	2.22247	-	-
Family involvement	Mainstream school	69	16.6087	3.13527	-1.539	.127
	SPED Center	33	17.5152	1.82211	-	-
Program structure	Mainstream school	69	22.1304	3.10082	1.150	.253
	SPED Center	33	21.4242	2.42423	-	-
Interagency collaboration	Mainstream school	69	8.7391	2.19392	.617	.539
	SPED Center	33	8.4545	2.15190	-	-

* SPED Centers = special education centers.

Question 2C and 2D: Are there significant differences in teachers' responses based on (c) qualifications and (d) years of teaching experience?

As Tables 10 and 11 illustrate, there were no statistically significant differences in mean scores across the domains according to qualifications or years of teaching experience (p > .05). In other words, none of the differences between qualifications or years of teaching experience and the participants' responses in any domains were statistically significant.

Domain	Source	SS	df	MS	F	р
Student-focused planning	Between groups	35.560	2	17.780	2.302	.105
	Within groups	764.518	99	7.722	-	-
Student development	Between groups	6.647	2	3.323	.454	.636
	Within groups	724.030	99	7.313	-	-
Family involvement	Between groups	10.618	2	5.309	.672	.513
	Within groups	782.402	99	7.903	-	-
Program structure	Between groups	25.210	2	12.605	1.507	.227
	Within groups	827.809	99	8.362	-	-
Interagency collaboration	Between groups	.158	2	.079	.016	.984
	Within groups	477.136	99	4.820	-	-

Table 10. One-Way ANOVA of All Domains by Qualifications

Table 11. One-Way ANOVA	of All Domains by Years of	of Teaching Experience
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Domain	Source	SS	df	MS	F	р
Student-focused planning	Between groups	50494	3	16831	2200	.093
	Within groups	749585	98	7649	-	-
Student development	Between groups	16814	3	5605	.769	.514
	Within groups	713862	98	7284	-	-
Family involvement	Between groups	49588	3	16529	2179	.095
	Within groups	743431	98	7586	-	-
Program structure	Between groups	2264	3	.755	.087	.967
	Within groups	850756	98	8681	-	-
Interagency collaboration	Between groups	4040	3	1347	.279	.841
	Within groups	473255	98	4829	-	-

Discussion

As discussed in the literature review, there is a need to prioritize transition planning skills geared toward social development, study habits, planning and problem-solving, which will be beneficial in postsecondary education and work settings (Wehmeyer et al., 2019). Although several studies investigated teachers' perspectives of transition services, no data were found on practices or essential components of transition services that teachers in Saudi Arabia included in their instruction. Thus, the main aim of this study was to explore the essential components of effective transition programs that teachers practice or include to instruct students with intellectual disabilities. Participants' responses signaled a need to pay more attention to prioritizing transition planning skills in several areas where there were low mean scores. According to Scruggs et al. (2021), "Transitional professionals should encourage all students . . . to be an active part of their transition planning meetings" (p. 185). With respect to student-focused planning (the first domain), teachers' responses to the items "Involving students in transition individualized education programs" (M = 2.89) and "Teaching transition planning skills" (M = 2.68) were not encouraging. This may indicate that (a) teachers pay little attention to the inclusion of students in their preparation for the transition program in schools and (b) students are not sufficiently taught the necessary transition skills.

Mean scores on other items in this domain ranged from 3.11 to 3.68. In the second domain (student development), on the other hand, participants had a relatively high total mean score of 3.63. However, the mean scores for responses related to teaching and providing training on employment skills (M = 2.70) and work-based experiences (M = 2.87) were low. These findings seem to be consistent with those of Alhossan and Trainor (2017), who found that faculty members believed that preparing teachers to enhance students' career awareness was relatively low. The total mean score for the last domain (interagency collaboration) was the lowest in this study (M = 2.88). Given that it is important for teachers to have the necessary skills to conduct interagency collaboration for students with disabilities (Morningstar & Mazzotti, 2014), this does not seem encouraging. According to a study by Yada and Alnahdi (2021), "Saudi teachers were less confident in . . . collaborating with other school staff and professionals" (p. 14). Teachers are expected to collaborate (Yada & Alnahdi, 2021), develop interagency agreements, and connect with students and families (Almalki et al., 2021; Scruggs et al., 2021).

Surprisingly, the results demonstrated statistically significant differences based on gender in participants' responses in two domains, student-focused planning and interagency collaboration. In the first domain (i.e., student-focused planning), male participants reported higher mean scores than female participants. Ookeditse (2022) had similar results, where teachers' perceptions of transition services in Botswana, South Africa, varied based on gender and years of teaching experience. A contextually based explanation of this difference could be due to the fact that in Saudi Arabia male and female teachers teach students of the same gender but at separate schools or settings. Although such statistically significant differences between male and female teachers can be expected in some cases, explaining the rationales behind these differences in depth requires further investigation.

Another interesting finding is that, in the fifth domain (i.e., interagency collaboration), male participants also reported higher mean scores than female participants. One possible explanation for this could be that male participants have higher levels of self-efficacy in inclusive practices. This difference may indicate a high need to pay further attention to teaching practices among female teachers. Such gaps between male and female teachers might affect female students' preparation for transition to adulthood, skills and knowledge, and opportunities to enroll in college or find a job after school.

Conclusion

In the light of the previous discussions, it can be concluded that more attention to teaching practices and supporting the transition of individuals with intellectual disabilities to adulthood is still needed, particularly when it comes to training on employment skills and work-based experiences. This study highlights specific target areas for exploring practices that teachers consider regarding the transition of students with intellectual disabilities and statistically significant differences between the grouping variables, which is important given individuals' increasing need for transition skills that enable them live independently in the community.

Recommendations

Based on the results of this study, it is highly recommended that Ministry of Education, school districts, and/or schools provide sufficient professional development sessions for teachers on topics related to transition services. Effective professional development sessions can help teachers better understand students' needs in terms of transitioning to secondary and postsecondary education. Moreover, although family involvement is considered an essential component of transition services, the results of this study show that further improvement of such involvement is still needed. Parental involvement in transition planning can be beneficial to understand their children's transition to secondary education.

The outcomes highlight the need for connection between schools and other institutions. In other words, the findings indicate that there is a gap between schools and local organizations, which may not help individuals with disabilities. Therefore, schools should collaborate with local organizations in both the private and public sectors to increase training opportunities for individuals with disabilities, which may help them find jobs after graduation.

The results of this study have raised questions that require further exploration of teaching practices regarding transition services. An in-depth study should be conducted to explore teaching practices and barriers to providing appropriate transition services among male and female teachers and the factors that lead to differences between these groups. A qualitative study could also be conducted to explore teachers' perceptions of their provision of transition services, the barriers they face, and success factors they believe are necessary to more successfully provide services to individuals with disabilities. It is essential to understand the barriers and facilitators associated with transitions from the perspective of teachers of students with intellectual disabilities.

Limitations

There are limitations that should be indicated in this study. With respect to the sample, there was a relatively low response rate due to the small population of teachers of students with intellectual disabilities in the city where the study took place. Therefore, this might limit the generalizability of the results to other regions in the country. Another limitation is related to the study design. The statistically significant differences found between male and female participants cannot be interpreted through a single quantitative study. Therefore, following the quantitative analysis of the data, conducting interviews with several participants and observing teachers in schools to explain these outcomes could be critical. However, this step must proceed through a mixed-methods design, which usually requires another study phase, additional time, and a number of participants who are willing to be interviewed. Thus, it was beyond the scope of the current study.

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Authorship Contribution Statement

Abu-Alghayth: Conceptualization, writing, and supervision. Alshahrani: Data collection, analysis, and securing funding. Catania: Writing, drafting manuscript, and final approval.

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