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ABSTRACT

Teacher preparation programmes are vital because they provide students with the knowledge and experience necessary to teach academic and life skills to children with autism spectrum disorder (ASD). This study aims to identify the gaps between study and practice for trainee teachers who will teach students with ASD. This was achieved by examining and evaluating responses from trainee teachers in their first field experiences of working with students with ASD and understanding their perspectives regarding what they felt was missing from their college preparation before the in-field experience. A qualitative design was utilised in which semi-structured interviews were conducted with six trainee teachers from the special education department during their first field training with students with ASD. Six main themes were identified, including the first encounter with real confirmed cases, the reality of books, challenges dealing with teachers, difficulty communicating with parents, inadequate knowledge of evidence-based practices (EBP) for children with ASD, and the need for critical assessment from different parties.

Keywords: Autism, Autism spectrum disorder, trainee teacher, special education

INTRODUCTION

One of the most alarming trends in the twenty-first century is the steadily increasing number of children with developmental disabilities, including children with autism (Durkin, 2019). As a result, in the past two decades, special education has received increasing attention at a global level, as has the pre-service and on-the-job training of special education teachers (Gavish, 2017).

Having well-trained teachers in special education is imperative, but teachers are often unequipped to tackle the various demands and obligations of teaching students with disabilities (Billingsley et al., 2004; Conderman et al., 2013; Loiacono & Allen, 2008). Teachers in special education have many tasks, including continuous adaptation in the curriculum and handling behaviour problems in class (Pirttimaa & Hirvonen, 2016). Thus, well-established special education teacher preparation programmes should provide trainees with extensive field training (Clark et al., 2013). Field training enables trainee teachers to utilise their theoretical knowledge in real classes (Nagro & deBettencourt, 2017).

Busby et al. (2012) and Ibrahim (2020) argued that teacher preparation programmes are essential in providing teaching students with the knowledge and experience they need when teaching academic and life skills to children with autism spectrum disorder (ASD). However, special education teachers often lack the necessary training or real-life experience to meet the needs of students with ASD (Hendricks, 2011). According to Conderman et al. (2013), most teachers handling students with ASD indicated their need for real-class experience teaching those students and managing their behaviours, and learning how to manage behaviours requires hands-on practice monitored by an experienced professional (Kretlow et al., 2012; Morrier et al., 2011).

LITERATURE REVIEW

This study aims to identify the challenges present in teacher preparation programmes for teachers working with children with ASD and discuss their training needs. Studies have highlighted the continuous need of special education teachers for consultation and advice on how to reform their teaching strategies while managing students with ASD (Boe et al., 2007; Brunsting et al., 2014; Conderman et al., 2013; Israel et al., 2013). Curriculum, for example, and class activities should be modified on an ongoing basis for students with ASD (Israel et al., 2013).

Preparation Programmes for Special Education Teachers

Specific qualifications are needed to become a special education teacher; mastering essential rehabilitation psychological measurement and assessment knowledge is mandatory (Porter, 2000). Many colleges worldwide have special education departments and programmes designed to prepare teachers to work with students with disabilities (Robertson & Singleton, 2010). Special education teachers must study for four years before gaining sufficient qualifications to teach children with disabilities. They also complete related general education courses. Brownell et al.'s (2005) study was an exhaustive review of special education programme personnel preparation description and evaluation literature. Its results showed that special education preparation programmes focus on extensive field training and highlighted the importance of collaboration between teachers and other school personnel, including principals, administrative staff, senior teachers, and counsellors.

Some deficiencies were identified in the special education sector. The shortage of qualified special education teachers has become a significant factor affecting the provision of special education in many countries (Nichols et al., 2008). Moreover, Al Saree and Al Shurman (2019) found that fewer educators were getting special education qualification certifications and the number of special educators leaving the profession was increasing. Most employed teachers are not graduates of professional special education programmes (Al Saree & Al Shurman, 2019). This is particularly concerning because the preferred ratio of special education teachers to students is twice that of general education teachers to students. As a result, children with disabilities, are gradually being included in general education institutions that are unprepared for the possibility of teaching children with disabilities (Kisbu-Sakarya & Doenyas, 2021).

How to Improve Special Education Preparation Programmes

First, special education teachers need to adopt the most suitable educational methods for the characteristics of children with disabilities. They should also gain relevant professional knowledge in learning and training, mainly classroom management skills, and positive behaviour guidance measures, and implement individual education plans (Finch et al., 2013). Second, a minimum requirement of a master's degree and teaching experience should be mandatory for special education teachers who want to attain senior levels (Al Saree & Al Shurman, 2019). Therefore, in-service special education teachers must use their spare time to select corresponding master's and doctoral courses to be promoted to senior special education teachers (Al Saree & Al Shurman, 2019). Third, teachers should be prepared for the gradual development of inclusive education (Kisbu-Sakarya & Doenyas, 2021). Meanwhile, more children with disabilities are entering general education programmes. This phenomenon requires special education teachers to master different skills. Therefore, cooperative teaching has become an essential part of on-the-job training for special education teachers (Finch et al., 2013).

Preparation Programmes for Teachers of Students With ASD

Kisbu-Sakarya and Doenyas (2021) revealed flaws in the training processes and professional qualifications for those specialising in teaching students with ASD. This training has, with some frequency, occurred through programmes developed by pedagogical workshops or protected by special education institutions. However, the procedures these programmes use are criticised.

Teachers of children with ASD should have solid fundamental knowledge and skills in ASD teaching and developmental psychology. Ravet (2018) explored teachers' understanding of teaching learners with ASD, focusing on the results of a UK university research study on a four-year teacher preparation programme. They found that a teacher preparation programme in the UK provided new teachers with sufficient knowledge about ASD but did not give them sufficient practice or strategies to implement interventions. Similarly, Al Saree and Al Shurman (2019) explored the level of teachers' knowledge of autism among 115 teachers who taught students with ASD in Jordan. The findings revealed that the teachers had an average knowledge of ASD.

Preparation programmes for teachers of children with ASD should also have rich educational and practical teaching experience, preparing teachers to tackle the challenges of various academic situations, communicate effectively with students, and cope with complexities. In addition, they should grasp the psychological needs of students, address psychological and emotional problems, and handle crises in educational situations. Sanz-Cervera et al. (2017) investigated pre-service teachers' knowledge, gaps, and misconceptions regarding ASD and compared training quality among 866 pre-service special education teachers in a university in Spain both at the beginning and the end of their four-year programmes. Although the teaching students had few misconceptions about ASD, the results showed that their knowledge about ASD had significantly increased.

Teachers' attitudes and knowledge when handling learners with ASD is a precursor of learning outcomes. For example, Yasar and Cronin (2014) explored 551 participants from two universities in Turkey to determine students' knowledge and awareness of ASD. The findings revealed that students preparing to be general educators in inclusive classrooms had limited knowledge of autism and that they required more training and preparation. Similarly, Ibrahim (2020) examined the effect of ASD-specific training for practicum students in

special education in Jordan, including 45 practicum students in field training. The study showed that field experience improved practicum students' knowledge of ASD and handling children with ASD. Therefore, teachers' training must provide a high level of educational literacy, professional competence, and educational experience.

Many needs are identified in the literature for teachers of students with ASD. First, special education teachers should love children. Therefore, according to Alkhatabi et al. (2020), cultivating the love of special education teachers is necessary so they can discover the value of each child; understanding each child's characteristics, interests, abilities, and learning needs is imperative to formulating different education plans. Second, Simpson (2004) argued that teaching social interaction and communication, sensory needs, and behavioural problem control strategies are essential in preparing teachers of students with ASD; however, these elements need to be taught in the field. Third, strengthening the communication skills of teachers of students with ASD with parents and others in schools is imperative. Fourth, modern particular education theory emphasises the need for people-oriented teachers to meet the needs of children with disabilities (Ravet, 2018). Fourth, trainee teachers need consistent monitoring by a trained professional to ensure the right application of different strategies and practices and provide them with necessary opinions and advice (Lerman et al., 2004). Finally, teachers of students with ASD must understand how to use computers and other network technology due to the many computer applications used to teach students with ASD (Whyte et al., 2015).

Overall, autism and other disabilities necessitate adequate preparation and training of teachers. Teaching students need these professional skills to manoeuvre a truly inclusive education, and a solid foundation in ASD educational psychology encompasses psychological counselling, a theoretical accomplishment of pedagogy, curriculum evaluation, selection and development, and the abilities to determine the best teaching model following the curriculum. In addition, teachers of children with ASD should specifically master educational concepts related to autism, advanced teaching qualities, and behavioural management skills, and experience love and devotion for their careers working with children with ASD.

Research Problem

As explained in the review above, most studies in the literature concentrate on the attitudes and perceptions of teachers toward children with ASD, and only a few focus on the training and preparation of special education teachers. Although the literature explains the issues of special education teachers, these could not be equated with the challenges and training needs of teachers working with students with ASD (Barnhill et al., 2011; Hendricks, 2011). This study focuses on teacher preparation for special education teachers working with students with ASD.

Schultz et al. (2016) revealed that special education teachers working with students with ASD lack the skills to apply different teaching methods and behavioural modification strategies with their students. Many studies have explored teacher preparation programmes; however, little has been written about what teachers of students with ASD think about their college preparation and how well it prepared them for classroom teaching (Ladson-Billings, 2005; Lewis & Ketter, 2004). Therefore, this study aims to identify gaps between study and practice for trainee teachers of students with ASD. To better understand these potential gaps, this study examined and evaluated responses from trainee teachers in their first field experiences working with students with ASD and their perspectives on what they felt was missing from their college preparation.

Research Questions

1. What do trainee teachers of students with ASD perceive as their obstacles and needs in their first in-field encounters teaching their students?
2. What did trainee teachers of students with ASD think was absent from their college preparation?

Objectives

The main objective of this study is to identify the obstacles and needs of trainee teachers of children with ASD in their first real hands-on experience teaching children with ASD after college. It also aims to recognise the trainees' perspectives and suggestions on the elements they felt were missing during their college teaching. This could help to build stronger college-level ASD special education preparation programmes that will consider the unmet needs and demands of these college graduates. However, building stronger programmes with robust curricula does not guarantee that teachers will be prepared to tackle the diverse needs of students with disabilities in real classrooms.

METHODS

This study utilised a qualitative research design, as it was considered most suitable to achieve the study's aims and objectives. Semi-structured interviews were conducted with participants to collect information (Creswell & Clark, 2011). An interview guide was created, including questions that could help to elicit relevant information from the participants. The questions asked by participants during the interviews were built on previous literature

and researcher experience. It included six questions asking about trainee teachers' perspectives on their needs while teaching students with ASD, their mentoring experience, needed support, challenges faced in schools, and what previous knowledge they acquired during their study was helpful for them to utilise when working with such students.

Participants and Context

Participants in this study were graduate students at the Department of Special Education at XX University in Saudi Arabia. These students have finished a graduate certificate course in special education, including 18 months of intensive theoretical study and in-field training in the last semester of the programme. They were asked about their perspectives on their first experiences while working as trainee teachers in the last semester during their college preparation. The interviews were conducted by the researcher, who was the training mentor for the trainees during their field training. To rule out any conflict of interest, data were collected six months after the graduation of those trainees with no ties remaining with the mentor. The participants were selected using a purposeful criterion sampling technique (Lincoln & Guba, 2002). All the trainee teachers from the special education department (ASD concentration) were approached (n = 9), and most of them consented in writing to participate in the study (n = 6). Each trainee teacher was assigned to a class where they worked together with class teachers teaching students with ASD. Three of the trainee teachers were allocated to work with ASD students in elementary grades, while four were appointed to work with pre-schoolers. Participants were aged 26–34 years with a mean age of (n = 29.6). None of the participants had any previous experience working with children with ASD; two students completed volunteer work of three months or less which did not include teaching. Written consent was collected from participants prior to participation. The research ethics committee approved this study at the school of Medicine in XX University.

In qualitative studies, researchers are considered the primary data-gathering instrument (Creswell & Clark, 2011) and they use their skills and prior knowledge to understand the participants' perspectives. The researcher in this study was a faculty member in the special education department who held a higher degree in ASD and had many years of work experience teaching courses and supervising field training for trainee teachers teaching students with ASD. This could have impacted how the researcher interpreted the data. To counteract this potential bias, another expert viewed the data and analysed it separately, and the analysts reached a consensus on the findings.

Data Analysis

The interviews were transcribed, and the transcripts were checked against the audio for precision. The researcher and another expert separately read, sorted, and organised the data while themes and patterns emerged. Colour coding was used to highlight similar practices in the texts, and initial codes began to emerge. The patterns were sorted into themes and subthemes.

To ensure data trustworthiness, interviews were recorded and a copy of the written transcripts was sent to the participants via email to ensure the transcription accuracy. Moreover, the triangulation of data analysts and data sources, including interviews and field notes, was used to demonstrate the credibility and validity of this research study. This qualitative study adheres to the Standards for Reporting Qualitative Research (SRQR) (O'Brien, Harris, Beckman, Reed, & Cook, 2014).

RESULTS

The analysis of the data yielded six main themes (Table 1). These themes represent the obstacles and needs of trainee teachers in their first real-world encounter teaching children with ASD.

First Encounter of Real Cases

All participants indicated that their field training as trainee teachers was their first real-world, in-person encounter with children with ASD. In their courses, they typically view videos of children rather than directly interacting with them. According to the trainee teachers, most topics were taught theoretically in classes without any required practice or school visits. Most participants highlighted the importance of field observation and indicated that the two weeks of observation at the beginning of their field training was insufficient. P6 mentioned that 'we needed more than two weeks of observation, probably six months at least, to handle children with ASD and understand their world'. Another participant, P1, explained, 'I wanted to see what they look like away from books and how they manifest the different traits of ASD. Two weeks were never enough for me to achieve that'. Some participants discussed how they wished they spent more time in field training as trainee teachers. P2 explained 'we lacked the chance to teach and observe all grades in the organisation; we had to stick to our students as per the assigned schedule'. P6 stated 'I really wished I had the chance to teach pre-schoolers with ASD or at least be in class with them; I was assigned to teach grade two students, and I think each group age acts differently in class'.

Table 1. Themes and subthemes

| Main themes | Subthemes |
|--|--|
| First encounter with real cases | <ul style="list-style-type: none"> • Importance of observation • More field training hours are needed |
| Reality is not like books | <ul style="list-style-type: none"> • Difficulty controlling behavioural problems • Disappointment with partial achievement |
| Challenges dealing with teachers | |
| Difficulty communicating with parents | |
| Inadequate knowledge of evidence-based practices for children with ASD | |
| Need for critical assessment from different parties | |

Reality Is Not Like Books

Participants indicated that there was a huge difference between what they learned about ASD in books and lectures and what they encountered in real classes teaching children with ASD. ‘What we studied about ASD was something very perfect, and reality is very depressing’ (P1). This is because, according to P1, there is a huge gap between what they studied and what they saw in the field regarding resources, teachers, parents, and children. Most participants explained the difficulties they encountered in the field while trying to control problem behaviour inside the classroom. ‘We studied strategies of behaviour modifications for children with ASD, but when I tried to apply that with one child in my class, it did not work well’ (P5). According to many participants, this was because behaviours occur in an environment, and to modify that behaviour, they had to be aware of all the surrounding circumstances in the child environment to understand the problem behaviour and implement a plan to change it. P4 explained, ‘I had a girl in my class who shouts when she asks her teachers about anything, and I could not control her behaviour. Then I discovered that she is used to other people shouting at her always, so this was her way of expressing her needs’. ‘We took many courses in behaviour modification, but we never had the chance to apply that before our field training’ (P3).

Some participants indicated that they were disappointed with their partial achievement with children with ASD and that they felt less qualified in their field when they did not completely accomplish a lesson objective as described on the child’s individual educational plan. They were reassured by the field training instructor that it is normal and acceptable to achieve a learning objective with children with ASD partially, and that it sometimes requires working consistently with the student to achieve it fully. According to P1, ‘at the beginning of my training, I thought I was incapable of being a teacher as children I worked with did not achieve their lesson objectives fully in the first class; lately, I discovered that this is s; it is not a book’.

Challenges Dealing With Teachers

Participants explained that they faced some challenges while interacting with teachers, although some also indicated that teachers helped them to prosper during their field training and guided them inside the classes on how to support children with ASD. P1 explained that ‘sometimes teachers do things in class that differ from books, and when I asked them, they answered that with practice you discover new ways of implementing strategies; working with children with ASD needs a great deal of practice’. Moreover, some participants indicated that teachers were unwilling to change activity schedules for students, as it could disrupt the child’s routine and provoke behaviour problems. P5 stated, ‘I wanted to take two of my students to the gym as they were not paying attention to class, and as we studied, some children with ASD will focus more on the class if you allow them to consume their physical energy in something productive. Finally, participants indicated that some teachers refused to listen to their suggestions to improve or change some objectives in the IEP plans for children; however, according to P4, this could be due to the certain regulations and mandates related to IEP that teachers had to follow.

Difficulty Communicating With Parents

The participants explained how some parents refused to cooperate meaningfully with teachers and trainee teachers and how this hindered their ability to achieve their desired learning goals with the children. P1 explained ‘you cannot have the same level of learning achievement with a child whose mother is less devoted to his success than a child whose mother is fully devoted’. P6 suggested that ‘we studied many courses on counselling parents of children with special needs; however, what we need is to have practical sessions with parents and to know how to guide them to understand and achieve their goals with their children.

Inadequate Knowledge of Evidence-Based Practices for Children with ASD

The participants revealed that they were unaware of evidence-based practices (EBP) for children with ASD and that while they studied some educational interventions for ASD, they did not know how to apply the interventions in real-world situations. P2 explained, 'we know about PECS, but we did not know how and when to apply its different stages while managing children with ASD'. 'We read much about applied behaviour analysis, but I do not understand how I can utilise the different techniques and which ones to use' (P4).

Need for Critical Assessment from Different Parties

Most participants emphasised their need for evaluation and feedback about their teaching during their field training by individuals other than their training supervisor. They wanted school principals, parents, counsellors, speech therapists, and senior teachers to attend classes with them, observe their teaching, and provide comments. P1 stated that this 'could have helped me in identifying my weak areas and let me work to improve them'.

DISCUSSION

This study aimed to identify the gaps between study and practice for trainee teachers preparing to become teachers of students with ASD. This was achieved by examining and evaluating trainee teachers' responses about what they perceived to be obstacles and needs in their first field experience working with students with ASD. Then, trainee teachers' perspectives were elicited regarding what they felt was missing from their college preparation before their field training began. Six main themes were identified in this study's findings. These themes helped to answer the main research questions.

The obstacles and needs of trainee teachers included difficulties in handling behaviour problems in class, partial achievement of tasks with students, some obstacles dealing with teachers, struggles with some parents, and the need for critical assessment alongside mentoring from different personnel at school. This study's findings revealed that trainee teachers considered tackling difficult behaviour as one of their main obstacles, which was also one of the major concerns mentioned in the literature by teachers of children with ASD (Kretlow et al., 2012; Morrier et al., 2011). However, not all teachers working with children with ASD were prepared with the practical skills that qualify them to apply behaviour management strategies (Busby et al., 2012). Loiacono and Allen (2008) stated that most special education teachers lack enough knowledge of well-known behavioural intervention programmes and strategies like ABA. This study showed that trainee teachers encountered some obstacles in tackling school teachers, including the unwillingness to change children's routines and altering some main elements in the IEP, because these teachers must tackle mandatory mandates for IEP elements (Conderman et al., 2013). Furthermore, they are sometimes obligated by their senior admin staff to follow certain rules.

Regarding changing children's routine, the primary teachers have worked with the children throughout the year, and they might have experienced previous unpleasant reactions due to change with those children, considering the nature of ASD (Kretlow et al., 2012). Brownell et al.(2005) highlighted the importance of collaboration between teachers and other school members, including principals, administrative staff, senior teachers, and counsellors. This agrees with this study's outcomes, in which some trainee teachers were found to cooperate with class teachers. Moreover, the findings that trainee teachers need constant mentoring by senior professionals in schools were also found in other studies in the literature.

Ingersoll and Kralik (2004) mentioned that providing guidance and advice to trainee teachers is important in furthering their teaching success. The literature has a compelling agreement regarding the need for continuous consultation and opinion for special education teachers regarding their teaching skills and strategies while managing students with ASD (Boe et al., 2007; Brunsting et al., 2014; Conderman et al., 2013). Finally, this study's findings that trainee teachers sometimes struggled to work with parents agree with previous studies (Schultz et al., 2016). However, teachers who work with children with ASD should have good collaboration with the parents of those students to achieve desirable results (Morrier et al., 2011). This is because parents' contribution to the learning process of their children with ASD is considered a major factor and continuation of teachers' efforts.

This study's findings also highlighted the trainees' perspectives and suggestions on the elements that they felt were missing in their college teaching. According to the participants, one of the major elements found to be missing from college preparation was the continuous observation of cases and practical training of theoretical parts of the curriculum. This finding agrees with other literature studies that special education teachers were provided with enough theoretical knowledge but without sufficient practice (Ibrahim, 2020; Kisbu-Sakarya & Doenyas, 2021; Ravet, 2018). In addition, Yasar and Cronin (2014) found that college-level education students who were preparing to be teachers for students with ASD required extra training and preparation. This study's results also found that participants lack enough knowledge and practice of EBPs for students with ASD. This was also stated previously by Lerman et al. (2004) who found that a major flaw in teacher preparation programmes for teachers of children with ASD was the lack of knowledge and practice of EBPs. Furthermore,

Israel et al. (2013) found that even when teachers have information about these practices, they do not know how to apply them in real classes due to insufficient training.

LIMITATIONS

First, these participants' views on working with students with ASD may not be generalised to other special education disciplines or special education teachers from other countries.

Second, although attempts were made to be less subjective, the researcher's personal background and previous knowledge may have affected the understanding of the participants' perspectives and the outcomes. Finally, this study's population was small and selected from one of the universities in the KSA; it would be more beneficial for future studies to recruit trainees from different universities.

CONCLUSION

Identifying the gaps between study and practice may impact college-level education programmes and help prepare qualified teachers in special education. These programmes should be attentive to providing future teachers with the required knowledge and practical skills, including EBPs, to help them meet the needs of students with ASD. In addition, teachers of students with ASD should be committed to continuous professional development in their field to capture the ongoing updates surrounding the education of those pupils.

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