Pre-school teacher's attitudes towards inclusion of children with developmental needs in Kindergartens in Singapore

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2

Abstract

Including children with learning difficulties and disabilities in regular classrooms continues to be a challenge for teachers. This study investigated the perceptions of kindergarten teachers and learning support educators (LSEd) towards including children with developmental needs and or learning difficulties in pre-schools in Singapore. A total of 50 participants responded to a survey questionnaire and a group interview session. The study concluded that that the teachers were positive towards including children with developmental learning needs into regular kindergartens. This paper provides insights into the concerns of pre-school teachers about training and support that at the time of conducting the research was much needed in the pre-school sector.

Keywords: *Inclusion, special education, developmental needs, attitudes, kindergartens, early years*

Introduction

The compulsory Education Act, Singapore (2003), strongly supports but does not mandate the schooling of children with special needs nor inclusion in regular classrooms. However, the Ministry of Education (MOE) and the National Institute of Education (NIE) in Singapore, work collaboratively in developing specific teacher training programmes related to children with learning disabilities and special needs in both regular and special schools. This is through the programmes for Allied Educators (AEd) and Teachers of Special Needs (TSN) continuing courses (NIE, Singapore). In addition, it is noted that while it is not mandated that children with special needs are included in regular classrooms, there is a growing number of children being included in regular classrooms from the early years and kindergarten programmes to primary years (Nonis, 1996; Russo, 2011). By contrast, The Disability Discrimination Act 1992 (Commonwealth), mandates that all children in Australia

including pre-schoolers have equal access to Early Childhood Settings and regular classrooms. Similarly, New Zealand's Special Education 2000 policy (SE2000; Ministry of Education, 1996, 2007) mandated the establishment of a world-class inclusive system as its aim (Moore et al., 1999; Thomson et al., 2000).

In addition, funding in support of children included in both regular and Special schools in Singapore has increased over the years. For example, in 2004 the Ministry of Education provided an additional S$12 million dollars annually to the existing 30 million dollars (The Sunday Times, September 2004). All special schools received an additional five percent to funding for development costs (from 90% to 95%). In addition, up to 20 regular primary schools are currently being supported to address the growing challenge of children with learning difficulties such as children with dyslexia and autism spectrum disorder. Working in partnership with the NIE, about 10 percent of primary school educators attended the TSN programme intended to better cater for the growing need of children with learning difficulties and special needs in regular classrooms. In addition the MOE increased the number of trained Allied Educators in primary schools.

Crossing the border of Singapore to Malaysia, the Education Act (1996) specifies that all children have the right to education mandating that all schools accommodate for the needs of children with disabilities in regular classrooms. In addition, The School Regulations (Special Education, Malaysia. 1997) specified a special education program as an integrated education program for all children with special needs into regular classroom settings (Russo, 2011). As a developed nation and a success story in 50 years since independence, Singapore is looking towards improving her existing educational system and consistently searching for the right balance that she needs to meet the needs of a globally challenging economy and one that caters to the needs of all children.

Understanding Inclusion and Integration

In inclusive programmes, the school or environment is modified to accommodate the needs of the individual child with a disability and or learning difficulty (Foremen & Arthur-Kelly, 2014). In addition, schools accommodate diverse students regardless of their ability, culture, race, ethnicity and social background and to ensure equal education without discrimination or prejudice (Booth & Ainscow, 2007; Foremen & Arthur-Kelly, 2014; Hassan, 2008). Wedell (2005) defined inclusion as all children having the right to receive the best level of education and development in regular schools by eliminating the barriers to learning. Avarmidis, Bayliss and Burden (2000) wrote about the concept of full inclusion where all children irrespective of the degree of their disability will be placed in regular schools and or settings. By comparison, in an integrated programme, children with disabilities attend regular classrooms for selected programmes and activities (Foreman & Arthur-Kelly, 2014). Integration refers to the placement of children with disabilities in regular classrooms for some days in the week provided they are able to cope with the class without special instructional adjustment and support (McLean & Hanline, 1990; Foreman & Arthur-Kelly, 2014). For example, in Singapore children with disabilities attend segregated special schools (MOE, Singapore) until they are ready to meet the academic requirements to attend regular classrooms. In Singapore, the uniqueness of the close proximity of the location of the primary and secondary schools, kindergartens and colleges and the location of these special schools, make it possible for collaborations and integrated programmes to occur. Anecdotal observations and experience show that Principals in regular schools and Supervisors in kindergartens are keen to involve and encourage teachers to include children with special needs into their educational environments. In consultation with parents and teachers, Special schools build purposeful collaborations with local kindergartens where children may attend varying programmes for designated days in the week. However, in such an integrated programme, there may be more limited support for children with special needs

compared to when they are placed in a special school setting. In addition, the teachers in the regular classroom settings such as the kindergartens may not be trained to cater to the needs of the child with the disability or difficulty. Consequently, the child with the disability or difficulty would have to fit into the existing educational framework that is practiced in the existing system. In an inclusive setting, the learning environment and programme is designed and planned to support the individual holistic educational needs of the child with the difficulty and or disability.

Background of Peoples' Community Foundation Kindergartens in Singapore (PCF)

The PCF Kindergarten is a government fully funded pre-school kindergarten for all Singaporeans and Permanent Residents. Established in the early 1960s, PCF Kindergarten offers early childhood education for children prior to commencing primary education. Initially the primary focus of the PCF was to raise the standard of preschool education. From 2000, PCF extended her support beyond education, to charitable activities and support to needy children financially through the Headstart Funds and PCF Alumni Book Prize. The PCF has taken a step further to extend to childcare centres such as PCF Sparkletots Preschool. The childcare programmes include the caretaking for children aged between 2 months and 14 years old while the kindergarten offers programmes ranging from 4 to 6 years old (www.pcf.org.sg).

Teachers' Perceptions and Attitudes towards Inclusion

Studies have shown that the success is enhanced in any educational programme with leadership and teachers involved in the programme (Golmic & Hansen, 2012; Nonis, 2006; Pianta, 2004; Salend, 2001; Van Reusen, Shosho, & Bonker, 2000). Overall, the literature shows that teachers generally exhibit positive attitudes toward inclusion (Gersten, Walker, & Darch, 1988; Semmel, Abernathy, Butera, & Lesar, 1991). However, teachers do also

experience and demonstrate negative attitudes towards inclusive education programmes (Avramidis & Norwich, 2002; Villa, Thousand, Meyers, & Navin, 1996; Ward, Center, & Bochner, 1994; York, Vandercock, MacDonald, Heise-Neff, & Caughey, 1992). The negative attitudes reported were attributed to the size of the class, insufficient facilities to support the teachers in inclusive settings and the uncertainties whether the child would benefit from the educational programme in a regular classroom setting and training for the teachers (Avramidis, Bayliss, & Burden, 2000; Bendová, Čecháčková & Šádková, 2014). Hsieh and Hsieh (2012) investigated teacher's attitudes towards inclusion with a group of 130 teachers nearly 60% of had experience with at least one child with speech and language delays and or Autism. Using a questionnaire assessing teachers' perceptions about inclusion, the authors reported that teachers in their study had a positive attitude towards including children with disabilities in their classrooms. In addition, teachers with experience of teaching students with special needs showed more positive attitudes. Hsien, Brown, and Bortoli (2009) in investigating primary and kindergarten teachers (N = 36 respondents; Females = 35) qualifications and attitudes towards inclusion reported overall there was a relationship between teacher attitude and educational qualifications, the higher the educational qualifications the more positive the attitude. Hsien et al., (2009) reported that special education teachers with postgraduate qualifications felt more confident about meeting the needs of all students in their class, and that the inclusion of children with disabilities did not disadvantaged their peers without disabilities. Overall, teachers with more training demonstrated higher levels of efficacy, confidence and knowledge about inclusion, and were better prepared to include a child with special needs into their classrooms compared with teachers with minimal professional training.

Other studies have shown that teachers who use diverse teaching strategies perceived that children with disabilities gained when included in regular classrooms and teachers with negative attitudes seldom use effective teaching strategies (Bender, Vail, & Scott 1995;

Jordan, Lindsay, & Stanovich, 1997). The research has also shown neutral attitudes towards including children with disabilities in regular classrooms (Bennett, Deluca, & Bruns, 1997). Using My Thinking about Inclusion scale (MTAI; Reliability Coefficient α = .880; Stoiber, Gettinger & Goetz 1998), Galovic, Brojc and Glumbic's study (2014; N =322; n = 84 preschool teachers) reported that teachers in their study had a neutral response towards including children with disabilities into their classrooms. The authors reported that teachers believed that while children with disabilities can experience satisfaction in separate special school settings, they may demonstrate undesirable attitudes such as feeling of failure, frustration and rejection by their peers in inclusive classrooms (Galovic, Brojc & Glumbic, 2014). In addition, the teachers in Galovic et al's., (2014) study perceived their lack of individualised specific skills in special education meant that they could not meet the needs of the children with disabilities included in their regular classrooms. By contrast, it has been reported that with the introduction of an inclusive educational programme, teachers would benefit as they begin to experience teaching and working with children with special needs in their classrooms (Villa et al., 1996; LeRoy & Simpson, 1996).

The research shows that in an inclusive system, the educators' experience with SEN (special education needs) pupils increased, their negative and or neutral attitudes may improve which was attributed to their experience and development of their expertise gained over time (Villa et al., 1996; LeRoy & Simpson, 1996). Preschool teachers showed more positive expectations of inclusion comparing with higher level school teachers (p = .021) because they focused more on social and developmental aspects than academic skills (Galovic et al.; 2014). In addition, in such an inclusive programme, there was no national testing to determine the choice of primary school and preschool teachers had a more flexible school schedule where they were not constrained by time and programme realisation (Galovic et al.; 2014).

Factors that Influence Teachers' Attitudes and Inclusion

The contributing factors for teachers' attitudes include the years of experience, training and self-efficacy beliefs (Avramidis & Norwich, 2002; Gilmore, Campbell & Cuskelly, 2003; Hastings, & Oakford, 2003). Avramidis and Norwich (2002) wrote that the severity of the child's disability, the schools' facilities and financial support were important influencing factors on teachers' attitudes towards inclusion. Emam and Mohamed (2011) reported that teachers with more experience in teaching showed more positive attitudes towards inclusion compared with the less experienced teachers. Similarly, Gilmore et al. (2003) reported positive attitudes of teachers in the early childhood setting (n =538) towards inclusion.

The level of teachers' training has been shown to affect the attitudes that teachers may have towards inclusion with the higher the level the more positive the attitude (Bruns & Mogharreban, 2007; Eiserman, Shisler, & Healey, 1995; Gemmell-Crosby & Hanzlik, 1994; Hadadian & Hargrove, 2001; Park et al., 2010; Rafferty & Griffin, 2005; Stoiber, Gettinger, & Goetz, 1998). In addition, teachers' perceived efficacy influences their attitudes towards the inclusive system (Forlin, 1998; Soodak, Podell, & Lehman, 1998). According to Bandura (1977), self-efficacy is defined as one's beliefs to execute the action in order to produce the required outcome. It was concluded that teachers' knowledge about disabilities enhances their efficacy levels thus increasing confidence in teaching leading to positive attitudes toward the inclusion of children with disabilities (Folin, 1998). Soodak et al. (1998) reported that teachers were unhappy about the inclusion of children with intellectual disabilities which caused the teachers to be anxious. The teachers were fearful of including children with physical disabilities as they were uncertain about how to work with teaching students who were low-achieving and or students who were acting-out (Soodak et al., 1998).

The research has shown that teachers were unprepared in teaching children with disabilities as a result of limited or no training in special needs education (Bendová, Čecháčková, & Šádková, 2014; Emam, & Mohamed, 2011; Galovic, Brojcin, & Glumbic, 2014; Nisreen,

2013; Sukbunpant, Arthur-Kelly, & Dempsey, 2013;). Pre-service teachers have expressed their concerns of a lack of teaching capability and insufficient resources after attending one year of training (Lambe & Bones, 2006). Sukbunpant, Arthur-Kelly, and Dempsey (2013) study of a group of preschool teachers (N = 528) in Northern Thailand reported that these teachers were not competent which led to a decrease in teacher confidence to teach children with physical disabilities, down syndrome and autism. The researchers reported that the teachers in their study could not practice inclusion as there was insufficient support from the school.

This study was part of a larger study MIP (Mission I'm Possible; Chong et al., 2014) that explored the viability of support for Learning Support Educators in the Pre-Primary and Kindergartens in Singapore. The MIP program was designed for children with a range of developmental needs such as and speech and language to gross and fine motor and social skills. This paper reports the views of early childhood educators towards including children with developmental needs in regular kindergartens, Peoples Community Foundation (PCF) Kindergartens in Singapore.

The aim of the teacher component was to:

a. Develop an understanding of the views of teachers in a local kindergarten in Singapore towards including children with developmental needs into their regular classrooms;

b. Develop an understanding of the training needs in relation to the developmental needs of the children in the MIP.

Method

Participants

The teacher component in this study included participants from the MIP (Mission I'm Possible) and non-MIP or Control groups. The teacher sample comprised of pre-school principals, teachers and the learning support educators (N = 50). The learning support

educators provided support to the teachers in the classrooms where children with developmental needs (MIP children) were identified. The MIP group refers to the pre-schools and hence the classrooms where the MIP programme was introduced over a 15 week period while the non-MIP control group refers to the pre-schools where no known programme was introduced. The literacy programme of the MIP was part of a community-based project "Mission I'm Possible (MIP) that catered to children with different developmental concerns ranging from speech and language to gross and fine motor and social skills. Ethics clearance in this study was obtained through the hospital Institutional Review Board. Parental and Teacher consent was obtained for all participants in this study.

Survey Questionnaire Instruments

The survey method was used to obtain information in the relation to the aims of the study in the teacher component. Prior to the administration of the Survey Questionnaires (STARS Modified Bruns & Mogharreban 2005) and Focus group Questions, all questions were reviewed by the Learning Support Educators and two Principals to ensure that the content of the questionnaires were relevant to the local context. Pre-schools were approached and recruited. All participants were briefed about the study prior to consent for participation. Teachers were not obligated to participate in the study and participated out of their own free will. MIP teachers completed the surveys following the 15-week MIP programme in the classrooms. The following instruments were used in the study:

Survey Questionnaires included:

1. Support and Technical Assistance through relationships and skills building Survey (STARS; Modified Bruns & Mogharreban 2005).

   Focused Group Interview of MIP Teachers.

2. Upon completion of the survey, ten percent of the participants (N = 50) were invited to participate in a sharing and discussion interview with the

Co-Investigator. A total of six open-ended questions were designed asking teachers their views. There were 3 questions relating to teachers' views about successful factors that would help in the MIP and 3 others about potential barriers to the MIP in their pre-schools.

Data Reduction and Analysis

After removing the outliers which were participants who did not complete all the questions in the survey, a total of 50 participants formed the MIP group.

The percentage frequency of participant response of a 5-point Likert Scale (with 1 and 2 as Strongly Disagree and Disagree and 3 and 4 as Agree and Strongly Agree and was calculated for each of the items in the STARS (Part 1 – 5 Items; Part 2 – 16 Items).

The responses of participants based at the interview sessions were reviewed by the researcher and common themes were identified and verified by an external researcher.

Results and Discussion

The research questions in this study were to understand the views of teachers towards including children with developmental needs into their regular classrooms. The second was to understand the training needs of the teachers in relation to the children with developmental needs in their classrooms.

Teacher opinion analysis

The results showed that, overall, teachers were of the opinion that children with developmental needs should receive the same services as their peers in the early childhood setting (Item 1: 84%, $n = 42$; see Table 1), a finding supported in other studies (Gersten et al., 1988; Semmel et al., 1991). However, 32% (Item 2; $n = 16$; See Table 1) were of the view that it would not be an easy task to prepare and implement any adaptations or strategies to assist children with developmental needs into their early childhood setting. In addition, 40% (Item 2; $n = 20$; See Table 1) of the teachers were unsure if it would be an easy task to

prepare and implement any adaptations and or strategies for children with developmental needs. This finding could be attributed to the teachers not having any training in inclusive education nor experience working with children with developmental needs and or any other disability at the time this data was collected. This finding of teacher's uncertainty about working with children with developmental needs has been reported in other studies (Avramidis et al., 2000).

Table 1

Percentage Frequency Response of MIP Teachers for STARS (N = 50)

Part 1/Items	Percentage (n)				
	SD	D	N	A	SA
1. Children in the MIP and/or with developmental needs should receive services in early childhood settings alongside their same aged peers.	0(0)	0(0)	16(8)	48(24)	36(18)
2. The strategies and adaptations necessary to assist a child in the MIP and/or with a developmental need are easy to prepare and implement.	22(11)	10(5)	40(20)	24(12)	4(2)
3. Children not in the MIP and/or without developmental needs are positively affected by playing and interacting alongside their peers with developmental needs.	6(3)	8(4)	40(20)	36(18)	10(5)
4. In general, all children can learn but at a different pace.	0(0)	0(0)	0(0)	30(15)	70(35)
5. In general, children are more alike than different	2(1)	14(7)	30(15)	52(26)	2(1)

Note: SD = strongly disagree, D = disagree, N = neutral, A = agree, SA = strongly agree.

The results showed that teachers were of the view that children who were not in the MIP or developmental needs would be positively affected by playing and interacting alongside their peers with developmental needs (Item 3: 46%, *n* = 23; see Table 1). This finding has important implications to including children with developmental needs into regular pre-school classrooms. The research shows that successful inclusive programmes meant that teachers and leaders have positive attitudes towards inclusion (Golmic & Hansen, 2012; Hsieh & Hsieh, 2012; Nonis, 2006; Van Reusen et al., 2000). Hsieh and Hsieh (2012) reported that teachers in their study were positive towards inclusive classrooms and that 59% of them had at least one child with a disability in their classroom. Teachers in the current

study did not have direct experience with working with children with disabilities in their classrooms. For those who responded positively towards including children with a disability alongside their peers in the kindergartens, it was not known if they had prior experience with children with disabilities. Based on this finding it is recommended that future studies should include teacher's prior experience, if any, about working with children with disabilities.

Develop an understanding of the training needs in relation to the developmental needs of the children in the MIP.

The results showed that the majority of teachers in this study were neutral in there awareness ways to effectively assess the skills of children in the MIP and or with developmental needs (Item 1: 56%; n = 28; See Table 2). This is an expected response as none of the teachers were trained to work with children with developmental needs. It is suggested that the 28% who agreed with the statement in Item 1 (n = 14; See Table 2) could have done so in reference to completing data sheets and progress reports. However, about half of the population of teachers (Item 2; 54% and n = 27, see Table 2) were of the view that they could effectively observe children to learn about their developmental needs in their early childhood settings. This result is encouraging especially when the research suggests that teacher's attitudes are more positive when they have the experience with working with children with disabilities (Emam & Mohammed, 2011; Hsieh & Hsieh, 2012; Sukbunpant et al., 2014). Based on the literature relating to the importance of teacher education in disability, one would suggest including professional practice with training would enhance positive attitudes towards inclusion (Hsien et al., 2009). Hsien et al., (2009) study reported that the higher the teacher's educational qualifications, the more positive they were towards inclusion. The results of the current study showed that 68% (Item 3; n = 34: see Table 2) were of the view that they could arrange the environment in their classrooms to meet the learning needs of children with developmental needs. In addition, the results showed that 70% (Item 4; n = 35; see Table 2) knew where to locate adapted toys and materials for the children with developmental needs.

Based on this finding, it is speculated that the teachers in this study were already aware of such resources that were available to them and how they could gain access to the materials, although this needs to be verified in a future study. One would suggest a further inquiry about the 30% (Item 4; n = 15) who were unaware or was neutral to the location of such available resources. There were fifteen teachers who did not have knowledge about access to resources. In addition, it is suggested that such information about access and support to teachers working with children with disabilities be made known through an electronic communication platform or other within the early childhood settings where teachers could review at their own convenient time. This response to Item 3 could be linked to Item 7 in which 42% (n = 21; see Table 2) of the teachers were neutral in their response to being aware of services provided by professionals. This finding raises concerns about teacher's knowledge about the available support that they could harness in the event that they need to support children with developmental needs. This is especially important when the research suggests that the attitudes of teachers towards including children with special needs into their classroom is affected by the degree of support in terms of facilities and financial support (Avramidis & Norwich, 2002; Avramidis et al., 2000).

The results showed that in relation to working partnerships with families and professionals, the teachers overall response was positive in that the majority responded that they knew how to collaborate with parents and were comfortable with working with professionals (see Items 5, 6 and 8 respectively). The results showed that the majority of teachers were unfamiliar with developing an Individual Education Plan (IEP; Items 9 & 10; see Table 2). This was an expected result as teachers in this study were not trained in the area of special needs education and for which the IEP forms a key component in working with children with disabilities. Teachers responded positively towards providing guidance for behavioural challenges and or strategies to facilitate positive behaviours (Items 11 & 12 respectively). A small percentage of teachers (Item 11: 38%; n = 19; Item 13: 34%; n = 17; See Table 2) of

teachers who were uncertain about guidance or strategies related to positive behaviours. The response teachers showed for Item 13 was similar to that of Items 11 and 12 in that, the majority (52%, n = 26; See Table 2) were able to incorporate strategies to encourage communication skills amongst children in the MIP and or developmental needs. However, up to 38% (n = 19) were uncertain and 10% (n = 5) strongly disagreed and disagreed with the statement. In Item 14, the results showed that the larger majority of teachers were unfamiliar with alternative forms of communication devices such as picture systems and specialised augmentative devices and or sign language (Strong Agreed & Agree = 38%, n = 19; neutral = 46%, n = 23; See Table 2). This results appears to contradict the results in Item 4 (Table 2) in which teachers responded about the use of adapted toys and materials. This finding suggests that the materials that teachers were referring to were not linked to the ones referred to in Item 14. Based on these findings, as part of the training programme for inclusive education, materials for include as many augmentative devices to assist teachers in the early years setting when working with children with developmental needs.

In the response to teachers understanding the concept of motor impairments and assisting children with motor impairments in their classrooms, there was no clear identifiable pattern (See Items 15 & 16 and Table 2). For example, Item 15 responses were spread across the Likert Scale responses. However, for Item 16, the majority of teachers responded that they were able to position children with motor impairments such as using proper lifting techniques, using wedges and supine standers (74% , n = 37; see Table 2). One explanation for this response could be that lifting techniques are taught in the First Aid Certification which is a requirement for all teachers to attain. However this explanation needs to be verified in future research investigations.

Table 2. Percentage Frequency Response of MIP Teachers for STARS (N = 50)

Part 2/Items	Percentage (n)				
	SD	D	N	A	SA
1. I am aware of was to effectively assess the skills of children in the MIP and/or development needs. (e.g. complete data sheets, prepare progress reports highlighting strengths and needs).	4(2)	12(6)	56(28)	28(14)	0(0)
2. I can effectively observe children to learn about their developmental skills and needs (e.g. observe at various times and during different activities, be objective and specific).	0(0)	6(3)	38(19)	54(27)	2(1)
3. I can arrange the environment to meet the needs of all children including children with developmental needs (e.g. shelves at appropriate heights, dividers between learning centers, labelling items that children use with words and phrases).	0(0)	8(4)	24(12)	38(19)	30(15)
4. I know where to locate and how to use adapted toys and materials (e.g. high contrast items, easy to complex materials).	0(0)	6(3)	24(12)	52(26)	18(9)
5. I know how to initiate, develop and maintain positive, collaborative relationships with families (e.g. reciprocal communication, honouring preferences).	2(1)	2(1)	20(10)	60(30)	16(8)
6. I feel comfortable working with support staff such as LSEds/Therapists (e.g. training, instruction for daily activities, responsibilities related to supervision)	2(1)	2(1)	34(17)	46(23)	16(8)
7. I am aware of the services provided b related professionals (e.g speech and language pathologists, physical/occupational therapist, child psychologist)	0(0)	0(0)	42(21)	44(22)	14(7)
8. I am able to effectively work with professionals from other disciplines (e.g. speech and language pathologist, child psychologist, physical/occupational therapist, child psychologist)	2(1)	0(0)	44(22)	44(22)	10(5)
9. I am familiar with how to develop an Individualised Educational Plan (IEP). (e.g. team input, parental rights, development of annual goals with corresponding short term objectives)	22(11)	18(9)	42(21)	12(6)	6(3)

Note: SD = strongly disagree, D = disagree, N = neutral, A = agree, SA = strongly agree.

Percentage Frequency Response of MIP Teachers for STARS (N = 50)

Part 2/Items	Percentage (n)				
	SD	D	N	A	SA
10. I understand how to implement IEP goals and objectives into an existing curriculum (e.g. matrix planning, embedding, data-based decision making).	22(11)	30(15)	40(20)	8(4)	0(0)
11. I am able to implement positive guidance, approaches to encourage appropriate behaviour with all children including children in the MIP and/or with developmental needs (e.g. assist children to learn expectations, environmental considerations).	4(2)	8(4)	38(19)	46(23)	4(2)
12. I use effective strategies to facilitate positive behaviour with all children including children in the MIP and/or developmental needs (e.g. smooth transitions, natural consequences, redirection).	2(1)	6(3)	34(17)	46(23)	12(6)
13. I incorporate strategies to encourage communication skills with children in the MIP and/or with developmental needs (e.g. mirroring, self-talk, using descriptive statements, role models).	4(2)	6(3)	38(19)	46(23)	6(3)
14. I am familiar with alternative forms of communication and their use (e.g. sign language, picture systems, specialised augmentative devices).	18(9)	20(10)	46(23)	14(7)	2(1)
15. I know the characteristics of children with motor impairments .(e.g. reflexes, muscle tone, range of motion).	18(9)	26(13)	32(16)	22(11)	2(1)
16. I know how to position children with motor impairments. (e.g. use of wedges and supine standers, proper lifting techniques).	28(14)	46(23)	22(11)	2(1)	2(1)

Note: SD = strongly disagree, D = disagree, N = neutral, A = agree, SA = strongly agree

Percentage Frequency Response of MIP Teachers for STARS (N = 50)

Part 2/Items	Percentage (n)				
	SD	D	N	A	SA
17. I am aware of ways to effectively assess the skills of children in the MIP and/or development needs. (e.g. complete data sheets, prepare progress reports highlighting strengths and needs).	4(2)	12(6)	56(28)	28(14)	0(0)
18. I can effectively observe children to learn about their developmental skills and needs (e.g. observe at various times and during different activities, be objective and specific).	0(0)	6(3)	38(19)	54(27)	2(1)
19. I can arrange the environment to meet the needs of all children including children with developmental	0(0)	8(4)	24(12)	38(19)	30(15)

	SD	D	N	A	SA
needs (e.g. shelves at appropriate heights, dividers between learning centres, labelling items that children use with words and phrases).					
20. I know where to locate and how to use adapted toys and materials (e.g. high contrast items, easy to complex materials).	0(0)	6(3)	24(12)	52(26)	18(9)
21. I know how to initiate, develop and maintain positive, collaborative relationships with families (e.g. reciprocal communication, honouring preferences).	2(1)	2(1)	20(10)	60(30)	16(8)
22. I feel comfortable working with support staff such as LSEd's/Therapists (e.g. training, instruction for daily activities, responsibilities related to supervision)	2(1)	2(1)	34(17)	46(23)	16(8)
23. I am aware of the services provided by related professionals (e.g. speech and language pathologists, physical/occupational therapist, child psychologist).	0(0)	0(0)	42(21)	44(22)	14(7)
24. I am able to effectively work with professionals from other disciplines (e.g. speech and language pathologist, child psychologist, physical/occupational therapist, child psychologist)	2(1)	0(0)	44(22)	44(22)	10(5)
25. I am familiar with how to develop an Individualised Educational Plan (IEP). (e.g. team input, parental rights, development of annual goals with corresponding short term objectives)	22(11)	18(9)	42(21)	12(6)	6(3)

Note: SD = strongly disagree, D = disagree, N = neutral, A = agree, SA = strongly agree

Factors that promote or limit the success of the MIP in the Kindergartens

In the second part of the research study, ten percent of teachers were invited to discuss and share their thoughts about the factors that would promote or limit the success of the MIP in their kindergartens. The teacher's responses were recorded and then they were reviewed independently by two of the researchers in the study. Based on the responses, common themes were identified and these included the responses related to the (1) Child, (2) Teacher, (3) Parent, (4) Behaviour and (5) The MIP Programme (See Tables 3 and 4).

Table 3. Child and Teacher Related Issues in Response to Inclusion of Children with Developmental Needs in Pre-schools (N= 50)

Child (*n responses)*	Teacher Training (*n* responses)
• The child's inability to socialise with peers (17). • Children not being able to follow instructions/lessons taught or a slow learner (16). • Communication with peers and teacher (8). • Difficult pronouncing words, reading (5). • Children ratio and time constraints (3). • Attention Span/Deficit (3).	• Untrained teachers (3). • Difficult in conveying messages/communication (2). • Need to understand the children's needs; Given equal attention to each child while managing a child with developmental needs (2).

• Children with developmental needs are not given individual guidance. • Children with developmental needs should be given more time for individual coaching. • The need to provide appropriate activities for the children. • Children with developmental needs do not benefit in learning as their peers as they have a much slower pace of learning. • The child's health includes growth and development, physical and mental well-being. • Inability to work in groups. • Inability to complete a task in class. • Unable to maximise their potential in learning. • Curriculum based on individual needs. • Safety concerns. • Other children will learn to accept. • Concern that poor social interaction at a young age will affect their adult's life. • Missing lessons when MIP is conducted. • Intellectual skill.	• How can I help the child with developmental needs. • Providing support to teachers of MIP in facilitating the children's needs. • Provide activities to support children's learning in the MIP. • Follow u with MIP sessions. • Lack of attention to facilitate children in the MIP. • Teacher to pupil ration (managing child with developmental needs with a class of 15 children) • Manpower needs to guide the children in MIP and the other children. • Need strategies to help the child with developmental needs. • Teachers need to be more patient. • Knowledge on how to assess children with given strategies. • Communication between teacher and pupils.

Table 4. Parent, Behaviour and MIP Related Issues in Response to Inclusion of Children with Developmental Needs in Pre-schools (N= 50)

Parent (*n responses*)	Behaviour (*n responses*)	MIP (*n responses*)
• Support from parents (5). • Working with parents/partnership with parents (2). • Dealing with fussy/difficult parents (2). • Non-cooperative parents. • Parental acknowledgement of their child's needs (parent education). • Support from school to parents. • Family and social relationships. • Home environment. • Communication strategies between parents, teachers and LSEds. • Early Intervention.	• Disruptive behaviours in the classroom (2). • The child's emotional and behavioural development. • Difficulty in managing the children with developmental needs.	• Interruption of lessons as child has to attend the MIP (3). • Individual regular lessons to child in MIP.

Teacher and Child Factors

The teachers clearly expressed their concerns about the need for educational training in special education and or understanding children with developmental needs, a finding supported in other studies (Leyser et al., 1994; See Table 3). For example, teachers indicated

training in assessing children and they wanted strategies on how to teach children with developmental needs. In addition, teachers shared that the teacher to pupil ratio in reference to managing a total class of 15 children with children with developmental needs would be a problem. This finding is supported by other research that highlight the importance of teacher to pupil ratio when including children with special needs in regular classrooms (ref). Clearly for the success of the MIP programme, support to teachers in terms of trained Educational Assistants and training for current teachers in the area of special needs is paramount. Consequently, the justification for including specialist such as Learning Support Educators at all kindergartens is supported from the findings of this study.

The teachers responded in terms of identifiable concerns they raised about *Child* factors that they had experienced with children included in their classrooms (see Table 3, Child). For example, the teachers wrote that, generally, the child with developmental needs did not socialise with their age-matched peers, they are unable to follow instructions or lessons that were taught in class, and there were identifiable communication challenges between the teachers and their peers (See Table 3, Child). The teachers responded that they felt that the children with developmental needs required more time for individual guidance and appropriate activities for them (See Table 3, Child). These responses suggest that the teachers had an idea that children with developmental needs needed a different approach for which they were not equipped. This statement is linked to the training needs that the teachers raised to assist children with developmental needs in their classrooms (See Table 3, Teacher). It was interesting to note that teachers felt that children with developmental needs did not have to benefit in the same way as their age-matched peers as they recognised that they worked at a slower pace. This response links to the teachers response where teachers wrote that children with developmental needs will need a curriculum based on their individual needs and also that they stressed the importance of their social interaction with others (See Table 3, Child). Galovic et al.'s, (2014) study wrote that teachers were positive towards an inclusive

programme which could be attributed to no national testing, flexible school schedules, minimal time constraints and no programme realisation. Affording children with a flexible and self-paced curriculum in a country that has a large emphasis on academic achievement, challenges Singapore to relook at how she includes children with learning difficulties and disabilities into regular classrooms in the future.

In addition, teachers in the current study commented that 'other children will learn to accept' them (See Table 2, Child). Whether the teachers were of the view that children with developmental needs should be included in regular classrooms was not asked at the interview though but could be linked to the positive response that teachers had about aged-matched peers playing and interacting alongside children with developmental needs (See Table 1, Item 3).

Parent Factors

Teachers responded that support to and working with parents in partnerships linked to success or limitations to the MIP (See Table 4, Parent). Teachers identified that there were fussy or difficult parents and that parents also needed support from the schools. They also identified parent education and communication strategies between parents, teachers and the LSEds (Learning Support Educator).

Behaviour of children in the class

The responses of the teachers in relation to the behaviours could be linked to Child Factors (See Table 4, Behaviour). The teachers identified disruptive behaviours and expressed that they had difficulty managing the behaviours of children with developmental needs. It appears that the response for behaviour management while present were not a large area of concern. This could be explained by the fact that teachers did indicate that, overall, there were able to guide children to encourage positive behaviours in class (See Table 2, Items 11 & 12).

MIP Related Issues

The teachers expressed concerned that there were interruptions to the lessons as the child had to attend the MIP Programme. This response could be explained by the design of the intervention programme in the MIP where the children with developmental needs were withdrawn from their regular class lessons and given individual focus lesson times which the teachers expressed here was a disruption to the lesson. It was not ascertained if the disruptions were in reference to the learning of the child with the developmental needs or the disruption of the whole class. One would suggest that this could be linked to the comments that the teachers had expressed in terms of the teacher to pupil ratio (Table 3, Teacher). As the teachers highlighted that there was a problem handling fifteen children and the children with developmental needs.

Conclusion

Based on this study, the following conclusions are drawn:

1. Teachers in this study responded that they were comfortable with including children with developmental needs in their classrooms;

2. Teachers understood that children with developmental needs had different needs whether it be academic or social and emotional and they wrote that they were keen that the children's needs were catered for a different focus. This focus could be in the domain of their social interaction and academic achievement at their own pace catering to their individual needs.

3. There was a major concern about the need for teachers in the kindergartens to be trained in understanding of how to assist children with developmental needs.

4. It is suggested in the event that teachers were not trained, that a Learning Support Educator (LSEd) and or Education Assistant is allocated to the classroom to assist teachers with the children with developmental needs. In addition the LSEd's could

also be the link between the teacher, the parents and the professional staff for support to the child with the developmental needs.

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