UNIVERSITY OF ALBERTA

EXPLORING PRE-SERVICE TEACHERS' ATTITUDES TOWARD STUDENTS WITH DISABILITIES WITH DIFFERING SEVERITY LEVELS

By

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The undersigned certify that they have read, and recommend to the Faculty of Graduate & Postdoctoral Studies, a Project Report entitled "Exploring Pre-service Teachers' Attitudes Toward Students with Disabilities of Differing Severity Levels" submitted by Prianjana Deb (1722829) in partial fulfillment of the requirements for the degree of MASTER OF EDUCATION in Special Education.

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Abstract

Teachers' attitudes toward students with disabilities are widely acknowledged as an important factor in the success of inclusive education. While substantial research has been conducted to examine teacher attitudes, there has been a notable scarcity of studies focusing on pre-service teachers. Pre-service teacher education is an optimal time for cultivating positive attitudes and fostering a commitment to inclusive education among future teachers. It is crucial to understand the attitudes of pre-service teachers toward students with disabilities in order to foster positive attitudes from the beginning of their careers.

In this study, I examined pre-service teachers' attitudes toward type of disability (academic, communication, and behavior) and severity level of disability (mild, moderate, and severe). The participants consisted of elementary ($n = 313$) and secondary pre-service teachers ($n = 313$) enrolled in the Bachelor of Education program at the University of Alberta. Participants completed the Attitudes, Beliefs, and Concerns about Teaching Students with Disabilities (ABCIES) survey. The current study examined a subset of 37 items from the ABCIES. This included participant responses to the Demographic items (n=10) and Behavioral Difficulties (n =9), Academic Difficulties (n=9) and Communication Difficulties (n=9). A mixed method ANOVA was conducted to examine the elementary and secondary pre-service teachers' attitudes towards students with academic, behavioural, and communication difficulties across the three severity levels. At each disability level (i.e., mild, moderate and severe), pre-service teachers reported the least favourable attitudes toward students with behaviour difficulties

compared to academic and communication difficulties. There was no significant difference between academic and communication difficulties at the mild level. Meanwhile, at the moderate and severe levels, pre-service teachers held more positive towards students with communication difficulties than academic difficulties. Additionally, secondary route pre-service teachers held more negative attitudes toward including students with academic, behaviour, and communication disabilities in general education classrooms. The findings of this study suggest that pre-service teachers' attitudes are influenced by both the type and severity level of these three common disability categories. These findings highlight the need to foster more positive attitudes among pre-service teachers that may lead to more inclusive practices in their future classrooms, benefiting all students.

Chapter 1: Introduction

The movement to provide inclusive education for all has gained momentum over the past few decades. According to the Salamanca Statement and Framework for Action on Special Needs Education (Salamanca Agreement, 1994), UNESCO has recognized that inclusive learning environments are the most effective way of educating all students with or without special needs. As a result, different policies have emerged depending on how stakeholders interpret the principles and guidelines established by the Salamanca Agreement in their respective countries. Although school policy and legislation are crucial in shaping the framework for discussing and researching inclusion, implementing these policies can be challenging (Forlin, 2006; Xu, 2012). Consequently, inconsistencies between practice and policy may occur due to these challenges and negatively impact the effective implementation of inclusive education.

The success of inclusive education depends not only on the policies and framework but also on teachers, who are an integral part of implementing inclusive education. It has been suggested that the success of inclusive education depends on teachers' attitudes toward inclusion, with those having a positive outlook more likely to adopt evidence-based practices (Klehm, 2014). Teachers who focus on students' limitations may negatively impact the learning outcomes of students with disabilities as a result of their assumptions and expectations regarding these students (Tsiplakides & Keramida, 2010). Moreover, educational approaches that focus on

students' limitation instead of strength, tend to promote segregation rather than inclusion for students (Andrews et al., 2015). It is, therefore, not sufficient to promote policies and establish legislation to ensure inclusion in practice. Teacher attitudes need to be considered and studied because negative attitudes are a huge barrier to the implementation and success of inclusive education. Pre-service teacher education is a significant time to shape attitudes toward inclusion (Varcoe & Boyle, 2013; Woodcock et al., 2012). A positive attitude is associated with a greater likelihood of pre-service teachers adopting inclusive practices in their professional lives (Woodcock & Vialle, 2010). Therefore, developing positive attitudes toward students with disabilities is essential to teacher education programs (Sze, 2009). In addition to attitudes, several other factors contribute to the successful implementation of inclusive education. It is important to note that the type and severity level of disabilities also influences teachers' perceptions and responses to inclusion. Studies reveal that teachers often have reservations about including students with disabilities based on the type and level of their disability (Chimhenga, 2016; Rakap & Kaczmarek, 2010; Avramidis & Norwich, 2002). In particular, teachers tend to favour students with mild disabilities over students with severe disabilities due to the low level of support they require (Cook et al., 2007). The same is true for the types of disabilities, where teachers tend to have more favourable attitudes toward students with physical disabilities than students with behavioural issues (Rakap & Kaczmarek, 2010). It is therefore important to examine pre-service teachers' attitudes along with disability types and severity levels. This study explores how

elementary and secondary route pre-service teachers perceive inclusive education in

terms of students with academic, behavioural, and communication difficulties at mild,

moderate, and severe levels. Findings may shed light on factors where additional training

and resources may help address the challenges associated with supporting students with

diverse disabilities. While this study does not resolve these issues directly, it provides a

rationale for re-evaluating existing training models, fostering reflective practices, and

encouraging evidence-based approaches to prepare pre-service teachers for inclusive

education.

Research Question

What are elementary and secondary pre-service teachers' attitudes towards students with

academic, behaviour and communication disabilities at mild, moderate and severe

disability levels?

Chapter 2: Literature Review

Factors Influencing Teacher Attitudes

Research has shown that although both pre-service and in-service teachers appear to support inclusion in general (Ahsan et al., 2012; Haq & Mundia, 2012; Varcoe & Boyle, 2013), there are several factors that have been found to influence their attitudes both positively and negatively. Factors that have been shown to affect teachers' confidence and readiness to support diverse learners, include their previous interactions with people with disabilities, training, and self efficacy, as well as student specific factors, such as the type of disability and degree of severity. The combination of these two sets of factors plays a critical role in teachers' attitudes toward including students with disabilities in general education classrooms.

Teacher Related Factors

Interaction with Individuals with Disabilities

Researchers have found that teachers who have interacted with individuals with disabilities have more positive attitudes toward inclusion (Parasuram, 2006). However, this positivity is notably more consistent among teachers who have extensive experience with inclusive practices (Avramidis & Kalyva, 2007; Malinen et al., 2013). In contrast, some studies have not observed the same pattern (Ernst & Rogers, 2009; Subban & Sharma, 2006). Brady and Woolfson (2008) state that a plausible explanation for these conflicting results could be that teachers who held positive attitudes felt successful in

their past interactions with students with special educational needs whereas teachers with more negative attitudes may have experienced challenges in their interactions. Differences in past experiences can significantly affect teachers' attitudes regarding inclusive education.

Additionally, it is reported that novice teachers often have more favourable attitudes towards inclusive education compared to their seasoned colleagues (Alghazo & Naggar Gaad, 2004). Brady and Woolfson (2008) suggest that a reason for the disparity between novice and experienced teachers may be because many teacher training programs now include coursework on inclusive education, which may not have been available to more experienced teachers.

With respect to pre-service teachers, it has been reported that pre-service teachers who had interactions with students with disabilities during their training were more positive towards them (Carrington & Brownlee, 2001). Further, training programs that include a combination of theoretical knowledge and practical experience tend to foster more positive attitudes among pre-service teachers toward students with disabilities (Campbell et al., 2003; Sharma et al., 2008). Sharma et al. (2008) emphasize that both the type and length of contact with students with disabilities play a crucial role in shaping pre-service teachers' attitudes and recommend providing pre-service teachers with sufficient opportunities to form close relationships with individuals with disabilities so as to promote a more positive outlook.

According to Monje (2017), studying pre-service teachers' attitudes toward students with disabilities in K-12 education has two key advantages. First and foremost, such research can provide insights into how to train pre-service teachers effectively and

influence their attitudes. Secondly, school administrators can use the information to develop professional development programs for general education teachers so that they are prepared and confident to teach students with disabilities. By understanding pre-service teachers' attitudes and challenges, educational institutions can design interventions and training programs that address these issues. It will result in more positive outcomes for both students and pre-service teachers, fostering an inclusive and supportive learning environment.

Training

Pre-service teachers' perceptions and attitudes toward inclusion can be shaped by their education and training before they step into their future classrooms. Pre-service teachers' beliefs and attitudes about inclusion are often shaped by their own K-12 teachers and significantly influence their perceptions of inclusion and students with disabilities (Mintz, 2007). Thus, attention must be paid to their university training and education.

Training refers to formal instruction to prepare teachers for working with students with disabilities. Training can be in the form of pre-service or graduate coursework or in-service professional development that prepares teachers to work with students with disabilities. Teacher training has been identified as one of the most important factors that can positively change attitudes about inclusion (Avramidis et al., 2000; Avramidis & Norwich, 2002; Loreman et al., 2007; McGhie-Richmond et al., 2013). For example, Lambe and Bones (2006) found that while pre-service teachers generally had positive attitudes toward inclusion, there was significant concern expressed about the adequacy of

their preparation for teaching students with disabilities. According to Vaz et al. (2015), students with disabilities were more likely to be excluded in regular classrooms when teachers had low levels of self efficacy in their teaching abilities. Avramidis and Kalyva (2007) reported that negative attitudes are probably an indication that a teacher feels they lack the necessary competence to teach students with disabilities. This finding was confirmed by Forlin and Chambers (2011), who reported that 89% of pre-service teachers felt their training was insufficient with respect to teaching students with disabilities.

Self Efficacy

Self efficacy refers to one's confidence in their capabilities to carry out actions necessary to achieve desired outcomes (Bandura, 1997). Consequently, someone lacking confidence in their ability to accomplish their goals will lack the motivation to execute the relevant actions to achieve them (Bandura, 1997). Research shows that teachers with greater self-efficacy generally possess more positive attitudes toward inclusive education (Brady & Woolfson, 2008; Leyser et al., 2011; Malinen et al., 2013; Woolfolk Hoy & Spero, 2005). Pre-service teachers are especially important to study because they typically have more favourable views on inclusive education (Alghazo & Naggar Gaad, 2004; Garmon, 2004) and because their self efficacy is still developing. Their attitudes toward inclusion, if positive early in their careers, are likely to remain stable over time (Berry, 2008). For pre-service teachers who hold more negative attitudes, there is an opportunity to intervene early in their training in order to assist them in shifting their perspectives and developing more positive, inclusive attitudes prior to entering the teaching profession.

Students Related Factors

Disability Types

Disability type is one of the most significant factors that influence teachers' attitudes toward students with disabilities (Gebhardt et al., 2011). Each type of disability has its own challenges, and students with disabilities need different levels of support. It is vital to understand these distinct challenges to create effective, inclusive educational practices. In the following section, I will review the evidence on teachers' attitudes towards students with three specific disability types - academic difficulties, behavioural difficulties, and communication difficulties because teachers often have less positive attitudes towards the inclusion of students with these disability types in general education classrooms.

Academic Difficulties

A student's academic difficulties stem from challenges that interfere with their ability to acquire, process, and retain academic information (Fletcher et al., 2007). Dyslexia, dyscalculia, and dysgraphia are among the most common academic difficulties. Students with these challenges are often diagnosed with Specific Learning Disabilities (SLDs) because their difficulties impact critical aspects of academic learning despite adequate intelligence, training, or support (American Psychiatric Association, 2013). In addition to lower academic performance, students with academic difficulties often feel frustrated and disengaged from learning (Shaywitz et al., 2008). Most importantly, the

attitudes of teachers toward these students can have a huge impact on their success. In fact, positive attitudes of the teachers can lead to better academic outcomes for students with academic difficulties (DeSimone & Parmar, 2006), while negative attitudes and misconceptions can lead to more significant achievement gaps for students (Vaughn, 2015).

An extensive review of research from 1984 to 2000 was conducted by Avramidis and Norwich (2002) to identify factors that influence teachers' attitudes toward inclusion. Their study found that teachers' attitudes have become increasingly positive over time. However, they also found that teachers were generally more receptive to students with sensory and physical impairments than to those with SLD, that is, students with academic challenges. According to Gebhardt et al. (2011), students with academic challenges were perceived more favourably than students with intellectual disabilities but less so than students with physical disabilities. However, in a study by Monsen et al. (2014) teachers who supported the inclusion of students with disabilities favoured the inclusion of students with academic challenges over students with behavioural challenges. DeSimone and Parmar (2006) found that many teachers did not distinguish between students with academic challenges and low-achieving students, leaving them to conclude that the same modifications used for low-achieving students would also be appropriate for students with academic challenges. Parey (2019) observed that students who were struggling academically were the least likely to be included in regular classes.

Several studies have shown that teachers with more experience working with students with learning disabilities tend to have more positive attitudes (Lambe & Bones, 2006; Sharma et al., 2006; Winter, 2006). However, Woodcock (2013) found that

experience did not significantly affect pre-service teachers' attitudes towards students with learning disabilities, possibly because his study involved individuals without prior teaching experience. Other studies highlighted the fact that most pre-service teacher training programs do not provide these future educators with the skills that they need to deliver effective instruction to students with academic challenges connected to learning disability diagnoses (Bradshaw & Mundia,2006; Subban & Sharma, 2006).

The findings indicate that, despite general support for including students with academic difficulties in the classroom, misconceptions about their needs and insufficient training in specialized instructional strategies still present challenges that need to be addressed.

Behavioural difficulties

Students with behavioural difficulties typically perform below their peers on standardized tests both cognitively and academically (Kutash & Duchnowski, 2004). Students with behavioural difficulties can profoundly influence the classroom (Abrams, 2005). Unfortunately, these students are often socially excluded mainly because of their disruptive behaviour, and social isolation can lead to negativity toward school (Abrams, 2005). Inclusion of students with behavioural difficulties may require specific skills and strategies, which for some teachers can seem overwhelming (Gilmour et al., 2021). Classroom management challenges and disruptions are amongst the greatest concerns among teachers regarding the inclusion of students with behavioural disabilities (Gaad & Khan, 2007; Monsen et al., 2014; Rakap & Kaczmarek, 2010). Thus, it can be challenging for some teachers to manage disruptive behaviours, especially if they are not

prepared. There has been a growing concern that classroom environments can be unpredictable and intimidating when students with behavioural difficulties are included, leading teachers to become discouraged from including these students (Čagran & Schmidt, 2011; Chepel et al., 2016; Cook, 2001; Shevlin et al., 2013). Teachers report significant frustration when managing students with behavioural difficulties in mainstream classrooms, primarily because of the belief that their behaviours disrupt the learning environment (Gidlund, 2018). Gebhardt et al. (2011) indicated that students with behavioural disabilities were the least likely to be included in general education classrooms compared to students with SLDs and physical disabilities. Similarly, Rakap and Kaczmarek (2010) reported that only 14.4% of teachers expressed a positive attitude towards including students with behavioural problems, placing them as one of the least preferred groups of students in general education classrooms. Teachers who had negative or neutral attitudes seemed to prefer students with academic or communication challenges over students with behavioural difficulties (Monsen et al., 2014).

Increased workload is another common reason given for teachers' reluctance to accept students with behavioural difficulties (Dupoux et al., 2005; Saloviita & Schaffus, 2016). Teachers believe that providing additional resources would benefit students with behavioural difficulties (Gyimah et al., 2011), but this requires the support of a special education team on a full-time basis (Grieve, 2009; Monsen et al. (2014). The findings reveal persistent challenges in including students with behavioral difficulties, further emphasizing the need for behavior management training and adequate resources to improve teachers' ability to offer effective support in inclusive classrooms.

Communication difficulties

Students with communication difficulties can be characterized as having difficulty expressing their thoughts verbally, understanding language, producing speech sounds, maintaining fluency and using pragmatic skills effectively. Communication difficulties have been linked to negative effects on the academic and social skills of these students (Bennett & Runyan, 1982). Confidence in handling the unique challenges some of these student's present can contribute to teachers' attitudes towards them. Furthermore, a lack of confidence may lead to less positive attitudes towards inclusive practices for students with communication difficulties.

The diagnosis of Developmental Language Disorder (DLD), which is commonly associated with significant oral language difficulties without other disorders (Bishop et al., 2017), often calls for specific instructional strategies that many teachers may not be adequately prepared to implement (Dockrell & Lindsay, 2001; Montgomery et al., 2024). Teachers have raised concerns regarding their inadequate knowledge and understanding of language difficulties faced by students with communication difficulties (Dockrell & Howell, 2015; Marshall et al., 2010). Marshall (1997) examined 84 health and education professionals in Tanzania regarding their perspectives on the placement of students with speech and language difficulties. Most professionals were in favour of including these students in general education classrooms as long as the disability level was not severe.

Although teachers are capable of recognizing possible curriculum and psychosocial difficulties and emotional challenges faced by students with communication difficulties (Dockrell & Howell, 2015; Dockrell et al., 2017), their ability to identify

language impairments accurately remains a concern (Christopulos & Kean, 2020). Furthermore, teachers' self-reported limitations in knowledge and skills indicate a need for additional training and resources to improve their confidence and effectiveness in supporting students with communication difficulties (Dockrell & Lindsay, 2001; Mroz & Hall, 2003).

Many educators believe that they haven't been adequately trained to identify and support children with communication difficulties (Dockrell & Howell, 2015). General education teachers' attitudes and skills have been identified as one of the major barriers to inclusive education which has led to students with communication difficulties feeling isolated from their peers (Berndsen & Luckner, 2012).

Many teachers acknowledged the need for additional support in inclusive settings in dealing with students with communication disabilities. Gyimah et al. (2011) reported that 56% of primary school teachers support the inclusion of students with communication difficulties but stress the need for resources and interventions specific to their needs. Monsen et al. (2014) revealed that, in general, teachers with a positive attitude had a higher willingness to accommodate students with communication difficulties compared to those with behavioural or multiple difficulties. Rakap and Kaczmarek (2010) reported that 19.6% of teachers had no concerns when including students with communication delays. However, Khan et al. (2017) found that 44% of teachers disapproved of including students with communication difficulties, suggesting some resistance still exists. These findings suggest that while there is support for including students with communication disabilities, there are still challenges to be addressed.

Population Statistics for Disability Types

Table 1 provides a description and the prevalence of the disability types examined in this study, including specific learning disabilities (academic difficulties), behavioural disorders, and communication disorders based on data from the National Center for Education Statistics (NCES, 2021) and the Centers for Disease Control and Prevention (CDC, 2022).

Table 1. *Prevalence of Study Disability Types*

Disability Type	Prevalence (%)	Description
Specific Learning Disabilities	32%	The most common disability among students receiving special education services (NCES, 2021)
Behavioural Disorders	7%	Includes conditions like conduct disorder and oppositional defiant disorder (CDC, 2022).
Communication Disorders	19%	Includes speech, language, and hearing impairments (NCES, 2021)

Note. Prevalence data was adapted from the National Center for Education Statistics (NCES, 2021) and the Centers for Disease Control and Prevention (CDC, 2022).

Disability Levels

In the following section, I will discuss teachers' attitudes toward students with disabilities across mild, moderate, and severe levels. Along with disability types, disability level plays a crucial role in determining teachers' engagement in the inclusion of students with disability diagnoses (Avramidis et al., 2000; Booth & Ainscow, 1998; Moltó, 2003).

Mild-to-Moderate Disabilities

McNally et al. (2001) explored teachers' attitudes toward providing additional support to students with mild-to-moderate disabilities. Their findings suggest that teachers recognize the need for varying levels of additional support based on the severity level of a disability. Numerous studies have indicated that teachers are more comfortable including students with mild disabilities, that is, those whose needs do not require extensive modifications to instruction or specialized management or teaching methods (Avramidis & Norwich, 2002; Center & Ward, 1987). Similarly, Gyimah et al. (2009) found that teachers showed more positive attitudes towards students with mild-to-moderate intellectual disabilities (55%) and physical disorders (55%) than students with any profound disabilities because these students were perceived as requiring substantial adaptations and resources.

Severe Disabilities

The challenge of creating a classroom environment that respects and honours all students is intrinsically difficult. Teachers' attitudes tend to be less accepting of students

with severe disabilities since the severity of a disability may affect their perception of students' abilities and educational outcomes (Avramidis et al., 2000). A study by Cook et al. (2000) examined how teachers perceive their students, categorizing their attitudes into attachment, concern, indifference and rejection. They found that teachers' attitudes toward students with severe disabilities corresponded to the concern, indifference, and rejection categories. According to the study, teachers who exhibit 'concern' are aware of these students' challenges and willing to assist them. On the other hand, 'indifference' indicates a lack of interest and involvement, while 'rejection' involves negative perceptions where these students were frequently criticized and received minimal feedback. Similarly, McNally et al. (2001) found a strong correlation between the level of disability and the need for additional support to accommodate students with severe disabilities. According to their findings, while teachers were generally supportive of inclusive education, they recognize the need for additional resources and modifications as the severity level increases.

Summary

I have provided an overview of the key factors that influence teachers' attitudes toward students with disabilities, addressing teacher related factors such as interactions with individuals with disabilities, training and self efficacy, as well as students related factors, namely disability types and levels.

In general, the findings show that teachers with prior successful interactions with individuals with disabilities tend to hold more positive attitudes toward students with disabilities (Avramidis & Kalyva, 2007; Brady & Woolfson, 2008). Teachers' training is

also an important factor, as teachers who have received formal training in inclusive

education are more confident and prepared to work with students with a variety of needs

(Forlin & Chambers, 2011; Lambe & Bones, 2006). Teachers' self efficacy has also been

associated with their willingness to engage in inclusive practices, with higher self

efficacy being correlated with a more positive attitude toward inclusion (Leyser et al.,

2011; Malinen et al., 2013).

In terms of student related factors, disability type is strongly correlated with

teacher attitudes, with a preference for students with physical disabilities and academic

disabilities over those with behavioural challenges or communication difficulties

(Avramidis & Norwich, 2002; Rakap & Kaczmarek, 2010). Similarly, severity levels of

disability affect teachers' attitudes, as teachers report greater comfort, including students

with mild disabilities, due to the perception of lower support needs compared to those

with severe disabilities, who are perceived as requiring extensive modifications (Cook et

al., 2007; McNally et al., 2001).

The purpose of this study was to examine the attitudes of pre-service teachers

toward students across three common disability types (academic, behavioural, and

communication difficulties) and three disability levels (mild, moderate, and severe) and

how they may vary across training routes (elementary versus secondary). The findings

are intended to inform training programs in order to support pre-service teachers'

preparation as inclusive educators.

Chapter 3: Methods

I will begin with an overview of the participants in the current study. I will then describe the survey and items included in the current study that align with my study goal. Next, I will provide a detailed description of the study procedure and statistical analyses used to address the research question. Finally, I will address ethical considerations related to the original survey.

Participants

Participants in this study comprised pre-service teachers from the University of Alberta enrolled in a four-year Bachelor of Education program in either the Elementary training route (Grade K-6) or the Secondary training route (Grade 7-12). There were 626 participants, with equal numbers from elementary and secondary training routes. Study participants were recruited through a Faculty of Education voluntary research participation program designed to encourage undergraduate student engagement in research being conducted within the faculty. Students chose either to participate in one of several research projects or complete an assignment provided by their course instructor. The participants in this study chose the research study option, and 5% credit was awarded toward their course grade for their participation.

Table 2 shows the demographic characteristics of participants by elementary and secondary routes. As can be seen across both groups, the majority of pre-service teachers were female. Most were 25 years or younger, and their highest level of education was Secondary school.

Table 2

Demographic Characteristics of Elementary and Secondary Route Participants

Variable	Item	Elementary Route (*n* = 313)	Secondary Route (*n* = 313)
Gender	Female	278	213
	Male	34	98
	Non-binary	1	2
Age Range	25 years or below	241	248
	26–35 years	58	52
	36–45 years	11	10
	46 years or above	3	3
Highest Level of	Secondary school	213	207
Education	Bachelor's degree	81	81
	Master's degree	3	7
	Other	16	18

Attitudes, Beliefs, and Concerns on Inclusive Education Survey (ABCIES)

The ABCIES was designed as a self-report survey designed to explore pre-service teachers' perspectives, attitudes, and beliefs about inclusion, along with common

disability types and the severity levels of those disabilities. The survey combined items adapted from two existing survey instruments (i.e., Attitudes Toward Inclusive Education Scale, Wilczenski, 1992; Sentiments, Attitudes, and Concerns about Inclusive Education – Revised et al., 2002) as well as original items created by Dr. Hayward and her research team (Hayward & Yildirim-Erbasli, 2022).

The ABCIES comprised 84 questions grouped as follows: Demographics = 10; Teacher Quality Standards = 8; Standards for Special Education = 8; Attitudes, Beliefs, and Concerns = 13; Behavioural Difficulties = 9; Social Difficulties = 8; Academic Difficulties = 9; Communication Difficulties = 9; Physical Difficulties = 10. The current study examined a subset of 37 items from the ABCIES. This included participant responses to the Demographic items (n=10) and Behavioral Difficulties (n =9), Academic Difficulties (n=9) and Communication Difficulties (n=9). The 16 questions addressing Teacher Quality Standards and Standards for Special Education were not included in the current study since they were not relevant to my research question.

Survey Procedure

Each participant completed the ABCIES online. Data collection and management were conducted using REDCap (Research Electronic Data Capture), a web-based software platform hosted by the University of Alberta (Harris et al., 2009). In addition to the study description, a link to the survey was made available through the University of Alberta's Faculty of Education research participation program portal. This link provided participants with access to the Information Letter and Consent Statement. Participants were informed that the survey would take between 10 - 15 minutes to complete, and they

were given the option to save and complete the survey over a number of sessions if necessary. The survey opened only after participants provided their consent.

Analyses

To examine elementary and secondary pre-service teachers' attitudes toward different types of disability — academic, behaviour and communication — at the mild, moderate and severe levels, a mixed ANOVA design was conducted with types of disability as within-subject factor and training route — elementary and secondary — as between-subject factor. For the significant main effect, post hoc analysis using Bonferroni correction was used to explore the difference between disability types and levels. Additionally, for the significant interaction effect, a simple main effect analysis was performed to explore the differences between training routes. As the assumption of sphericity was violated based on Mauchly's test of sphericity, $W(2) = .848$, $W(2) = .924$, $W(2) = .969$, $p < .001$, respectively, the Greenhouse-Geisser correction was used, $\varepsilon=0.868$, $\varepsilon= .93$, $\varepsilon= .97$, respectively.

Ethical Considerations

A research ethics board at the University of Alberta approved the ABCIES research study (No. Pro00092688, 2019) before data collection began. The survey was administered through the secure, web-based software platform REDCap. Anonymity was further ensured by de-identifying the data.

Chapter 4: Results

The objective of my study was to explore elementary and secondary pre-service teachers' attitudes toward students with academic, behavioural, and communication difficulties at varying severity levels: mild, moderate, and severe. In this chapter, I present the findings from the statistical analyses employed to address the research question.

First, means and SDs were calculated for participant responses for academic, behaviour and communication survey items (see Table 3). The means and standard deviations are based on a 4-point Likert scale, where 1 represents strong disagreement, and 4 represents strong agreement. Higher mean scores (3-4) indicate more favourable attitudes toward the inclusion of students with academic, behavioural or communication challenges in general education classrooms, while lower mean scores (1-2) suggest less favourable attitudes. The standard deviations (SD) represent the variability in responses, with smaller SD values indicating more agreement among participants and larger SD values indicating more difference of opinions.

Table 3

Mean and Standard Deviation of Pre-Service Teachers' Attitudes Toward Various

Disabilities Across Severity Levels

Disability Type	Education Level	Mild	Moderate	Severe
Academic	Elementary	$M = 3.59$	$M = 3.57$	$M = 3.47$
		$SD=0.51$	$SD=0.50$	$SD = 0.73$
	Secondary	$M = 3.46$	$M = 3.19$	$M = 2.59$
		$SD=0.52$	$SD=0.56$	$SD = 0.81$
Behaviour	Elementary	$M = 3.53$	$M = 3.44$	$M = 3.08$
		$SD=0.54$	$SD=0.56$	$SD = 0.68$
	Secondary	$M = 3.38$	$M = 3.11$	$M = 2.42$
		$SD=0.52$	$SD=0.54$	$SD = 0.68$
Communication	Elementary	$M = 3.57$	$M = 3.47$	$M = 3.18$
		$SD=0.50$	$SD=0.53$	$SD = 0.70$
	Secondary	$M = 3.57$	$M = 3.29$	$M = 2.90$
		$SD=0.50$	$SD=0.58$	$SD = 0.76$

Note. Means and standard deviations are based on a 4-point Likert scale (1 = strongly

disagree, 4 = strongly agree).

Next, a mixed ANOVA was conducted to examine pre-service teachers' attitudes toward

students with academic, behavioural, and communication disabilities across mild,

moderate, and severe levels.

Mild Level

There was no significant interaction between type of disability and training route,

$F(1.736, 1083.373) = .551$, $p > .05$. There was a main effect for the training route, $F(1,$

$624) = 12.747$, $p < .001$, $\eta_p2 = .020$, where elementary pre-service teachers had more

positive attitudes ($M= 3.559$, SE= .026) than secondary pre-service teachers ($M= 3.430$,

SE= .026). Elementary pre-service teachers showed higher ratings than secondary pre-

service teachers across all three types of disabilities at the mild level.

There was also a statistically significant main effect for the type of disability at the mild

level, $F(1.736, 1083.373) = 8.708$, $p < .001$, $\eta_p2 =.014$. Post hoc testing using the

Bonferroni correction revealed a significant difference between disability types.

Teachers' attitudes toward mild academic disabilities ($M = 3.525$, SD = .516) were more

positive than their attitudes toward mild behaviour disabilities ($M = 3.31$, SD = .560), $t =$

3.853, $p <.001$, Cohen's $d = .132$. In addition, pre-service teachers were more positive

towards students with mild communication disabilities ($M= 3.511$, SD = .513) in

comparison to mild behaviour disabilities ($M = 3.452$, SD = .530), $t = -.315$, $p < .01$,

Cohen's $d = -.114$. There was no significant difference between mild academic and mild

communication difficulties, $t = .538$, $p > .05$, Cohen's $d = .018$.

Moderate Level

There was a statistically significant main effect for type of disability, $F(1.859,$ $1160.257) = 25.627$, $p < .001$, $\eta_p2 = .039$, and for the training route, $F(1, 624) = 39.155$, p $< .001$, $\eta_p2 = .059$, where elementary pre-service teachers had more positive attitudes $(M= 3.422$, SE$= .026)$ than secondary pre-service teachers $(M= 3.195$, SE$= .026)$. Elementary pre-service teachers' showed more positive attitudes compared to secondary pre-service teachers across all three types of disabilities, with the note that the interaction was not significant, $F(1.859, 1160.257) = 1.919$, $p > .05$, $\eta_p2 =.003$. Following the significant main effect for type of disability, Post hoc testing using the Bonferroni correction revealed that there is a significant difference between disability types. Pre-service teachers' attitudes toward moderate academic disabilities $(M = 3.31,$ SE $= .022)$ were more positive than their attitudes toward moderate behaviour disabilities $(M= 3.232$, SE $= .022)$, $t = 3.692$, $p < .001$, Cohen's $d = .143$. In addition, the pre-service teachers were more positive towards students with moderate communication disabilities $(M= 3.383$, SE $= .022)$ in comparison to moderate academic disabilities $(M = 3.31$, SE $=$ $.022)$, $t = -3.466$, $p < .001$, Cohen's $d = -.134$. Finally, pre-service teachers were more favourable toward students with moderate communication disabilities $(M= 3.383$, SE $=$ $.022)$ than moderate behaviour disabilities $(M = 3.232$, SE $= .022)$, $t = -7.158$, $p < .001$, Cohen's $d = -.277$.

Severe Level

There was a statistically significant main effect for the training route, $F(1, 624) =$ 57.965, $p < .001$, $\eta_p2 = .085$, where elementary pre-service teachers had more positive attitudes ($M= 2.994$, SE$= .033$) than secondary pre-service teachers ($M= 2.635$, SE$= .033$). There was also a statistically significant main effect for the type of disability, $F(1.940, 1210.398) = 124.912$, $p < .001$, $\eta2 = .167$. Post hoc tests with Bonferroni correction showed pre-service teachers' attitudes toward severe academic disabilities ($M = 2.837$, SE $= .029$) were more positive than their attitudes toward severe behaviour disabilities ($M = 2.570$, SE $= .029$), $t = 9.038$, $p < .001$, Cohen's $d = 0.367$. In addition, pre-service teachers were more positive towards students with severe communication disabilities ($M= 3.035$, SE $= .029$) in comparison to severe academic disabilities ($M = 2.837$, SE $= .029$), $t = -6.711$, $p < .001$, Cohen's $d= -2.272$. Finally, pre-service teachers were more favourable toward students with severe communication disabilities ($M= 3.035$, SE $= .029$) than severe behaviour disabilities ($M = 2.570$, SE $= .029$), $t = -15.749$,p $< .001$, Cohen's $d = -.639$.

There was also a statistically significant interaction between the types of disability at the severe level and training route, $F(1.940, 1210.398) = 7.699$, $p < .001$, $\eta_p2 = .012$ indicating a significant difference between elementary and secondary pre-service teachers toward academic $F(1) = 63.635$, $p < .001$, behavioural $F(1) = 31.347$, $p <.001$, and communication disabilities $F(1) = 23.191$, $p<.001$. For each type of disability, elementary pre-service teachers had more positive attitudes than secondary pre-service teachers (see Table 3).

Chapter 5: Discussion and Conclusion

In this chapter, I will summarize the key findings of my research in relation to my research question, relevant literature, and previous research outcomes. Following this, I will address the implications and considerations for researchers, instructors and pre-service teachers. Lastly, I will describe the limitations of the study and suggest future research directions regarding pre-service teachers' attitudes, beliefs, and concerns regarding inclusive education and teaching students with disabilities.

Disability Types

In the current study, I explored pre-service teachers' attitudes towards students with academic, behaviour and communication difficulties. Study results show that attitudes differ significantly by disability type. The pre-service teachers in this study had the most positive attitudes towards the inclusion of students with communication difficulties, followed by students with academic difficulties and students with behavioural difficulties. This finding from the current study provides a notable contrast to previous research where teachers exhibit more favourable attitudes toward students with physical and academic disabilities compared to students with behavioural and communication difficulties (e.g., Avramidis & Norwich, 2002; Rakap & Kaczmarek, 2010). One possible explanation for this difference could be the widespread availability of assistive technologies and speech-language interventions in modern classrooms (Fernández-Batanero et al., 2022), which may have made communication difficulties appear more manageable to the pre-service teachers.

My findings indicate that the pre-service teachers were generally positive toward students with academic difficulties, reflecting a general willingness to include them in the general education classroom. This result also aligns with prior research, in which academic difficulties were considered manageable by implementing targeted interventions (DeSimone & Parmar, 2006), likely because teachers feel more confident when addressing these issues due to the availability of strategies that address specific academic challenges (Shaywitz et al., 2008). Although the current findings support previous studies indicating that academic disabilities can be accommodated relatively easily, and considered manageable, the findings also suggest that not all participants believed students with academic difficulties should be included in general education settings. This highlights a need for additional training to help pre-service teachers gain the confidence and skills necessary to effectively support students with academic difficulties. As mentioned in the prior studies, some teachers equate academic difficulties with low achievement, thinking that the same strategies used for low-performing students would work for them too (DeSimone & Parmar, 2006; Siperstein & Goding, 1985). However, in many cases, this oversimplification interferes with targeted interventions for students with specific learning disabilities (SLDs), such as dyslexia or dyscalculia (Fletcher et al., 2007). The findings in this study illustrate the need for additional training for pre-service teachers to strengthen their confidence in providing appropriate support to students experiencing academic difficulties.

Pre-service teachers in the current study had the least favourable attitudes toward students with behavioural difficulties. These findings are also consistent with previous studies reporting that students with behavioural difficulties were less likely to be included

than those with academic or communication disabilities (Gebhardt et al., 2012; Monsen et al., 2014; Rakap & Kaczmarek, 2010). Previous studies reported that teachers often consider these students as needing substantial support, or cause disruptions in the classroom, so they are hesitant to include them in general education classes (Dupoux et al., 2005; Saloviita & Schaffus, 2016). In fact, Rakap and Kaczmarek (2010) found that only 14.4% of teachers showed positive attitudes regarding including students with behavioural difficulties, reflecting the persisting resistance that is apparent in the current findings. The present study also supports the findings by Gyimah et al. (2011), suggesting that the pre-service teachers call for additional assistance and support from specialized teams to integrate students with behavioural challenges effectively. Moreover, the least favourable attitudes exhibited by preservice teachers in the present study toward behavioural difficulties may suggest that these challenges are perceived as difficult to address and negatively impact the classroom learning environment. This finding highlights the need for behaviour management training to assist pre-service teachers in developing the skills and confidence necessary to deal effectively with behavioural difficulties and minimize negative attitudes (Gilmour et al., 2021).

The pre-service teachers in the current study had the most favourable attitudes toward students with communication difficulties, which aligns with some prior studies (Gyimah et al., 2011; Monsen et al., 2014). This is possibly due to the belief that communication difficulties require minimal intervention and can be addressed with relatively minor modifications (Dockrell & Lindsay, 2001; Montgomery et al., 2024). However, the current finding also contradicts some other findings that found academic difficulties to be the most favourable (Avramidis & Norwich, 2002; Rakap & Kaczmarek,

2010), where they stressed that academic challenges can be managed easily largely due to the availability of instructional strategies and intervention tools (DeSimone & Parmar, 2006; Shaywitz et al., 2008).

Despite the positive attitudes toward the inclusion of students with communication disabilities, prior studies have indicated the importance of specialized speech-language intervention training to help teachers become more confident and effective in supporting students with communication difficulties (Dockrell & Lindsay, 2001; Mroz & Hall, 2003). While the pre-service teachers showed favourable attitudes toward students with communication difficulties, it is still possible that they lack the skills and training to assess and handle these students' needs effectively, thereby confirming the observation by Berndsen and Luckner (2012) that inadequate training remains a major obstacle to successful inclusion of these students.

Levels of Disability

Next, I explored if the severity of the disability would impact pre-service teachers' attitudes about the inclusion of students with academic, behavioural or communication difficulties. In general, there was a decline in positive attitudes toward the inclusion of students with these types of difficulties as the severity of the disability increased. However, at each disability level (i.e., mild, moderate, and severe), the pre-service teachers have the least favourable attitudes towards students with behaviour difficulties compared to academic and communication difficulties. At the mild level, there was no significant difference between attitudes towards students with academic and communication difficulties. Whereas, at the moderate and severe levels, pre-service

teachers were more positive towards students with communication difficulties than students with academic difficulties.

This pattern is in accordance with a growing body of literature which suggests that teachers tend to favour students with mild disabilities in part due to their relatively low need for modified instruction (Cook et al., 2007). Similar findings have been found in earlier studies indicating that students with mild disabilities are considered less disruptive and needing fewer accommodations thereby promoting a more seamless integration of these students into existing curricula (Avramidis & Norwich, 2002; Center & Ward, 1987).

Generally, attitudes towards students with moderate disabilities were still very positive, but less favorable than attitudes toward students with mild disabilities, perhaps due to the perception of the additional assistance that would be required for these students. Despite the lack of training, the positive attitudes of the pre-service teachers towards moderate disabilities highlight the possibility of the successful inclusion of these students with adequate support (Avramidis et al., 2000).

This study highlights the complexity and challenge of creating an inclusive classroom environment for students with severe disabilities. Pre-service teachers had the least favourable attitudes toward students with severe difficulties, which was consistent with the literature indicating that teachers' views regarding students' abilities and educational outcomes can be negatively affected by the severity of a disability (Avramidis et al., 2000). As reported by Cook et al. (2000), teachers' attitudes towards students with severe disabilities generally fall into the categories of 'concern', 'indifference', and 'rejection'. The teachers demonstrating 'concern' were more willing to

assist these students, while those displaying 'indifference' or 'rejection' demonstrated a lack of interest and negative perceptions (Cook et al., 2000). A less favourable attitude toward students with severe disabilities may also be associated with the perceived need for additional support and specialized training. Teachers recognize the necessity for more resources and modifications as the severity of disabilities increases (McNally et al., 2001). This may suggest that pre-service teachers feel unprepared to include students with severe disabilities in general education classrooms because they lack the training and knowledge. My study results highlight the importance of developing pre-service teachers' training programs that focus on building disability-specific strategies as well as fostering positive attitudes toward students with severe disabilities. As part of effective training, pre-service teachers should have opportunities for experiential learning and professional collaboration aimed at building their ability to assist students with severe disabilities (Cook, 2001; Kuester, 2000).

Training Route

The key finding in the study was the difference in attitudes between elementary and secondary pre-service teachers. Elementary pre-service teachers consistently exhibited a more positive attitude throughout the entire range of disability levels. Perhaps this difference results from the fact that inclusion of students with disabilities is expected in elementary grades so these pre-service teachers have likely had interactions with students with disabilities during their own elementary schooling and had practicum experiences in classrooms where students with disabilities are present (DeSimone &

Parmar, 2006; McHatton & McCray, 2007). In contrast, secondary education is often characterized by subject-specific curricula and has historically streamed students with disabilities out of general education classrooms, so these pre-service teachers may not have had interactions with students with disabilities in their own high school experiences or in practicum placements (Avramidis et al., 2000; Smith, 2000). If their university training programs do not create learning opportunities to foster positive attitudes in pre-service teachers then they will likely rely on their own K-12 experiences (Mintz, 2007). The rigorous academic standards expected in secondary settings may also present challenges for pre-service secondary teachers, making the task of accommodating diverse learners seem daunting (Bradshaw & Mundia, 2006; Cook et al., 2007). Thus, the findings from the current study highlight the importance of targeted development of practical strategies for the inclusion of students with disabilities, particularly in content-specific areas for secondary pre-service teachers (McGhie-Richmond et al., 2013). It would be possible to increase uniformity in positive attitudes and behaviours if we utilized a collaborative training approach to address this gap.

Implications and Considerations

Findings from the current study offer valuable insights into the attitudes of pre-service teachers toward students with diverse disabilities and severity levels. The findings highlight the importance of customizing training programs to address the specific needs and challenges encountered by pre-service teachers to develop positive attitudes towards inclusive education which encompasses the inclusion of students with disabilities in general education classrooms. With greater awareness of factors that influence attitudes

about the inclusion of diverse learners, researchers, instructors and pre-service teachers can implement strategies promoting inclusive education and positively impact pre-service teachers' attitudes.

For instructors

It is important for instructors in teacher education programs to be aware of findings from studies examining the beliefs and attitudes of their students. Such findings can be used to support expanding and validating positive attitudes about the inclusion of diverse student populations. For example, since elementary pre-service teachers tend to have a more positive attitude toward students with disabilities, training programs could provide opportunities to enhance close and meaningful interactions with students with disabilities during their coursework and practicum. Taking this approach may prepare them to provide effective support to students with a wide variety of disabilities.

Findings from studies such as the current one can also aid university instructors in working to mitigate negative attitudes and beliefs about particular disability types and severity levels before pre-service teachers enter their chosen profession. For example, in contrast to their elementary counterparts, secondary pre-service teachers typically manage larger groups and focus on subject-specific content. They would benefit greatly from training in classroom management, collaborative teaching techniques, and individualized learning approaches connected to subject-specific content to enable them to accommodate the diverse needs of their students.

Additionally, instructors could incorporate experiential learning opportunities, such as case studies, that explore how attitudes differ according to disability type

(academic, behavioural, or communicative) and severity (mild, moderate, or severe). A collaborative environment and understanding of resource allocation will help prepare pre-service teachers for the practice of inclusive education in the real world.

For Pre-service Teachers

This study offers valuable insights that pre-service teachers can use to improve their approach to implement inclusive education. By critically reviewing their personal beliefs and biases about disability and/or severity of disability, pre-service teachers can improve their attitudes toward inclusion. Participating in volunteer opportunities, mentorship programs, and peer collaborations with individuals with disabilities can reduce fear, develop empathy, and foster understanding. In addition, pre-service teachers can advocate for internships or field placements that will provide them with the opportunity to work in inclusive classrooms and with diverse learners to increase their knowledge and skills

Secondary pre-service teachers had the most concerns about students with behavioural difficulties, particularly compared to the other types of disability studied. These concerns highlight the need for targeted interventions in this area. Secondary pre-service teachers can benefit from learning about effective classroom management skills to manage behavioural disruptions, minimizing stress and frustration. Developing collaborative teaching practices along with individualized learning approaches is crucial to effectively meeting the diverse needs of students. Elementary pre-service teachers, who tend to have more positive attitudes toward students with disabilities, should focus on fostering close and meaningful interactions and one-on-one strategies to ensure

effective support for a wide range of students, including those with severe disabilities. Although elementary pre-service teachers generally hold positive attitudes, their positivity tends to drop when it comes to students with severe disabilities. By addressing this gap, they can provide better support to all students and create a more inclusive classroom environment.

Limitations

The present study focused on a selected group of pre-service teachers with certain demographic and geographical characteristics, which may not be representative of all pre-service teachers. Additionally, convenience sampling was used to select participants. These factors should be considered in generalizing the results of the study. Furthermore, self-reported data are prone to bias, as participants may have expressed themselves in a favourable manner. However, it is important to note that despite these limitations, our findings are consistent with previous studies, suggesting similar trends and attitudes. Moreover, participants did not always portray themselves favourably; for instance, they indicated they didn't think students with particular disability types or severity levels of disabilities belonged in general education classrooms. Additionally, while the study provides insight into pre-service teachers' attitudes toward academic, behavioural, and communication difficulties, I did not explore attitudes toward other disability types, such as students with social difficulties, physical difficulties, or multiple disabilities.

Finally, several factors may play a significant role in influencing pre-service teachers' attitudes about inclusive education, including their prior experience with

persons with disabilities and the availability of appropriate resources. These factors were not examined in the current study.

Future Research

It is essential to explore pre-service training since it offers essential opportunities for professional growth before pre-service teachers enter the profession. A thorough investigation of how pre-service training programs can foster positive attitudes and provide effective strategies for inclusion is crucial for future teachers. Longitudinal studies are suitable for examining how attitudes evolve over time. Researchers could consider examining pre-service teachers' attitudes over a long period of time to measure how targeted interventions like specific course content, practical experiences, and professional development might influence attitudes and beliefs during their training program and into their early career years. Longitudinal studies can also monitor how the severity and type of disabilities intersect with attitudes and beliefs to better understand how attitudes are impacted by these factors. By monitoring preservice teacher attitudes over time, it will be possible to detect pivotal periods that can be used to enhance outcomes. Using such research as a guide, we may be able to target coursework or practical experiences to address specific barriers related to attitudes.

Conclusion

The findings of this study reveal that different types and severity levels of disability influenced how pre-service teachers perceive students with academic,

behavioural and communication difficulties. Further, it revealed that secondary route pre-service teachers demonstrated less favorable attitudes toward the inclusion of students with disabilities, particularly those with behavioral difficulties. This means that inclusion will not be a reality for many students with diverse learning challenges and needs if their teachers are not accepting of students with disabilities across all types and levels. For pre-service teachers, the training period is an ideal opportunity to influence their attitudes. It is important that both pre-service teachers and instructors in training programs take advantage of this opportunity to develop and foster positive attitudes about students with disabilities. By addressing pre-service teachers' concerns early on, future educators will be better prepared to support all students, regardless of their disabilities.

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