

Higher Education Saudi Faculty Perspectives on the Instruction and Inclusion of Students with Autism Spectrum Disorder and Intellectual Disabilities

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Abstract

A total of 90 special education Saudi Arabian faculty members in 20 institutions of higher education were surveyed using the Revised Opinion Relative to Mainstreaming Survey to understand the preparation of pre-service teachers and their readiness to implement evidence-based practices to elementary students with an intellectual disability or autism spectrum disorder. The descriptive research design was utilized. Results revealed that although faculty noted interest in preparing pre-service teachers to support students with intellectual disabilities or autism, several barriers impeded their ability to effectively prepare teachers, such as a lack of collaboration in course development and fieldwork experience between departments of special and general education, the readiness of general education teachers to support students with autism/intellectual disabilities in the general settings, the use of evidence-based practices, and limited faculty interest to improve their knowledge and skills in this area. Limitations and implications for practice and future research are also discussed.

Keywords: *Autism Spectrum Disorder; Intellectual Disabilities; elementary; higher education; teacher preparation; Saudi Arabia; special education.*

1. Introduction

Education for all people is still essential for a country's progress (Oghenekohwo et al., 2017). All nations must guarantee that children with disabilities obtain a quality education in inclusive settings, according to Article 24 of the United Nations Convention on the Rights of People with Disabilities (CRPD) (UN, 2006). Learning in inclusive settings benefits students with substantial impairments by fostering their development, participation, and social relationships (Browder & Spooner, 2014). Nonetheless, the World Health Organization (WHO) emphasized that tailored support is necessary for students with impairments to succeed in inclusive environments (WHO, 1994). Academic, behavioral, and social achievement in school are all influenced by the availability and quality of support that are specifically designed for each kid (Bambara et al., 2015).

Teacher training plays a crucial role in shaping educators' perceptions of disability and their ability to effectively support students with disabilities in inclusive classrooms. The training received by teachers can significantly influence their attitudes, knowledge, and skills regarding disability, which, in turn, impacts their interactions and instructional practices with students. Teacher training programs can contribute to shaping teachers' attitudes toward disability. Research has shown that teachers with positive attitudes

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toward students with disabilities tend to create inclusive learning environments and provide appropriate support. Conversely, teachers with negative attitudes may unintentionally perpetuate barriers and exclusionary practices (Avramidis et al., 2000; Weiner, 2005). It provides comprehensive knowledge and skills related to understanding and addressing the diverse needs of students with disabilities. This includes understanding different disability categories; individualized education plans (IEPs), evidence-based instructional strategies, assistive technologies, and behavior management techniques (Darling-Hammond & Berry, 2019; Artiles et al., 2016). In addition, teacher training programs recently emphasize inclusive pedagogical practices that cater to the diverse needs of students with disabilities. This includes adapting curriculum materials, providing differentiated instruction, fostering collaboration among students, and utilizing universal design for learning principles (Sapon-Shevin, 2010 & Forlin, 2018). It is important to note that the effectiveness of teacher training in shaping perceptions of disability can vary depending on the quality and depth of the training programs, ongoing professional development opportunities, and the broader educational context in which teachers work. Continuous support and learning opportunities for teachers can contribute to positive perceptions of disability and the provision of inclusive education for all students.

With the aim of becoming "an exemplary and leading nation in all aspects, including inclusive education being provided to students with Autism Spectrum Disorder and Intellectual Disability," the Saudi government recently unveiled Vision 2030, a strategic framework designed to improve all governmental sectors (Vision 2030, 2020, p. 1). Reforms were implemented, according to Al-Assaf (2017), to guarantee access to education, independence, and social inclusion. The Special Education Policy of Saudi Arabia (SEPSA) was updated in 2016 as part of Vision 2030, establishing standards for the instructional, occupational, social, and administrative duties and responsibilities of teachers, specialists, administrative staff, and early intervention services as well as the educational plans and objectives for students with disabilities (Alharbi & Madhesh, 2017). By defining processes and procedures across levels of education (primary, secondary, and higher education) and stakeholders including students and families, teachers, administrators, and higher education faculty, the document systematizes and concretizes special education (Alharbi & Madhesh, 2017). The continuous initiatives stemming from Vision 2030 have significantly improved the educational equity for all children across the nation, regardless of ability.

Saudi universities offer a diverse range of programs for preparing special education teachers, aimed at equipping graduates to work in the field of special education and interact with students with special needs. Bachelor's in Special Education which is an undergraduate program provides students with the foundational knowledge and skills in the field of special education. Topics covered include assessing special needs, designing appropriate educational programs, and teaching techniques for students with special needs. A Master's in Special Education is also a program that further deepens knowledge and skills in the field of special education. It focuses on research and practical application in providing educational support to students with special needs and developing their abilities. Programs may specialize in areas such as autism, learning disabilities, and emotional and social education. Saudi Universities also provide a Diploma in Special Education that offers short-term programs aimed at providing teachers with fundamental knowledge and skills in dealing with students with special needs. These programs may focus on specialized teaching methodologies, assessment, and designing educational programs (Al-Hamdan & Al-Agha, 2017; Alqurashi & Everatt, 2018)

Besides, pre-service training for teachers in special education in Saudi Arabia is conducted through various institutions and programs. There are governmental and academic entities that are dedicated to training teachers in the field of special education to ensure the provision of quality education for students with special needs. Here are some

important institutions and programs in this regard (Aljughaiman & Mowafi, 2019; Alharbi, 2019; Alzebda et al., 2020):

1. National Center for Vocational and Technical Training in Special Education (NCTVE): It offers several specialized training programs and courses in the field of special education, aiming to develop the capacities and skills of teachers working in this field.
2. Teacher Training Institutes and Universities: They offer numerous specialized educational programs in special education, both at the master's and diploma levels, to equip teachers with the theoretical knowledge and practical skills necessary to work with students in special education.
3. Ministry of Education: It organizes various training courses and workshops in the field of special education for teachers, and provides educational resources and necessary information to enhance their skills and knowledge.
4. Charitable associations and institutions: They play a significant role in providing training and support for teachers in special education. They organize conferences, seminars, and workshops to exchange experiences and enhance practical skills.

Various inclusion policies and models in Saudi Arabia have evolved in recent years, aiming to provide equal opportunities and support for individuals with disabilities. The Rights of Persons with Disabilities Act: In 2018, Saudi Arabia passed the Rights of Persons with Disabilities Act, which outlines the rights and protections for individuals with disabilities. This law prohibits discrimination and ensures access to education, healthcare, employment, and public services. It also mandates the provision of reasonable accommodations to enable full participation and inclusion. Education for All: Saudi Arabia has taken significant steps to promote inclusive education for students with special needs. The Ministry of Education has launched various programs and initiatives to integrate students with disabilities into mainstream schools. These include specialized classrooms, assistive technologies, and teacher training programs to support inclusive learning environments. Disability Service Centers: The Saudi government has established Disability Service Centers across the country to provide comprehensive support for individuals with disabilities. These centers offer a range of services, including medical care, rehabilitation, counseling, and vocational training. They also collaborate with educational institutions and employers to facilitate the inclusion of people with disabilities. National Autism Center: The National Autism Center in Saudi Arabia focuses on the inclusion and support of individuals with autism spectrum disorder (ASD). It provides diagnostic assessments, early intervention programs, therapeutic services, and vocational training to enhance the lives of individuals with ASD and their families.

The Saudi government established special education programs at 20 universities to train pre-service special education teachers to work with students with disabilities, including students with ID/ASD, as a means of enhancing the educational system and services for students with intellectual disability (ID)/autism spectrum disorder (ASD). These programs provide the following categorization foci: autism, learning difficulties, deaf-blindness, emotional disturbance, multiple disabilities, orthopedic disability, and other health impairments. The practice of educating students with ID and ASD in Saudi Arabia continues to conflict with the policies, as they are still taught in separate special education classrooms where they are unable to interact with their typically developing peers, despite legislation stating that students with disabilities should receive accessible education that aims to secure independence and inclusion in society (Alquraini, 2012).

Current Vision 2030 mandates have shifted towards inclusive education by enrolling students with disabilities with their general education peers (Vision 2030, 2020, p. 32). According to Dickenson (2016), given the appropriate knowledge and skills, pre-service teachers can create effective inclusive learning environments for both general and special

education students. This shift requires that higher education faculty are prepared to train pre-service teachers with the knowledge and skills necessary to support students with ID/ASD in general education settings (Olson, 2018). Moreover, higher education faculty should prepare pre-service teachers to be equipped with evidence-based practices (EBPs; Cook, 2011) which are considered to be vital for improving academic, social, and behavioral outcomes for students with ID and ASD (Downing, 2010, pp. 150–154).

In the field of education, evidence-based practice refers to an approach that integrates the best available evidence from educational research with professional expertise and contextual factors to inform instructional decision-making, curriculum development, and educational interventions. It involves using a systematic and critical evaluation of research evidence to guide educational practices and improve student outcomes. Evidence-based education practice involves the conscientious and judicious use of the best available research evidence, in combination with professional expertise and stakeholder perspectives, to inform educational decisions, policies, and practices to enhance student learning and achievement (Cook et al., 2013). It's important to note that evidence-based education practice acknowledges the complexity and diversity of educational contexts, and encourages educators to consider multiple sources of evidence, including research studies, assessment data, and practitioner experience, to make informed decisions and provide effective instruction for students.

Evidence-based training experiences and the determination of outcomes play a crucial role in improving inclusion practices in special education. By relying on empirical evidence and data-driven approaches, educators and policymakers can make informed decisions that have a positive impact on students with special needs. Here, we will discuss the benefits of evidence-based training experiences and outcome determination in promoting inclusive practices in special education, supported by relevant references. These experiences provide educators with the knowledge and skills necessary to implement effective instructional strategies. These strategies are based on research and are effective in supporting students with special needs. For example, studies have highlighted the benefits of interventions like differentiated instruction, peer tutoring, and assistive technology in enhancing learning outcomes for students with disabilities (Giangreco, 2010; Raskind & Higgins, 1999). It helps educators understand the diverse needs of students with disabilities and promote individualized learning. By utilizing evidence-based practices, teachers can tailor their instruction to meet the specific strengths and challenges of each student. This approach has been linked to improved academic achievement, increased student engagement, and greater self-esteem among students with special needs (Cook, Tankersley, & Landrum, 2009; De Boer, Pijl, & Minnaert, 2010). They encourage collaboration among educators, professionals, and families involved in special education. By sharing research-based strategies and practices, professionals can work together to improve inclusive practices. Professional development opportunities based on evidence-based approaches can enhance educators' knowledge and skills, ultimately leading to more inclusive classrooms (McLeskey et al., 2017; Sindelar, Smith, & Lignugaris-Kraft, 2010).

Evidence-based training experiences and outcome determination inform policy and decision-making in special education. Policymakers can use research evidence to develop inclusive policies, allocate resources effectively, and make informed decisions that positively impact students with special needs (Cook et al., 2014). Additionally, outcome determination allows for ongoing evaluation and adjustment of policies and practices to ensure they are achieving desired outcomes (McLeskey et al., 2017). Evidence-based training experiences and outcome determination have been associated with improved student outcomes in special education. Research has shown that evidence-based practices lead to higher academic achievement, increased social skills, improved behavior, and enhanced post-school outcomes for students with disabilities (Odom et al., 2015; Sugai & Simonsen, 2012). By implementing evidence-based strategies and continually monitoring

outcomes, educators can create more inclusive environments where all students can thrive.

Also, improved student academic achievement is linked to evidence-based teaching strategies (Moon et al., 2021). Also, ASD/ID adolescents with the help of peer-implemented naturalistic techniques such as pivotal response training (PRT), peer-mediated intervention (PMI), and play-based intervention during recess time enhanced their social skills (such as social initiations, turn-taking, etc.). (Chang et al., 2016; Harper et al., 2008; Parsons et al., 2019).

When considering inclusive education for students with ASD/ID, evidence-based practices in higher education play an important role. The value of evidence-based practice as a means of connecting research and practice in teaching is highlighted by recent advancements in teacher education (Bauer, 2012). These advancements are based on the notion that an essential source of knowledge and information for instructors in classrooms should be empirical data (Niemi, 2008). The importance of empirical data from educational research on teachers' professionalism is increasingly mentioned in professional standards for teacher education on a global scale (European Commission, 2007). The encouragement of evidence-based practice in the teaching profession is greatly aided by teacher educators in this way, acting as instructors of pre-service teachers (Lunenbergh et al., 2014). Although there is widespread support for teacher preparation programs, concerns remain about the adequacy of preparing teachers with EBPs to work in inclusive settings (Forlin, 2015).

Presently, no investigation has sought Saudi Arabian special education faculty's viewpoints on teacher preparation and the inclusion and education of students with ASD and ID. Therefore, the purpose of this study was to gain an understanding of the perceptions of faculty who prepare special educators to work with elementary students with ID/ASD as well as learn about their beliefs about the inclusion of students in general settings. Additionally, this study aimed to identify the EBPs special education faculty in teacher preparation programs impart to pre-service teachers to prepare them to instruct students with ASD/ID. The study was guided by the following research questions:

1. What are the thoughts and experiences of special education faculty in higher education concerning the education and inclusion of young Saudi Arabian children with ID and ASD in regular classroom settings?
2. What are the perceptions of the faculty members regarding the Saudi institutional policies and departments of special education's structures preparing pre-service teachers for the education of students with ID and ASD?
3. What kinds of evidence-based practices are provided to aspiring special education instructors in Saudi Arabia for students with ID and ASD?
4. How might academics broaden their understanding of these strategies?

2. Method

2.1. Setting and Participants

90 Saudi Arabian special education academics with expertise in ID/ASD served as the sample for this study. They were selected purposefully according to their training experiences. All of the respondents to the survey were special education academics from Saudi Arabian institutions of higher learning who were engaged in training future special educators with an emphasis on dealing with children with ID/ASD.

The study recruited participants from 20 institutes of higher education located in all 13 regions of Saudi Arabia. Out of these, 19 were public institutions, and one was a private institution specializing in undergraduate and graduate special education degrees, with a

focus on Autism Spectrum Disorder (ASD) and Intellectual Disability (ID). The department chairs of special education in Saudi Arabia received emails containing information about the study and a survey link, inviting them to participate. Out of the initial 120 potential faculty members who began the survey, 90 participants completed it, resulting in a response rate of 75%.

In terms of participant demographics:

- The majority of participants were male ($n = 57$), while the remaining participants were female ($n = 33$).
- Most participants held a Ph.D. degree in special education ($n = 70$), while the rest reported having either a master's or a bachelor's degree in special education ($n = 30$).

Regarding experience:

- Participants' years of experience in working with and preparing pre-service teachers varied from 1 to 35 years, with an average of 18 years ($M = 18$, $SD = 2.74$).
- Results indicated that only 30% of participants ($n = 27$) had direct interaction with students with disabilities in a classroom setting. On average, the frequency of this direct interaction was reported as 1.74 ($M = 1.74$, $SD = 0.84$) on a scale of measurement not specified in the provided information.

Additionally, participants were asked if they had the experience of teaching students with ID/ASD in a classroom. The experience of teaching students with Intellectual Disabilities (ID) and Autism Spectrum Disorder (ASD) in a classroom refers to the firsthand knowledge and practical understanding gained by educators who have worked with these specific student populations in an educational setting. This experience involves interacting with and instructing students who have been diagnosed with ID and/or ASD, and adapting teaching methods and strategies to meet their unique needs and challenges.

Results indicated only 29% of participants ($n = 26$) previously taught students with ID/ASD in an educational setting ($M = 2.22$, $SD 1.10$). The average number of years of experience working with students with ID/ASD was four years (average, one to seven years). Also, the results reported that 71% of participants ($n = 63$) had never worked with students with ID/ASD in an educational setting ($M 1.96$, $SD 0.87$). Both participants with and without experience reported they had never had the experience of working with students with ID/ASD in an inclusive setting. See Table 1 for participant demographics.

Table 1: Experiences of Higher Education Faculty

Experience	% of Participants	Average	Standard Deviation
Teaching in higher education	100%	18 years	1.85
Teaching students with disabilities	30%	4 years	0.84
Teaching students with ID/ASD	29%	3 years	1.10
Teaching in inclusive settings	0%	NR	NR

In terms of the program's demographics, 261 undergraduate students on average per institution were enrolled in the autism and intellectual impairments tracks (range, 50 to 471 students). There were fewer graduate programs for ID/ASD students, with an average of 23 students (range, of 10 to 36 students). ASD and ID-focused programs were available at all 20 colleges. The ASD track had an average enrollment of 90 students (with a range of 20 to 160), whereas the ID track had an average enrollment of 120 students (a range, of 30 to 210 students).

2.2. Revised Opinion Relative to Mainstreaming Survey

The questionnaire was created using data from the Opinion Related to Mainstreaming (ORM) survey, which looked into instructors' perceptions of instructing students with disabilities in regular education classes (Antonak & Larrivee, 1995; Larrivee & Cook, 1969). 33 items were included in the initial survey, which was divided into five sections:

(a) general mainstreaming philosophies and attitudes of instructors (n = 15), which included statements like, "Including children with impairments can enhance their social skills," (n = 6) Classroom behavior (i.e., "Students with disabilities will not monopolize the regular-classroom teacher's time"), (n = 6) Classroom management (i.e., "Students with disabilities will not make unreasonable demands on the teacher's time"), and (n = 6) Academic ability development (i.e., "The majority of students who have disabilities will make a reasonable effort to complete their homework").

The original ORM survey assessed validity using a panel of experts, formal studies, and pilot testing (Antonak & Larrivee, 1995). The reliability of the tool has been documented over time. In 1979 and 1982, split-half reliability, as measured by the Spearman-Brown reliability coefficient, was reported to be 0.74. The ORM was given to 433 participants in 1995, the year of its most recent version. According to Antonak and Livneh (1995), the results were consistent across all 433 respondents and produced acceptable reliability indices. The Cronbach's alpha coefficient was 0.75 with a standard error of measurement of 5.98, and the Spearman-Brown adjusted split-half reliability estimate had a value of 0.72.

2.3. Survey Development

The ORM was modified by changing the vocabulary to suit the study's participants (special education faculty members in higher education) and the study's setting (i.e., Colleges of Education). Four special education academics with experience in ASD/ID and inclusive education were sought out from two U.S. colleges to examine the survey and offer suggestions for improvement in terms of the poll's content, language, and visual appeal as well as its alignment with the study goals. 31 questions were generated from the updated survey and were divided into four sections. With a focus on inclusive education for students with ASD/ID, the general information section of the survey asked 17 questions about participants' professional and demographic backgrounds, including their highest degree, gender, and current position, as well as their willingness to further their knowledge of EBPs by attending conferences, workshops, or professional development opportunities. At the institutional level, faculty members were questioned (n = 5) about whether their schools or colleges of education were structured in a way that allowed for adaptability and the capacity for cross-departmental collaboration (e.g., "Pre-service special education teachers should be required to take general education courses at my institution"). The following section examined departmental faculty opinions (n = 4) and how courses and programs were created to ensure that aspiring teachers had the necessary skills to work with students who have ASD/ID in general education settings (i.e., "My department strongly encourages cross-collaboration in teacher-training programs"). The faculty level portion (n = 5) focused on the opinions of faculty members towards the teaching and inclusion of children with ID and ASD in primary schools (e.g., "Including children with intellectual impairments or autism will improve their social skills.").

Multiple-choice questions (n = 14) and Likert-type rating scale (n = 17) questions were used in the survey to collect data on participant demographics and viewpoints on the different program levels. A three-point rating scale from "never" to "I do this often" was used, and there was also a four-point rating scale from strongly agree to strongly disagree. Simultaneous prompting (most-to-least intrusive prompts, planning for generalization), self-directed learning (pictorial self-instruction, visual supports, and instruction), peer-mediated interventions (peer tutoring), use of technology (video prompting and modeling), other practices used by faculty, and N/A were among the options for strategies.

2.4. Survey Validity and Reliability

After the researchers revised the original ORM, special education faculty members (n = 4) from two universities in the U.S. were recruited a second time and reviewed the survey content to ensure it aligned with the research questions. The experts were selected based

on their expertise in measurement and special education. Cronbach's Alpha was used to test the reliability of the revised survey and its items. The results of Cronbach's Alpha indicated internal consistency across all levels and items. Values averaged 0.73 (range 0.70 to 0.75). The coefficient scores are detailed in Table 2.

Table 2: Internal Consistency

Level	Cronbach's Alpha Score
Institutional level	0.71
Department level	0.70
Faculty level	0.75
All levels/questions	0.73

2.5. Data Collection, Procedures, and Analysis

Participants were given six weeks to complete the surveys. During the process, the researcher sent weekly reminders to department chairs to increase the response rate. The completed survey responses were downloaded from Qualtrics, and arrayed on an Excel datasheet. A Python statistical package for social sciences was used to clean and analyze the responses. The numerical data were analyzed descriptively (i.e., frequency, mean, range, SD).

3. Results

3.1. Pre-service Teaching and Inclusion

The first study question was on how Saudi Arabian special educators are prepared to work with primary children who have ID/ASD in regular classroom settings. Participants thought that the inclusion may boost their intellectual development ($M = 1.91$, $SD 0.85$), as well as their social abilities ($M = 84.99$, $SD 0.85$). In addition, the majority of respondents ($n = 80\%$) said general education instructors weren't well-prepared to educate children with ID/ASD and that special education teachers should be assigned to those pupils ($M = 2.86$, $SD 1.05$; $M = 1.89$, $SD 1.03$). For percentages and standard deviations relating to participant viewpoints on the inclusion and education of children with ID/ASD, see Table 3.

Table 3: Survey Perspectives of Higher Education Faculty at the Faculty Level

Items	Faculty level				SD
	Strongly Agree	Agree	Disagree	Strongly Disagree	
The inclusion of students with ID/ASD can be beneficial for students without disabilities.	32.89%	51.32%	7.89%	7.89%	20.9
The inclusion of the student with ID/ASD will promote his or her social skills.	50%	34.21%	7.89%	7.89%	22.4
The challenge of being in a public school will promote the academic growth of the student with ID/ASD.	43.42%	36.84%	11.84%	7.89%	18.2
General education teachers have sufficient training to teach students with ID/ASD.	15.79%	15.79%	35.53%	32.89%	10.2

Teaching students with ID/ASD is better done by special education teachers	46.05%	31.58%	9.21%	13.16%	16.8
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3.2. Perceptions About Institutions and Departments

The second study question focused on the structure and planning of institutional policies and special education departments to effectively equip pre-service teachers for the inclusive teaching of children with ASD/ID (See Table 4). Around 83% of the faculty "agreed" or "strongly agreed" that special education programs should mandate general education courses for aspiring special education teachers. Similarly, 84% of participants "agreed" or "strongly agreed" that pre-service general education teachers need to be mandated to complete a special education introductory course. In addition, despite participants' (n = 57%) belief that collaborative fieldwork opportunities between general education and special education existed at their institution for pre-service students (M = 2.22, SD 1.10), nearly 70% of respondents indicated there was a lack of collaboration in the development of courses between general education and special education faculty (M = 2.57, SD 0.96).

Table 4: Survey Perspectives of Higher Education Faculty at the Institutional Level

Items	Institutional level				SD
	Strongly Agree	Agree	Disagree	Strongly Disagree	
Pre-service special education teachers should be required to take general education courses at my institution.	30.26%	52.63%	7.89%	9.21%	21.1
The number of courses that address inclusive practices for pre-service teachers at my institution is sufficient.	25.0%	28.95%	31.58%	14.47%	7.5
Pre-service education majors should be required to take an introductory course in special education at my institution.	47.37%	36.84%	10.53%	5.62%	20.2
Field experiences offer opportunities for pre-service teachers in General education and Special education to collaborate across disciplines and majors.	35.53%	22.37%	26.32%	15.79%	8.2
General education and Special education faculty develop courses collaboratively.	15.79%	20.26%	45.53%	18.42%	13.8

Concerning programmatic components to improve pre-service teaching and readiness for inclusive education, approximately 68% of participants believed special education departments provided courses about inclusion and instructional strategies to support students with ASD/ID in general education settings (M = 1.68, SD 1.48). Additionally, 66% of faculty felt their departmental structures encouraged cross-collaboration between educational departments (M = 1.68, SD 1.48), and pre-service teachers were provided opportunities to work with diverse learners including students with ID/ASD in public schools (M = 2.11, SD 1.46). Table 5 provides percentages and standard deviations regarding participants' perspectives related to programmatic components to improve pre-service teaching and readiness for inclusive education.

Table 5: Survey Perspectives of Higher Education Faculty at the Department Level

Items	Department level				
	Strongly Agree	Agree	Disagree	Strongly Disagree	SD
My department ensures that teachers learn about inclusion and how to apply inclusive strategies when working with diverse learners, including students with ASD/ID.	26.32%	42.11%	17.11%	14.47%	14.7
My department strongly encourages cross-collaboration in teacher-training programs.	21.05%	47.37%	22.37%	9.21%	16.1
My department offers co-taught courses as part of the major with faculty from general and special education.	18.42%	27.63%	34.21%	19.74%	7.8
My department provides opportunities for pre-service teachers to work with diverse learners including students with ASD/ID in public schools.	25%	42.11%	26.32%	6.58%	14.6

3.3. Knowledge and Use of EBPs

The third study question examined how participants used EBPs to prepare aspiring special educators to work with primary pupils who have ID/ASD (see Table 6). Despite giving participants a variety of EBPs to select from, the majority of faculty (92%) claimed they did not teach any of those strategies to aspiring special education instructors. Simultaneous prompting tactics, self-directed learning strategies, and general systematic instruction strategies were all reported as being used by the remaining 8% of instructors.

Table 6: Percent of EBPs Faculty Used to Prepare Special Education Teachers

Practice	% of Utilization
None of the identified practices listed	92%
Simultaneous prompting	3%
Self-Directed Learning	3%
Systematic Instruction	2%
Peer Tutoring	0%
Technology	0%
Other	0%

3.4. Participants' Continued Education

With an emphasis on inclusive education for students with ID/ASD, the last research question attempted to determine faculty readiness to maintain their education and understanding of EBPs by attending conferences, seminars, or professional development (see Table 7). The findings show that only 34.61% of participants ($M = 2.06$, $SD 0.79$) went to a conference with a focus on inclusive education for adolescents with ASD/ID. The inclusion of students with ASD/ID was the topic of a few workshops that 38.46% of the instructors attended ($M = 2.18$, $SD 0.75$). In addition, 64.10% of participants ($M = 2.04$, $SD 0.82$) reported having little interest in professional developments that aimed to promote inclusive education for children with ASD/ID.

Table 7: Descriptive Analyses of Participants' Continued Education

Professional Development	Never	Occasionally	Often	Mean	Std. Dev
Conferences	28.21%	37.18%	3 4.62%	2.06	0.79
Workshops	20.51%	41.03%	38.46%	2.18	0.75
Professional developments	32.05%	32.05%	35.90%	2.04	0.82

4. Discussion

This study aimed to gain a deeper understanding of the opinions held by academics who educate future special educators, specifically concerning including children with intellectual disabilities (ID) and autism spectrum disorder (ASD) in inclusive settings. Additionally, the study aimed to identify evidence-based practices (EBPs) employed by special education instructors in teacher training programs to educate future teachers working with children who have ASD or ID. The survey also sought to examine how academics in higher education are keeping up with EBPs. Currently, in Saudi Arabia, students with ASD and ID are educated in segregated classes, which restrict their interaction with typically developing peers (Al-Otaibi & Al-Sartawi, 2009; Al-Quraini, 2007). However, since the adoption of Vision 2030 six years ago, it has become crucial for faculty to prepare future teachers to effectively engage with children who have ID/ASD in inclusive environments. This study offers valuable insights into the opinions of higher education faculty regarding the preparation of future special educators to support primary school children with ASD/ID, making it the first study of its kind.

Just 29% of participants had direct interactions with primary children with ID/ASD in a special education classroom, according to the study's findings on the participant's experiences with the education and inclusion of these students in general settings in Saudi Arabia. The findings also showed that none of the participants had experience working with ID/ASD students in an inclusive environment. Given that children with ID/ASD are still taught in separate special education classes where they are not allowed to interact with their peers who are normally developing, it was not unexpected that none of the participants had experience working in an inclusive environment (Alquraini, 2012). To develop all facets of society, including inclusive education for pupils with ID/ASD, the Saudi Vision 2030 and ME decision-makers have nonetheless launched a strategic strategy (Vision 2030, 2020, p. 1). Education of pupils with and without impairments together is becoming the focus of recent policies (Vision 2030, 2020, p. 32). Due to this change, higher education faculty must be ready to provide incoming instructors with the knowledge and abilities required to help students with I/DD in general education settings (Olson, 2018).

The results also show that there is a critical need to improve pre-service special education and general education teachers' capacity to work with children with ID/ASD in mainstream settings. Pre-service instructors were deemed unprepared by the majority of faculty to work with children with ID/ASD in everyday situations. In a similar vein, Alnahdi's research (2019) revealed general education instructors lacked confidence in their capacity to deal with students with impairments in inclusive environments. Teachers specifically felt unprepared to stop disruptive conduct in a classroom containing children who had impairments (Alnahdi, 2019). Research by Holdheide and Reschly (2008) and Acedo (2011) found that most pre-service teacher preparation programs lacked the necessary instruction to prepare pre-service teachers for success in inclusive environments. In order to meet the needs of a variety of student groups, including those with ID/ASD, pre-service teachers should be given the knowledge and tools necessary (UNESCO, 2008). As a result, teachers' preparation programs have to make sure that pre-service teachers are fully prepared to work in inclusive settings (Winter, 2006). One way

to help with this preparation is for teacher education programs to increase the frequency and effectiveness of fieldwork opportunities offered to pre-service special and general education teachers to make sure they are fully prepared to work in inclusive environments (Prater & Sileo, 2004). Moreover, EBPs that are thought to enhance the academic, social, and behavioral outcomes for children with ID and ASD in inclusive settings should be provided to pre-service teachers (Downing, 2010, pp. 150–154).

Participants in this study revealed low levels of EBP usage and awareness. The majority of academics claimed that they were not using any of the strategies to train aspiring special education teachers. Parallel to this, Alhossen (2017) carried out a thorough assessment of the literature and discovered that, despite being one of the most crucial contemporary concerns in special education, EBPs are seldom mentioned or used in the Arab world (Alhossen, 2017). On the other hand, Georgiou and colleagues (2020) investigated the connection between the application of EBPs in European educational programs and the expertise of teacher educators. According to the research, European teacher educators had high levels of self-efficacy and practical understanding of EBPs. Moreover, evidence-based approaches are frequently seen favorably by teacher educators, according to Diery et al. (2020). Evidence-based practice was generally considered helpful and crucial for teacher education by the great majority of teacher educators. The vast majority of participants thought that the knowledge they taught should be backed up by facts. More than half of teacher educators prioritize teaching evidence-based practice when developing their curricula (Diery et al., 2020). Furthermore, according to Diery et al. (2020), participants with more research and teaching experience were more confident when utilizing EBPs, whereas teacher educators with less experience were less confident when employing these tactics (Diery et al., 2020).

The survey also found that participants were somewhat inclined to attend conferences, seminars, or professional development sessions with a focus on inclusive education for children with ID/ASD to increase their understanding of EBPs. The findings show that the majority of participants in professional development activities with a focus on inclusive education for children with ID/ASD rarely attended conferences, workshops, or other events. Departments need to encourage employees to take advantage of continuing education opportunities to increase their knowledge of ASD/ID and inclusive education. To deliver effective educational results for their pre-service teachers, several colleges recommend professional development programs for their faculty members (Avalos, 2011). Opportunities for professional development can enhance faculty members' effectiveness and significantly affect how well students learn (Copas et al., 2015). For instance, conferences are essential to practitioners' continuing education because they give participants the chance to learn about cutting-edge research and practice-enhancing techniques (Lindsay, 2018). To encourage higher education academics to participate in conferences, do research, and publish in foreign scientific publications, Saudi institutions launched financial schemes. These funding opportunities significantly contribute to professor and researcher attendance at conferences and study publications (UD, 2011).

5. Limitations

Throughout this examination, certain limits were discovered. Initially, the study featured a qualitative component, but because of the pandemic's timing, the researcher was unable to find a sufficient number of subjects. Just two academics out of the 90 participants took part in the semi-structured interviews. A greater comprehension of faculty opinions about pre-service teachers' education in Saudi Arabia may have resulted from interviews. Another issue was that there weren't as many women participants as there were men. Given that just 40% of Saudi Arabia's higher education teachers are women, the imbalance in participation was not unexpected (SMCS, 2017). Nevertheless, Vision 2030 emphasizes the increased need to empower women and enhance their participation in the

workforce, therefore it is hoped that future studies will take into account women's opinions on pre-service teachers' training for pupils with ASD/ID. The researcher was unable to undertake additional analyses since just one private institution of higher education was represented, which is another constraint.

6. Recommendations for Future Research

Future research should focus on addressing the challenges related to educating ASD/ID students in primary schools in Saudi Arabia. To investigate these issues, a variety of research techniques, perspectives, and stakeholder participation should be employed. By examining official documents and reports, it is important to analyze how Saudi educational policies impact student learning, the inclusion of students with disabilities, and the social and academic outcomes of students with disabilities in regular education environments. This analysis will help identify any potential barriers to inclusive education. Additionally, engaging in conversations with decision-makers in the Middle East (ME) region can provide valuable insights into their perspectives on the inclusion and education of children with ID and ASD. It is also crucial to explore the viewpoints of higher education faculty regarding the impact of the new 2030 Vision policies on their teaching of pre-service teachers for inclusive education and how these policies are influencing their performance and outcomes. Moreover, conducting comprehensive interviews and observations with parents and students with ID/ASD will provide a deeper understanding of their perspectives on inclusive education and the inclusion of students with ID/ASD in mainstream settings.

7. Implications for Practice

Concerns about the training and preparedness of pre-service teachers for the inclusion and instruction of children with ID/ASD were highlighted by the study's faculty. To close the gaps and incorporate inclusive teaching strategies like EBPs that prepare pre-service special education teachers to work with students with ASD/ID in inclusive environments, programs must be evaluated to make sure that the coursework and field experience are in line with current SA and WHO policies. The preparation of teachers is one of the primary concerns with the requirements for inclusive education. Pre-service teachers must thus be equipped with the necessary knowledge and resources to fulfill the needs of children with ID/ASD in inclusive settings (UNESCO, 2008). To ensure that pre-service special and general education teachers are fully prepared to work in inclusive settings, it is also necessary to increase the frequency and effectiveness of fieldwork opportunities. Fieldwork opportunities may be the most crucial component for pre-service teachers (Prater & Sileo, 2004). By providing pre-service teachers with knowledge of evidence-based practices EBPs and instructing them on how to use these tactics, fieldwork experiences may be made more successful. Also, faculty members should observe students more during fieldwork to make sure they are using what they have learned.

Departments must recognize faculty members who attend these professional opportunities, especially those who publish papers with an emphasis on inclusive education. The development of their knowledge and skills should be a higher priority for special education faculty members in higher education. One of the most crucial justifications for attending teaching conferences is the opportunity for professional development (Kerr, 2014).

8. Conclusion

The majority of Saudi Arabian adolescents with ASD and ID are taught in separate classes, however, new regulations have started to adopt an inclusive approach to teaching

students with disabilities. Further research is needed, according to the study's overall conclusion, to fully understand the various viewpoints of Saudi Arabian teachers' training, skills, and attitudes on teaching special education and general education to children with disabilities. The study's participants' differing viewpoints made it clear that there is a general lack of program evaluation, including curricula offered to both pre-service special and general education teachers, a lack of formal training to teach in an inclusive classroom, and use of best practices for teaching students with ASD and ID at all levels of education in Saudi Arabia, and a lack of participant interest in furthering their education. To successfully build an inclusive environment for students with ASD/ID in Saudi Arabia, further research is required to explore such issues and to take into account the significance of offering programming frameworks and guidelines to support all levels of education. The importance of this study is that it takes into account the actual circumstances of children with ID/ASD who still learn in their renowned classes and are unable to engage with peers who do not have impairments.

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