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Special Education Teachers' Attitudes toward Including Students with SEN in Mainstream Primary Schools in Singapore

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Abstract

Singapore, one of the world's leaders in education, began including students with special educational needs in mainstream primary schools in 2004. Although teachers' attitudes towards inclusion are well documented in other parts of the world, there is a paucity of research on inclusion in Singapore. This lack of research limits the ability of teachers and teacher educators in understanding the barriers that exist and how to overcome them. The goal of the present study was to examine special education teachers' attitudes toward inclusive classrooms in mainstream primary schools in Singapore. Participants were thirty-eight special education teachers with at least one year of experience working with students with special education needs in mainstream classrooms. Data were collected using the Multidimensional Attitudes Toward Inclusive Education Scale. The overall findings indicated that, while additional research needs to be completed, participants' in this initial study have positive attitudes towards inclusion in mainstream classrooms and are willing to make adaptations to the curriculum to accommodate students with special educational needs in their classrooms.

Keywords: teacher attitudes, inclusive education, survey design, MATIES

According to the most recent McKinsey Report (2010), Singapore is one of the world's best performing educational

systems. Singaporean students consistently show strong performance on international assessments, such as the

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Program for International Student Assessment (PISA) and the Trends in International Mathematics and Science Study (TIMSS) (Snart, 2011). As an educational leader in Southeast Asia and the world, Singapore can also help lead the way in the policy and practice of educating students with disabilities. Traditionally, Singapore has not included the majority of students with disabilities in mainstream schools. However, the process of how students with disabilities are educated in Singapore is changing.

Singapore's History of Education

The Singapore educational system has evolved significantly since 1965. In the 1960's and 1970's, the country focused on the provision of basic literacy for the masses. By the early 1980s, Singapore had grown into a Newly-Industrialized Economy. The socio-economic revolution in Singapore led to a focus on an efficiency-driven education, in which students attended schools based on their perceived aptitudes and abilities. By the 1990s, the system evolved into an educational system that designed curriculum and instruction to support the creativity and capacity for innovation in students. During this period, schools were separated into two main categories, mainstream and special schools. Mainstream schools fall under the direct purview of the Ministry of Education (MOE) and serve typically developing students. Special schools, for students with varying disabilities, or special educational needs (SEN), are primarily managed by voluntary welfare organizations (VWO) and are supported by the National Council of Social Services (NCSS) and MOE. The current

educational movement is the result of leadership changes, legislative reform and economic development that has resulted in a fundamental reorganization of the educational system.

In 2004, Prime Minister Lee Hsien Loong decreed "all communities will progress and no one will be left behind...We must also have a place in our hearts and our lives for the disabled, who are our brothers and sisters too" (Lee, 2004). The Prime Minister's decree prompted a change from the traditional mindset that fostered restricted learning environments for students with SEN and ushered in a new era and new learning opportunities for students with SEN in Singapore (Nonis, 2006). To set the changes in motion, several initiatives were introduced that would ensure better support for students with SEN in mainstream classrooms and would lead to an increased awareness about inclusive education in Singapore. One of the legislative measures provided additional support for students with SEN studying in mainstream primary and secondary schools in Singapore through the Teacher Trained in Special Needs programme (TSNs) (Ministry of Education, 2004). The TSNs programme provided training initiatives for 10% of the existing mainstream primary teachers and 20% of the existing mainstream secondary teachers to become teachers trained in special needs (TSNs). Together with the deployment of Allied Educators (Learning and Behavioural Support) (AED/LBS), the TSNs and AED/LBS support students with mild special needs (dyslexia, autism spectrum disorders, and Attention Deficit Hyperactive Disorder) studying in mainstream schools (MOE, 2014).

Inclusive education in schools.

Inclusive education is not an entirely new concept for researchers or practitioners. The inclusion of all students in the mainstream setting focuses on the importance of providing equal opportunities for every student, regardless of the disability or disabilities that he or she may have. Foreman (2001) stated that inclusion usually involves educating students with, or who are at-risk for, learning disabilities in the same educational setting as their non-disabled peers. Commonly termed "mainstreaming" in Singapore, inclusive education means adapting a school's policies and practices to better meet all students' needs. A nation and school-wide collaborative approach is necessary in which special education (SPED) forms a subset of the general education framework with an emphasis on collaboration with both professionals and families of students with SEN (Brownell, Ross, Colon, & McCallum, 2005). In order for mainstreaming to become a reality, Moore (2009) stated that individual prejudices against persons with disabilities have to be eradicated. It is imperative that policymakers recognize the impact teachers' perceptions and attitudes can have on student achievement, behavior, and self-esteem (Brophy & Good, 1974). Teachers are critical in helping influence the success or failure of inclusion efforts.

Inclusion versus segregation

Arguments for inclusion in mainstream schools

Advocates for inclusion have long argued

that students with SEN can and should be educated in mainstream classrooms, if there are provisions for supplementary teaching aids and services (Lipsky & Gartner, 1989). Several studies conducted on mainstreaming have found no negative effects on the quality of education received by both students with SEN and their mainstream peers. Instead, Barnard, Prior, and Porter (2000) found that mainstreaming was beneficial to students with SEN in all areas of learning including cognitive, social, and emotional domains. For example, McDonnell et al. (2003) examined the effect of inclusion on 14 students with developmental disabilities and found that 13 of the 14 students' performance in mathematics and reading improved. Additionally, Wang's (2009) study found that not only did the academic scores of students with SEN who studied in a mainstream school increase, but the social skills and personal development skills improved as well. Therefore, as opposed to students who learn in a separate classroom, students with SEN who study in a mainstream school are more likely to have academically challenging curricula and, may achieve greater social skills and increased self-esteem (Moore & Keefe, 2004).

Several studies have found that students without disabilities also benefit socially from inclusion practices. Benefits include an increase in the quality of social interactions amongst students with and without SEN, an increased understanding, acceptance, and tolerance of differences of students with SEN (Salend & Duhaney, 1999). These findings are supported by research by Smoot's 2004 study with 61 students with mild intellectual disability

and 286 general education peers. Smoot found that when the students with mild intellectual disabilities spend more time in the regular classroom, their mainstream peers also learn to accept their differences. Further, Krank, Moon, and Render (2002) found that discipline referrals declined for both groups of students when learning in inclusive environments.

The view that inclusion is beneficial to both students with and without SEN is further supported by research examining the relationship between mainstream students' academic achievement and inclusion in general schools in England (Farrell, Dyson, Polat, Hutchesan, & Gallannaugh, 2007). Farrell and colleagues (2007) addressed the concerns of many stakeholders, teachers, and parents on the impact inclusion has on achievement among students without disabilities. Results revealed that inclusion had no negative impact on the overall achievement and performance of students without disabilities. In a study by Jordan, Schwartz, and McGhie-Richmond (2009), the researchers reported that there were no negative changes to academic achievement scores of students without SEN when they received instruction with their peers with disabilities. Research on reading achievement conducted by Schmidt, Rozendal, and Greenman (2002) showed that while nearly all of the students classified with learning disabilities made a 1-month gain or more for each month they participated in the study, their mainstream peers also showed a significant improvement in their reading scores in inclusive classrooms. These studies support the view that provisions

for inclusive education can be beneficial for students with or without special educational needs.

Arguments against inclusion in mainstream schools

Despite several studies supporting the notion of inclusion in schools, there are also arguments against educating students with SEN in mainstream classrooms. Jenkinson (1997) argued that students with SEN should be educated in special schools designed to cater to the social, emotional and behavioural difficulties that they would face in mainstream classrooms. Newman and Roberts (1996) also suggested that students with SEN learning in mainstream classrooms have been subjects of benevolent yet misguided attempts from teachers when providing support. This is particularly evident when such attempts at inclusion are influenced by stereotypical images of disability (Moore, 2009). These stereotypes occur when teachers do not have a good understanding of students with SEN, student needs, and the skills needed to support these students in mainstream classrooms.

When teachers and peers harbor negative images of disability, it can lead to marginalization and exclusion for students with SEN in mainstream schools and they may experience humiliation, bullying, and a loss of self-esteem. This occurs even more frequently when attention focuses on a student removed from the class to receive special support (Cigman, 2007). The stigma of carrying the label of a "student with SEN" has resulted in instances where a student will

try to hide evidence of their disability for fear of being ostracized or bullied by their peers in schools (Moore & Keefe, 2004).

Having children with SEN in a mainstream classroom may also add stress to both teachers and parents. Wong (2002), examined students with SEN in general schools in Hong Kong, and found that academic requirements were a great burden for students, their teachers and their parents. Specifically, Hong Kong's curriculum is "notoriously rigid and burdensome even for ordinary students." (Wong, 2002, p. 89). Therefore, children with SEN who commonly present problems with poor concentration, limited comprehension, and inadequate graphomotor skills are not likely capable of keeping up with rigid classroom instruction. As a result, Wong suggested that teachers use specific inclusion strategies, such as curriculum-based instruction and measurement, cooperative learning, and individualized teaching, to meet the needs and demands of students with specific disabilities (Fuchs & Fuchs, 1994). However, such a differentiated approach might also add on additional stress to the mainstream educational system, particularly in the area of resource allocation.

Finally, teachers have also expressed concerns about handling behaviors of students with SEN and the effect this has on the academic achievement and behavior of other students in the classroom (Nonis, 2006; Ford, 2007). Classroom management can be a great concern for most teachers since, while many of them can identify with the behaviors of students with SEN, many

teachers are unable to understand the root causes of these behaviors. This is especially true as behaviors can vary from child to child. This makes classroom management more difficult for teachers due to a lack of understanding regarding the unique learning and socio-emotional needs among students with SEN (Chia, 2001).

Teachers' attitudes toward inclusion

Research has shown that classroom teachers have a very strong influence on the implementation and success of inclusion (Lambe & Bones, 2006; Mitchell & Hedge, 2007; Soodak, Podell, & Lehman, 1998; Watnick & Sacks, 2006). Buell, Hallam, Gamell-McCormick, and Scheer (1999) established that teachers' attitudes toward inclusion are critical for influencing their aptitude for educating students with SEN. Kamens, Loprete, and Slostate (2002) also found that educational choices and teaching behaviors are influenced by teachers' attitudes towards inclusion. Therefore, it is crucial that teachers adopt appropriate and positive attitudes toward inclusion in their classrooms, as these attitudes can determine successful daily teaching practices (Subban & Sharma, 2006). When working with students with special needs, effective inclusive practices depend on the beliefs of teachers about the nature of disabilities as well as their own roles and responsibilities (Jordan, Schwartz, & Ghie-Richmond, 2009).

If educators hold positive attitudes toward inclusive education, this may allow (and encourage) practices that will guarantee successful inclusion of students with SEN (Hobbs & Westing, 1998;

Wilczenski, 1992, 1995). Highlighting the need for a positive attitude, Murphy (1996) stated that if teachers graduate from tertiary education with negative attitudes, these attitudes are very difficult to change, leading to low expectations of students with SEN as well as reduced learning opportunities for those students in the long run (Forlin, Tait, Carroll, & Jobling, 1999; Wilczenski, 1993).

In a study conducted by Nonis (2006) on the attitudes of kindergarten teachers toward inclusive education in mainstream classrooms, the results showed that while 25% of kindergarten teachers were supportive and willing to take on the responsibility of teaching students with SEN, 57% of teachers actually rejected this responsibility. A subsequent study completed five years later with pre-service teachers (Nonis & Jernice, 2011) found that pre-service teachers were more cautious about including students with SEN into their classrooms than the kindergarten teachers. However, pre-service teachers' attitudes towards students with SEN were generally quite positive. Despite the demographic and service differences between both groups in Nonis (2006) and Nonis and Jernice (2011) studies, the authors found that the concerns of these two groups of teachers were largely the same. Those concerns revolved around a lack of classroom resources and insufficient knowledge/training/understanding in dealing with students with SEN. Since the participants in the 2006 and 2011 studies were not from the same sample, there is no indication of an increase in acceptance of inclusion over time.

Attitudes of SPED teachers with mainstream teaching experience toward mainstream inclusion

While most prior studies completed with teachers in mainstream schools in Singapore, little research has been completed on SPED teachers with more than one year of mainstream teaching experience and their attitude towards inclusive education in Singapore. A better understanding of this specific group of SPED teachers, those with both mainstream and SPED experience, will provide a new perspective for the local context and will be crucial in realizing educational inclusion in Singapore. Therefore, the primary objective of the present study was to examine the attitudes these SPED teachers had toward inclusion in mainstream schools in Singapore. The secondary objective was to confirm whether exposure to SEN students leads to a greater willingness to adapt the curriculum to these students' needs.

Methodology

Research Questions

The following research questions were investigated:

Do SPED teachers have a positive attitude towards inclusion?

Does any exposure to students with SEN lead to a more positive teacher attitude towards inclusion in terms of willingness to adapt his/her curriculum to cater to the individual needs of these students?

Definition of SEN

As it is uncommon for students with severe cases of disabilities to be placed in mainstream Singapore schools, the definition of pupils with SEN for this study is taken as students diagnosed under the 3 main categories of dyslexia, autism spectrum disorders, and Attention Deficit Hyperactive Disorder) studying in mainstream schools (MOE, 2014).

Participants and Setting

Selection of participants. Participants included a very specific group of SPED teachers who have at least one year of teaching in mainstream classrooms and experience working with students with special educational needs in special school settings. Therefore, the participants are familiar with the teaching strategies used in the mainstream classrooms, specifically those that cater to both mainstream and SEN children.

These teachers are from a convenience cohort of 83 individuals trained by the Curriculum Planning and Development Division (CPDD) of the Ministry of Education (MOE). They were trained in the teaching strategies for Strategies for English Language Learning And Reading (STELLAR) because they were teaching in SPED schools that prepare their students for the Primary School Leaving Examination (PSLE). The training, however, does not involve lectures on Special Education and inclusion. These teachers were identified based on records available from the MOE database.

Teachers who fulfilled the requirements

were invited to participate in the study. Emails were sent to participants with an attached cover letter explaining the purpose and objectives of the study (Appendix A). Of the 83 emails sent, 26 emails were undeliverable and were automatically excluded from the study. Of the remaining 57 participants who received emails, 42 (74%) responded. The researcher met these participants either in groups or individually to explain the objectives of the study and provide a questionnaire survey. All questionnaires were completed in the presence of the researcher. Four participants were excluded from the analysis due to incomplete data submitted, which led to a final sample of 38 participants. Of these 38 participants, 29 were female and 9 were male. All of the participants had at least 5 years of teaching experience in both mainstream and SPED schools.

Survey instrument. Teacher attitudes toward inclusion were measured using the Multidimensional Attitudes Toward Inclusive Education Scale ([MATIES]; Mahat, 2008). This survey (Appendix B) was used to measure the affective, cognitive, and behavioral domains of teachers' attitudes. Items from the affective domain serve to determine teachers' feelings and emotions associated with inclusive education. Items that form the cognitive domain reflect teachers' perceptions and beliefs about inclusive education. Items in the behavioral domain assess teachers' intentions to act in a certain manner toward inclusion.

The analyses of the pilot project conducted by Mahat (2008) indicated

that the three subscales successfully met standards for both internal reliability and content validity. This is evident as the Cronbach reliability for each subscale was substantial, with returns of alpha coefficients between 0.77 and 0.91. These results provide strong evidence to warrant the use of this instrument in order to measure teachers' attitudes towards inclusion.

A five-point Likert scale was used to indicate the following attitudinal levels: strongly disagree, disagree, neutral, agree, and strongly agree, with 1 being strongly disagree and 5 being strongly agree. This scale was selected because it is a less intrusive form of measurement ensuring that responses provided by participants are mere expressions of their opinions (Bond & Fox, 2001). Furthermore, participants can easily understand this scale. The survey included a total of 18 items. Items 1 to 6 investigate the cognitive domain, 7 to 11 the affective domain, and 12 to 18 the behavioral domain. In this instrument, three items from the cognitive subscale and all six items from the affective subscale were phrased negatively so that an agreement with the item represents a relatively low level of the attribute being measured. For example, if a participant were to agree strongly to getting irritated when he/she is unable to understand students with a disability, it signifies a low level of belief in inclusion.

Administration of the survey instrument.

Participants met with the researcher in person to fill out the questionnaire. While most of these sessions were conducted outside school premises, some of the participants invited the researcher into

their school to complete the survey. Prior to the distribution of the questionnaire, participants were reminded of the study objectives. In answering the questionnaire, the participants were reminded to put themselves in a situation where they have to respond to these questions as a teacher teaching in a mainstream classroom. Participants were strongly encouraged to provide their true opinions regarding inclusion in mainstream classrooms and to ask the researcher any questions that might arise. Participants were given the questionnaire with a time limit of 30 minutes. Nearly all participants finished the survey within 15 minutes.

Data Entry and Analysis. The researcher used Microsoft Excel to enter data for all 38 participants. The data were transposed and analyzed using the Statistical Package for Social Sciences (SPSS) version 22. Responses to each question in the survey were analyzed based on the Likert-scale employed. Before score calculation, reverse polarity was carried out on the data, particularly for questions that were reverse-coded. This step was necessary to ensure consistency among the items. In re-coding the responses for all the questions in MATIES (2008) that were reverse-coded, the high scores for these questions were changed into low scores, and vice versa. For example, scores of 5 were re-coded to 1 while scores of 4 were re-coded to 2. A score of 3 remains the same as it represents a neutral stance. Total scores were calculated across the three domains to ascertain whether participants had positive or negative attitudes towards inclusion.

Results and Discussion

Analysis of Attitudinal Domains and Discussion

The overall findings in this study showed that the 38 SPED teachers who participated in the study generally had positive attitudes towards inclusion in mainstream classrooms. However, their attitudes towards inclusion are not consistent with their behavior. There is a positive correlation between their willingness to make adaptations to the curriculum and the placement of SEN students learning in their classrooms.

Table 1

Multidimensional Attitudes Toward Inclusive Education Scale Mean Scores

Attitude	N	Mean	SD
Cognitive	38	3.43	1.21
Affective	38	3.54	1.10
Behavioral	38	3.39	3.39

Table 1 depicts participants' scores within the three attitudinal domains. The breakdown in terms of the attitudinal domains showed that while the affective domain scored the highest with a mean of 3.54, the results for the cognitive and behavioural domains stood at 3.43 and 3.39 respectively. Therefore, as can be seen in Table 1, attitudes were highest for the affective domain, followed by the cognitive and behavioral domains.

A neutral attitude would be a mean score of 3. These results suggest slight positive attitudes among SPED teachers toward inclusion in mainstream classrooms. However, it must be noted that a mean score above 4 could be conclusively described as a positive attitude. Thus, further assessment was needed to determine the nature of these attitudes.

Examining standard deviations for the cognitive and affective domains revealed values indicative of low variability (see Table 1). A look at the standard deviation for the cognitive and affective domains reveals a value of 1.21 and 1.10 respectively. This suggests that the responses for these domains were acceptable. However, for the behavioural domain, the standard deviation was at 3.39. This denotes a very wide variance suggesting that the responses provided in this domain required further investigation.

The Cronbach's alpha was calculated for the entire questionnaire to assess the reliability of the measure. The results in Table 2 showed a Cronbach internal consistency of 0.13 carried out for all 18 items in the survey questionnaire. The low reliability for the total scale might be due to differences in how individuals responded to the three domains,

Table 2

Reliability Statistics

Cronbach's alpha	N of Items
.13	18

Table 3

Factor Analysis for Multidimensional Attitudes Toward Inclusive Education Scale

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Cognitive	1.31	43.66	43.66	1.31	43.66	43.66
Affective	.92	30.50	74.16			
Behavioral	.78	25.84	100.00			

Note. Extraction Method: Principal Component Analysis.

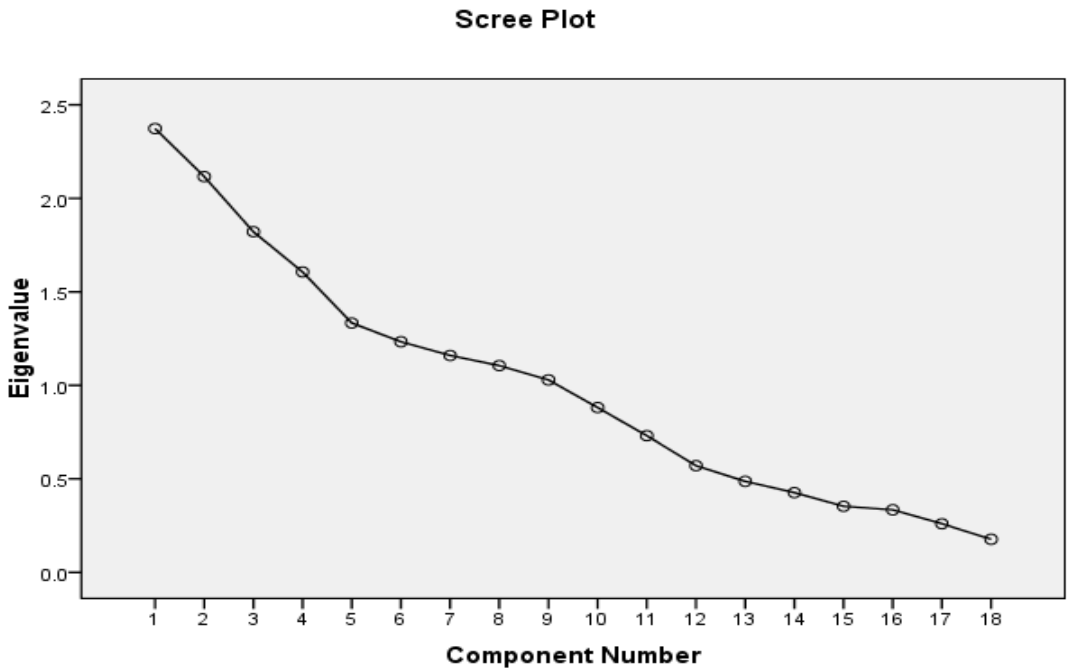


Figure 1. Scree plot obtained from the questionnaire factor analysis. Questionnaire items (components) are listed on the x-axis and eigen values on the y-axis.

Table 4

Correlations between the Questionnaire Factors

			Cognitive	Affective	Behavioral
Spearman's rho	Cognitive	Correlation Coefficient	1.000	-.086	-.191
		Sig. (1-tailed)	.	.304	.125
		N	38	38	38
	Affective	Correlation Coefficient	-.086	1.000	.126
		Sig. (1-tailed)	.304	.	.225
		N	38	38	38
	Behavioral	Correlation Coefficient	-.191	.126	1.000
		Sig. (1-tailed)	.125	.225	.
		N	38	38	38

especially given the high variability in responses for the behavioral domain. To confirm this, a factor analysis was conducted on the full scale to examine the factor structure of this questionnaire (Table 3). With a cut-off point of Kaiser's eigenvalue of 1, results showed that cognitive domain factor explained the greatest amount of variance of the measure (meeting Kaiser's eigenvalue criterion of greater than 1), accounting for nearly half of the total variance (43.66%).

Both the affective and behavioral domains only explained incremental levels of variance (30.5% and 25.84%, respectively) in this measure. Thus, it is likely that participants were only providing the most reliable responses for the cognitive domain. One possibility for the current findings could be due to a lack of anonymity (e.g., the researcher being present while the participant

completed the questionnaire) on the part of the participant, leading him/her to feel uncomfortable and thereby resulting in inconsistent opinions.

As seen in Figure 1, the responses to items 10 to 18, which were from the affective and behavioral domains, were less consistent among participants. Furthermore, these were the items that specifically addressed inclusion of students with SEN in a classroom. Although these participants appeared to have favourable attitudes towards inclusion, they actually behaved in ways that appeared negative.

Given the small sample size ($n = 38$) for the current study, participants might not be truly representative of the SPED teacher population who have experience teaching in mainstream schools in Singapore. This small sample size made

Table 5

Correlation of Teachers' Attitudes towards Inclusion

Questions	A5. I am disconcerted that students with a disability are included in the regular classroom, regardless of the severity of the disability.	B2. I am willing to adapt the curriculum to meet the individual needs of all students regardless of their ability
A5. I am disconcerted that students with a disability are included in the regular classroom, regardless of the severity of the disability.	Correlation Coefficient tailed	** 0.41
B2. I am willing to adapt the curriculum to meet the individual needs of all students regardless of their ability.	Correlation Coefficient tailed	** 0.41

Note. Number of participants = 38
 *. Correlation is significant at the 0.05 level (1 - tailed)
 **. Correlation is significant at the 0.01 level (1 - tailed)

it difficult to obtain a truly random representative sample. With that in mind, a Spearman's rho correlation analysis was conducted to address this limitation. This type of analysis allows for the investigation of variability in the questionnaire domains while accounting for a small sample size and lack of normality in the distribution of scores. The results of this analysis revealed a lack of

association between any of the three domains. Thus, given the lack of conclusive results based on the above findings, a final factor analysis on all individual items was conducted to ascertain any potential significant correlations/differences between the questionnaire domains.

Analysis of Attitudinal Factors

A Spearman's rho correlation matrix was devised, as shown in Table 5, allowing for an assessment of the associations between items. The key result is a strong positive correlation between participants' "willingness to adapt the curriculum to meet the individual needs of all students regardless of their disabilities" (B2) and "having students with SEN in their mainstream classes" (A5). Thus, if these SPED teachers do have SEN students in their classroom, they are more likely to adapt the curriculum to suit everyone's needs. This finding makes sense since SPED teachers are more familiar with the use of Individualized Educational Plans (IEPs), which require teachers to vary their instructions in order to cater to students' individual needs, when SEN students are in their classrooms.

Overall, the present findings suggest that SPED teachers' attitudes toward inclusion in mainstream classrooms are positive. In addition, even though they may not feel comfortable with the fact that students with SEN should be in the mainstream classrooms, these SPED teachers are willing to adapt their curriculum to cater to the needs of these students with SEN if they were in their mainstream classrooms.

Limitations of the Current Study

There were limitations that diminished the generalizability of the current findings. The two main limitations included the small sample size and concerns about inconsistent/socially desirable responses on the questionnaire. Only a small number of SPED teachers with mainstream experience were studied, as limited data was available that allowed the researcher to identify this group of

teachers. This problem was exacerbated by the fact that several SPED teachers could not be contacted via email or they had already left the service. The resulting small sample size limits the generalizability of the current findings to the population of SPED teachers with mainstream classroom experience.

Another limitation is one that affects the type of responses provided by the participants. Social desirability could have influenced participant responses especially when assessing attitudes related to SPED among SPED teachers. Teacher attitudes in this area might be quite sensitive, and some teachers might not wish to be identified as being for or against inclusion. The lack of anonymity when filling out the questionnaire (while individuals could not be identified with their data, participants still filled out the questionnaire in the presence of the researcher) could have had an impact on participant answers.

Future Research

Based on the aforementioned limitations, it is important that similar research assess larger samples of SPED teachers. A sufficiently large sample should be accessed to be more representative of the true population of SPED teachers, as suggested by Lunenburg and Irby (2008). Further research also needs to consider anonymity in more detail. The fact that participants filled out the questionnaire in the presence of a member of the research team might have led to unreliable and inconsistent responses among participants. Therefore, to ensure better reliability in responses, it is very important that participants' identities are

confidential for future studies. One possible option is for them to complete the survey questionnaires and post them using a self-addressed envelope provided by the researcher. Finally, the present study results suggest a mismatch between how teachers think about inclusion and their subsequent actions in carrying out inclusion in their classrooms. However, the reasons for this discrepancy were not explored. Hence, such issues should be addressed in the future.

Conclusion

This is the first study to assess SPED teachers' attitudes toward integrating SEN students in mainstream classrooms in Singapore. Given the small sample size, interpretation of the current findings should be interpreted with caution. The researchers hope this initial study will be used to address gaps in research pertaining to SPED teachers' attitudes, particularly among teachers who have taught in both SPED and mainstream classrooms. Addressing this research gap is important since the knowledge and experience among these teachers with both SPED and mainstream classroom experience will be an important factor in realizing educational inclusion in the future. These findings do provide a perspective currently lacking in the literature for the local context and may play a crucial role in ensuring the success of inclusive practices in mainstream primary schools in Singapore.

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