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SEGREGATION, INTEGRATION, INCLUSION AND EFFECTIVE PROVISION: A CASE STUDY OF PERSPECTIVES FROM SPECIAL EDUCATIONAL NEEDS CHILDREN, PARENTS AND TEACHERS IN BANGALORE INDIA.

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Educating special educational needs (SEN) children in special schools is the norm in India but there is a growing trend towards inclusive practice. Perspectives were sought from children, their parents and teachers in Bangalore, India to investigate perceptions of effective provision for SEN children using an interpretative approach to provide 'thick descriptions'. Findings suggest that integration of SEN children in mainstream schools was not the preferred model for both the children and adults in the study. Separate schooling was cited by the majority of respondents as the most appropriate model for reasons of unsuitable pedagogy and curriculum, a lack of individualised attention for children and difficulties of social interaction. The study reveals that teacher dedication, passion and care for the SEN children in their classes is juxtaposed with an acknowledgment of their professional training and development needs. These findings provide teachers and policy makers with an in depth insight from this sample case study into the perspectives of children, their parents and teachers on appropriate SEN provision and the challenges of implementing inclusive practice.

Introduction

In the last 30 years there has been a fundamental shift in India in the education of children with special educational needs away from segregated provision towards a more inclusive approach (Das, Sharma & Singh, 2012). Legislation such as the Persons with Disabilities Act (1995) and initiatives such as the Education for All Movement (2001) and the Action Plan for Inclusive Education of Children and Youth with Disabilities (2005) have focussed attention on the provision of educational opportunities for children with special educational needs in Indian schools (Bhatnagar & Das, 2014). Although considerable progress has been made, it is recognised that much remains to be done in order to ensure that the needs of children with special educational needs are met in Indian schools (Thapan, 2014).

There are many factors that inhibit effective inclusion of students with special educational needs within Indian schools. Some of these are structural aspects of education policy, including the large percentage of Indian schools that are private; the lack of adequate inclusion policies in many schools (including a lack of goals and objectives for inclusive education), and restrictive practices that limit the opportunities of students to enrol in mainstream schools (Bhatnagar & Das, 2014; Ahan, 2013). Other aspects of impediments to inclusive education within schools include poor physical infrastructure including access difficulties and lack of physical adaptation to schools (Bhatnagar & Das, 2014), financial limitations such that funding does not meet basic needs (Bhatnagar & Das, 2014; Sharma, Moore & Sonawane, 2009) and large class sizes that make effective one-to-one interventions difficult to achieve (Sharma, et al., 2009; David & Kuyini, 2012). Whilst these factors inhibit the access of children with special educational needs to mainstream schools, the focus of this study is on those factors that impact on the everyday experiences of teachers and students in school.

Previous studies have revealed that there are a range of curricular and pedagogical difficulties that need to be overcome in Indian schools (Bhatnagar & Das, 2014; Das, et al., 2012). Bhatnagar & Das (2014 and 2013) point out that Indian teachers have a wide variety of concerns and reservations about implementing inclusive education

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practices including: lack of preparation and training for teachers in aspects of special education; negative attitudes of teachers and other students towards pupils with SEN; lack of funds and suitable materials; lack of support; inappropriate curriculum design; large class sizes (Sharma, 2002) and concern about increased workload. Of these concerns, a recurring theme is lack of training (Sharma, et al., 2009) with up to 95% of teachers claiming that they had not received any training in teaching children with special educational needs (Bhatnagar & Das, 2013; Das, Kuyini & Desai, 2013).

Previous studies have identified that the attitudes and practices of classroom teachers is fundamental to the success of inclusion and to the quality of education that children with SEN experience (Bhatnagar & Das, 2014; Das, et al., 2013a; David & Kuyini, 2012). In particular, the self-belief of teachers in their own efficacy is seen as being crucially important in teachers meeting the needs of students with special education needs (Bangs & Frost, 2012) and thus the successful implementation of inclusive education relies on addressing teacher concerns effectively (Bhatnagar & Das, 2014; David & Kuyini, 2012). Bhatnagar & Das (2014) suggest that there is a need for more research on teacher concerns about inclusive education practice in India and in particular, they point to the need for qualitative studies to complement the existing quantitative studies.

Context
This study was funded by St Christopher's Trust and the University of Cumbria. The lead researcher collected data in two mainstream and two special educational needs schools in Bangalore, India in order to investigate how practice, perceptions and provision for special educational needs interplay with cultural contexts and belief systems in these Christian foundation schools in Bangalore.

Convenience sampling (Robson 2002) guided by local knowledge was used to select Christian foundation schools in Bangalore for the sample. The sample included:
- School A, the dominant case study school, is a well-resourced special needs school on the outskirts of Bangalore,
- School B is a sparsely-resourced special needs school located adjacent to school C,
- School C is a mainstream school with a high academic reputation in Bangalore city
- Unit R is a resource centre within School C which provides additional support to SEN children who are withdrawn from classes in School C to receive small group support from R unit teachers.
- School D is a mainstream school with a resource unit, in Bangalore city

The majority of the data were collected from School A with additional interviews and observations undertaken by the lead researcher in the other schools.

The purpose of this case study is to contextualize how SEN provision is understood by a sample of children, their parents and teachers in School A and how these perceptions are informed by cultural contexts and belief systems. The case study also identified perceptions of effective educational provision for special needs children and provided a forum for sharing good practice and identifying teacher development needs in Schools B, C and D and the Unit R.

Case study school
On its website School A is described as a *beacon of hope for children with special needs* and *the newly constructed school building stands as a testimony of God's unfailing love and His unwavering faithfulness*. School A is an accredited institution of the National Institute of Open Schooling, under, 'Special Accredited Institutions for the Education of the Disadvantaged' by the Government of India.

School A's Principal is a dynamic and inspirational woman and a formidable force within the school. Brought up as a Hindu but converted to Christianity, the school is her life and she strives relentlessly to encourage both staff and children to maintain high standards in everything they do - from cleanliness and modest dress code, to marketing the products the youngsters make in the upper school as well as utilizing speech therapists, psychologists and teachers to support the children to achieve the best they can.   The Principal has travelled widely to raise financial support for her school building improvement program and classroom resources. She brings back ideas from different countries to enhance provision and is not afraid to challenge traditional Indian mindsets about issues.

Methods/methodology
The study adopts a constructivist stance and utilizes an interpretive approach that builds upon the recognition that *reality and knowledge reside in the minds of the individuals and knowledge may be uncovered by unpacking individual experiences* (Savin-Baden & Major, 2013, p.56). Perceptions of disability were explored through an ethnographic lens, as understood by the sample of individuals from the school. The project gained ethical approval

from the University of Cumbria and adhered to British Education Research Association (BERA) guidelines. The multi-disciplinary research team designed a range of fit for purpose data collection tools utilising sociological and anthropological field methods - focus groups, interviews, questionnaires, participant observations, collection of documentary and photographic evidence and narrative reports. Data were analyzed using a grounded theory constant comparison method to identify emerging themes from the data (Auerbach & Silverstein 2003, Robson 2002).

This study uses a variety of interpretative qualitative methods within a phenomenological perspective. Phenomenology is useful for this study because of its suitability to explore social phenomena through the perspectives and lived experiences of those involved in the situation (Merriman, 2014; Groenewald, 2004; Gubrium & Holstein, 2000). This approach uses the experiences, beliefs, feelings and convictions of participants in order to unfold and reveal meanings arising from particular situations (Merriman, 2014; Kvale and Brinkmann, 2009). A case study approach was used in terms of context and data collection with the bounded setting of the 'case' (Robson, 2002) being a Special Needs school in Bangalore. Following Yin (2013), a case study methodology was adopted to investigate affinities between Christian ethos, spirituality and concepts of disability within the real life context as experienced in the special needs school in Bangalore. Savin-Baden & Major (2013, p. 163) suggest that a case study approach is suitable for such a study because it:

- is flexible - the research goals are both descriptive and evaluative,
- draws on a range of research approaches and data collection tools
- presents diverse points of view
- has wide appeal – the case study findings can be used to inform a variety of audiences including teachers, parents, teacher educators and occupational therapists, policy makers in the SEN, RE and Occupational Health spheres.

This study uses a range of data collection techniques, including observation of quotidian practices in contrasting schools alongside discussion and semi-structured interviews with administrators, teachers, parents and children in order to create thick descriptions of the perceptions and actions of participants (Merriman, 2014; Kvale and Brinkmann, 2009).

The project leader gained the trust of the participants by visiting School A and getting to know the children their teachers and their families in the first two weeks of the research. The sample, negotiated with the Principal, included interviews with four children three parents and five teachers (including the Principal and deputy of the school) from a range of ages, socio- economic status, different faiths and castes (Merriman, 2014; Kvale and Brinkmann, 2009). During a workshop one male and thirty female teachers completed a questionnaire. The research design included the use of the *'least adult role'* technique for accessing rich data from children (Elton-Chalcraft, 2011) and a participatory role attempting to gain trust was adopted.

Through interviews, focus groups, questionnaires and participant observation the children's, teachers' and parents' perspectives were sought about their concepts of disability and the basis for these opinions, how faith (including the school's Christian ethos) and teacher expertise are seen to contribute to the children's quality of life in the present and the potential for the children's future independent living and economic self- sufficiency. Additional data was collected in another fee-paying Bangalore Christian foundation SEN school (school B) and the mainstream fee paying school nearby (school C) which included a resource unit (R unit in school C). The researcher also undertook an interview with the principal of a fee-paying school (school D).

Data were analyzed using a grounded theory constant comparison methodology to allow themes to emerge from the data and to allow transferable interpretations to be presented (Auerbach & Silverstein, 2003). The research team investigated participants' thoughts and feelings regarding special needs provision along with self-perceptions of teacher confidence and competence, teacher development and training needs. Participants' views are mapped onto frameworks found in the literature to identify how inclusive practice is exemplified in different contexts (Bangs & Frost, 2012; David & Kuyini, 2012). In India the lead researcher drew on preliminary findings to facilitate a forum for sharing good practice in terms of strategies, techniques and resources for inclusive practice and to identify teacher development needs. The study thus aligns with the call by Bhatnagar & Das (2014) for qualitative studies to complement the existing range of quantitative studies of SEN provision in India.

Results and discussion:
Integration, segregation and inclusion: aspects of provision for SEN children in mainstream schools in India
The overall finding is that the majority of both child and adult respondents in this study did not think that all children should be educated together in a mainstream school. In general, this appeared to be a response to reservations about the nature of provision made for children with special needs in mainstream schools in India. These involved five concerns outlined below.

Participant Concern 1: Mainstream schools use unsuitable teaching methods.

Teachers, parents and children from School A all made mention of the high academic requirements which they thought were unattainable by SEN children. Parent R commented that *the Indian curriculum focusses a lot on academic learning* and Teenager R reported: *Because (at) that school many subjects are so difficult. I can't carry (study) like Kannada and Hindi and the maths, so I can do it at this school.*

This finding was supported by the data from teachers in Unit R who explained that when teachers from School C found a particular child 'unable to cope' with the pace or level of academic work the child was withdrawn from class and sent to the resource unit. All lessons in all schools were taught in English, the *lingua franca* of India and all children are expected to learn through text books written in English but in Bangalore several community languages are spoken, including Tamil (peoples from Tamil Nadu), Malayalum (peoples from Kerala) and Kannada (peoples from Bangalore's state Karnataka). Sometimes a child is sent to work in the resource unit because their teacher feels they have reading and comprehension difficulties whilst other children are referred by parents worried that their child is not able to read and write in English by grade 4 (about age 8).

Teaching in all the classes in School C was almost exclusively didactic with the teacher at the front addressing students sitting in rows facing the blackboard. The teacher usually wrote on the board or displayed posters of chunks of information which the children copied down. Interactions between children and teachers were usually characterised by questions and answers to clarify or reinforce the partial body of knowledge being transmitted.

Some children are assessed by the Spastics Society of India, and if the child was deemed, either by the Spastic Society's assessment or by the school to be 'uneducable' in the mainstream class (or even in the resource until) then they went to a special school. Teachers at Unit R sent such 'uneducable' children to the special needs School B which was located next door to School C.

Participant Concern 2: Children were unlikely to receive adequate, individualised attention because their needs would not be recognised or understood

Most participants felt that mainstream schools were unable to meet the needs of SEN children. Parent M said: *I don't think they get enough help in a normal school. If they go to a normal school there has to be an extra teacher for them* and Teenager R claimed that teachers in the mainstream school ignored her and didn't help her with her work. Parent R voiced her frustration with a mainstream teacher who did not meet her daughter's needs:

> *I was called into school with complaints that this child was just being pure lazy because she could answer everything when it was done orally, but she couldn't put down anything down onto her piece of paper and the teachers refused to accept that there was something that could be wrong with her. So she went into a severe depression and she was below standard. She's just started moving within, and that is what I actually decided, I decided that enough was enough and I pulled her out of the school.*

However, accessing a special school was not always easy and Parent R went on to report on the difficulties they had faced in getting appropriate education for their daughter:

> *So my daughter she wouldn't get admission into the special school because they felt she didn't need a special school because she comes somewhere in-between. So she is a slow learner, having a specific learning disability so she wouldn't come into, they felt, the school.*

Participants in this study regarded it as being too difficult for SEN children to access the curriculum and to benefit from the teaching methods employed in mainstream schools. These participant concerns echo those of Ahan (2013) and Bhatnagar and Das (2013) that many teachers in India do not believe that it is possible mainstream schools to cater for special needs children.

Concern 3: The curriculum would not be appropriate for SEN children in a mainstream school.

The majority of the students in special needs schools A and B engaged in a different curriculum to that followed by children in mainstream schools C and D and teachers in all four schools acknowledged that the curriculum in mainstream schools was geared towards the Indian Certificate of Secondary Education (ICSE) external exams. For example, students in School C took exams every two months and for those unable to meet the demands of these exams a lower standard National Institute of Open Schooling (NIOS) exam was available. Although some of the students attending the special school were entered for the NIOS exam many teachers in all four contexts acknowledged that the Indian system was not set up for SEN children to succeed. In the mainstream schools C and D children were sent to the Resource Unit or to a special school if they struggled with the academic curriculum.

Parent R reported on the constraints posed by a focus on exam success in mainstream schools:

> *there was a Principal there who knew something about ... children who could learn in a different way but her hands were not opening up to take a decision to do something for these kids, so although she would empathise with me she said the syllabus does not allow me to do anything for these children. So she also washed her hands ... At that point we thought that academics was difficult for her so instead of just moving on with academics we thought it's time that she does something else.*

Often participants saw the child as not suited to the curriculum rather than considering the adaptations need to ensure the curriculum is suitable for students and such a 'deficit model' of SEN was prevalent in all the four schools in the research.

Participant Concern 4: Children with special needs were often mistreated in mainstream schools.

Parents, children and teachers cited instances which confirmed their belief that SEN children could not be educated in mainstream schools because the absence of social-inclusion aspects such as acceptance, tolerance and understanding would culminate in such children being mistreated at school by teachers and other students. Parent M reported that her child *saw teachers hitting children and didn't' like it* whilst Teenager J reported that other students hit her in the mainstream school because *they didn't like me* and Parent P stated that *normal children - they don't gel with these children (those with SEN) so we didn't want her to miss out* and consequently they sent her to a special school.

These results support the finding that negative attitudes to disability are prevalent in many parts of India (David & Kuyini, 2012) and that the inclusion of children with intellectual disabilities and multiple disabilities in regular schools in India is extremely poor (Ahan, 2013).

Participant Concern 5: Integration is only possible for 'mild disability children'.

Although the majority of the questionnaire respondents supported separate schools for children with special needs, some respondents considered that children with special needs could be educated in a mainstream school, but it was commonly expressed in terms of a need to *be more social and interact with more people* and such opportunity was considered to be suitable only for those with *a mild disability* (questionnaire respondents).

These results correlate with those of previous studies that have pointed to reservations about the feasibility of integration of SEN students into mainstream schools in India (Ahan, 2013; David & Kuyini, 2012).

Other findings: ensuring appropriate education for students with special needs.

In addition to concerns expressed about the inclusion of students with special needs in mainstream school that have been identified, other themes emerged from the data to support developments in educational practice. These themes included meeting the needs of students with special needs; the role of education for SEN children; and the development needs of teachers.

Meeting the perceived personal and educational needs of the SEN students.

Meeting a child's educational need through adjustment of the curriculum and through adaptation of teaching was reported by many respondents as a key feature of the provision at School A. There was recognition of the individual needs of children and attempts to understand those needs and to meet them through *individualized teaching according to their level and needs* with *Individual lesson plans targeting the needs specific to each child*. However, as well as adjusting teaching to meet the needs of the children, there were also attempts to provide alternative curricula to meet the needs of children, for example by extending focus beyond the 'academic' curriculum into *imparting life skills and values required for life* (for instance by providing vocational training and developing self-confidence) with the aim to *make the child to be independent and responsible citizen*. This focus beyond the 'academic' contrasts with the strong focus reported in mainstream schools in India (Bhatnagar & Das, 2014).

Having spent time in school A over several weeks it was evident in the way teachers and children conversed with each other that School A seemed to provide a 'safe haven'. Several teachers and parents from School A cited instances where SEN children had been rejected by the mainstream education sector, both educationally by teachers providing inappropriate curriculum or were rejected personally by the bullying behaviour of many of their peers who viewed SEN children negatively. Sometimes these SEN children had also suffered rejection by society and in a few cases rejected by their own families too. Similar stories were also echoed in discussions with teachers in Unit R and the Principal of School B, all of these teachers voiced concerns about SEN children whose personal and educational needs had not been met in mainstream schools.

Meeting a child's personal needs at School A was reflected in recognising a child as a unique individual. A recurring response from respondents was that this entailed acceptance, care, compassion and empathy and that these qualities of attention were distinct features of School A that were less available or missing in mainstream schools. The focus

on individualised needs, expressed as *opportunity to grow to full potential of the person in spite (sic) of the disability* appears to be at variance with a deficit model of special needs that is reported as a characteristic of mainstream provision in India (for example, Sharma, et al., 2009). This finding is borne out by interviews with resource centre Unit R teachers at C school and the Principal of B special needs school.

Meeting personal needs and meeting educational needs clearly overlapped for many of the respondents and was reflected in a recurring theme of attention for an individual child that was held to be different from practice in mainstream schools. An underlying characteristic of the provision at School A was to provide individual attention within a safe, secure and happy setting *where each child is recognised as a unique individual*. The focus on a school environment that recognises and responds to individual needs of children appears to be a distinct feature of School A compared to many mainstream school contexts in India (Bhatnagar & Das, 2014 and 2013; Das, et al, 2013b).

The role of education for SEN children - aspirations
The hopes and aspirations of the respondents for children with special needs centred on the children developing independence; fitting in with society; and developing interpersonal skills. These aspirations centre on the role of school education being a direct preparation for a 'productive' life as a 'contributing citizen' in a competitive world (questionnaire respondents). Parent R reported that their challenge is to find a suitable role for their child as they approach adult life; this parent firstly engaged her daughter in singing activities, next she thought a coffee shop waitress would be a suitable occupation, finally she settled on data input and helped to train her daughter, and her peers at school A, to enter data onto computers: *We need to train them properly to be thorough. They [the commissioning businesses] don't mind that the children are slow but they should be perfect. The work should be perfect for accuracy*.

This focus on meeting the needs of an individual to meet the wider needs of society was reflected in the perception that the study school A provided an educational experience for children with special educational needs that was different from that provided in a mainstream school. This different experience was expressed in terms of meeting a child's personal needs and providing for specific, individual educational needs. Although there is considerable overlap in these two elements, analysis of the data suggested that these reflected two dimensions of meeting a child's needs.

Staff development needs for teachers working with SEN children
A large majority of respondents thought that teachers needed specific training to work with special needs children but a recurring theme was that those needs centred on how to deal with behavioural challenges felt to be posed by students with special needs rather than on personal enhancement as a teacher through developing appropriate pedagogical strategies or developing an understanding of particular special needs and how to deal with these.

This appears to relate to most teachers feeling that they had only been trained to use didactic methods of instruction that left some children feeling disengaged combined with a realisation that some special needs pose challenges to accepted norms of social interaction (David & Kuyini, 2012). It was typical for teachers from the two special needs schools and Unit R to have been trained as classroom teachers not SEN specialists and specialist training appeared to have been confined to a few teachers such as the co-ordinators of the resource units in Schools C and D.

Das, et al. (2012) suggest that seven core competencies need to be met in order to deal effectively with SEN: professional knowledge; classroom management; collaboration; assessment and evaluation; instructional techniques; individualized and adaptive instruction; and assistive technology but, interestingly, none of the respondents suggested that training would be useful for them to develop these competencies or to design more appropriate curricula for children with special needs. Indeed, a small number of respondents did not recognise a need for specific training in order to teach children with special needs: for these respondents, *any teacher with a love for children can work in this field* (questionnaire respondent) and the most important elements were personal attributes of the teacher such as passion, patience and calmness.

Conclusion
Although India has made good progress with inclusion in recent years much still needs to be done (Das, et al., 2013b; Ahan, 2013; Das, et al., 2012) and this study lends support to previous studies that many Indian teachers claim they lack knowledge and skill to teach SEN, yet evidence suggests that the quality of classroom teachers is the most important factor in the effectiveness of inclusive education strategies (Das, et al., 2012, Mitchell, 2014; Kosko & Wilkins, 2009). Many of the teachers in this study express the willingness to meet the social and educational needs of students although lack of confidence remains and serious concerns and reservations about the advisability or practicalities of inclusion persist. Additionally, there is a need for social inclusion initiatives to address wider

concerns (David & Kuyini, 2012; Ahan, 2013; Bhatnagar & Das, 2014) and to develop cooperative learning approaches within the classroom (Das, et al., 2012).

However the widespread concerns of teachers regarding their lack of training for teaching SEN suggests the urgent need for mainstream classroom teachers to upgrade their knowledge and skills (Das, et al., 2012; Das, et al., 2013b). The type of integrative, flexible and child-centred approach that works well with SEN children (Kochlar & West, 1996) contrast with the widespread use of traditional, didactic, teacher-centred approaches typical in Indian schools (Bhatnagar & Das, 2014; Das, et al., 2012). In particular, mainstream teachers need to develop knowledge about strategies to meet the needs of pupils with SEN and need to develop understanding of the learning styles of such students (Friend & Bursuck, 2013).

This study lends support to the suggestion that there is a very high level of training need amongst regular school teachers in India for developing inclusive practice (Das, et al., 2012). Of particular concern is the negative attitudes of some teachers towards inclusion as it has been shown that positive teacher attitudes towards inclusion is a decisive factor in establishing inclusive practice (Hegarty & Alur, 2002; Sharma, et al., 2009; David & Kuyini, 2012). In part, this is reflected by the high levels of teacher anxiety displayed by teachers in our study, with their doubts about advisability of inclusion, including concerns about the effect of inclusion on other children's academic results (with concomitant impacts on rewards for teachers) and perceptions of own competencies amongst teachers (Sharma, et al., 2009, David & Kuyini, 2012). Unfortunately, there is a lack of initial training for teachers combined with an absence of in-service professional development for teachers as this is not a normal part of school activity for many teachers (Bhatnagar & Das, 2014). Although the call for greater professional development derives from the needs of teachers in this and previous studies (Das, et al., 2013a; Bhatnagar & Das, 2014) the benefits extend beyond this by changing the attitudes as well as the behaviours of teachers (Kosko & Wilkins, 2009).

The development of key competencies among regular teachers in Indian schools is thus a priority for improving the provision of education for children with disabilities in India. This calls for long-term and systematic staff development as part of a process of on-going professional development (David & Kuyini, 2012; Das, et al., 2012). The characteristics of successful in-service programmes are characterised a number of factors including: activities to meet the needs of individual teachers; recognition of the diverse strengths and needs of teachers; and involvement of teaches in the planning and delivery of the programme with a key aspect being consideration of the specific contextual factors within which teachers operate in a particular country (Avalos, 2011). This study supports the call of Das, et al., (2013a) that the design and delivery of professional development programmes for teachers in India needs to involve teachers in considering a 'bottom-up' strategy that draws on the experience and expertise of classroom teachers at all stages of the process.

 Clearly, ongoing professional development of teachers is needed to facilitate teachers to develop pedagogical knowledge and to incorporate specific practices into their regular teaching (Avalos, 2011; Kosko & Wilkins, 2009; Das, et al., 2012) but this forms only part of a wider strategy that is needed, including increased resources to provide support for teachers, infrastructure development, changes in admissions and funding systems (Bhatnagar & Das, 2014).

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BEGINNING SPECIAL EDUCATION TEACHERS IN ISRAEL: PERCEIVED SELF-EFFICACY

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The purpose of this study was to examine perceived self-efficacy among beginning special education teachers in Israel related to their educational roles and responsibilities. Ninety-three first-year teachers participated in the study. The research was carried out using the mixed method approach, combining qualitative and quantitative research instruments. The research instrument used was the "Perceptions of Special Education Teachers of their Roles" questionnaire, based on the CEC Initial Level Special Educator Preparation Standards for 2013. The results indicated a high percentage of respondents reporting stronger perceived self-efficacy regarding their ability to deal with crises involving students, understanding and respecting human diversity, and understanding the law and professional ethics and applying them. In contrast, a low percentage of respondents reported stronger perceived self-efficacy regarding their ability to cooperate with faculty members and parents in general, as well as to plan and carry out complex teaching processes in a variety of situations requiring the teacher possess a wide range of innovative knowledge.

The conceptual and practical changes that have taken place during the past four decades relating to students with special needs have in turn changed the role of special education teachers until it is almost unrecognizable (Carpenter & Dyal, 2007; Purcell, Horn, & Palmer, 2007). Special education teachers today work in broad and open frameworks and in complex organizational systems that require they possess wide-ranging knowledge of the discipline; have strategies to deal with many fields of responsibility; and possess expertise, leadership qualities, and the ability to lead the educational staff (Jorgensen, Shuh, & Nisbet, 2006). Special education teachers must supply an ever-increasing number of educational services to an assortment of students with and without special needs (Hoover & Patton, 2008), guide general teachers in developing teaching activities adapted to these students, and take part in regular daily teaching tasks (Eisenman, Pleet, Wandry, & McGinley, 2011). Effective handling of these multitude of duties requires teachers have a strong sense of efficacy (Kiran, Yousuf, Siddique, & Ehsan, 2014).

Wigle & Wilcox (2003) examined perceived self-efficacy in fulfilling educational roles among special education teachers with diverse experiences. The study covered five US states that follow the standards defined in 1997 by the CEC as criteria for measuring perceived self-efficacy. The teachers reported strongest self-efficacy regarding their ability to carry out traditional roles – such as understanding and interpreting information about special needs students – which decreased gradually as they were required to handle newer roles, like developing relations with out-of-school agencies. The study presented in this article also deals with perceived self-efficacy among special education teachers regarding performance of their duties as required by the CEC standards, but refers to its criteria developed in 2012 and focuses on Israeli first-year teachers. The objective of this study was to examine beginning special education teachers' perceived self-efficacy regarding role performance.

First, we will present the literature dealing with the changes that have occurred in the role of special education teachers and perceived self-efficacy among the teachers; then we will present our research findings, which examine perceived self-efficacy among special education teachers vis-à-vis performance of their roles.

Literature Review
During the last 40 years, special education has undergone radical change. Until the 1970s, the categorical approach ruled, which placed the learning and behavioral needs of special needs students on a continuum of severity, and saw special education teaching a means to reach developmental milestones according to accepted norms. During the 1980s, with the introduction of inclusion of students with special needs in general education, this was replaced by a non-categorical approach that questioned the relevance of categorization to planning and carrying out effective teaching and produced direct, explicit, and systematic teaching focused on the functional progress of the individual. During the 1990s, understanding that the main mission of special education is to prepare students with special needs for full membership in the community by guaranteeing access to the entire range of educational and social opportunities offered by the school, the role of special education teachers again underwent change (Ainscow, 2007; Winzer,2007). They began working in a large variety of teaching situations, moving from self-contained academic classes to general classes in regular schools. In these situations, their tasks were broadened and measures of success not present in the past were added, making them more complex and demanding. Special education teachers are today required to attain more ambitious goals responding to every-increasing cultural differences, languages, learning styles, disabilities, and capabilities; to possess a richer repertoire of strategies; and to teach a wide variety of information content to various age groups. They must cooperate with a diverse group of professionals (Eisenman et al., 2011; Scruggs, Mastropieri, & McDuffie, 2007; Thousand, Nevin, & Villa, 2007), provide advisory services to general teachers (Robinson & Carrington, 2002), and develop the assistance they need (Idol, 2006). Today they must work in full cooperation with the families of students with special needs and understand and respect their senior position in the process (Dunlap, Newton, Fox, Benito, & Vaughn, 2001).

In reality, special education teachers today are expected to perform many functions that are not purely teaching (Wasburn-Moses, Leah, 2005), including providing leadership in the school in implementing inclusion (York-Barr, Sommerness, Duke, & Ghere, 2005). As leaders, they must have a command of numerous organizational approaches (Bowman, 2004; Katzenmeyer & Moller, 2009) and incorporate an innovative educational approach in the school concerning social justice, human rights, and labeling (Shepherd & Hasazi, 2007; Dunlap, et al., 2001)

These requirements and responsibilities are based on standards updated in 2013 by the Council of Exceptional Children (CEC). One section of the standards is devoted exclusively to beginning teachers: CEC Initial Level Special Educator Preparation Standards (NCATE approved November 2012). Another is devoted to experienced teachers: CEC Special Education Specialist Advanced Preparation Standards (NCATE approved November 2012). Both standards demand teachers rise to difficult challenges. Hartmann (2012) suggested that effective responses by special education teachers to such challenges in their work is tied to high self-efficacy, which has been described as individuals' belief in their ability to carry out a particular behavior well, leading to the desired result. This belief influences human behavior in the sense that it determines how individuals organize the actions necessary to control unexpected situations and how they invest the necessary effort in their tasks, and the extent of their ability to persevere in their undertakings (Bandura, 1977). Teachers' self-efficacy is described as their subjective perception of their ability to carry out tasks related to teaching and educating students, as well as those associated with the organization in general. It is also related to having good personal relationships, integrating into the organization, and successfully coping with threatening situations – both concerning the school administration and colleagues, and the classroom (Friedman & Kas, 2002).

Wigle & Wilcox (2003) examined perceived self-efficacy among special education teachers with one to three years' experience regarding their ability to perform their roles. Their research was carried out in five US states that use the standards set by the CEC in 1997 as measures of self-efficacy. The teachers reported strongest levels of self-efficacy in performing traditional roles – such as understanding and interpreting information about special needs students – which weakened gradually as the roles required they cope more with challenges presented by the newer components, such as developing relations with out-of-school agencies. The study reported here adopted this research line for examining perceived self-efficacy among special education teachers in Israel during their first year of teaching.

In Israel, special education teachers, like teachers in other specialties, receive their training in universities and teacher training colleges. Most teachers in Israel have attended teacher training colleges, which specialize only in training teachers. These are academic institutions that grant B.Ed. degrees; some also grant M.Ed. degrees. Undergraduate curriculums include education and teaching courses, appropriate specialization courses, and internship programs, as well as support and enrichment courses. The courses are taught in combination during four years of training, at the end of which graduates receive degrees in special education teaching and special education

teaching certificates. Students can begin working as active teachers beginning the last year of undergraduate studies, but are required to participate in an induction program during this period. Successful completion of the program is a precondition for receiving a teaching license in special education. The work of the interns – also known as beginning teachers – participating in the induction program includes continuous and active teaching, managing a classroom, and fulfilling educational functions (Israeli Ministry of Education, 2015). It is appropriate to ask here to what extent beginning special education teachers in Israel who have just completed their training feel capable of coping with the variety of roles they are expected to perform. The answer to this question may, in our opinion, indicate the extent to which they have been adequately prepared to cope with the complexity of their job, especially its innovative aspects, and, further, shed light on the places requiring improvement and correction. This is the basis of the present research. The purpose of this study was to examine beginning Israeli special education teachers' perceived self-efficacy to perform their roles.

Research Questions:
1. What are the perceived self-efficacy levels of beginning special education teachers regarding their ability to perform their roles?
2. What characterizes perceived self-efficacy of beginning special education teachers regarding their ability to perform their roles?

Method
The research was carried out using the mixed-method approach that combines qualitative and quantitative instruments. This approach helped us reach results focusing on the level of self-efficacy among teachers regarding the various roles they are expected to perform, as well as understand how perceived self-efficacy is manifested and its implications for teachers.

Research Participants
Ninety-three beginning teachers participated in the study. They were all in their internship year in one large teacher training college located in the center of the country. Because similar teacher training models are used in all such colleges in Israel, one college should be representative of them all. The participants attended one of two induction programs, that is, the data were collected over two years.

All of the participants were trained to be special education teachers. Of them, 71 (76%) were in their fourth year of college and 22 (24%) had finished their studies. The age of the participants ranged from 22.2 to 35.4; the mean age was 25.8. Of the participants, 88 (95%) were women and 5 (5%) were men; 11 (11.8%) were kindergarten teachers and 82 (88.2%) were school teachers. Of the school teachers, 58 (71%) taught in elementary schools. Of them, 31 (33.3%) were facilitator support teachers in general classrooms and 27 (29%) taught in self-contained special education classrooms. Twenty-four teachers (25.8%) taught in middle and high schools, all in self-contained classrooms. All of the participants worked with students with intellectual and developmental disabilities, multiple and severe disabilities, autism spectrum disorder, emotional or behavioral disorders, attention deficit hyperactivity disorder, cerebral palsy, or learning disabilities.

Research Instruments
The research instrument we developed was entitled "The Perceptions of Special Education Teachers of their Roles" questionnaire. It comprised two sections: one quantitative and one qualitative. The quantitative section, as noted above, continued the research line began by Wigle and Wilcox (2003), which uses the standards set out by the CEC as measures for examining the self-efficacy of teachers. Even though Israel does not formally accept the American standards, the Israeli teacher training system seeks to rely on their general spirit and approach. We therefore used them for this study. The quantitative section of the questionnaire comprised two segments: the first included directions for completing the questionnaire and a request for background information. The second was a list of 35 statements describing the professional skills required, according to the CEC, from initial level special education teachers (2013). The standards appear as a series of complex statements, with detailed supporting explanations following each one. To create the questionnaire, we converted the standards into clearer and more focused statements, making use of the supporting explanations. After polishing the statements, we translated them into Hebrew. During the last stage we slightly changed the items so that they would be appropriate to the work culture prevalent in Israel. For example, we did not use the word "standards" because they are not, as previously mentioned, formally accepted in Israel. For each statement (skill), the participants were asked to indicate to what extent they felt competent on a six-point Likert scale: 1 (*incompetent*), 2 (s*lightly competent*), 3 (*moderately competent*), 4 (*very competent*), 5 (*exceedingly competent*), 6 (*absolutely competent*). The more competent they felt, the higher their self-efficacy score.

In the qualitative section of the questionnaire, the participants were asked to describe an incident in school during which they felt highly competent as a teacher. We asked this question in order to learn what types of incidents the teachers perceive as significantly representative of their professional competence and to understand its characteristics and significance to perceived self-efficacy.

Analysis of the Quantitative Data
Analysis of the quantitative data was carried out similarly to in Wigle and Wilcox's (2003) study. For each statement, we counted the number of respondents who reported high self-efficacy, 5 (*exceedingly competent*) and 6 (*absolutely competent*) on the scale, and calculated the percentage. We then arranged the items in decreasing order – from the statement (skill) for which the highest percentage of respondents indicated 5 or 6 on the scale to the statement for which the lowest percentage of respondents indicated 5 or 6. After completing these steps, we sorted the statements into six content groups according to what we considered was common to each group regarding teacher training in Israel.

Analysis of the Qualitative Data
The participants' responses to this section of the research were analyzed using the grounded theory approach (Strauss & Corbin, 1990), which searches in natural surroundings for new conceptualizations about the nature of processes. We chose this approach because it is an interpretive, constructivistic method that allows research participants to present their unique self-perspective while combining it with that of the researcher (Hutchinson, 1988). The analysis process included five stages. During the first stage, we created the initial categories and named them: each researcher holistically read each story separately in order to obtain a broad and comprehensive orientation. Then a more exacting reading was carried out. The unit of analysis was a "statement" in the story. The initial categories developed by each researcher were compared to those of the others. When differences of opinion occurred regarding two categories, an external arbitrator was called in to make the final decision. At the end of the first stage, there were five main categories. During the second stage of analysis, we defined each category in more detail so that it would more precisely describe the unique content falling under it. In addition, we moved statements from one category to another if we felt they would fit better. During this stage as well an external arbitrator was called in to settle differences of opinion. The categories we arrived at this stage were as follows: incident outset – facing a crisis situation involving a student; teacher intervention – independently, totally, and intuitively; intervention outcome – complete turnabout of the initial situation; incident ramifications – dramatic changes in the teacher's sense of efficacy; incident conclusion –teacher independently surmounts the crisis situation with the student as a means of developing sense of self-efficacy. During the third stage, we strengthened the internal validity of the results by condensing the amount of data from the interviews in each category, and ensuring that the constructions actually exist in the reality under study. During the fourth stage, we identified the core category – "The teacher's independent surmounting of a crisis situation with a student as a means of developing sense of self-efficacy." This category explains the rest of the categories, consolidates them, and thus confirms the grounded theory as follows: While carrying out their duties, teachers confront crisis situations usually involving the behavior of a student. In response, the teachers intervene independently and the intervention helps them surmount the incident and change the reality from top to bottom. The incident makes an enormous contribution to the self-efficacy of the teachers.

Research Process
During February of their first year as beginning teachers, the participants completed a questionnaire while attending a compulsory induction program in a teacher training institute. At this point in time the participants had six months of experience teaching and were still under the influence of their teacher training, the platform for their work. Simultaneously, they were sufficiently "distanced" from any initial difficulties they had experienced in adapting to their work that could naturally have contributed to a temporary decrease in their perceived self-efficacy.

Results
Results of the quantitative research
Results of the quantitative research can be found in Table 1.

Table 1. Percentage of respondents who indicated high levels of self-efficacy – "exceedingly competent" or "absolutely competent" – regarding each of the roles of the special education teacher according to the CEC (divided according to content groups)

	Percentage of respondents
First content group	
I am able to respect individuals with exceptionalities within the context of human development and individual learning differences.	55.9
I am capable of understanding how an individual's language, family, culture, and other significant contextual factors interact with an individual's exceptionality.	47.3
I am able to analyze how the beliefs, traditions, and values across and within cultures can influence relationships between students, their families, and the school community.	44.1
I am capable of understanding how the experiences of individuals with exceptionalities influence families, as well as the individual's ability to learn, interact socially, and live as fulfilled contributing members of the community.	43.0
I can accept diversity as a part of families, cultures, and schools, and can understand the interaction between complex human issues and the delivery of special education services.	42.8
Second content group	
I am proficient in behavior management, including the skills and knowledge to intervene safely and effectively before individuals with exceptionalities lose rational control over their behavior.	41.9
I am capable of intervening when individuals with exceptionalities encounter crises.	41.9
I am capable of teaching individuals with exceptionalities to adapt to the expectations and demands of differing environments	41.7
Third content group	
I can use professional ethics and apply them to guide my practice.	39.9
I can understand the legal policies and ethical principles of measurement and assessment related to special education program planning, individualized instruction, learning, and placement for individuals with exceptionalities, including individuals from culturally and linguistically diverse backgrounds.	39.8
Fourth content group	
I am able to collaborate with general education colleagues to include individuals with exceptionalities in general education environments, and engage them in meaningful learning activities and social interactions.	37.6
I can use the theory and elements of effective collaboration.	37.6
I am capable of providing guidance and direction to para-educators, tutors, and volunteers.	36.6
I am capable of co-teaching the content of the general curriculum to individuals with exceptionalities across a wide range of performance levels.	36.6
Fifth content group	
I am able to alter instructional variables to optimize learning for individuals with exceptionalities.	35.7
I know how to design appropriate learning and performance accommodations and modifications for individuals with exceptionalities in academic subject-matter content of the general curriculum.	34.4
I can understand the central concepts, structures of the discipline, and tools of inquiry of the academic subject-matter content areas I teach.	33.3
I can factor an individual's abilities, interests, learning environments, and cultural and linguistic background into the selection, development, and adaptation of learning experiences for individuals with exceptionalities.	32.5
I am able to modify the learning environment to accommodate for individual needs.	32.3
I am proficient in the use of technologies to support instructional assessment, planning, and delivery for individuals with exceptionalities.	32.3
I can use a variety of specialized curricula, e.g., academic, strategic, social, emotional, and independence curricula, to individualize meaningful and challenging learning for individuals with exceptionalities.	31.2
I am able to conduct formal and informal assessments of behavior, learning, achievement, and environments to individualize the learning experiences that support the growth and development	31.2

of individuals with exceptionalities.	
I am capable of regularly monitoring the learning progress of individuals with exceptionalities in both general and specialized content and making instructional adjustments based on these data.	31.2
I can apply strategies to enhance language development and communication skills of individuals with exceptionalities.	31.2
I can match my communication methods to an individual's language proficiency and cultural and linguistic differences.	30.1
I am capable of teaching cross-disciplinary knowledge and skills, such as critical thinking and problem solving to individuals with exceptionalities	29.0
I am familiar with augmentative and alternative communication systems and a variety of assistive technologies to support the communication and learning of individuals with exceptionalities.	29.0
I can employ technologies appropriately and efficiently to support and manage assessment of individuals with exceptionalities.	25.8
Sixth content group	
I understand how foundational knowledge and current issues influence professional practice.	23.7
I understand the significance of lifelong learning and can participate in professional activities and learning communities.	22.6
I can integrate the results of assessments to develop long-range individualized instructional plans, including family-service plans, transition plans, behavior-change plans.	20.4
I am capable of advancing the profession by engaging in activities such as advocacy and mentoring.	20.2
I am proficient in developing and implementing a variety of education and transition plans for individuals with exceptionalities across a wide range of settings and different learning experiences in collaboration with individuals, families, and teams.	19.4
I can serve as a collaborative resource to colleagues.	13.2
I have the ability to involve individuals with exceptionalities and their families collaboratively in all aspects of education.	12.1

Table 1 presents the percentage of respondents who indicated high self-efficacy levels for each of the skills required from special education teachers according to CEC. The skills are divided into six content groups. The first group comprises five skills with the highest percentage of respondents indicating high self-efficacy. They have in common "understanding, acceptance, and respect for the idea of human diversity regarding family, social, and cultural contexts and its effect on human life." In this content group, the teacher must understand the concepts that underlie special education, such as respect for human diversity and for people with disabilities; understand the various areas in which human diversity exists and their particular contexts regarding individuals and their environments; act to make the student with special needs a learner and a full member of the community; etc. The skills with the highest percentage of respondents indicating high self-efficacy levels in this group and in the entire questionnaire deal with respecting people with diverse disabilities – the foundation of special education.

The content group with the second highest percentage of respondents indicating high levels of self-efficacy comprises three skills that had in common "crisis management related to student behavior." Similar to the first group, this relates to the core of working in special education, but in contrast, here the teachers are required to have specials skills for intervention in acute crisis situations. The last item in this group does not necessarily deal with crisis situations, but even so contains an element of behavior management. In fact, the three skills that make up this group are the only ones in the entire list that deal with managing student behavior.

The third content group comprises only two skills that have in common "understanding the law and policies in special education and implementing a code of ethics at work." These skills are related to the public-moral dimensions of special education, which deal with abstract spaces that are not of the "here and now."

The fourth content group comprises four skills that have in common "collaboration of special education teachers with their colleagues." Two of the skills deal with collaboration with general teachers for the purpose of inclusion of students with special needs in general education; the two others are not specific. Collaboration includes co-teaching and instructing non-specialist personnel.

The fifth content group comprises 14 skills that have in common "planning, implementation, and assessment of the teaching of students with special needs based on the teacher's innovative and wide-ranging knowledge." The items here include possessing both deep-seated and wide-ranging disciplinary and inter-disciplinary knowledge and curriculum planning based on the traits of each individual and their environment, combining advanced technologies with alternative communication methods, curriculum implementation, and monitoring and assessing the curriculum. The skills in this group are apparently the classic skills of special education teachers, although they have innovative components, like being familiar with communication systems, using technologies to support learning and manage it, familiarity with the general education system, etc.

The sixth and last content group had the lowest percentage of respondents with high self-efficacy levels. It comprises seven skills. Two topics – complex and innovative in the work of the teacher – have the following skills in common: The first involves "developing curriculums with a comprehensive view that takes into account the students' environment and circles of life," which requires the integration of many factors – human, environmental, organizational, and technological. The second involves "belonging to a professional community and advancing it." This requires teachers possess a coherent, comprehensive professional identity relating to their practice as professional educators, see themselves belonging to a professional community, serve as a resource for knowledge, develop within the professional community, and advance it. The two topics appear in the same content group, apparently because the ability to plan complex educational processes demands a mature professional vision. Furthermore, both require a broad perception of place: in planning, teachers must take into account not only the student or students, but also their families, the faculty, and their own professional community. They must refer to aspects of the future of the students by developing transitional curriculums, and to their own future through mature professional long-term observation of teaching and the teaching profession as a whole. The skill that received the lowest percentage of respondents indicating high levels of self-efficacy in this content group and the entire questionnaire requires teachers work with the parents of their students, adopting an egalitarian collaborationist approach.

Results of the Qualitative Research
Analysis of the qualitative descriptions of the incidents – the interns' stories – that reveal teachers' self-efficacy uncovers a four-stage process with a common core: "independent surmounting of a crisis situation with a student as a means of developing self-efficacy."

Outset of the incident – severe difficulties with a student
The outset of the incidents described by 90 participants involved being faced with an acute crisis. For 72 of the participants, the crisis was connected to the behavior of students with special needs: usually aggressive and violent external behavior, but sometimes inward-directed. In some of the cases, the participants described ongoing situations such as, "At the start of the year a girl who didn't speak at all was assigned to my class. Initially I thought this was normal and she suffered from anxiety. But after a third of the year had passed she still was not talking"; "She has extreme moods evidenced by restlessness accompanied by tantrums and defying authority." The following is an additional example of an extreme ongoing situation:

> He would enter the classroom, sit backwards on the chair, and turn his back to me during the lesson. He would usually bang on the chair with his feet during the entire lesson so there would be background noise and he couldn't hear me. Of course, he doesn't speak or make eye contact. That's how he acts during every class and this continues during the whole lesson until the bell rings.

At other times the participants described acute, limited outbursts, sometimes accompanied by violence, as described in the following examples: "In the morning the girl arrived in a bad mood, and later there was an outburst. I understood that something odd was happening"; "About a month and a half ago one of my students reacted to me with blatant physical violence: kicking, throwing chairs, spitting." An acute incident is also presented in the following example:

> After we went up to the classroom – the student, a teaching assistant who's not usually part of our classroom staff, and I – the student sat in his chair and I approached him so I could talk to him. Suddenly, he had a temper tantrum and threw the chair and started to run after me. I started to run away, but immediately stopped. When I stopped the student was able to grasp my arms and bite me hard for the second time.

For 18 of the participants, the worst obstacle lay with the home environment making the situation more difficult:

"The environment doesn't believe in the child and doesn't provide support," and "The parents neglect the child and don't follow the teacher's instructions," and therefore, "With a family like that, the child won't get anywhere." According to one of the kindergarten teachers, "The home does not provide her basic needs and even harms her (the girl)." The participants sometimes tried to understand the origin of such environments, explaining them through the parent's emotional difficulties and distress: Parents who "are not capable of finding time to be full-time parents because of the constant stress of surviving day-to-day life," and as can be seen in the following examples:

> The social worker was involved in the case and warned me that these are protective parents who do not cooperate with the staff regarding the child's condition.
> . . . The problematic behavior of the parents affects the progress of the child and the ways we can treat her in the kindergarten . . . they can't hide information related to treating the child that could cause him harm.

Intervention by the teacher - independent, total, and intuitive
In response to the crises, the teachers intervened. We found three characteristics of the interventions. First, the teachers acted on their own. Except for one description, we found no assistance from other personnel during the intervention, and that the first person singular was used repeatedly in their descriptions – "I decided," "I initiated," I tried," "I empowered," etc. – which strengthened the theme of independent intervention. Second, the interventions were total and perceived as a kind of mission, as follows: "I made the child my baby"; "I decided to take the boy under my wing." Third, the interventions were not described as part of a coherent plan, but were intuitive acts, as follows: "It was in effect a plan of action, but absolutely intuitive"; "At that moment I made the decision"; and as described in the following quote:

> I should mention that they were conclusions I arrived at without consulting with any experts in psychology, but used my experience as a substitute teacher last year and being familiar with the children in various situations. I think consulting is an important tool. But in this case I relied on my own intuition.

The teachers described several types of intervention: gaining the students' trust, empowering them, advocating for them, and educating their parents. Thirty-one teachers described gaining their trust an important part of the intervention. This was, first of all, carried out through physical means associated with tone of voice, body language, and physical contact, as described here: "I held on to his hands because he continued hitting me and I spoke to him in quiet tones, although I was very upset," and in this quote:

> . . . physical proximity: the smile, a pat on the back that said everything would be fine, a hug. And I also made sure my body language matched what I wanted to convey. Because sometimes that's very hard to do. Inside, it was as if I felt I had no chance of success, but outside I showed something different.
> The students' trust was gained by providing them personal attention, encouragement, and acceptance; having private conversations with them; showing interest in their world; and giving them compliments and reassurance, as follows: "During the lessons I try to encourage her and give her personal attention and keep her as close to me as possible. I try in my relationships with the student to be gentle and accepting and not get into confrontations"; "I spoke to her all the time and demanded she answer me." The following is an additional example:
> Over time I tried to get close to him, I tried to gain his trust, I went to visit him at the after-school center, and you could say that I "discovered" him all over again. A polite boy with extreme difficulties in comprehension, and emotional problems that are even worse. I felt I must do something for him.

Twenty-one participants described the intervention as a process of empowering the student, for example: "Gradually, I involved him in all the activities in the class, I strengthened his position in the class," and as follows:

> I strengthened him in the class, I turned all of his mistakes into the biggest successes, but with some kind of personal truth. He wrote an incorrect answer on the board because he has no idea how to find information in a text, so I changed the question and explained that I got mixed up and that he had answered correctly . . .
> Twenty participants intervened in a way that reflected advocacy for the student when contending with other faculty members. Frequently the teacher had to convince them that the child was suitable for the school, as follows: "The principal decided: 'The child does not belong in this school.' Being a highly motivated teacher, I resolved to prove her wrong." It sometimes took a lot of explaining and evidence to change the view of the faculty about the children, as described in the following quote:

> I try to explain to the teachers that the students are capable of joining school activities; they try to prove otherwise and remove them from social activities. My aim was to convince the teachers that my students are not "animals" and there is no need to be afraid of them; it's only that they have a short attention span sometimes.

In other instances, defending the students also included instructing the staff how to get them to learn, how to interest them and avoid disturbances. In addition to the instructions, reasons and explanations were provided, as follows:

> In the meeting I made it clear how to deal with the student by explaining the rationale. I explained, regarding removing the iPad from student's hands, that on second thought, it would be better to ask for it and wait for him to put it on the table. The reason for this is simple: He would interpret it as aggression, which in turn would lead to aggression on his part. I told this to the principal, who supported me 100%.

The interventions of 17 of the participants were manifested by guiding the parents and administering to them in order to advance the child, using concepts taken from psycho-therapy: detection and assessment, developing self-confidence, increasing motivation, setting limits, etc. One of the kindergarten teachers said: "As part of grappling with them during the year, I provided them tools and guidance so they could fulfill their roles." In the words of another kindergarten teacher, "That was . . . a basic level of providing guidance to the parents, and contributing to the student experiencing success at home as well." The guidance was meant to compel the parents to collaborate with the teachers and carry out their instructions and their demands, as follows: "For me, the most important thing is being in contact with the family. The parents don't listen to the professional personnel and do not cooperate. But my contact with them is daily and because of me they don't have any choice and do what I tell them to do." At times, the intervention also included recognizing the parents' difficulties and increasing their motivation to accept their child, sometimes by setting limits regarding child's relationship with the parents, as follows:

> As a result of my familiarity with psychotherapy, it was relatively easy for me to identify and diagnose the needs and difficulties of the parents. My main objective was finding a way to communicate with them by reducing my expectations from them, but setting clear limits to their involvement in areas I presented to them.

Intervention outcomes - complete turnaround of the initial situation
The teachers' interventions produced impressive outcomes that were manifested in changing the face of reality, including improvements both in the students' behavior and that of the parents. The students responded to personal contact with the teacher and began to cooperate with her, as described here: "After six months he overcame his fear and came with me to the petting corner, which shows we built a very close relationship that is very important for both of us"; "The next day he apologized to me. I gave him a hug and told him that I forgive him, that I know that it isn't like him to act that way, and that I understand him." The following is another example:

> I thought that despite the severe handicaps of the students I worked with and that progress comes in baby steps, you could clearly see the relationship that was established, as well as behavioral changes. I am able to connect to them and make them like me. . . . Creating such a relationship is not trivial for most of the students in the school.

Regarding the parents, as a result of the intervention, they began to become involved in the conduct of their children, to depend on the teachers and believe in them, as described here: "The student's parents are simple people and a significant change could be seen in them as well. They began coming to class meetings outside of school hours, writing in the notebook we used to communicate, and in general, to engage"; "In the beginning they were a bit worried, they didn't have confidence in what I said . . . slowly, slowly they began to trust me more and cooperated with me."

Often the intervention outcomes were almost miraculous and were described as a kind of reversal of the situation, as in the following examples: "The child became a success story and a model for the whole class"; "From that point there was a tremendous change in his behavior"; "After the talk we had she entered the classroom and her behavior was completely normal; "And today we are all reaping the fruits, especially the boy."
Sometimes the magnitude of the change astounded everyone, including the teacher, as seen in the following example:

> They were all following what I was saying and were fascinated . . . And my principal was amazed . . . Of course, after that I went to her office; she got up from her chair and hugged me and told me she was really happy to see how important it is to me that the children acquire the content and she feels I am really always on the alert and that I believe everything must fit and be in place . . . and that she very much appreciates how much I care and how much I devote [to the child]. Even though she never asked.

Ramifications of the incident - dramatic changes in the teacher's sense of efficacy

As a consequence of the incidents, the teachers gained a strong sense of professional efficacy. This was linked mainly to a sense of power and control. The word "power" appears in the teachers' stories 13 times. Sense of power and control was mainly apparent in their perceived capacity to shape the students' character; to influence their lives, either directly or indirectly – by shaping their environments – and to change them; as in the following examples: "The special education teacher can advance the students and change their lives"; "I am like a guide dog for the blind." Sometimes the teacher would be described as the source of life for the student, as in the following example:

> A good teacher is like rain in the desert. We are in need of good teachers. The role of the teacher is very important and far-reaching and can change the life of a student forever. A teacher can be a positive example for the student and the latter can progress and succeed because of her. . . . The students are like the desert and the teachers are like rain.

Sense of power is also reflected in the ability of teachers to believe in their students, to be stubborn and not to give up on them when others have done so, as in the following quote:

> This experience taught me what the power of the teacher is – the teacher sometimes finds herself in a situation in which it is easy to give up, all the more so when the child's parents give up; but I learned to be stubborn.

Power also lies in the teachers' self-control under difficult circumstances and the ability to feel affection and empathy for the students in situations that ostensively call for an angry response. The following quote is a good illustration of this:

> I learned to find my inner strength and see the child without relating to my anger at him. It is very easy in such situations to breakdown and be angry at the child when he disturbs the class and yells, and to even let him get away with it. However, the teacher must know that the best interests of the child come first and to eliminate those feelings when they arise.

The capacity for self-control was described as integral to the professionalism of the special education teacher, as follows: "I felt that because I have knowledge and sensitivity in the area of special education, I could try and show empathy for him and respond with forgiveness and patience," as well as in the following example:

> I believe that the foundation is a sense of security and empathy that the special education teacher provides the student, that is, an emotional base. Emotional and psycho-therapeutic skills that we as special education teachers must demonstrate during our work, I believe, distinguish the special education teacher from a regular teacher.
> Only two participants indicated high efficacy related to organizing and leading the staff:
> After I reached those insights myself, I convened a staff meeting. It required I use my management skills. After I made the importance of the discussion clear to the principal, she approved holding the meeting during work hours.
> I seems that the incident, with all its difficulties, made all of the team reassess. This attests to my organizational and leadership abilities, and above all, my educational approach and the responsibility I feel for each and every child in the classroom.

Discussion
The findings of the quantitative section of this research indicated that a higher percentage of respondents had strong self-efficacy with regard to specific one-dimensional topics that represent the traditional core of special education and the knowledge base acquired during years of teacher training. These are issues that may involve social desirability and the conventional image of the special education teacher who welcomes human diversity, is familiar with the law and policies, has an ethical approach to the job, and is highly competent to work in extreme human conditions. A lower percentage of the respondents showed high levels of self-efficacy regarding coping with multidimensional issues that are complex and require innovation in the work of the teacher, as well as collaboration and professional maturity. They include the need for teachers to construct their identity within the professional community, develop within its framework, and work for its advancement.

The findings of the qualitative section of the research indicated that most of the beginning teachers perceived that their ability to successfully cope with extreme behavior of an individual student represented the main component of their self-efficacy. Sense of efficacy was associated with a dialectic process that began with encounters with extreme behavior; continued with the teachers' struggle to remedy the situation, assisted by their personal intuition and resources; and ended in a radical change in the situation accompanied by a very high sense of efficacy.

The results of the quantitative section are in keeping with those of the qualitative section in that in both a strong sense of efficacy to handle extreme events related to an individual student was found among more participants. In addition, a strong sense of efficacy related to collaboration with staff members and parents as well as to planning and managing complex learning processes in a variety of learning environments requiring wide-ranging innovative knowledge from the teachers was either found among fewer participants or not at all.

Diversity was referred to by a number of respondents. In the first skill content group in the quantitative section, which described acceptance and support of diversity in theory, a high percentage of respondents with strong self-efficacy was found. In contrast, in the last two content groups of skills – the fifth and sixth – in which implementation of diversity is put into practice, a lower percentage of respondents indicated a strong sense of efficacy. Furthermore, in the qualitative section of the questionnaire the issue was completely absent. We can explain this by saying that because human diversity is a major topic taught in teacher training courses (Israeli Ministry of Education, 2005-2006), when the teachers were asked about it as a theoretical subject, they indicated a strong sense of efficacy. In practice, however, it is apparently not an integral part of their work and so was not mentioned even once in answer to the open question. In the closed questions, when implementation was implicitly referred to, the respondents did not list it as an issue relating to sense of efficacy.

In the qualitative section of the questionnaire, collaborating with partners on the job was listed in the fourth content group, but in the quantitative section, the work environment of the beginning teachers' stories was described as devoid of partners. When partners were mentioned, their perceived roles were as subordinates required to carry out the instructions of the teacher regarding work with students with special needs or to express admiration for the dramatic changes that took place in the students. We believe that these findings indicate lack of implementation of one of the innovative foundations in special education – collaborative work (Murawski, 2012).

It is also interesting how the participants referred to the parents: In the quantitative section of the questionnaire, a relatively high percentage of the respondents felt they were highly competent in understanding, accepting, and respecting family diversity; understanding the limitations of the individuals and their families; and taking into account the family when preparing the curriculum. In contrast, the lowest percentage of participants in the entire questionnaire considered themselves highly competent in involving the parents of the students with special needs in all aspects of education. In keeping with this, in the qualitative section of the questionnaire, the parents were described as being "patients" of the teacher, requiring guidance and instruction. This finding indicates, in our opinion, a non-egalitarian approach, which does not consider parents full partners in the work of the teacher. This contradicts the accepted view today of the parents as full and even senior partners in the teamwork required in special education (Turnbull & Turnbull, 2010).

The research findings indicate that perceived efficacy of teachers is tied mainly to the traditional dimensions of the special education teaching profession. The more innovative dimensions are not usually perceived as contributing to high sense of efficacy, and it seems they have not been assimilated in beginning teachers' perceptions of their roles in special education. Aspects related to teaching itself, such as complex teaching in diverse teaching situations that require deep-seated knowledge of the discipline, as well as those tied to its organizational dimension, like collaboration with a variety of professional personnel, are also missing (Eisenman, et al., 2011).

From the quantitative section of the research, we learned that perceived self-efficacy among beginning teachers is mainly related to sense of power: the power to act in extreme crises and transform crises that seem impossible to overcome into success stories; to do the "unbelievable"; to act alone and succeed where others have failed thanks to personal traits such as "perseverance," "stubbornness," and "motivation," and through "struggle" and personal war, and "a connection with the language of psycho-therapy"; the power to take total responsibility over extreme cases and make them a life mission for the teacher; to influence others, change the reality of life, and even facilitate life. Strong perceived self-efficacy is also associated with the power to exercise self-control, to defend the weak, and to change perceptions in the environment – those of peers, professional personnel, and even parents – towards the student, and the power to instruct and guide teachers and parents.

Importance of the Research
This study examined perceived ability to cope with the requirements of the job as it was recently formulated by the most important special education association in the world, the CEC, which influences policymakers around the

world regarding regulation, legislation, and the roles of professional personnel. The study allowed us to examine the professional baggage beginning teachers bring with them to the field and its suitability to the requirements of the role recognized around the world today, to point to areas that should be strengthened during teacher training, and to aspects of the job that should be added to the training of special education teachers in Israel.

These include organizational aspects of the work, like collaboration with faculty teams; guiding and leading them (Lamar-Dukes & Duhes, 2005); and planning, implementation, and evaluation of teaching that must respond to a wide range of human diversity. These aspects require a wide range of knowledge, whether disciplinary or inter-disciplinary; familiarity with pedagogic innovations, such as educational technology (Murawski, 2012); full collaboration with parents stemming from an egalitarian approach (Turnbull & Turnbull, 2010); and finally, the cultivation of professional identity as a teacher who learns and evolves within a professional community, contributes to it, and is benefited by it.

Research Limitations
This study was carried out in one teacher training college in Israel in the secular Jewish sector. All Israeli teacher training colleges are similar in nature, but there very well may be slightly different characteristics in colleges that cater to other sectors, such as the Arab sector, the religious Jewish sector, etc. In this case, generalization of the findings over all special education trainees may be limited.

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COMPARATIVE INVESTIGATION OF DIFFERENCES BETWEEN SPECIAL AND GENERAL EDUCATION TEACHERS' PERCEPTIONS ABOUT STUDENTS WITH AUTISM IN TURKEY

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Increased rates of students with Autism Spectrum Disorders (ASD) are documented throughout the world. In Turkey, there are currently 100,000 students under the age of 14 with ASD and increasing each year by approximately 5,000 students. As a result of the current population and increased prevalence, special education and general education teachers are providing educational services to increasing numbers of students with ASD. The purpose of this study is to examine teachers' perceptions of students with ASD. The Autism Attitude Scale for Teachers was administered to 117 general education (n= 53) and special education (n= 63) teachers in 19 Education Centers for Children with Autism in Turkey. Results indicate both groups are receptive to students with autism, but special education teachers have more positive perceptions of students with ASD. Implications for teacher certification programs and continued professional development initiatives are presented.

Autism Spectrum Disorder (ASD) is a developmental disability with a neurological basis that affects the normal functioning of the brain (Leblanc, Richardson, & Burns, 2009). Since Leo Kanner first described it in 1943, the disorder has garnered a great deal of interest in the field and research environment. Although many questions remain unanswered, our understanding of 'autism' has significantly progressed to the point where it seen as a spectrum of difficulties rather than a singular condition (Humphrey, 2008). Prevalence findings are of particular interest to researchers around the world.

Researchers identified significant increases in the prevalence of ASD over time within certain populations and across many regions of the world (Oulette-Kuntz, Coo, Lloyd, Kasmara, Holden, & Lewis, 2006). The Turkish educational system is one region experiencing increased rates of students with ASD. According to the Turkish Ministry of Education, there are currently about 500,000 people with ASD and 100,000 are children under the age of 14. This means that one in 80 children in Turkey is diagnosed with ASD. Moreover, these numbers are increasing by approximately 5,000 per year.

In response to the growing numbers of students with ASD, the Educational Centers for Children with Autism (OCEMs) were established in 1999 by the Turkish Ministry of Education as part of the Education Project for Students with Autism. OCEMs are independent schools that include one-on-one and group education classrooms for students with ASD who are between three and 15 years old. Each OCEM includes preschool education (ages 3-6), elementary education (ages 7-11), and secondary education (12-15). The general purposes of the OCEMs include: 1) to provide the least restrictive environment possible for students with ASD while helping these students to improve their educational performances, social skills, and practical skills with the support of their families; 2) to provide supportive services to improve students' Individualized Education Plan's (IEP) and help students reach their goals; and 3) to provide and perform family education programs to fortify families and their perspective about students and/or school. The OCEM teachers are special education teachers who have graduated from special education programs and general education teachers who have obtained special education certificates or have earned graduate

degrees in the field of special education.

A central aspect to the effectiveness of teachers delivering education programs to students with ASD is the teacher's perceptions of their students. Teachers' perceptions of students with ASD are important for many reasons, including a teacher's perception may positively or negatively influence their own expectations for students, and in turn, influence students' success both academically and socially (Silverman, 2007). Teachers who have negative perceptions of students with autism may negatively impact their students. It is likely that there is a difference in perceptions between general education teachers and special education teachers due to the varied training and experiences of teachers.

Typically, special education teachers have more educational training, knowledge of and experience with students with ASD than general education teachers. Demographic variables (e.g., age and gender) and types of exposure to children with disabilities can impact individuals' attitudes towards children with autism (Rosenbaum, Armstrong, & King, 1988). Since students with ASD receive educational services in OCEMs from both general and special education teachers, it is logical to investigate the potential differences in teacher's perceptions of students with ASD. The information that is ascertained about current teachers' perceptions can be used to inform teacher certification programs and continued education initiatives.

The overall purpose of this study was to examine general and special education teachers' perception of students with ASD to better inform teacher education programs in Turkey. The research questions addressed are:
1.   What are the Special Education and General Education teachers' perceptions of students with ASD in OCEMs?
2.   What differences exist between Special and General Education Teachers based on the Autism Attitude Scale for teachers?

Method
The Autism Attitude Scale for Teachers (AAST) was used to measure teachers' perceptions of students with ASD and to investigate the perceptions of both general and special education teachers in OCEM's in Turkey. All participants completed the same survey anonymously across nineteen different locations. Participants' survey responses were analyzed at three levels using descriptive statistics and ANOVAs to determine similarities and differences between general and special education teachers.
Setting and Participants

This study took place in 19 different OCEM's across 10 different cities in Turkey. At the time of this study, there were approximately 70 OCEMs in operation. All of the OCEMs provided educational services to children with ASD ranging in age from three to 15 years. One hundred thirty five teachers consented to participate in this study. Due to incompleteness or incorrect markings, 18 surveys were excluded from the analysis and included 53 general educators and 64 special educators. Demographics of respondents including the number of teachers who previously had a student with Autism in their classes are presented in Table 1.

Table 1.Demographics of Respondents

Demographics	General Educators	Special Educators
Female	37	44
Male	16	20
Mean Age	32.16	28.25
Previously had a student with Autism in class	9	46

Measures
Teacher Survey. The AAST is a well-established and widely used survey by educational researchers. The AAST scale was developed in order to determine teachers' beliefs about students with autism and their involvement in public schools (Olley, DeVellis, DeVellis, Wall, & Long, 1981). The AAST has two parts and each part contains seven questions for a total of 14 questions including positively and negatively worded questions. According to the authors, this design prevents respondents from indicating the same number on the Likert scale for every question (Olley, et al., 1981). The highest score possible is 70 and a higher score indicates more positive attitudes about

students with ASD.

The AAST survey was translated to Turkish by the lead researcher. In addition, the researchers developed a questionnaire for gathering information specifically related to issues in Turkey from participants who completed the AAST form.

Open-Ended Questions. Two open-ended questions asked participants to give advice to general education teachers who work in public schools. They asked to provide their opinions on the importance of OCEMs in the field of special education in Turkey.

Procedures

After contacting and explaining the purpose of this research to the principals at each OCEM, a date was scheduled for administration of the survey. On the scheduled date the lead researcher, returned to the OCEM. The researcher distributed both forms to teachers during a regularly-scheduled meeting. After explaining the forms and the purpose of the study, the researcher asked participants to complete the forms. The forms were then collected. Teachers were not asked to identify themselves on the survey to maintain confidentiality and anonymity.

The researcher than scored all completed surveys following the scoring guides described by Olley, et.al., (1981). Reliability was completed by a trained research assistant. Reliability check was completed on 100% of both surveys and scoring reliability was demonstrated at 100%.

Results

To determine if there were differences between general education and special education teacher data was analyzed at three levels: (1) overall AAST survey scores were examined, (2) scores by question was compared, and (3) responses to open-ended questions were analyzed to determine differences by question.

General education and special education teachers provided different responses on the AAST, which led to a statistically significant difference between the two groups. Special education teachers generally exhibited higher mean scores than general education teachers did on the 14 questions of the AAST.

General education teachers' responses (n=53) to the AAST revealed that the teachers generally had positive perceptions (M=40.91, SD=.516) of students with autism. However, special education teachers' responses (n=64) to the AAST (M=50.13, SD=.426) showed that the special education teachers were more receptive to students with autism enrolled in OCEMs compared to general education teachers. Special education teachers had higher mean scores on the 14 questions of the AAST than general educators had indicated, as shown in Table 2.

Table 2.Overall Response Data on AAST

Teacher Group	N	M	SD
General Education Teachers	53	40.91	.516
Special Education Teachers	64	50.13	.426

The means and standard deviations for each teacher group per question were calculated. The closer the mean score to 5.00, the more positive the teacher group was in answering the specific question. Table 3 displays each question on the AAST and the means and standard deviations for each teacher group. The t-score and p-value for each survey question was also included in the Table 3 after calculating using a two-sample t-test. There was significant difference between teacher groups on 10 out of 14 questions which is 71.42% of the questions on the AAST. The overall mean scores for the two groups may suggest possible tendencies toward positive perceptions by teachers

Table 3.Teachers' Scores by Survey Questions

AAST Questions	Special Ed. M (SD)	General Ed. M (SD)	T	p
1. Only teachers with extensive special education can help a child with autism	1.88 (1.00)	2.74 (1.22)	-4.18	<0.001*
1. Mealtime behaviors of children with autism are disruptive and negatively influence the behavior of	2.91 (1.16)	2.70 (1.04)	1.006	0.31

children around them.				
1. Schools with both normal and autistic children enhance the learning experience of the normal children	3.64 (1.04)	2.66 (1.10)	4.91	<0.001*
1. Normal children and children with autism should be taught in separate schools.	3.59 (1.12)	2.15 (1.18)	6.75	<0.001*
1. Children with autism can learn from a good teacher.	4.36 (0.76)	3.98 (0.88)	2.47	0.015*
1. Regular schools are too advanced for children with autism.	3.72 (1.33)	2.66 (1.45)	4.09	<0.001*
1. I would not want the children in my class to have to put up with classmates who have autism.	3.53 (1.30)	2.32 (1.26)	5.05	<0.001*
1. Teachers not specifically trained in special education should not be expected to deal with a child with autism.	2.50 (1.40)	2.74 (1.36)	-0.91	0.36
1. Children with autism are too impaired to benefit from the activities of a normal school.	3.48 (1.12)	2.81 (1.14)	3.19	0.002*
1. Schools with both normal and autistic children enhance the learning experience of the autistic children.	4.09 (1.00)	3.04 (1.12)	5.36	<0.001*
1. If I had a choice, I would teach in a school where there were no children with autism.	4.05 (1.07)	3.06 (1.27)	4.55	<0.001*
1. A good teacher can do a lot to help a child with autism	4.34 (0.91)	3.98 (0.90)	2.14	0.034*
1. Children with autism cannot socialize well enough to profit from contact with normal children	3.75 (1.02)	2.98 (1.16)	3.79	<0.001*
1. 14. It is unfair to ask teacher to accept children with autism at their school.	4.28 (0.91)	3.09 (1.31)	5.72	<0.001*

*indicates significant difference at .05 level

The mean differences between the two teacher groups were analyzed, and the researcher used ANOVA analysis to compare general education teachers' and special education teachers' reported mean scores on the 14 questions of the AAST. Table 4 shows the descriptive statistics associated with the ANOVA results. The sample size, means, standard deviation, standard error, confidence interval, minimum score, and maximum score of general education and special education teachers on the 14 questions of the AAST are displayed in Table 4.

Table 4.Descriptive Statistics Associated with ANOVA Results

95 % CI							
Teacher Group	N	M	SD	SE	LL	UL	Min
Special Ed. Teachers	64	3.58	.426	.05	3.47	3.68	2.50
General Ed. Teachers	53	2.92	.516	.07	2.77	3.06	1.86

In order to compare the means of the general education teachers and special education teachers on the 14 questions

of the AAST, an ANOVA analysis using an alpha coefficient of .05 was completed. ANOVA determines whether a statistically significant difference exists between the means of two or more groups. Table 5 shows the ANOVA results when comparing the means of special and general education teachers on the 14 questions of the AAST.

The overall ANOVA results indicate that there is a statistically significant difference (p-value= <.001) between the mean scores of the general education and special education teachers. This suggests that the groups differed more than would be expected. According to the comparison of the means of the groups, special education teachers were more receptive to students with autism enrolled in OCEMs than were general education teachers.

Table 5.ANOVA Results on the AAST

	SS	df	MS	F	p-value
Between groups	12.572	1	12.572	57.138	<.001
Within groups	25.304	115	.220		
Total	37.876	116			

During the research, some of the participants asked general clarification questions, but the most frequently asked question related to the *good teacher* term used in questions 5 and 12. The researcher noted the difference about the perceptions of the *good teacher* term among teachers. In addition, there is a major difference in the results of standard deviations between special education and general education teachers on AAST question 14. To further clarify and explore these differences, cross tabulation and chi-square analysis were completed for these three questions (5, 12 and 14) to determine the differences between special education and general education teachers' responses. The cross tabulations state the observed and expected frequencies between teacher groups. Chi-square results indicated whether there was a difference between them for the observed frequencies of responses.

All cross tabulation results were reported with the actual response given on the survey, not taking into account reversed scoring for the 14th question to prevent confusion. However, in Chi-square analysis, results used reversed scoring for the 14th question, because it was negatively worded question. For instance, if the participant scored 4 on the 14th question, the response was recorded as a 2. The Likert scale used in the scoring of the AAST was as follows; 5= strongly agree, 4= agree, 3= uncertain, 2= disagree, 1= strongly disagree.

Question 5 on the AAST stated, *Children with Autism can learn from a good teacher*. The scores for question 5 were analyzed based on observed count and expected count for each teacher group. There was a difference between the special education teachers (n=30) and general education teachers (n=15) who scored strongly disagree (5) on question 5. There is no large difference in standard deviations between special education (0.76) and general education teachers (0.88), the chi-square statistic (0.058) indicated there was not statistically significant difference between teacher groups. However, there is insufficient evidence to support this as 50% of the cells have expected frequencies less than 5, which means one of the assumptions of the chi-square was violated and the results may not be meaningful. Table 6 shows the chi-square tests for question 5 on the AAST.

Table 6.Chi-Square Tests for Question 5

	Value	Df	Asymp. Sig. (2-sided)
Pearson chi-square	9.120[a]	4	.058
Likelihood ratio	9.505	4	.050
Linear-by-linear association	5.877	1	.015
N of valid cases	117		

[a] Five cells (50.0%) have expected counts less than 5. The minimum expected count is .91.

Question 12 on the AAST stated, *A good teacher can do a lot to help a child with Autism.* There is also no large difference on the standard deviations between special education (0.91) and general education teachers (0.90). The reported answers on the AAST were explored further using cross tabulation and chi-square statistics. As in question 5, the results for question 12 state a large observed difference between the frequency of responses of special education teachers (n=34) and general education teachers (n=15) who entered strongly agree (5). Table 7 shows the chi-square statistics for question 12 on the AAST. According to the statistics reported, a statistical significance exists between the answers by special education and general education teachers as p (0.024) < α (0.05). However, there is insufficient evidence to support this as 60% of the cells have expected frequencies less than 5, which means one of the assumptions of chi-square was violated and the results may not be meaningful.

Table 7.Chi-Square Tests for Question 12

	Value	Df	Asymp. Sig. (2-sided)
Pearson chi-square	11.252 [a]	4	.024
Likelihood ratio	11.910	4	.018
Linear-by-linear association	4.456	1	.035
N of valid cases	117		

[a] Six cells (60.0%) have expected counts less than 5. The minimum expected count is .91.

Question 14 on the AAST stated, *It is unfair to ask teachers to accept children with Autism at their school*. This question was the last question to be analyzed using cross tabulation and chi-square statistics. Question 14 was chosen for the difference in standard deviations between special education (0.91) and general education teachers (1.31) was greater than for other questions. In the strongly disagree category (1), 34 special education teachers responded while 9 special education teachers responded. The chi-square statistics for question 14 show that there was a likely difference between the responses of special education and general education teachers (Table 8). There was statistically significant difference between the response of special education and general education teachers on question14. The evidence of this is p (.000) < α (0.05). Moreover, there is an evidence to support this as 20% of the cells have expected frequencies less than 5, which means one of the assumptions of chi-square was violated and the results may not be meaningful.

Table 8.Chi-Square Tests for Question 14

	Value	Df	Asymp. Sig. (2-sided)
Pearson chi-square	26.302 [a]	4	.000
Likelihood ratio	30.213	4	.000
Linear-by-linear association	25.705	1	.000
N of valid cases	117		

[a] Two cells (20.0%) have expected counts less than 5. The minimum expected count is 3.62.

In open-ended questions, both groups offered suggestions to other teachers who work with students with autism; they also provide their opinions on the importance of OCEMs. Generally speaking, the teachers focused on the importance of collaboration. Collaboration among professionals and cooperative work between all members during educational processes are necessary within the field of special education. The respondents wrote responses indicating the advices they would need to successfully include students with Autism in their classroom. The top five suggestions identified by educators are listed in the Table 9 in order of frequency of the responses.

Table 9.Top 5 Suggestions to Other Teachers

Frequency of Response	Support
22	Prepare IEP for each student
21	Information and reading materials
19	Being patient
13	Special education teachers help
9	Training specifically about Autism

Discussion
General education and special education teachers working at Educational Centers for Children with Autism

(OCEMs) reported positive, neutral, and negative perceptions about students with autism in their classrooms and schools. Their perceptions are significant for students with autism as well as the overall atmosphere of OCEMs. The results of this study indicate that general education and special education teachers are positively receptive to students with autism; however, a significant differences exists between general education teachers' and special education teachers' perceptions of students with ASD. Special education teachers are more receptive than general education teachers to the students with autism in the OCEMs.

It was expected that special education teachers would have more positive perceptions because of the differences between their educational background, training, and experiences. For locations providing services to students with ASD, it is imperative that all teachers, both general and special education, regardless of their education background, training, and experiences have positive perceptions of their students. Our results indicate this is not necessarily true and highlights potentially important implications for teacher certification programs and continuing education initiatives at OCEMs.

Specialized Training and Experiences
Special education teachers in Turkey, especially those who graduated from special education programs received more specialized training about the learning characteristics, instructional needs, behavior challenges, and evidenced based practices for students with ASD during their education program. This more specialized and in-depth training likely influences teachers' perceptions in a positive fashion because they have the knowledge, background, and specialized training to feel confident and prepared to teach students with ASD.

Providing specialized training to pre-service teachers and practicing teachers warrants more attention. Specifically, education training programs should focus on providing teachers more information related to students with ASD in three areas: (a) learning characteristics, (b) behavioral characteristics, and (c) evidence-based practices.

Based on our experiences, we recognize that what works for one student may not work for another, and students with ASD have their own individual personalities that we need to take into consideration (Marks, et al., 2003). However, there are learning characteristics of student with ASD that teachers should know. Researchers identified that some of the important characteristics are: a) deficits in paying attention to relevant cues and information, b) receptive and expressive language impairments, c) deficits in abstract reasoning, d) impairment in social cognition including deficits in the capacity to share attention and emotion with others, and understand the feelings of others, e) inability to plan, organize and solve problems (Minshew & Goldstein, 1998; Minshew, Goldstein, Taylor & Siegel, 1994). The more information and expertise that teachers have about the specific characteristics of students with ASD, the more likely teachers will have the necessary skills to more effectively work with students with ASD and increase their students' positive outcomes.

Besides learning characteristics, there are also behavioral characteristics of students with ASD. Individuals with ASD may have challenging behaviors, such as aggression, self-injurious behaviors, and/or tantrums. Given that most individuals with ASD have difficulties in effectively communication, it is not surprising that they rely on their behavior to convey specific messages (Alberta Learning, 2003). Teacher should understand that students with ASD have their unique behavioral characteristics. Teachers need to look below the surface to identify the message a student is trying to convey (Alberta Learning, 2003). Awareness and familiarity with communication strategies focused specifically to students with ASD will increase the appropriateness and efficacy of strategies to develop communication skills in students ASD.

Another essential aspect for teachers to develop expertise is with the evidence-based practices for students with ASD highlighted in the literature base. There are many evidence-based practices with demonstrated effectiveness through high quality scientific research such as functional behavior assessment (Blair, Lee, Cho, & Dunlap, 2011; Kodak, Fisher, Clements, Paden, & Dickes, 2011), functional communication training (Gibson, Pennington, Stenhoff, & Hopper, 2010; Kuhn, Hardesty, & Sweeney, 2009), prompting (Ingvarsson, & Hollobaugh, 2011; Ostryn, C., & Wolfe, P. S., 2011; Thomas, Lafasakis, & Sturmey, 2010), video modeling (e.g., Plavnick, MacFarland, & Ferreri, 2015; Yakubova, Hughes, & Hornberger, 2015), visual support (Angell, Nicholson, Watts, & Blum, 2011; Cihak, 2011; Stringfield, Luscre, & Gast, 2011). Bringing evidence-based practices to classrooms increases teachers effectiveness and will increase the likelihood of more positive outcomes for students with ASD. Although translating research into classroom practices is a major challenge, teachers' understanding and familiarity with these research based practices will better facilitate the implementation of these practices into classroom. The movement from science to practice is a continuous challenge for implementers/teachers and also an important step

for the field of education (Wong, et al., 2014) continued and focused professional development is necessary to address this ongoing challenge.

Implications for Practice
Both teacher groups and other members of the special education field in Turkey may benefit from the results of this research by broadening their knowledge and ultimately improving the services for students with ASD. We learned both general and special education teachers in general have positive perceptions about students with ASD; although, special education teachers, as expected, tended to be more receptive. It is important for future and current teachers to receive additional specialized training opportunities focused on practices to better support students with ASD in their classrooms. Specialized training on learning characteristics, behavioral challenges, and evidenced practices for students with exceptional needs is advantageous for general education teachers by providing the necessary background, knowledge and improved understating of educational needs of students with ASD.

In addition to improving teachers' knowledge and perceptions of students with ASD, it is important to help ensure collaboration between special and general education teachers. Collaboration between special and general education teachers has at least three benefits for students with ASD. First, increased collaboration facilitates the blending of special education teachers' knowledge and content knowledge of general education teachers. Second, collaboration can bring students closer to achieving their short and long term academic goals. Besides the impression on blending knowledge and helping students to perform better in academic tasks, collaboration also increase the quality of instruction by increasing productivity and cooperative working over time.

One obvious barrier to increased collaboration and co-teaching classrooms is the limited number of special education teachers at most OCEMs. The smaller number of special education teachers makes it very difficult to create co-teaching classrooms. Improving collaboration to the maximum extent possible given the limitations is highly recommended to better facilitate the sharing of knowledge, resolution of challenges, and planning as a team.

Limitations
There are at least three limitations to this analysis that are important to consider in combination of the results. First, the AAST was developed in 1981, when autism was not a well-known category of special education. Second, the definition of Autism Spectrum Disorder may vary and teachers' interpretations often differ. The difference in interpretation may have influenced the way general and special education teachers answered the survey and open ended questions. Third, the AAST survey was translated from English to Turkish and may have impacted our results. The difference between the effect of English and Turkish languages may cause misunderstandings in the wording of the questions. One of the most important implications for future studies is to develop a new survey with more recent and Turkish specific educational terminology. Despite these limitations, the results of this study have important and useful implications for the Turkish Educational system.

Conclusion
This study has important implications for educational practices in OCEMs and public schools. There are many inclusion classes for students with ASD in public and private schools as well as OCEMs. These inclusion classroom settings are increasing each year as more and more students are identified with ASD and therefore, teachers in these inclusive classrooms must exhibit positive perceptions about students with ASD. While educational programs and continuing educational opportunities focused on students with ASD are becoming more widespread, the hope is that special and general education teachers' perceptions will continue to improve not just in OCEMs, but in every part of the education system.

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PROPOSING A CONTINUOUS PROFESSIONAL DEVELOPMENT MODEL TO SUPPORT AND ENHANCE PROFESSIONAL LEARNING OF TEACHERS IN SPECIAL SCHOOLS IN SOUTH AFRICA

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A collaborative continuous professional (CPD) model was implemented and evaluated in six special schools in Gauteng, South Africa in order to support teachers in their professional capacity. The study which reports on a two year study aimed to establish the value of the CPD programme on teachers' learning, students' outcomes and whole school change. The focus during the study was to adapt learner activities and teacher support materials for the Learn Not to Burn (LNTB) fire safety programme for students with special needs. A qualitative, multi-phased case study was employed to understand teachers' views of the collaborative continuous professional development programme, which culminated in the development of Dynamic Collaborative Networking model. This study relied on current CPD models in order to develop this model which was suitable for special education. This research serves as an example of where valuable internal and external networks were formed for the benefit of all involved with the study.

Education authorities worldwide strive to enhance teachers' professional capacity and practices through the provision of quality continuous professional development (CPD) activities (Brouwer, 2011; Ertesvåg, 2011; Herbert & Rainford 2014; Nehring & Fitzsimons 2011). According to the UNESCO report (2014:4) …all governments should invest in education as an accelerator of inclusive development. This Report's evidence shows that education provides sustainability to progress against development goals… Educate communities, and you transform societies and grow economies. It also emphasises the necessity of offering appropriate professional support to teachers who are essential in promoting quality of learning in schools.

In planning effective in-service development it is important to note that recent reviews of continuous professional development (CPD) for teachers indicate that traditional continuous professional development methods are mostly ineffective in bringing about the required change in the teaching practices of teachers (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009; Williams, 2010). In order to bring about change in teachers' practice and knowledge it is important to design more innovative ways of effectively raising teachers' competence.

Despite the issue of teacher quality and the teaching force's lack of capacity for effective inclusion, South Africa has adopted the approach of inclusive education and devised policies that guide the process of inclusion of students with special educational needs (Walton, Nel, Hugo & Muller, 2009). The inclusion approach is based on the following belief: All children and young people of the world, with their individual strengths and weaknesses, with their hopes and expectations, have a right to education (Lindqvist, 1994 quoted in UNESCO, 2005:13). In the implementation strategy of inclusive education in South Africa the intention of the Department of Education has been to involve special schools as resource centres in supporting full service and mainstream schools (Department of Education, 2010). Although the strategy of inclusion is promoted, the lack of suitably qualified special education teachers could result in the exclusion of students with special educational needs (Ladbrook, 2009). Continuous professional development (CPD) is therefore vital to assist and equip teachers with the necessary knowledge and skills to support

students in special schools. Moreover, Kempen (2013) states that the absence of appropriate CPD programmes for special education teachers has an impact on teachers' self-worth and motivation and that a lack of knowledge on special educational matters could lead to uncertainty.

This article is based on a formal study done by Kempen (2013). In that study she designed, developed and implemented a collaborative continuous professional development model and determined the impact of this model on the professional capacity of special education teachers in South Africa. The purpose of this article is to propose a continuous professional development model based on the implementation of Learn Not to Burn (LNTB), a fire safety programme for special schools.

In essence the model endeavoured to establish how collaborative professional development could overcome the weaknesses of traditional professional development models by enhancing the knowledge, skills and attitudes of teachers in South African special schools (Kempen, 2013). Burn related accidents are of high relevance to the South African community as statistics reflect high percentages of burn related incidents in South Africa (Mortality and causes of death in South Africa, 2014:48). Using the Learn Not to Burn fire safety content to develop teachers' pedagogical capacity in special schools was found to be of extreme value since there was no fire related training taking place in South Africa at the onset of the study.

Professional development of teachers in south africa
The South African education system is plagued by a shortage in teachers and unsatisfactory achievement of students' academic performance reflected in poor results in national and international comparative assessments (Department of Education 2013). One such standardised test is the Progress in International Reading Literacy Study (PIRLS) which is conducted every five years. South African students achieved the lowest score of all the 45 participating education systems (Howie, Venter, Van Staden, Zimmerman, Long, Du Toit, Scherman & Archer, 2008). South Africa finished last and there was no change in the overall achievement of students in 2011 compared to 2006 (Howie, Venter, Van Staden, Tshele, Dowse & Zimmerman 2012). Moreover, the Annual National Assessment (ANA) in special schools in South Africa during 2013, furthermore, reflected poor Language and Mathematics performance by Grade 3 and Grade students (Department of Basic Education, 2013).

Many initiatives, which include legislation and policies in South Africa, have been developed to enhance the quality of teaching and learning in South Africa, such as the teacher appraisal (1998) which was followed by Whole-School Evaluation policy in 2001 intended to monitor the schooling system. These policies led to a lot of resistance and were replaced by the Integrated Quality Management System (IQMS) (Education Labour Relations Council, 2003). The Department of Education also launched the Quality Teaching and Learning Campaign (QLTC) in 2008 to improve the quality of education through monitoring underperformance throughout the school system. However, Benjamin (2013:1) believes that this initiative with its vision of schooling in 2025, has not had the desired effects. The Integrated Strategic Planning Framework for Teacher Education and Development in South Africa 2011-2025 outlines a 15-year roll-out plan to improve and expand teacher education and development opportunities as an attempt to enhance the quality of teaching and learning in schools, including that of special schools (Department of Education, 2011).
Gorman (2011) in particular states that the proficiency and expertise of teachers who teach students with special needs are vital for the learning experiences of such children. This implies that high quality teacher education and development programmes are required for teachers in special schools to ensure optimum learning experiences for students in special schools (Gorman, 2011).

Conceptual framework of the study
For the purpose of this study continuous professional development (CPD) models and their capacity for supporting and enhancing the professional learning of teachers in special schools are briefly outlined. The discussion largely rests with Kennedy's (2005) comparative examination of a range of CPD models focusing on the perceived purpose of each model, highlighting the strengths and weaknesses of each of the models studied. Although Kennedy (2005) identifies nine CPD models, this study gives preference to those models that had a direct influence on designing the proposed professional development model.

According to Kennedy, (2005, p.237) *the training model* is the most commonly used method of CPD and is delivered to the teacher by the expert with the agenda determined by the deliverer, and the participant placed in a passive role. A major concern is that this model does not acknowledge the vital role of teachers' experiences and

understandings about students in the development of their work. Kennedy's *school-based model* refers to training that takes place within the context of the school. It is mainly managed by the school staff and is focused on addressing the specific needs of the school (Gettly, 2002). The *school-focused model* of Kennedy (2005) which is according to Engelbrecht, Ankiewicz. & De Swardt (2007) an extension of the school-based model, occurs off-site and aims to upgrade teachers' classroom skills and teaching strategies by providing them with subject knowledge, theory and methodology. It involves education authorities, which is a strength of the model, but has limited success in building the capacity of teachers. His cascade model involves individual teachers in training sessions and then requires them to disseminate the information to their colleagues in schools. Kennedy (2005) states that there are factors in the cascade model that could negatively impact the quality of the training provided. These include trainers' lack of understanding to manage the training process, the quality of trainers and their knowledge of the training content as well as facilitators' lack of understanding of the various teaching contexts and the application of the training material. Moreover, Engelbrecht, et al., (2006,p.3) views this approach as a top down approach which could easily lead to misinterpretation of critical information. In the a*ction learning model* learning is described as a process of observe, reflect, plan and act where participants resolve and take action in practical problems and where they learn through questioning and reflection when doing so (Marquardt & Waddill 2004:186). It allows teachers to collaborate and ask critical questions about their classroom practices and therefore aims to enhance the performance of teachers (Garret 2011). Moreover, Revans (2011) and Dadds (2014) are of the opinion that teachers learn best from colleagues in the same position which in effect then has a multiplying effect on their learning.

The *standard-based model* is based on establishing a hub or demonstration school that is responsible for providing professional learning within a network of four to five schools. It is based on the principle of utilising collective enterprise for the common good and ultimately aims to integrate theory within a real life context (Loughland, 2012:55). It makes provision for the demonstration school to provide space and time for reflection, discussion and debate about pedagogy which can bring about curriculum innovations (Robinson, 2004). This model encourages collaboration as opposed to professional isolation and provides performance benchmarks which promote continuous improvement (Loughland, 2012). Networking with teacher training institutions and education departments in ensuring the credibility of the learning is of vital importance in this model (Loughland, 2012).

The last model that informed the study was Kennedy's *community of practice model.* According to Wenger, (2000) the concept 'communities of practice' is a requirement for an individual's learning and is also at the centre to ensure meaningful learning of individuals. It is based on Wenger's social theory of learning (1999) which postulates that learning occurs as a result of the individuals' interaction with others in organisations. Moreover, the community of practice focuses on the social structures that enable individuals to learn which develop when individuals are involved in 'a process of collective learning in a shared domain of human endeavor' (Wenger 2007, p. 1). According to Kennedy, (2005) a community of practice is a condition for learning to occur.

Background to the study
Learn Not to Burn (LNTB) was a mainstream burn prevention programme which was recognised by the Gauteng Early Childhood Development Institute as a valuable programme to be adapted and implemented in special schools. This Institute approached the main school in the study with the purpose of evaluating the suitability of its content for students with special educational needs and also to function as a model school for modeling good practice with regards to this fire safety programme. This study therefore started with LNTB a pilot programme which was adapted and implemented at a special school in Gauteng.

The various stakeholders which were involved throughout the study included Emergency Services of Johannesburg, the former Department of Further Teacher Training at the University of South Africa, the Gauteng Department of Education, and staff members from six special schools in Gauteng. The pilot study evolved in two stages:
Stage 1: During this stage the professional staff, therapists and teachers were divided into five learning circles. Each of the five learning circles was coordinated by a Head of Department and consisted of one teacher from each of the five phases offered at the school. Throughout the ten month period these learning circles (met twice per month to share ideas, plan and prepare the content of the programme and develop resources. During these meetings both student and teacher support materials were developed to address the diverse needs of students. Teachers also had to change and adapt the mainstream curriculum to make it accessible for students with special educational needs.
Stage 2: This stage took eight months and involved six special schools in the Gauteng Province that accommodated students with special educational needs. Adult learning theories consider the experiences and expectations of participants and also require that learning should be relevant and applicable to their particular contexts (Herberta &

Rainford, 2014) and therefore the adult learning model proposed by Kolb and Frey (1975) was employed during this stage of the research. It focused on active collaborative participation of the teachers and followed a cyclic process in which the four basic elements of Kolb and Frey's (1975) model were employed. Kolb and Frey's (1975) model (Steps 1 to 3) was extended to include two more elements namely evaluation and provision of feedback by experts (Step 4). Step 1 and Step 4 took place at the model school and Step 2 and Step 3 took place at the participants' schools. The four basic elements were factored into the proposed professional development model in this study. The four steps involved the following:

Step 1: Expert teachers from the model school provided an introduction to the training topic, that is, a LNTB fire safety message and conducted a demonstration lesson for participants. In *Step 2* abstract concepts were formed through a process of reflection and discussion. Thereafter activities and support materials for teaching the lesson were developed through collaborative planning and preparation. In *Step 3* teachers had to apply the skills and knowledge that they acquired from the model school in their own classrooms at their individual schools. Teachers were also encouraged to evaluate and reflect on their own teaching practices and to redirect their teaching if necessary. In *Step 4,* which is viewed as the evaluation and feedback stage, participating schools had to demonstrate how they approached the teaching of the LNTB programme at their particular schools. They also had to provide evidence of how they designed the lesson as well as present examples of their students' work. Teachers had the opportunity to report on the successes and challenges that they experienced in teaching the programme. The questions of participants were addressed by the expert teachers from the model schools who provided feedback and advice for improvement. After Step 4, the next cycle of the programme started with the introduction of the next fire safety topic.

Research design
In order to develop a collaborative continuous professional development programme a qualitative, case study approach was used to understand teachers' perceptions of professional development. The case study was based on social constructivism that postulates that knowledge is constructed when people engage socially in dialogue and certain events and their learning is improved when their views of knowledge are challenged and transformed in their interactions with others (Creswell, 2013). Purposive sampling was used to identify the six special education schools in Gauteng, South Africa. These schools which were situated in larger town areas and in townships served students with severe intellectual barriers to learning. Information rich cases were selected to ensure the richest data about the training that occurred. The participants in the study comprised the deputy principals responsible for curriculum at their schools, the Heads of Department of the Foundation Phase and all teachers teaching students with a severe intellectual disability between the mental age ranges of 2 – 7 years.

The following data collection sources were used in the study: Semi-structured focus group interviews, in-depth semi-structured individual interviews, qualitative questionnaires to gain insight into the feelings and opinions of the larger group, observations and other types of data such as artefacts of student activities, photographs, DVD recordings and audio recordings.

The study adopted an interpretive perspective in analysing the qualitative data in order to have a complete understanding of how participants related, collaborated and interacted with each other in a specific situation (Nieuwenhuis, 2011). All interviews were transcribed verbatim and coded as soon as the interviews were conducted. Once the data were coded and summarised, relationships among the categories and patterns were determined. For the purpose of this study a software tool, Hyperresearch, designed by ResearchWare for qualitative data analysis, was used.

Permission for conducting the study was obtained from the Gauteng Department of Education, the District Director, principals of the participating schools and individual participants. Member checking was done by giving participants the transcribed interviews to verify that the data was a true reflection of their opinions and views during the interviews.

Findings
The analysis of the raw data was based on Guskey's (2002) five critical levels of evaluation namely, participant reaction, participant learning, participant use of new knowledge and skills, student learning outcomes and organisational support and change. However, these five levels were adapted and re-categorised into three main categories namely, professional learning (participants reaction and learning), student outcomes and whole school improvement.

Although a few participants were initially negative about their participation in the professional development programme, all turned around and they were positive. The commitment generated by the extended period of professional development led to a feeling of ownership, a sense of direction and purpose followed by excitement and accountability. School D appropriately described the feelings of joy and excitement experienced during the LNTB staff training. A great deal of self-reflection occurred, which influenced participants' confidence and feelings of competence. The high levels of energy and motivation presented by all six schools was testimony to the success of the collaborative staff development programme that was implemented over a two year period.

The learning circles provided opportunities for open dialogue where teachers never criticised each other: It was the sharing and expansion of ideas which was an incredible achievement. The diversity of the teams and the sharing of knowledge and expertise within the schools and across the network of schools were indicated as being of great value. Teachers perceived the support they received from their colleagues in the small circles as a valuable support structure. It is described as bringing closeness between the group members.

Participants reported that they found the small groups invaluable in providing them with a testing ground for ideas before the implementation of the lessons. Social networks provided shared experiences which enhanced teachers' perceptions of their collective capacity and their confidence. A teacher remarked: Everybody just went out and let their minds go to come up with the most wonderful activities and it was very creative. School B reported: We learned a lot from the programme… It was wonderful and amazing [that] we were able to learn from the other schools from the presentation that they brought. Moreover, a participant acknowledged the professional growth in one of her colleagues: It was an incredible improvement and that person's whole self-esteem and image turned around.

Throughout the project high levels of planning and preparation was evident. Teachers have commented on the importance of planning and preparation in ensuring that teaching materials are prepared in advance for the teaching of lessons in the classroom. Schools reported that students responded positively to the planned lessons of LNTB. Teachers also expressed high level engagement from students during LNTB activities regardless of their disabilities; the students were made part of the lesson and that's why they enjoyed it. Teachers focused on planning differentiated activities which took considered students' specialised needs. The high quality of the work produced by the students from the participating schools provided evidence of the fact that the teachers created opportunities for all students to participate in the LNTB lessons. Table 1 highlights the professional development in the main categories of professional learning and student attainment, while Table 2 shows the impact of professional development on whole school development.

Table 1. Professional development and student attainment

Main Categories	Key Themes	Sub-Themes
Professional learning	**Participants' reaction**	Building of confidence and competence Self-efficacy and sense of purpose Ownership and commitment Motivation Excitement Accountability
	Social and emotional fevelopment	Enjoyment Setting a challenge Open communication Sharing and caring Engaging in professional dialogue
	Intellectual development	Lateral thinking skills in problem solving Creativity Critically thinking skills Reflection Intellectual stimulation Knowledge and skills building Professional dialogue
	Participants' application of	Improved instructional practices

	gained skills and knowledge	Application of a variety of teaching strategies & methods
		Greater experimentation, innovation and creativity
		Greater levels of planning, goal setting & differentiation
		Teaching practice suited to the students needs
		Integration of theory & practice
Student attainment	**Achievement of learning outcomes**	Optimal student engagement
		Improved student attainment

Table 2. Professional development: Whole school development

Main Categories	Key Themes	Sub-Themes
Whole school improvement	**Organisational change and support**	Value individual and collective contributions
		Fostering and nurturing of tacit skills and knowledge
		Fostering and nurturing of positive attitudes
		Shared Vision
		Supportive School Culture and climate
		Building school wide capacity
		Harnessing of skills, knowledge and expertise within schools
	Development of leadership and management skills	Clear and functional communication
		Resource development and allocation
		Administrative and planning skills
		Coordination of activities
		Fostering of constructive professional relationships
		Acknowledge effort and good practice
		Influence encourage and support
		Set example and model the goals
		Monitoring and evaluation of processes

A staff member at school F remarked that (LNTB) was just one of those programmes that got the buy in from everyone. That's why it was so successful. LNTB turned the whole feeling of the school. This view was confirmed by a teacher from school C: It (LNTB staff development programme) changed the school. The school is a different place now, but it also changed my life. At the onset of the project it was evident that the management of most of the schools had the desire to build school wide capacity. Adey (2004:6) states that deep-seated changes in pedagogical practice cannot be brought about without addressing both the individuals' fundamental attitudes to teaching and learning as well as the whole school's commitment to change. To ensure a change in the whole school requires the involvement of all staff members. This fact is supported by the school coordinator at School D The whole school participated …even the teacher in the toy library.

Although the staff development was mainly aimed at enhancing teachers' professional capacity, school leaders reported significant development in their leadership roles across the six schools. Some of the areas of leadership development that occurred were:

- *Planning and coordination: At all levels (the learning circle, school and larger network) coordinators had to ensure that all staff members adhered to the timeframes and activities as had been set out in all the management plans.*
- *Provision of direction and establishing clear communication: Clear direction was also identified as an important factor in leading and managing people during professional development activities.*
- *Modeling of organisational goals: The school leaders realised the importance of modeling good practice and to set a vision with clear organisational goals. One of the participants from the demonstration school commented: You have to inspire them (teachers from other schools)... That was the main focus to get them wanting to do this and to go back to the schools and to do it with enthusiasm.*
- *Provision of support: It was expected from school leaders to display interest in the activities that took place in the classroom and to provide curriculum and resource support. I craved some support. They (leaders) need to take the*

lead in your subject area, making sure they get around to your department. They have to show interest and need to support you.

- *Monitoring and evaluation of processes: The management at the school played an important role as part of the monitoring and evaluation processes. The participants indicated that when the managers conducted class visits they knew what to be looking for. They wanted to see what was being done and everybody was held accountable for the successful implementation of the LNTB programme.*
- *Acknowledging areas of good practice: It was evident that the teachers felt that leaders should lead by example. The principal also had to set an example and demonstrated the importance and value of staff development (Moolenaar, Daly & Sleege 2010).*
- *Allocation of resources: Participants viewed the distribution of resources as a main responsibility of the school managers and remarked that they needed to provide the resources. Leaders at School C indicated that the staff expected them to provide the resources and that they had to prioritise the allocation of resources.*
- *Distributed leadership: Although staff members expected school managers to fulfil the leadership roles in the learning circles, it was observed that the leadership roles were assumed by various members of the group, depending on the type of leadership required in that specific situation. This distribution of leadership led to the empowerment of the teachers within the group and these teachers were instrumental in taking ownership and driving the learning process. The importance of distributed leadership was summed up by one of the participants: It is also a fantastic example of a case study for collaboration and the champions that could take a level of ownership and drive the process... it was not always the same person driving the entire process... I think that benefitted the programme. As Roland Barth (2001:449) sums up These teachers become owners and investors in the school, rather than mere tenants - they become professionals. The findings of this study show that most of the participants perceived the training as positive and valuable in bringing about change, which not only referred to personal and professional gain, but also organisational growth. Although all participating schools indicated that they learnt much during the training, there were differences between the levels of practice and collaboration that took place. The findings show a close relationship between the success of professional learning and management and organisational context, climate and culture.*

Some schools faced difficulties in building meaningful relationships with their colleagues due to school conditions that were not conducive to professional learning. The weak interpersonal relationships between staff members at the school led to low levels of motivation and weakened practice. The staff development that took place was most successful in the schools where the interpersonal professional relationships were rated good. Schools with high levels of implementation were those schools who reported sound interpersonal relationships at all school levels.

High success levels of staff development were evident in schools where school management, in particular the senior management, understood the value of staff development in enhancing the quality of teaching and learning at the school. In schools where the staff development was more successful school leaders played a central role. Where there was an absence of directive leadership, the collaboration that took place was uncoordinated and the teachers did not take full advantage of the support provided by collaborative forums at the respective schools. Some of the teachers in these schools reported feelings of isolation. There was evidence of directive leadership and support where schools displayed high levels of commitment and motivation which in the end led to higher levels of learning. Feedback from the school leaders was reported to be another success factor in building motivation and commitment of the teachers. Positive encouragement and displaying interest in what was happening in the classroom enhanced teachers' efficacy and provided them with a sense of worth.

A dynamic collaborative network professional development model
According to Herberta and Rainford (2014:250) models can be used to guide investigations or in the case of model construction can be the result of the collection and interpretation of empirical data during the research process. In this study the proposed model for professional development was based on the findings of the study. On presenting the final stages of this study it was necessary to propose a name for the model that it will be referred to in future research literature. After careful consideration the name Dynamic Collaborative Networking Model (DCN model) was chosen. The DCN model for professional staff development has in its centre, a dynamic hub of expertise, that is regarded as the driving force for the actions that took place during the professional development. The word dynamic was chosen to describe the actions within the staff development model as these actions are forces which stimulate change or forces that produce movement (Hawker 2006:213). The dynamic hub of expertise was the most important

design feature of the model as it was this part which would drive the model to ensure that sustained, positive learning could be experienced by the teachers forming part of the CPD programme.

In table 4 the criteria of current CPD models are compared with those of the DCN model designed in this study. The symbols in the table below were used to indicate where the DCN model had embraced, overcame or had not been able to overcome the specific criteria of the earlier models. Table 3 explains the keys that are used in this comparison.

Table 3: Key used to compare the DCN and earlier CPD models

☀	The strengths that are embraced by the DCN model
★	The weaknesses that are overcome by the DCN model
▲	The weaknesses that are not overcome by the DCN model

Table 4:   The comparison between the DCN and earlier CPD models

Model	Focus of Model	Strengths	Weaknesses
Training Model	Focuses on standardisation and quality assurance.	It is valuable in introducing ☀ new knowledge.	It denies teachers the opportunity to play a pro-active role. ★ Teachers are placed in a passive role. ★ Newly acquired knowledge and skills are not practically applied. ★ It does not address the needs of teachers. Teachers lack motivation to attend workshops ★ Sharing of information is de-contextualised. ★
Deficit Model	Based on performance management. Attempts at raising standards.	It focuses on efficiency, effectiveness and accountability. ☀	Training is forced down on the individual. ★ It ignores personal needs of the teacher. ★
Cascade Model	Cascading or disseminating information to colleagues	It reaches out to a large group of teachers (training big numbers of teachers). ☀	It is a top down approach. ▲ It leaves room for misinterpretation of critical information. ★ Facilitators lack knowledge and understanding to manage the training process. ★ Varied levels of the facilitators impact on the quality of the training. ★ Facilitators lack understanding of various teaching contexts. ★ Facilitators' understanding of the training material and training may be limited. ★ It is time consuming. ▲
Model	Focus of Model	Strengths	Weaknesses
School-based Model	Training that takes place within the context of the school. Focuses on addressing practical problems. Includes classroom assistance.	It addresses the specific needs of schools. ☀ Training is context specific, teacher-specific and practical. ☀	It lacks the involvement from education authorities. ★
School-focused model	Off-site training. Aims at upgrading teachers' classroom skills and teaching strategies. Provide teachers with subject knowledge, theory and methodology.	It involves education authorities. ☀	It has limited success in building the capacity teachers. ★

Action learning Model	Reformed-based learning aimed at improving teachers' performance. Involves active learning based on reflection, planning and taking action. Learning takes place through collaboration.	It integrates theory and practice. Devolution of leadership leads to commitment. Action learning has a multiplying effect throughout the group.	It is difficult to maintain commitment; to develop effective leadership; And to extend participation from small teams of key staff members to whole-school engagement. It is a challenge to build the capacity of the school.

Model	Focus of Model	Strengths	Weaknesses
Demonstration school model	Demonstration school takes responsibility for providing professional learning in a network of four to five schools. Has at its core the collective enterprise for common good.	Integrates theory and knowledge in a real life context. Concentrates in one building where effective teaching is demonstrated. Visiting participating schools observe good practice throughout the entire school. Provides the opportunity for professional dialogue between colleagues from the various schools. Sets definite standards. Reduces isolation. Provides performance benchmarks.	It requires consistent and persistent hard work in order to sustain interest and successful outcomes. It brings about increased demands on the resources of the demonstration school. Professional practitioners (teachers) may become victims of the pursuit of improved quality.
Community of practice	Learning is seen as result of interaction with people. The collective skills & knowledge of expert staff members is used to shape that of other staff members. Through social interaction between staff members, new knowledge is constructed.	It increases the pool of resources (skills, knowledge, and expertise). It focuses on the holistic development of teachers It provides support and guidance	The learning can be positive and proactive or passive.

In comparing DCN model to other professional development models, it was found that the DCN model overcame most of the weaknesses as presented by the models studied, whilst embracing all the strengths of these models. There were, however, challenges posed by the newly proposed model. The implementation of the model could place strain on the resources of the demonstration school, not only the physical resources but also the human resources. The impact of this weakness could be reduced if staff members at the demonstration school saw value in being part of the learning networks. Furthermore if all role-players were made aware of the challenges posed by the model, it could limit the possible strain on the resources of the demonstration school and this challenge could be overcome with careful consideration and planning from all involved.

Secondly the concept of a hub of expertise used in this model required that the people operating within the *hub* require an advanced basis of skills and knowledge to meet the specific purpose of the planned staff development. The implication of this was that for every new topic that was introduced, it was necessary that a *new hub of expertise* had to be formed or built, depending on the expertise required for the professional development. If the expertise was available at school level, the expertise had to be utilised but in the absence of the necessary expertise schools could call on external experts to supplement the shortage.

Thirdly this type of training required commitment from all involved, yet school improvement should not be seen as a quick fix but rather as a highly integrated activity that requires deep seated change to take place within, the individuals bringing about organisational transformation. Caldwell (2008) points out that in order to bring about the transformation of schools and the activities within the schools rely on the alignment of four kinds of capital; social, intellectual (refers to the level of knowledge and skills of those who work in or for the school), financial (referring to

resources) and spiritual (refers to values, beliefs and attitudes of the school and its community. In this regard Dadds (2014) confirms the complex relationship between knowing and acting, while new and better practices can often not be predicted.

The proposed collaborative professional development model sought to build on established pockets of expertise and good practice nested in special education and recognises the importance of the active application of gained skills and knowledge in the specific context of the special education classroom. The collaborative staff development model embraced the following principles:

- It is student centered. The collaboration that takes place is employed to bring change in teachers' attitudes and classroom practice for the benefit of students with special educational needs.
- It builds on collaborative learning (Katz & Earl 2010) in established communities of practice and uses small groups (Learning Circles) to enhance the learning processes
- Meaningful internal and external networks are established, capitalising on relationships with outside organisations (Revans as cited in Willis 2011;Woolcock, 2000)
- Learning occurs through collaborative problem-solving (Pedder & Opfer, 2011).
- Pockets of expertise within schools are utilised. The networking activities provide the opportunity for harnessing the expertise, skills and knowledge of teachers within the system (Kaagan, 2004).
- Rich opportunities for context specific learning are provided (Timperley, Wilson, Barrar & Fung, 2007) in integrating theory and practice (Timperley, 2008).
- Professional learning activities to meaningful content and *purposeful activity* are connected (Penny 2003:8).
- The strong role of leaders is emphasised (Moolenaar et al. 2010; Muijs, West & Ainscow*,*

Figure 1 depicts a diagrammatic representation of the collaborative staff development model.

Figure 1:The proposed model of professional development

The proposed professional development model as shown in Figure1 includes the following six components: A represents the student who is in the centre of the model; B refers to the concept of a demonstration school; C represents schools participating in the professional development; D represents the parent community; E indicates the involvement of external organisations (Emergency Service, Early Childhood Development Institute University of South Africa, Local community, Fire Safety Dog and Handler); F highlights the importance that leadership plays in the model. The leadership in the four corners (F) of the figure reflects the important role of leadership in the professional learning programme. Leadership provided the cohesion necessary to keep the activities in the model synchronised.

The design features of the proposed CPD model are depicted in Figure 2.
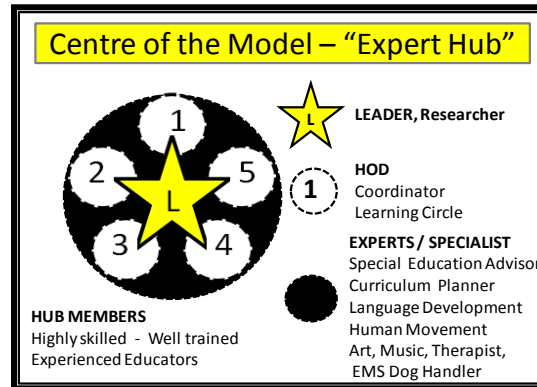
Figure 2: The dynamic hub of expertise

The *dynamic hub* is made up of people with extensive knowledge. The dynamic hub was extended to the whole school, leading to the school becoming a *dynamic hub of excellence*. The different learning circles were coordinated by a Head of Department and were made up of a teacher from each phase who adapted the LNTB message to be suitable for the students in their particular school. They then planned the LNTB activities and presented these activities to other teachers in the course of the LNTB research training. The learning circle team members as well as the rest of the staff moved dynamically across these boundaries and shared their knowledge and ideas. This implies that the framework itself was not static and should rather be viewed as fluid (Nel. Kempen & Ruscheinski, 2011).

The concept of a demonstration school operating in a network with six other schools was used (standard-based model). The concept of the development of a hub of expertise (demonstration school) forms the centre of the professional development model. The hub of expertise represents the involvement of internal experts such as curriculum specialists, music specialist teachers, art specialist teachers and/or therapists. External experts could also form part of the hub of expertise and such experts could involve the Department of Education, universities and businesses.

Figure 3 shows how the participating schools were linked to the hub of expertise (demonstration school) and each of the participating schools in return became a hub of expertise in its own right and formed a network with other organisations (schools). All lines used in the diagrams are broken lines indicating that they are permeable, allowing the free flow of information.
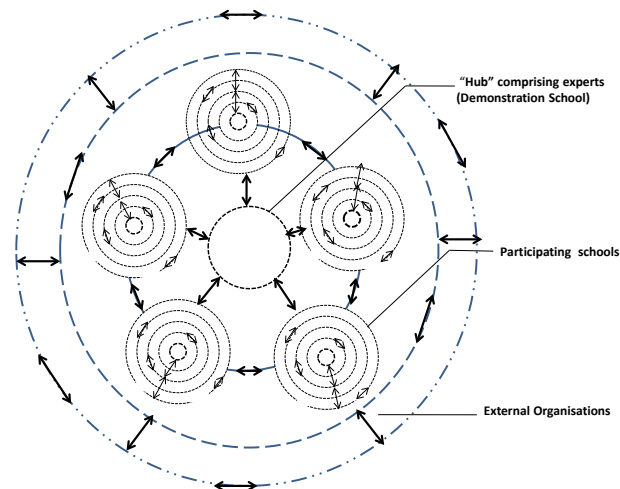
Figure 3. The hub of expertise (demonstration school) employed to train other school

Conclusion
The findings of the study reflected the success of the LNTB staff development that took place over a two year period in six special schools in Gauteng. In South Africa special education forms part of the national education system and

displays unique context-specific characteristics and requirements in meeting the needs of students with special educational needs.

This study served as an example of where valuable internal and external networks were based on collaborative learning were formed in order to enhance the pedagogical capacity of teachers with the ultimate aim of improving student outcomes. Connecting professional learning activities to meaningful content and purposeful activity has been identified as one of the critical success factors of learning that took place during the LNTB staff development programme. The collective nature of the learning provided rich sources of knowledge and skills to draw from. The hub comprised experts who had a good knowledge of special education and the LNTB programme.

The professional development that took place brought about positive change in the professional capacity of teachers, student outcomes and in the organisations. It led to higher levels of motivation and commitment, increased levels of innovation and creativity, higher levels of confidence and efficiency (despite initial insecurities) and ultimately led to improved classroom practices. The outcomes of the collaborative professional development programme on the school as a whole included positive change in professional relationships and restructuring of resources within schools

This research proved to be successful in building social capital through the means of collaborative learning and networking. Through networking teachers and schools acted collectively in sharing and creating knowledge with the ultimate aim of enhancing both individual and school performance. However, the long term impact of the staff development that took place was not assessed during this research and follow-up studies are recommended to establish the long term effect of the CPD on the teachers' performance, student attainment and the school as a whole. Furthermore, since this study was restricted to special schools this study should be extended to a wider range of educational institutions such as mainstream schools and tertiary institutions. Much still has to be learnt about professional development in different contexts, and especially about useful methods of professional learning to be found in developing countries.

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THE SCOPE OF ASSISTIVE TECHNOLOGY IN LEARNING PROCESS OF STUDENTS WITH BLINDNESS

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This study was carried out to investigate the scope of assistive technology in learning process of students with blindness. The sample of this study included 56 students with blindness between the ages of 11-22 years from secondary level of education. These students were selected through convenient sampling from five special schools located in four cities of province of Sindh, Pakistan including; Karachi, Hyderabad, Larkana, and Nawabshah. The study was conducted with the help of a structured questionnaire. The hypotheses of the study were tested through percentage and Chi-Square method. The results of the study revealed that, majority of the special education schools/institutes were not providing sufficient assistive technology for students with blindness and the schools did not have sufficient accessibility of assistive technology for students. There was a lack of awareness among students with blindness regarding importance of assistive technology. It is expected that this study will help in creating awareness among students with blindness about the importance of assistive technology in learning process. The study will enable the school administrators to arrange assistive technology in their schools.

Introduction
According to recent estimates by the World Health Organization (WHO), 285 million people worldwide are visually impaired (Pascolini & Mariotti, 2011). Of these, 39 million are blind while 246 million have low vision. Without additional interventions, these numbers are predicted to significantly increase by the year 2020 (WHO, 2003). In Pakistan there are 1.4 million people with visual impairment (Sight Savers International, 2011). In past decades very few researches on assistive technology were conducted to find out the availability of assistive technology for persons with blindness and students with blindness were neglected in these researches (Okolo & Bouck, 2007). Ijaz & Durrani (2011) also pointed out the lack of research conducted in Pakistan to assess the Information Communication Technology needs of persons with blindness.

This is the era of technology which has great influence in the lives of human beings both in developed and under developed countries. Because of technology, the "impossible" can be made "possible". Assistive technology is technology that increases, improves, or maintains the functional capabilities of students with disabilities (Rose, Hassel bring, Stahl, & Zavala, 2005). Like other persons with disabilities, the individual with blindness also face many difficulties because of their disability but main issues include; independent living, access to information and meaningful experience, although they are entitled to independence and efficiency afforded by technology, including assistive technology (Kelly, & Smith, 2011). According to IDEA (2004), assistive technology is used to improve and maintain the functional capabilities of individuals with disabilities. Assistive technology can not remove the disability but it can reduce the impact of the disability (Moore, 1991). Teachers are using assistive technology enabling students with disabilities to learn, communicate and participate with their peers in classroom teaching.

During last three decades, assistive technology has evolved from specific devices or adaptations, to more general software and hardware solutions which can support students along a continuum of ability (Duhaney & Duhaney, 2000). The high-tech assistive technology that has emerged over the last two decades has made a particularly

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dramatic impact on education, and has also captured the imagination of the public (Behrmann & Schaff, 2001; Edyburn, 2002).

Many researchers emphasize on the use of assistive technology in teaching learning process of children with and without disabilities because assistive technology enables teachers to teach those concepts which seemed to be difficult or impossible to teach children with disabilities (Allen, Bowden & James, 2009; Peck & Scarpati, 2006). Although the existing benefits of technology for students with disabilities are already widely recognized (Edyburn, 2003; Hasselbring & Glaser, 2000; Raskind & Higgins 1995; Rose & Meyer, 2002), but frequently it is not applied to solve all their special needs (Johnston, Beard, & Carpenter, 2003). In past decades very few researches on assistive technology were conducted to find out the availability of assistive technology for persons with blindness. This present study was designed to find out the scope of assistive technology in learning process of students with blindness. This study will create awareness among students with blindness about the importance and utilization of assistive technology thus enabling them to learn effectively and live independent life by securing quality jobs and becoming an economically valuable person of society. The findings will also be helpful for the management of special schools/institutes in improving the efficiency of their schools by providing a meaningful education to their students with disabilities through the use of assistive technologies in their teaching learning process. The study designed to accomplish the following objectives:

1. To explore the scope of assistive technology in education of students with blindness.
2. To find out the availability of assistive technology from special education schools/institutes for the students with blindness.
3. To find out the accessibility to assistive technology by special education schools/institutes for the students with blindness.
4. To find out the awareness of students with blindness about the importance of assistive technologies.

Hypotheses of the Study
1. Majority of the special education schools/institutes were not providing sufficient assistive technology for students with blindness.
2. In majority of the special education schools/institutes there was no sufficient accessibility of assistive technology for students with blindness.
3. There was a lack of awareness among students with blindness about the importance of various assistive technologies that can be used in their learning process.

Research Questions
    Research question 1: What was the scope of assistive technology in learning process of students with blindness?
    Research Question 2: Was there sufficient usability and accessibility of assistive technology for students with blindness in their learning process provided by the school management?

Method
This was an exploratory mixed method research both qualitative and quantitative in nature. The mixed method research has become a popular methodology for social sciences in the recent past (Bryman, 2006; Bryman, 2007). The aim of this research study was to explore the scope of assistive technology in learning process of students with blindness. The data from five schools for students with blindness in Sindh was collected through correspondence methods through email and post.

Participants
The sample of the study included 56 students with blindness between the ages of 11-22 years from secondary level of education selected through convenient sampling from five special schools located in four cities of province of Sindh of Pakistan namely; Karachi, Hyderabad, Larkana, and Nawabshah. The Geographical distribution of sample and the demographic characteristics of sample are given in table 1 and 2 respectively.

Table 1. Geographica Distribution of Sample

S. No	Cities	Schools		Students (N= 56)	
		N	%	N	%
1	Karachi	2	40	32	57.1
2	Hyderabad	1	20	8.0	14.3
3	Larkana	1	20	8.0	14.3
4	Nawabshah	1	20	8.0	14.3

Table 2. Demographic Characteristics of Students (N=56)

S. No.		N	%
1	*Gender*		
	Male	22	39
	Female	34	61
2	*Age in years*		
	11 to 14	15	27
	15 to 18	25	45
	19 to 22	16	28

Description of Instruments
The study was conducted with the help of a structured questionnaire having both open ended and closed ended questions. For face validity this questionnaire was further pre-tested on three students with blindness from two special schools in Karachi city later on they were not included in the sample of the study. The main objective of pretesting was to assess accuracy and clarity of the instrument. After making minor changes in questionnaire, a friendly user questionnaire was developed for the study.

Data Collection and Analysis
The investigator visited the school of blindness in Karachi city, and interviewed the students with blindness in bilingual language i.e. Urdu and English. The responses were filled in the questionnaires on the spot. The data from other three cities of Sindh Province were collected through correspondence methods. The process of data collection took a period of almost two months. The data was analyzed with the help of Statistical Package for Social Sciences (SPSS). Hypotheses testing were made through chi square and Statistical Electronic views. The statistical results were then interpreted and the findings were compiled to give clear picture of the findings of the study.

Findings
Research question 1: What was the scope of assistive technology in learning process of students with blindness?
The scope of assistive technology in learning process of students with blindness was measured through such factors as; the students' opinion regarding definition of assistive technology, their linkage to those institutes which can provide information regarding assistive technology, and arrangement of workshops or seminars for the students about awareness of assistive technology by schools/institutes.

Table 3. Students' Opinion Regarding Definition of Assistive Technology (N = 56)

S. No	Definition	N	%
1	Basic need of children with VI	52	92.85
2	Scientific Instruments	42	75.00
3	Alternative Method of Learning	42	75.00
4	Helpful Technology	19	33.92
5	No life of children with blindness without assistive technology	19	33.92
6	Useful for Educational Purpose	07	12.50
7	Helps to live independently for blind	25	44.64
8	Supportive materials for functional life	49	87.50

Table 3 indicates that when the students were asked about their opinion as what is assistive technology, they gave variety of responses. Majority of the students (92%) said that assistive technology is a basic need of students with blindness, while considerable number of students responded that it is a scientific instrument and an alternative method of learning (75 % each). Other responses included; it is a helpful technology (by 34 %), no life for the students with blindness without assistive technology (by 34 %), it is useful for the educational purposes (by 13 %), it helps to live independently in their life (by 45 %), and it is a supportive material for functional life (by 88 %). The data shown above indicates that the responses given by the students did not reflect a precise definition of assistive technology but reflected the significance and utilization of assistive technology in their life.

Table 4. Students' Linked with those Institutes, which Provide Information Regarding Assistive Technology

S. No	Responses	N	%
1	Yes	15	26.78
2	No	41	73.22
Total		56	100.00

Table 4 illustrates that when the students were asked about their linkage to those institute which can provide information regarding assistive technology to the students, majority of the students (73 %) stated that they didn't have any linkage with the institute while some students (27%) mentioned that "yes" they have been linked with that type of institutes which can provide Assistive technology to them. There for our hypothesis number 3 that there was a lack of awareness among students with blindness about the importance of various assistive technologies that can be used in their learning process is accepted because majority of the students were not having any linkage with the institutes which provide information regarding assistive technology.

Table 5. Arrangements of Seminars/Workshops about the Awareness of Assistive Technology for the Students by Schools/Institutes

S. No	Responses	N	%
1	Yes	17	30.35
2	No	39	69.65
Total		56	100.00

Table 5 represents that when the students were asked about the arrangement of seminars/workshops regarding the awareness of assistive technology for the students by the schools/institutes, majority of the students (70 %) stated that their schools/institutes didn't arrange any awareness program for the assistive technology while some students (30 %) mentioned that "yes" their schools/institutes arranged programs for the awareness regarding the use of assistive technology.

In conclusion to research question number 1, it can be said that although majority of the students believed that assistive technology is a basic need of students with blindness but majority did not have any linkage to those institute which can provide information regarding assistive technology. Moreover majority of the schools/institutes did not arrange programs for the awareness regarding the use of assistive technology to the students; therefore we can conclude that the scope of assistive technology was very limited in the learning process of students with blindness.

Research Question 2: Was there sufficient usability and accessibility of assistive technology for students with blindness in their learning process provided by the school management?
The usability and accessibility of assistive technology for students with blindness in their learning process was measured by; the types of assistive technology used by the students, provision of free of cost assistive technology for their home assignments by their school/ institutes, the provision of advanced assistive technology by the school/ institute to students, type of advanced assistive technology provided to students, the students' opinion regarding the availability of assistive technology, the students' opinion regarding the accessibility of assistive technology for them, and the provision of assistive technology in school to fulfill the need of all students with blindness.

Table 6. Type of Assistive Technology Used by the Students Mostly

S. No	Types	N	%
1	Braille Sixer	40	71.42
2	Word Building Educational Kit	06	10.71
3	Braille Alphabet Plate Urdu/English	06	10.71
4	Speaking Dictionary	28	50.00
5	Stylus	56	100.00
6	Braille Slate	56	100.00
7	Perkin Brailler	28	50.00
8	Talking Calculator	27	48.21
9	Abacus	02	3.57
10	Arithmetic's & Algebra Frame	56	100.00
11	Geometry Set	02	3.57
12	Writing And Diagram Slate	01	1.78
13	Magnetic Menstruation Geometrical	00	0.00
14	Braille embosser/printer	02	3.57
15	Braille Display	02	3.57

Table 6 represents the types of assistive technology used by the students. The responses by the students included; that majority of the students used stylus, Braille slate and Arithmetic & algebra frame (100 % each) whereas considerable number of students (71 %) used Braille Sixer for their academic purposes. The other type of assistive technology used were; speaking dictionary, talking calculators, & Perkin Brailler (50 % each), Braille Alphabet Plate Urdu/English (11% each), Word Building Educational Kit, geometry set, Braille embosser, & Braille Display (4 % each), Abacus, writing & diagram slate (4 % each) and while no one using Magnetic Menstruation Geometrical.

Table 7. Provision of Free of Cost Assistive Technology to Students for their Home Assignments by School/Institute

S. No	Responses	N	%
1	Yes	07	12.50
2	No	35	62.50
3	To some extent	14	25.00
Total		56	100.00

Table 7 specifies that when the student were asked regarding the provision of free of cost assistive technology for their home assignments by their school, majority of the students (62 %) stated that there was no support for the provision of assistive technology from the school, at the same time some students (25 %) said that the school

provides assistive technology "to some extent", while very few students (12 %) said "yes" about the provision of assistive technology for the home assignments.

Table 8. Provision of Advanced of Technology by School

S. No	Responses	N	%
1	Yes	10	17.82
2	No	33	58.97
3	To some extent	13	23.21
Total		56	100.00

Table 8 represents the provision of advanced of technology by the schools/ institute to their students. Majority of the students (59%) said that there was no provision of advanced technology by their school; on the other hand very few students (18%) stated that there was a provision of advanced technology, while some students (23%) mentioned that the provision of advanced technology was "to some extent" only.

Table 9. Type of Advanced of Technology Provided by Schools/Institutes (N = 23)

S. No	Types	N	%
1	Daisy player	2	8.7
2	Braille Embosser/Printer	4	17.4
3	Computer with speech Softwares	8	34.8
4	Internet	8	34.8
5	Smart Brailler	0	00

Table 9 shows that 10 students mentioned about the provision of advanced assistive technology and 13 students mentioned about its provision to some extent only. These 23 students were asked about the type of advanced technology provided by their schools/institutes to them. Table 7 indicates that majority of the students mentioned that computer with speech software, and internet facilities (34.8% each) were provided by their schools/institutes, 17.4% students stated that their schools/institutes provided Braille embosser/printer facilities, 8.7% responded for the provision of daisy player and there was no response for the provision of smart Brailler.

Table 10. Students' Opinion Regarding the Availability of Assistive Technology

S. No	Responses	N	%
1	Yes	08	14.3
2	No	35	62.5
3	To some extent	13	23.2
Total		56	100.00

Table 10 represents the students' opinion regarding the availability of assistive technology. More than half of the students (62.5%) mentioned that the assistive technology was not available to them and few students (14.3 %) responded that assistive technology was available to them whereas 23.2 % students had the availability of assistive technology "to some extent" only.

Table 11. Students' Opinion as if Assistive Technology is Accessible to Them

S. No	Responses	N	%
1	Yes	8	14.3
2	No	38	67.85
3	To some extent	10	17.85
Total		56	100.00

Table 11 reveals the students' opinion regarding the accessibility of assistive technology to them. Response from the majority of the students (67.85 %) was "no" whereas response by 14.3 % students was "yes". Few students (17.85%) responded that they had accessibility of assistive technology "to some extent" only. There for our

hypothesis that in majority of the special education schools/institutes there was no sufficient accessibility of assistive technology for students with blindness is accepted.

Table 12. Provision of Assistive Technology in Schools to Fulfill the Needs of Students with Blindness

S. No	Responses	N	%
1	Yes	06	10.71
2	No	40	71.44
3	To some extent	10	17.85
Total		56	100.00

Table 12 represents the provision of assistive technology in schools to fulfill the need of students with blindness. Majority of the students (71.44 %) responded that schools couldn't provide the assistive technology to fulfill their needs while 10.71 % students responded as "yes" and 17.85 % said that schools/institute provided the assistive technology according to fulfill their needs "to some extent only". There for our hypothesis that majority of the special education schools/institutes were not providing sufficient assistive technology for students with blindness is accepted.

Conclusion of research question no 2 indicates that mostly the students with blindness did not have accessibility to and proper availability of assistive technology. Most of the schools were not providing advanced assistive technology to their students. There for our hypothesis no # 2 that majority of the special education schools/institutes was no sufficient accessibility of assistive technology for students with blindness was accepted. The basic (less expensive) assistive technology was used in schools for teaching and also as personal usage including; Braille writing slate, and math slate, stylus, talking watches and clocks, walking sticks and mobiles supporting talking software. The advanced technology like; Perkin Brailler, Braille printer/embosser, computer with speech softwares, internet, electronic canes, and daily living aids were also used in very few schools/institutes. The responses by the students reveals that a hypothesis no # 3, there was a lack of awareness among the students with blindness about the importance of various assistive technologies that can be used in their learning process that was accepted because the students didn't have any linkage with those institutes, which provide information regarding assistive technology and schools didn't arrange any awareness workshops or seminars about assistive technology for the students.

Discussion

Assistive technology plays a vital role in the lives of human beings because of its diversified use like; to access information, participate in different activities, or complete a task independently or with minimal assistance. Mastery of assistive technology contributes to the development of literacy and academic success, social interaction among peers, independence and the potential of future employment (Hatlen, 1996). In an interview with 15 assistive technology users with blindness Shinohara &Wobbrock (2011) noted that their participants had a strong desire to use technology to do things "just like everyone else", as this quote from one participant with blindness illustrates: "You know, if someone's using an iPhone, and I'm using an iPhone, that's normal, right.

Our study reveals that students with blindness did not have a clear perception about the importance & scope of assistive technology in their learning process. Majority of the students mentioned that assistive technology is their basic need and a supportive material for functional life. These finding are supported by De Freitas et.al (2009) in a study which mentioned that information technology enhances reading and writing skills, as well as communication with the world on an equal basis, thereby improving quality of life and facilitating the learning process of students with blindness. A study by Koganuramath & Choukimath (n.d.) reveals that the students with visual impairment in India have been deprived of most of the information sources in print format accessible to the normal students making them, to an unacceptably high degree, dependent on normal people or escorts to read for them.

Access to assistive technology should be a right and not a privilege but majority of the students in our study stated that there was no availability and access to assistive technology for them and there was no support from the school for the provision of assistive technology, and even no provision of advanced technology by their schools. The similar situation was shown by results of a study conducted by Munemo & Tom (2013) in Zimbabwe highlighting that technologies like print media, radio, large print materials, talking books were not available and Braille machines and Braille paper were in short supply. This is the situation in developing countries too and even the advanced countries have similar issues as indicated by Ethridge (2005) in a study conducted in USA by pointing out that, for

individuals with a sensory impairment, particularly low vision or blindness, accessing reading materials that are in a printed format can present specific challenges. This study further elaborates the situation of libraries in USA by saying that there are 10 million individuals with low vision and blindness within the United States but equal access to information to those with low vision continues to be an issue for all libraries. In our study, majority of the students mentioned that they didn't have linkage to those institutes which can provide information regarding assistive technology and their schools/institutes did not arrange the workshops/seminars regarding the awareness of assistive technology.

Conclusion
In Pakistan we encounter the isolation of persons with disabilities, lack of awareness, lack of resources and facilities about the use of technology for persons with disabilities, and attitude problem of society towards the persons with disabilities. But prevailing situation reveals that young generation is more excited towards the use of assistive technology. The research findings reveal that there is encouraging and bright scope of assistive technology because education and training of modern aids is widely accessible (Behrmann, &Schaff, 2001). Mostly the youth with blindness for the purpose of rehabilitation, accomplishment of higher education and getting good jobs is compelled to depend upon the technology (Siddiqui, 2004; Sharma, 2007). Now a day, it is mostly observed that students and teachers with blindness are found very active and enthusiastic to acquire modern technology suited to their training, education, and daily life (Rockoff, 2004). This indicates the encouraging aspect of assistive technology and its natural progress by virtue of its many fold role and impact in life of persons with blindness (De Freitas et al., 2009).

Recommendations
There is a need to create awareness among persons with blindness about the importance of using assistive technology in their day to day life, learning, recreation and other purposes. The schools need to play their role enabling the students with blindness to develop their linkage with those institutes which can provide information regarding assistive technology. The schools should organize workshops and seminars for the students with blindness to create awareness about the use of assistive technology. School/ institutes need to provide free of cost assistive technology that can help students with blindness to manage their home assignments.

There is a need of provision of advanced assistive technology by the school/ institute to students with blindness. Accessible format materials like Braille and Audio should be provided by schools for the students with blindness. To the maximum possible extent the technology/assistive devices may be tried to develop and manufacture locally to avoid the extra cost and irrelevant hindrance like linguistic barrier. To develop the technology locally as per the local requirement, the different components like industrialists, manufacturers, engineers and authorities to facilitate and protect legal requirements may be mobilized by funding agencies both nationally and internationally.

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EXPERIENCES OF STUDENTS WITH LEARNING DISABILITIES IN ONTARIO UNIVERSITIES: A CASE STUDY

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This qualitative study examines the university experiences of four students with learning disabilities (LDs) in Ontario. The research focuses on individual and institutional barriers and facilitators, as well as social supports. Using a case study design, a series of three in-depth interviews were conducted with the participants. The findings showed that although the students' LDs could compromise their academic performance in university, they made use of the accommodations and services available to them and did well. In contrast to other research, these participants did not encounter any institutional barriers (i.e., professors' negative attitudes towards granting accommodations). Though they had all developed individual capacities that were important to their success, the students revealed that without a facilitating environment, they would not have achieved high grades. In this study, social supports were less important facilitators than individual capacities and institutional support. It is recommended that postsecondary institutions manage exam accommodations, thereby guaranteeing the opportunity for students with LDs to realize their academic potential.

Introduction
In recent years there has been a higher enrolment of students with disabilities in postsecondary institutions (Getzel, 2008). Leyser and Greenberger (2008) attribute this increased participation to civil rights legislation, technical innovations, and support services at universities. Likewise, enrolment rates of students with learning disabilities (LDs) have increased (Lindstrom, 2007; Orr & Goodman, 2010; Stage & Milne, 1996), but this sector of the population is still underrepresented (Mull & Sitlington, 2003; Ryan & Brown, 2005). Despite increased access and support, these students have longer completion times (Erten, 2011), often due to taking a reduced course load during their program (Duquette, 2000; Tsagris & Muirhead, 2012; Vogel & Adelman, 1992), and an overall lower graduation rate (Greenbaum, Graham, & Scales, 1995; Webb, Patterson, Syverud, Seabrooks-Blackmore, 2008). While challenges exist, students with disabilities are motivated to graduate from a postsecondary program to achieve a personal goal (Erten, 2011; Greenbaum, et al., 1995); prove their worth (Moola, 2015; Reis, Neu, & McGuire, 1997), and to meet family and peer expectations (Greenbaum, et al., 1995). One of the most important reasons for pursuing postsecondary studies is to enhance success in the workplace (Greenbaum, et al., 1995) and obtain the financial security employment can bring (Duquette, 2000; Moola, 2015; Webb et al., 2008). To realize the goal of graduation, the literature shows that students with LDs need specific individual capacities and personal characteristics (Reis et al., 1997; Greenbaum et al., 1995), social supports (Lombardi, Murray, Gerdes, 2012), and institutional assistance (Wagner, Newman, Cameto, Garza, & Levine, 2005; Orr & Goodman, 2010). However, there are also barriers to graduation that are related to individual characteristics (Erten, 2011; Tsagris & Muirhead, 2012) and institutional policies and practices (Hindes & Mather, 2007; Ryan, 2007). Within this literature, the voices of students with LDs are often not heard (Erten, 2011; Fuller, Bradley, Healey, 2004; Orr & Goodman, 2010) and there is a need to understand their challenges and perspectives to inform the development and implementation of support strategies. The purpose of this qualitative research was to understand the educational experiences of four Canadian university students with LDs so as to shed light on the interaction between individual capacities, social supports, and institutional supports.

Review of the Literature
In this section the barriers and facilitators that can affect the experiences of students with LDs in postsecondary programs are described.

Barriers
Individual barriers.   The cognitive differences associated with learning disabilities constitute a barrier faced by students in postsecondary institutions.   Slower processing and poor reading, writing, and spelling affect academic functioning (Erten, 2011; Harrison, Larochette, & Nichols, 2007; Ryan, 2007; Stage & Milne, 1996) and consequently some students with LDs experience problems meeting academic requirements (Lombardi et al., 2012). A second barrier is low self-confidence and feelings of embarrassment about having LDs (Harrison et al., 2007; Orr & Goodman, 2010; Tsagris & Muirhead, 2012).   These feelings and the stigma of being labelled and fear of lower expectations by professors sometimes result in a reluctance to disclose their disabilities and request academic accommodations (Moola, 2015; Stage & Milne, 1996; Tsagris & Muirhead, 2012; Wilgosh, Scorgie, Sobsey, & Cey, 2010).   However, refusing to take advantage of accommodations could limit the student's academic outcomes, as they serve to compensate for the problems associated with the disability (Mull & Sitlington, 2003).

Institutional barriers.   The barrier most often cited in the literature is professor attitudes towards accommodations. Ryan (2007) suggests that a few professors believe that the difficulties experienced by students with LDs arise solely from impairments from within and not the university environment. Others posit that professors are concerned that providing accommodations, such as extended time on exams and alternate exam formats, to students with LDs gives them an unfair advantage and may lower the course standards (Leyser & Greenberger, 2008).   As well, some professors suspect that students with LDs try to take advantage of the system by asking for accommodations (Denhart, 2008).   Researchers contend that these negative attitudes are usually due to lack of awareness about the importance of accommodations and not out of maliciousness (Ryan, 2007; Stage & Milne, 1996).   Students with LDs need accommodations (Banks, 2014) and denial of them negatively affects their experience at university (Ridley, 2011; Ryan, 2007), more specifically their academic achievement (Duquette, 2000; Erten, 2011) and sense of belonging (Ryan, 2007).

A second institutional barrier is the variation of policies on inclusion adopted by postsecondary institutions (Hindes & Mather, 2007).   In Canada the Canadian Charter of Rights and Freedoms as set out in The Constitution Act of 1982, enacted in 1985, declares that *every individual is equal before and under the law and has the right to equal protection and equal benefit of the law without discrimination and, in particular, without discrimination based on …mental or physical disability* (Department of Justice Canada, 1982).   Therefore, federal legislation combined with the provincial Human Rights Codes ensure that students cannot be denied admission to a postsecondary institution on the basis of their disabilities.   Once admitted to a postsecondary institution, students with disabilities often require support (Wagner et al., 2005; Orr & Goodman, 2010).   In Canada, policies that support students with LDs vary from province to province and the practices of special services departments are different in each college and university.   In Ontario, the Ministry of Training and Colleges and Universities provides dedicated funds to cover the costs of supports, such as assistive technology (Harrison et al., 2007), so that postsecondary institutions can meet the needs of students with disabilities.   While assistive technology can be a tremendous help for students with LDs (Draffan, Evans, & Blenkhorn, 2007), accommodations are crucial (Lombardi et al., 2012).

The issue of who grants accommodations, such as extra time to write examinations, is not well defined.   In some universities, accommodations are negotiated by the students with their professors and it is up to the individual professors to decide whether or not to give them.   Therefore, even if students are receiving support from the special services department, the actions of the professors can still have negative consequences for their learning and grades (Stage & Milne, 1996; Ryan, 2007).   Some students with LDs eventually stop requesting accommodations because they are uncomfortable trying to convince their professors of their disabilities (Madaus, Scott, & McGuire, 2003; Tsagris & Muirhead, 2012).   In some institutions if a professor denies a request for accommodations, the director of the special services department intervenes and has a discussion with the instructor about the importance of the accommodations to the particular student (Erten, 2011; Reis et al., 1997).   While there is no consistent policy governing the management of accommodations for students with LDs, it is usually the responsibility of the student with LDs to negotiate them with the professors.

Facilitators

Individual capacities. Reis et al. (1997) describe the individual capacities that facilitate the outcomes of individuals with LDs as personal qualities developed from adversity. These capacities include self-awareness (Reis et al., 1997), self-determination (Brinckerfoff, McGuire, & Shaw, 2002; Erten, 2011; Getzel, 2008; Greenbaum, et al., 1995), self-advocacy (Erten, 2011; Harrison, et al., 2007; Wilgosh et al., 2010), a goal-oriented disposition (Duquette, 2000), self-discipline (Duquette, 2000; Stage & Milne, 1996; Wilgosh, et al., 2010), and determination (Duquette, 2000; Greenbaum, et al., 1995; Lindstrom, 2007; Reis et al., 1997). As well, during their elementary and secondary schooling, students with LDs must learn how they learn best (Lindstrom, 2007; Stage & Milne, 1996; Tsagris & Muirhead, 2012), and develop an ethic of hard work (Greenbaum, et al., 1995; Lindstrom, 2007; Reis et al., 1997; Wilgosh,, et al., 2010). While in high school, these students must also ensure they have the academic preparation to meet the requirements of their postsecondary programs (Duquette, 2000; Webb, et al., 2008). As accommodations are an important factor related to the academic success of students with LDs, they must register with the special services department at their college or university and make use of the accommodations that are available (Lindstrom, 2007; Lombardi et al., 2012; Reis et al., 1997; Tsagris & Muirhead, 2012).

Institutional. Accommodations have been identified by some researchers as important determinants of the academic performance of students with LDs (Lombardi et al., 2012; Mull & Siltington, 2003; Wagner, Newman, Cameto, Garza, & Levine, 2005). Some accommodations and services that are typically provided by the institution and have been shown to be useful are priority registration, note takers, counselling, self-advocacy assistance, and summer transition programs (Duquette, 2000; Reis et al., 1997; Tsagris & Muirhead, 2012; Webb, et al., 2008). Extra time for examinations, permission to record lectures, access to PowerPoints and lecture notes, and alternative forms of evaluation (e.g., a combination of oral and written) are also helpful, though not always available because students with LDs negotiate these accommodations with their professors (Duquette, 2000; Lindstrom, 2007; Tsagris & Muirhead, 2012; Webb et al., 2008). However, accommodations that are easy to implement, such as making PowerPoints available, are provided by some professors (Hindes & Mather, 2007; Leyser & Greenberger, 2008). Research shows that when professors accept that students with LDs have different learning needs and work with them on accommodations, they had positive experiences at university (Madaus, et al., 2012). As well, Vogel, et al. (1999) make the point that the more willing a professor is to grant accommodations, the more effective they are for the students.

While accommodations are critical for many postsecondary students with LDs, having access to assistive technology can also be important. Mull and Sitlington (2003) contend that assistive technology is a way for students with LDs to compensate for their academic difficulties which are related to their disabilities (e.g., reading and writing). Technology, such as voice recognition software, recording devices, text-to-speech software, and concept mapping tools make a positive difference for some students with LDs (Draffan, et al., 2007; Li & Hamil, 2003). and Draffan, et al.,(2007) make the point that the use of assistive technology can increase academic self-confidence among students with dyslexia. Tsagris and Muirhead (2012) have also reported that the use of assistive technology and self-advocating with professors were related to higher grades, and Lindstrom (2007) found that assistive technology and personal qualities, such as an ethic of hard work, increased motivation among students with LDs. The literature therefore has shown that assistive technology on its own and in combination with specific individual capacities can have positive outcomes for postsecondary students with LDs.

Social supports. Families have been identified as the most important source of social support for students with LDs (Lombardi et al., 2012; Lindstrom, 2007; Orr & Goodman, 2010; Reis et al., 1997). They provide the financial and emotional support that are related to persistence and help maintain a sense of personal worth (Greenbaum, et al., 1995). While family support is beneficial, lack of support does not always result in decreased functioning (Litner, Mann-Feder, Guérard, 2005; Wilgosh, et al., 2010). Peers, tutors, and professors can also provide emotional and academic support (Greenbaum, et al., 1995; Lombardi, et al., 2012; Stage & Milne, 1996).

As shown above, barriers such as professor attitudes and institutional policies can also be facilitators. While much is known about the barriers and facilitators that affect the experiences of students with LDs in postsecondary institutions, less is known about those experiences from the perspectives of the students themselves (Erten, 2010; Fuller, Bradley, & Healey, 2004; Orr & Goodman, 2010). This information can inform our understanding, as well as policy and practice. It was the purpose of this qualitative research to examine the experiences of postsecondary students with LDs studying in Ontario and to understand the interaction between the barriers and facilitators.

Methodology

This qualitative research used a multiple case design to gain an in-depth understanding of the university educational experiences for four students with LDs (Stake, 1995). Each participant's experiences were described and a cross-case analysis was conducted from which themes about the facilitators and barriers and their interaction emerged. The participants, data collection, data analysis, and trustworthiness are described in this section.

Participants
The participants in this study were recruited through advertisements placed at the special services departments at two universities and one college in Ontario and on the website of the Learning Disabilities Association of Ontario. The selection criteria were enrolment or completion of a postsecondary program in Ontario, diagnosis and identification of LDs in elementary school, and having received accommodations or special programs while in elementary and secondary school. Eight potential participants responded by e-mail, but two did not meet the requirements of this study and two did not follow through with the scheduling of interviews. The remaining four respondents (one male and three females) met the above criteria and were the participants in this research (see Table 1). Jack, Lauren, Elizabeth, and Ashley ranged from 21 to 25 years. Elizabeth had recently completed two baccalaureate degrees and the others were nearing completion of their respective undergraduate programs. Three participants with LDs had a GPA in the *A* range and one individual's GPA was in the
B range. Pseudonyms were assigned to the participants to protect their identities.

Table 1.The Participants

Participants	Age	Diagnosis	Accommodations
Jack	22	Short-term memory, visual-motor integration, visual processing, Asperger's Syndrome	Write exams in a quiet location, up to 50% more time, access to a computer, note-taker, copy of lecture notes
Lauren	23	Dyslexia	Write exams in a quiet location, up to 50% more time, access to a computer, text-to-speech software, speech synthesis software, tutor for statistics
Elizabeth	23	Poor eye-hand coordination, processing problems	Write exams in a quiet location, up to 50% more time
Ashley	21	Working memory, processing delays, problems with reading comprehension	Write exams at the special services department, up to 50% more time, one exam per day, access to a computer

Data Collection
Individual interviews were conducted with each participant using Seidman's (2006) three interview series. The first interview focused on the diagnosis and past educational experiences in elementary and secondary school. In the second interview the questions were directed at obtaining information on the participants' university experiences, including facilitators and barriers. During the third interview the participants reflected on the meaning of their experiences. The interview questions represented a synthesis of the literature on barriers and facilitators in relation to the postsecondary education of students with disabilities and LDs in particular. Some of the questions were *Do you use the services available to students with disabilities on your university campus? What services have you used? Have they been helpful? Why? Why not? ; What personality traits helped you or will help you reach your*

goals?; and What have you learned from this experience? Each interview lasted about 90 minutes and they were conducted about five to seven days apart. The participants received the transcripts of their interviews so that they could be assured that their ideas were expressed to their satisfaction (Mertens, 2014). Only one participant revised a transcript by adding more information about a particular experience.

Data Analysis
The transcripts were read repeatedly, important sections were highlighted, and notes were made in the margins. The data were coded and categorized according to the various barriers and facilitators described in the literature. The individual cases were created from the data and the researchers conducted a cross-case analysis separately and agreement was reached on the themes that emerged. Two measures of trustworthiness were used in this study: credibility and transferability. Having the participants approve their transcripts (member checks) ensured that the data were authentic and served to increase the credibility or the fit between the participants' intended meaning and the researcher's interpretation of it (Mertens, 2014). Transferability refers to the readers' ability to transfer the findings to other situations, cases, or populations (Creswell, 2012). Transferability was enhanced by the rich, in-depth data on the participants' experiences and perceptions that were produced from the interview process.

Findings
Case Studies
Jack. Jack, a 22-year old university student, is employed full-time in the high tech industry, and is working part-time on his degree. Diagnosed with LDs when he was 7, his assessment revealed that he has difficulties with short-term memory, visual-motor integration, and visual processing. Recently, he was also diagnosed with Asperger's Syndrome and stated that his *social comprehension skills are weak*. In elementary school Jack was withdrawn for remedial assistance and received occupational therapy for writing. With this support, he was able do well in school. Jack received support from his high school resource teacher, whom he credits as being a strong advocate for him. He was permitted to write examinations in a quiet location, have up to 50% more time, and have access to a computer. Jack explained that he needed these three accommodations to achieve high marks. However, not all of his teachers were willing to grant them, and he bitterly complained that *his fate was in the hands of teachers*. In the final year of high school, his average was not high enough to be admitted directly to the university program of his choice.

The university in which Jack is registered offers a transition program for potential students whose average is below the admission cut-off point. He took advantage of this program and learned study skills and how to write essays. Once Jack was admitted to his academic program, he registered with the special services department and talks to his professors about his LDs and accommodations. In addition to the accommodations he had in high school, Jack may have a note taker or a copy of the professors' lecture notes. He also brings his laptop to class because he is able to type faster than he writes. One coping strategy he developed is to search for secondary resources to supplement the lectures, which he claims improves the depth and breadth of his learning. The second strategy Jack sometimes uses is to *challenge the credits* whereby he negotiates with the professor to forego the assignments and only write the final exam in order to receive either a Pass or Fail mark for the course. As well, Jack is a part-time student, which lightens the workload, but also extends the time in which he will complete the program.

Jack knows himself well, *I am strong in math and computer science. I am a quick learner, independent, and good at problem-solving*. He explained how he approaches learning, *I take my toolkit of strategies [and accommodations] and determine how to apply them and my strengths to particular problems*. He has a strong desire to obtain high marks and his GPA is currently in the *A* range. Jack feels that earning a university degree will advance his career and he eventually wants to start his own high tech company.

Jack lives with his parents and the expectation was always that he would attend university. He did not speak of any friendships and it appears that his parents are his most important and possibly only source of social support. Jack is fiercely independent and believes that his strengths define him, not his LDs. He also observed that having LDs forced him to develop some positive attributes, such as planning ahead, becoming adaptable, developing coping strategies, and working hard.

Jack is clearly goal-oriented and self-aware, and his own actions have contributed to his academic success. While he is able to reframe his LDs as a catalyst for the development of some helpful qualities, he did not always acknowledge the importance of the environment as a factor contributing to his academic outcomes. Specifically, the

special services department and professors who are willing to assist him were likely instrumental to his success. As well, unlike the other participants, Jack did not express gratitude for the emotional support his parents probably provided.

Lauren. Lauren is 23 and a fourth year, psychology major attending a university located in a city close to her home. She lives with her parents and commutes to school. While she has a GPA in the *A* range, her marks were not always that high. Lauren was first assessed in Grade 4 when her reading and spelling were at the Grade 1 level. The formal diagnosis of LDs allowed her mother to advocate for an hour of resource assistance per day throughout elementary school to boost her language skills. As well, her mother worked on homework and skill development in the evening with her daughter. In high school, Lauren had a resource period every day to obtain help with homework. In Grade 11, her mother insisted that her daughter be re-assessed to gain a clearer understanding of her strengths and needs. Unlike the earlier assessment, the psychologist assured Lauren that despite her LDs, she was very intelligent and revealed that she also had learning disabilities. This conversation was a turning point in Lauren's life because she began to believe that she was not *dumb* and decided that she too would become a psychologist. The second assessment showed that Lauren had dyslexia and that the following services and accommodations were required: books-on-tape, a reader for exams, a note taker for classes, and speech synthesis software. She was also permitted to write exams in a quiet location and have up to 50% more time and the use a computer. With these accommodations, she graduated from high school with an *A* average and received an entrance scholarship to university. In addition to her own self-knowledge, hard work, and determination, Lauren attributes her academic success to her mother's unfailing support and advocacy and the accommodations she received. She commented, *The accommodations made my average go up and I felt less stupid. You almost forget you have a disability when you have so much help.*

When Lauren registered at the special services department in university, she received a grant to purchase text-to-speech software and speech synthesis software. She has the same accommodations as in high school, as well as a tutor for statistics. Lauren is aware that it is her right to have assistive technology, academic support, and accommodations and that it is up to her to put them to good use. She observed that *People who aren't willing to ask for help put barriers up for themselves.* She feels that individuals with LDs must be high achievers, determined, self-motivated, and self-advocates, and they should be able to communicate their needs to other people. This combination of personal qualities, accommodations, and assistive technology has contributed to Lauren's high grades.

Lauren garners emotional support from her parents, especially from her mother, as well as from her friends. Playing hockey while growing up and during the first two years of university on a varsity team also provided social support and much needed self-confidence. While Lauren understands her LDs, she has not reframed them as a positive development in her life. As she stated, *If I could choose not to have one, I would in a minute.* She is self-conscious about her poor spelling and is careful not to expose this weakness to others. Lauren still feels she needs to prove to herself and others that she is intelligent and describes herself as *fragile about it.* Fortunately, Lauren does not dwell on the negative. She is grateful for the assistance from the university and her family and is confident that with these supports along with her own efforts and abilities, she will achieve her goals.

Elizabeth. Now 23, Elizabeth was diagnosed at age 9 with LDs. The assessment revealed that she has poor eye-hand coordination and processing problems. Despite these challenges, Elizabeth completed an undergraduate degree and recently graduated from a faculty of education. In both programs her GPAs were in the *A* range.

Before her diagnosis in the primary grades, Elizabeth was not doing well in school, had no friends, was bullied, and lacked self-confidence. Her mother advocated for an assessment to learn the cause of her difficulties, and she had her daughter placed in a program to help youngsters with LDs learn organizational skills that was offered at the local children's hospital. As well, Elizabeth's mother helped her at home with assignments. In elementary school, she had some understanding and supportive teachers, especially her Grade 6 teacher who created a positive learning environment and facilitated her connections with peers. His actions inspired Elizabeth to become a teacher.

In Grade 9 Elizabeth began self-advocating and shared, *I had to tell my teachers about my learning problems because I knew the teachers wouldn't check on their own.* Her accommodations included extra time on exams and permission to write them alone in a quiet location. Elizabeth also developed coping skills – staying organized, learning how to type, and balancing challenging and easier courses each semester. As well, she acquired the individual capacities of hard work, determination, and self-discipline. Elizabeth also learned to use her strong visual memory and pictured the information on the pages of her study notes as she wrote her exams. She graduated from high school and was accepted into a recreation and leisure program at a university.

During her first year, Elizabeth chose not to register with the special services department and without accommodations, her marks plummeted. She realized that she was overcome with anxiety and did not do well on her exams. In second year Elizabeth made the decision to register at the special services department and received the same exam accommodations as in high school. She also took to time management and note taking workshops offered by the department, which enhanced the skills she had previously developed. Additionally, Elizabeth sat at the front of her class and was not afraid to ask the professors to speak slowly to accommodate her processing delays. She feels she has a deep understanding of how she learns and credits the availability of services and accommodations to her completion of two degrees.

Throughout her educational journey, Elizabeth revealed that she has felt anxious and inadequate and has benefitted from the emotional support of her parents and her mother's advocacy. She also enjoyed the social support of teachers, a small group of friends, and her fiancé. While accepting that she has LDs, she perceives them as having created some negative experiences for her. She stated, *If I could wish them away, I would. I wouldn't wish the frustration I had on anyone.* Despite the academic difficulties and anxiety stemming from LDs, Elizabeth learned that she can make a positive difference in children's lives and realized that LDs will not stop her from achieving her goal of securing a position as a teacher.

Ashley. In her third year of university with a major in history, Ashley, now 21, was diagnosed with LDs when she was 8 and in Grade 3. She was having severe difficulties reading and math and her Grade 2 teacher recommended that she be assessed by the board of education's psychologist. The results showed that Ashley had deficits in working memory, processing delays, and problems with comprehension. During the winter term of Grade 3, Ashley attended a special education school in her school board and received a lot of 1:1 attention in order to boost her skill levels. When she returned to her neighbourhood school, she was withdrawn to the resource room for individual assistance in language and math. In high school Ashley wrote tests and exams in the resource room and was given time and a half. She was also permitted to use a calculator for math and a computer for tests and exams. She wanted to go to university, like her older brother, and worked hard to ensure her marks were high enough to achieve her goal. She said, *I was highly motivated; I wanted to achieve… I wanted to prove that I could do it.* While she knew her strengths were not in maths and sciences, it was her Grade 11 history teacher who commented positively on her essays and encouraged her to consider the social sciences.

During the summer between high school and university Ashley was in a three-week transition program offered by the special services department of the university. She attended mock lectures on learning strategies and they helped her understand many of the academic and social aspects of university life. Ashley also registered with the department in order to obtain the accommodations she needs. While she finds note taking difficult because she misses some of what the professor is saying, her accommodations are clearly focused on exams. They include permission to write exams at the special services department, up to 50% more time, only one exam per day, and the use of a computer. Ashley finds that these accommodations reduce her anxiety about exams because she is not worried about finishing on time. As well, with processing deficits she takes more time to read instructions and is able to concentrate more fully on what she is doing and makes fewer mistakes in interpreting the directions. Ashley believes that *[t]he accommodations are really necessary and I used them often throughout my schooling.*

In addition to the accommodations, Ashley learned how to study effectively. She feels that her greatest challenge is remembering information because her memory is so poor. To compensate, she reads her notes a week in advance to familiarize herself with the material, then two days before the exam she crams by writing out her notes and memorizing them. Following this procedure, she is able to retain the information until the exam is over. Another coping strategy is to take only four courses during the fall and winter and one course during the summer semester. She commented, *I find that five courses are too hard for me and I end up having to drop one.* The accommodations, the coping strategies, and her own hard work have yielded a GPA in the *B* range.

Ashley's parents have been very supportive during her educational journey. In high school, her father edited her essays and tutored her in math and science. Her mother also provided help with homework and assignments and advocated for services and accommodations in elementary and secondary school. Although Ashley did not mention a network of friends, she receives emotional support from her family and boyfriend.

Ashley described herself as *creative, hard-working, determined, a good writer, a good listener, and sporty.* She stated, *I have very high standards for what I want for myself* and also revealed that she has perfectionist tendencies

and can be *very hard* on herself when she does not meet her goals. However, with maturity Ashley has learned to focus on her strengths and to avoid situations that expose her weaknesses. She used to view her LDs as something to overcome, but now accepts them and does not her let her deficits define who she is. Ashley perceives some benefit to having LDs and reflected that *having learning disabilities has taught me not to give up* and they have also forced her to plan ahead and be proactive. She is on track to graduate within a four year period and is considering continuing her studies in either a teacher education program or at the graduate level.

Discussion
Several themes related to the barriers and facilitators emerged from the cross-case analysis and are discussed below.

Barriers
Individual barriers. All of the four participants had an early diagnosis of LDs. Two had memory deficits (Jack, Ashley), three had problems with reading (Lauren, Ashley), two had processing delays (Elizabeth, Ashley), and two had difficulties with writing speed (Jack, Elizabeth). Although only Jack had a second diagnosis of Asperger's Syndrome, Lauren described herself as emotionally fragile, and Ashley spoke repeatedly of her test anxiety and perfectionist tendencies. The participants' LDs made it more difficult for them to achieve high marks in university than their peers and they needed accommodations to ensure their academic success (Mull & Sitlington, 2003). The academic self-confidence of Lauren and Ashley was also affected by their LDs (Lauren, Ashley) (Harrison, et al., 2007; Orr & Goodman, 2010; Tsagris & Muirhead, 2012) and they were both careful not to expose their weaknesses. Previous research showed that students with LDs were shy about requesting accommodations from their professors (Moola, 2015, Stage & Milne, 1996; Tsagris & Muirhead, 2012; Wilgosh et al., 2010). However, this was not the case with Jack who asked to challenge the credits and Elizabeth who requested that her professors speak slowly.
Institutional barriers. Not one of the participants in this research discussed professors' negative attitudes towards providing accommodations as a problem in university. It might have been the case that these four participants selected specific universities on the basis of the breadth and depth of support for students with disabilities. It is also possible that the participants chose courses and sections of courses according to the professor who was teaching them and their perception of the professors' attitudes. Therefore, in contrast to other studies (Duquette, 2000; Erten, 2011; Ryan, 2007), in this research professors' attitudes were not a barrier to the participants' achievement or sense of belonging.

Facilitators
Individual facilitators. The participants all possessed the individual capacities that are important facilitators of academic success as described previously: self-awareness, self-determination, self-advocacy, goal-orientation, self-discipline, motivation, and determination (Duquette, 2000; Erten, 2011; Getzel, 2008; Greenbaum, et al., 1995; Lindstrom, 2007; Moola, 2015; Reis et al., 1997; Stage & Milne, 1996; Wilgosh ,et al., 2010). As well, these participants understood how they learned (Lindstrom, 2007; Stage & Milne, 1996; Tsagris & Muirhead, 2012) and developed the capacity for hard work (Greenbaum, et al., 1995; Lindstrom, 2007; Reis et al., 1997; Wilgosh, et al., 2010). Moreover, since they had an early diagnosis of LDs, the participants had ample time to develop coping skills (Litner, et al., 2005).

While in high school they all took courses to meet the entrance requirements for university (Duquette, 2000; Webb et al., 2008), only Jack did not have an average in grade 12 that was high enough to qualify for direct admission. Although Elizabeth was initially reluctant to register with the special services department in her university, the others registered immediately. These students with LDs requested accommodations, and made use of them (Lindstrom, 2007; Lombardi et al., 2012; Reis et al., 1997; Tsagris & Muirhead, 2012). Three of the participants also took reduced course loads, which lessened the workload during each semester (Duquette, 2000; Tsagris & Muirhead, 2012; Vogel & Adelman, 1992). The findings related to individual capacities acting as facilitators are therefore consistent with the results of previous research.

Institutional facilitators. Accommodations provided by the universities, such as note takers and transition programs, were regarded by the participants as helpful (Duquette, 2000; Tsagris & Muirhead, 2012; Webb et al., 2008). As well, all of the participants had extra time to write exams and Jack's university permitted the alternate evaluation practices (Duquette, 2000; Linstrom, 2007; Tsagris & Muirhead, 2012; Webb et al., 2008). The four participants also used computers in class and to write exams, and two women took advantage of Ontario's financial support for assistive technology to purchase software to help them read and write (Harrison et al., 2007). As pointed out by

Mull and Sitlington (2003), assistive technology helped them compensate for their academic difficulties stemming from LDs. The provincial policy of providing funds to postsecondary institutions to cover the costs of assistive technology was an important facilitator for the participants with language-based LDs. Assistive technology combined with their individual capacities and accommodations increased their marks, self-confidence, and motivation (Lindstrom, 2007; Tsagris & Muirhead, 2012).

In contrast to previous research, the participants in this study reported no difficulties securing accommodations from professors. As well, they did not have to ask professors for extra time to write exams because the special services departments at their universities managed the conditions under which exams were written (i.e., time permitted, use of a computer, location, number per day). This practice ensured that students with LDs did not have to convince their professors that they genuinely needed extra time to write their exams (Madaus et al., 2003; Tsagris & Muirhead, 2012) and as Jack noted, they were not at the mercy of the instructors' attitudes about disabilities. By administering exam accommodations, the universities made it certain that the students were being evaluated without any constraints that might limit their performance. This finding is important as this institutional practice served to eliminate the potential barrier of professors' negative attitudes towards these types of accommodations.

Social supports. Similar to previous research (Lombardi et al., 2012; Lindstrom, 2007; Orr & Goodman, 2010; Reis et al., 1997), parents were the most important source of emotional support for three participants. While they were in elementary and high school, the parents of the three females also provided academic support and the mothers were strong advocates for their daughters' educational needs. Although Jack felt supported by his high school resource teacher, he was either unaware of his parents' support or chose not to acknowledge it. The female participants also benefited from the emotional support of peers, a boyfriend, and a fiancé (Lombardi et al., 2012). As well, Elizabeth and Lauren were inspired by role models (a teacher and a psychologist, respectively) and Ashley was encouraged by a teacher to study in the social sciences. Although beneficial, in this study social supports were a less important facilitator than individual capacities and institutional support.

Perceptions of LDs
While accepting that LDs affected their learning and academic performance, the participants in this research refused to be stigmatized by their disabilities and preferred to focus on their strengths. Their adaptive response was to place their LDs in perspective relative to their strengths and minimize the problems. Higgins, Raskind, Goldberg, and Herman (2002) refers to this adaptive response as *compartmentalization*, which is their fourth stage in coming to terms with the effects of LDs and the emotional impact of being labelled. The fifth stage is transformation in which individuals with LDs see the disabilities as a positive force in their lives (Higgins et al., 2002). Only Jack and Ashley were able to reframe the experience of having LDs as having at least one positive outcome (coping strategies and perseverance, respectively) (see also Gerber, Ginsberg, & Reiff, 1992). In this research the participants came to terms with the academic problems caused by their LDs. However, the comments by Lauren, Ashley, and Elizabeth about their emotional state (emotionally fragile, perfectionist tendencies, and feelings of anxiety and inadequacy, respectively) point to the lingering effects of LDs on their emotional wellbeing. This finding implies that personal acceptance of LDs involves overcoming the effects of the specific disabilities (e.g., slower processing speed and problems with reading and writing), as well as coming to terms with the emotional aspects of being identified as having learning deficits. Ashley's situation of being able to reframe her school experience of having LDs, yet still lacking self-confidence suggests that achieving both components of acceptance may be difficult.

Interaction between the Barriers and Facilitators
In this study the most influential barrier to program completion at university studies were the effects of LDs on learning and academic performance. The institutional barriers cited in the literature, such as professors' attitudes and institutional policy, were not a factor. The findings showed that the facilitators of individual capacities and coping skills combined with institutional and provincial policies mitigated the potential negative effects of LDs. While developing individual facilitators were important, the participants acknowledged that their success depended on the provision of services, accommodations, and assistive technology. Unlike other research, this study demonstrated how specific institutional and provincial policies and practices lessened potential threats to achievement for students with LDs. However, it must also be recognized that these students needed to have developed individual capacities to take full advantage of the high level of environmental support. Therefore, in this study the two facilitators (individual capacities and institutional support) were required and interacted to lessen the effect of LDs. As Lauren pointed out, with this level of support the only barriers would be the ones constructed by individuals who choose not to take advantage of them.

Implications

An important implication is for other provinces and jurisdictions to adopt a policy of providing funds for students with disabilities to purchase assistive technology. As shown in this study and elsewhere (Draffan, et al., 2007; Li & Hamil, 2003), assistive technology allows individuals with LDs to compensate for their deficits in reading and writing. A second implication is the need for postsecondary institutions to manage the exam accommodations for students with LDs to ensure that professors' attitudes do not interfere with students' ability to maximize their potential. Specifically, special services departments should coordinate the exam time allotments and locations for students who require these types of accommodations. A third implication is that colleges and universities should provide training for professors to increase their awareness and understanding of disabilities and the need for accommodations (Murray, Lombardi, & Wren, 2011). A final implication is for students with LDs and their parents and high school teachers to prepare transition plans that include the development of the individual capacities and coping skills that are linked to academic success and are informed by up-to-date information on the requirements for admission to a postsecondary institution.

Limitations

The limitations of this study must be acknowledged. The participants self-selected to be involved in this research, and given their GPAs they were fairly successful in their university studies. The experiences of students with LDs who are less successful or who are in college were not included in this study. The data were also affected by the participants' ability to remember past experiences (particularly in elementary school) and their willingness to speak openly about them.

Conclusions

When postsecondary institutions admit students with disabilities into their programs, they have a moral and legal responsibility to offer services and accommodations that provide opportunities for the students to succeed. While special services departments play an important role in supporting these students, professors' attitudes and behaviours can also be critical determinants of their academic outcomes. This study has demonstrated that a facilitating environment combined with various individual capacities can lead to academic success for students with LDs.

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PRIMARY SCHOOL TEACHERS' KNOWLEDGE, ATTITUDES AND VIEWS ON BARRIERS TO INCLUSION IN JORDAN

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This study explores teachers' knowledge and attitudes toward the inclusion of students with special education needs (SEN) in mainstream schools in Jordan. It also examines the barriers the teachers perceived to hinder successful inclusions. The study sample consisted of 87 primary school teachers who responded to an open-ended questionnaire asking about their knowledge, experiences, attitudes and barriers toward inclusion. Teachers' responses were qualitatively analyzed with the guidance of the research questions. Findings showed that teachers do not have enough and appropriate knowledge about inclusion due to the lack of preparation they received in their teacher education programs. Teachers also have negative attitudes toward the inclusion of students with special needs (SEN) attributed to various barriers. These barriers included the negative attitudes of the students and schools staff toward students with special needs, underprepared school environment, unsuitable curriculum and evaluation modules and lack of family and society's support. The study concluded that without changing the infrastructure of the educational system where all necessary components to build inclusive education are accounted for, inclusion will remain an unrealistic idea.

Introduction

In Jordan, the law for the Welfare of Disabled People (No. 12/1993)- reinforced in 2007 with the issue of the Law on Rights of Disabled People (No. 31/2007)- has changed the way in which children with special education needs (SEN) receive their education. It stipulated for the right of SEN children to receive their education in the mainstream schools, and for those schools to introduce all required changes to provide SEN children with the education that meet their needs. Corresponding to this law, The Ministry of Education (MOE) has taken actions to facilitate the inclusion of SEN students in its schools. It has adopted an inclusive provision that allows SEN students to attend special classrooms called 'recourse rooms'. In these classes, they receive individual support for one session a day by a special education teacher and attend the regular classroom along their peers for the rest of the school day. Today, there are more than 600 resource rooms opened in mainstream schools distributed across the country, their number and capacity, however, is still limited. Most SEN students are still educated in special centers waiting for the MOE to further expand their inclusive provision so to allow for more of them to join mainstream schools.

Despite the recognition of the inclusive education as one of the SEN students' rights, and the provision the MOE adapted to facilitate its implementation, inclusive education is still facing numerous challenges. Among those challenges is the lack of the infrastructure necessary to build inclusive schools, such as school buildings, which are currently not disability friendly, unprepared staff, unsuitable curriculum and evaluation modules. Another pressing challenge facing inclusion is the underprepared general education teachers. These teachers, with the adoption of inclusive education, have been expected to develop new competences and skills such as knowledge of characteristics and needs of SEN children, and implementation of wide range of teaching methods, learning activities, and evaluation strategies in the classroom. Such competences they, ironically, have not received training on in their both pre and in-service teacher education programs (Amr, 2011).

Equally important to the development of the above competences, is the need for regular teachers to first develop positive attitudes toward working with SEN students. Teachers' attitude has been identified as a prominent factor toward the successful of inclusion (Varcoe & Boyle, 2013; Puri & Abraham, 2004). Pijl and Meijer (2002) explained that without regular teachers accepting the education of SEN students as a part of their job, they will often try to hold responsibility of those students to others, such as the special education teachers. Such problem, eventually, results in encouraging hidden exclusion in the school. This particular problem has been identified in Jordan. In a recent study investigated the collaboration between special and regular teachers in inclusive schools, regular teachers explicitly suggested that SEN students are the responsibility of special education teachers as they have better understanding of those students and their needs (Al-Natour, et al., 2015). Such result seems to reflect rather negative attitudes by general education teacher toward inclusion.

Mapping Out Regular Education Teachers' Knowledge, Attitudes and Views About Inclusion:
Attitudes are important because they help making judgments and decisions, and hence direct our behavior and how we respond to attitude objects. Attitudes also influence the type of information we attend to and retrieve from memory, and hence the way we interpret the different things we encounter in the world (Ajzen, 2005; Petty & Cacioppo, 1996; Maio & Haddock, 2010). Therefore, the way teachers react to inclusion is, to great extent, influenced by the knowledge and experience they have about SEN students and inclusion. Research suggests that teachers, who possess sufficient and accurate knowledge about inclusion, have more positive attitudes toward it (Gilmore, Campbell & Cusakelly, 2003; Al Zyoudi, Al Sartwai & Dodin, 2011; Hakim, 2009).

Despite the importance of teachers' attitudes toward inclusion, several studies reported that regular teachers are not often in favor of it (Boer, Pijl & Minnaert, 2009; Gilmore, Campbell & Cuskelly, 2003; Shadreck, 2012; Tait & Purdie, 2000). For instance, Boer, Pijl & Minnaer (2009) reviewed 26 studies investigated regular primary school teachers' attitudes toward the inclusion of SEN students and found that most teachers hold either neutral or negative attitudes toward inclusion. Similar result was reached when reviewing the literature on teachers' attitudes toward inclusion in the Arab world, where Jordan is located and share with its countries cultural and historical contexts (Al Zyoudi, Al Sartwai & Dodin, 2011; Hakim, 2009; Gad & Khan, 2007).

Such negative attitudes toward inclusion encouraged researchers to investigate the reasons behind it. Various factors were identified which could be summarized in two domains; first, factors related to teachers' knowledge and preparations in the area of inclusion. Second, factors related to the educational environment and context.

As for the first domain, literature in this area suggests that developing positive attitude toward inclusion requires that teachers acquire sufficient knowledge about inclusive education. This knowledge includes learning about the characteristics of SEN children and how to utilize various teaching and evaluation strategies to correspond to students' diverse needs in the classroom. Accordingly, research demonstrated that teachers' negative attitude is partly ought to the insufficient or inaccurate knowledge that teachers have about SEN students or inclusion (Anati, 2012; Gad & Khan, 2007; Razali, et al., 2013; Shadreck, 2012). Gilmore, Campbell and Cuskelly (2003), for example, studied teachers' attitudes toward the inclusion of Down syndrome children and found that most teachers did not favor their inclusion as a result of the insufficient knowledge they have about those children and inclusion. Similarly, Al Zyoudi, Al Sartwai and Dodin (2011), examined pre-service teachers' attitudes toward inclusion and concluded that teachers hold negative attitudes toward inclusion due to the lack of knowledge and preparation these teachers received in the area of inclusion. On other hand, Ching, Forlin and Mei Lan (2007) found that teachers' attitude toward the inclusion of students with disabilities has improved after those teachers undertook a training course provided them with the required knowledge and skills they needed in order to work with SEN students.

As for the second domain, literature suggests that a learning environment that lacks the required resources and support, often leads to teachers become less accepting of the inclusion of SEN students. For instance, Gaad and Khan (2007) found that teachers working in Dubai mainstream schools do not favor inclusion due to their perceived lack of support and recourses. Those teachers also suggested their lack of appropriate instructional materials, sufficient time and large teaching load as prominent factors hindering the successful of inclusion. Also, Anati (2013) found that teachers in United Arab of Emirates (UAE) are more likely to support inclusion when certain factors are made available such as: the availability of specialized professionals to support teachers and students, the availability of necessary learning tools and sources, schools and classrooms design that facilitate the mobility of students with disabilities.

Teachers' attitudes and views on barriers to inclusion might vary across cultures due to different contextual factors characterizing each education system. Therefore, the current study is opting to qualitatively examine teachers' attitudes toward inclusion and barriers to inclusion that are particular to the Jordanian context. Identifying those barriers is important in order to help the educational authorities developing an inclusive education system that correspond to the needs of both SEN students and regular teachers.

Research Questions and Design
This study examines the regular teachers' knowledge, attitudes and views on the barriers to the inclusion of SEN students in mainstream schools in Jordan. It specifically set to qualitatively answer the following two questions:
First: what do regular teachers know about inclusion and what are their attitudes toward the inclusion of SEN students in mainstream schools?
Second: what, from the teachers point of view, are the barriers toward realizing a successful inclusion?

Study Sample
The study sample was chosen from those schools that have recourse room (special classes that support SEN students in the mainstream schools) in Amman as they are the ones that have SEN students enrolled in their mainstream classrooms. The primary school teachers in those schools were then contacted and those who had the experience teaching SEN students in their classroom were asked to participate in the study. Those who agreed to take part in the study were then asked to fill out the study open-ended questionnaire. The sample initially consisted of 107 primary school teachers (79 females, 28 males) working in 23 state schools in the city of Amman. The number of the returned and completed questionnaires was 87 (67 females and 19 males) forming the finale study sample.
All participants are primary school teachers teaching grades from first to sixth. All teachers held university degree in one of three areas: Maths, Arabic language, primary education (home class teacher), and have teaching experience ranged from 5-26 years.

Instrument and Data Collection
To answer the research questions, an open-ended questionnaire was designed. This questionnaire included open-ended questions where the participants have a free space after each question to write their answers. This type of questionnaire has the advantage of allowing the respondents to express their opinions without being restricted by a set of limited responses to choose from. This questionnaire format allows the researcher to discover the responses the individuals give spontaneously, and avoid the bias that may result from suggesting responses to the individual (Reja, et al., 2003). The use of this type of questionnaire in this study was deemed to be advantageous. It gave each teacher the opportunity to openly expressing her/his attitudes toward inclusion and discussing the barriers that they face drawing on their own personal experience. This eventually provided a more in-depth understanding of those teachers' knowledge and attitudes toward inclusion in Jordan.

The questionnaire was designed inline with the aims and questions of the study. It included seven open-ended questions focused on asking teachers what do they know about inclusion, do they think it benefits the education system, what are their roles as regular teachers when teaching in inclusive schools, do they think it is possible to adopt an inclusive approach in schools and what are the challenges that impede achieving a successful inclusion.
The questionnaire was accompanied with a cover letter stating the aims of the study and providing instructions for teachers on how to fill it out. The questionnaire also included a personal information section where teachers provided information about their qualifications, teaching experience, age, and school name.

Data was collected with the help of a group of teachers who were enrolled in the learning disabilities diploma course at the University of Jordan. Those teachers helped in the sample recruitment as well as the questionnaire distribution. The data was collected over a course of three weeks during the second semester of the academic year. All returned questionnaires were transferred into a Microsoft document format to facilitate analyzing the data later on.
The data obtained from the questionnaire was analyzed qualitatively with the use of the thematic analysis method. This included reading through the teachers' response to the questionnaire and then developing a coding list. This list was then used to code the entire data. The coding list helped eventually identifying themes and sub themes that were then used to answer the study questions. For example, three main themes were identified in the study: teachers' knowledge about inclusion, teachers' attitudes toward inclusion and teachers' views on the barriers to inclusion. Teachers' responses concerning each theme were then placed underneath it providing the detailed results for that

theme. The first two themes were used to answer the first question and the third was used to answer the second question.

Later when presenting the results to answer each research question, the main theme was presented and quotes from the teachers' responses were provided to support the detailed results for the question.

Results and discussion
First question: Teachers Knowledge and Attitudes Toward the Inclusion of SEN Students:
As stated above, it is evident that teachers' attitude toward inclusion is an important factor for successful inclusion. Teachers who hold positive attitudes toward the inclusion SEN students are more likely to support an inclusive learning environment in which students' diverse needs are met. (Brophy & Whittingham, 2013; Campbell & Cuskelly, 2003; Stella, Forlin & Mei Lan, 2007; Razali, et al., 2013; Shadreck, 2012). Therefore, this section presents the answer to the first research question which explores the knowledge and attitudes of regular teachers toward inclusion. It presents the results under two themes: teachers' knowledge about inclusion and teachers attitudes toward inclusion. Knowledge about inclusion is explored first as literature suggests that attitudes are influenced by the knowledge we already have about the attitude subject and whether or not this knowledge is sufficient and accurate.

*First theme: Teachers' knowledge about inclusion of SEN students***:** Teachers' knowledge about inclusion was explored through three aspects; what does inclusion mean, who benefits from it, and what are the roles of regular teacher in the inclusive classroom.

To research the first aspect, teachers were explicitly asked what does inclusion mean from their own views. Interestingly, teachers' answers were almost unified. With no exception, they all stated that inclusion means 'placing students with disabilities in regular classroom in mainstream school' T4. The word 'placing' was found across all teachers' responses to this question, indicating that teachers understanding of inclusion is limited to the physical placement of SEN students in the regular classroom.
Few teachers, on the other hand, particularly those who mentioned receiving training in the area of special education, added that inclusion also entails enabling social interactions between SEN students and their societies. For example, T29 said that 'inclusion is to include children with special needs in regular classroom which allow them to talk, play and make friends and eventually develop some interaction with their society'.

The above result conveys limitedness in teachers' knowledge about inclusion, perceiving it only as a physical placement of SEN students in regular classrooms. Their knowledge of inclusion does not include the changing of the learning environment, philosophy, pedagogy, curriculum, as well society in order to meet the needs of those students. It only hovers around the idea of the SEN students being for long isolated in special centers, and now being enabled to join mainstream schools. This view clearly does not reflect the real meaning of inclusion, which entails, in its very essence, creating a learning environment where the learning of all is facilitated.

To explore the second aspects of teachers' knowledge about inclusion, Teachers were asked about whom does inclusion benefit. All teachers explicitly stated that inclusion 'is for children with disabilities', T22. Teachers, in fact, were more concerned, when answering this question, about discussing which disabilities are more suitable for inclusion and why. Their responses were found to be interesting as it further helped understanding their knowledge about inclusion. Some teachers stated that inclusion is not suitable to all categories of disabilities as 'some of them could never benefit from the education provided in mainstream classroom', T20. They suggested that inclusion is only suitable to students with 'learning disabilities or visual, hearing and physical impairments', T15. Teachers justified the possibility of the inclusion of those disabilities on the premise that 'their intelligence level is not necessarily below average and therefore they may be able to learn what other students learn in the regular classrooms' T35, on condition that 'required facilities such as physical adjustments to school building and classroom and learning materials are made available' T65.

Other teachers suggested that inclusion might be suitable for children with 'mild disability such as those with partial visual and hearing impairments and mild learning disabilities' T36. The severity degree of the disability here is important to determine the SEN students' suitability for inclusion as 'they may still have the ability to communicate and interact with other children and meet minimum requirement of the learning objectives taught in the classroom' T61'.

As appears above, teachers perceive inclusion not to be suitable to all SEN students. It is only for those whom the nature and severity of their disability would not disable them from learning the content taught in the classroom. Such result explains why teachers think that inclusion is just placing SEN students in regular classroom. For them, the disability of those students should not interfere with the learning process in the classroom, implying that the students should fit the learning environment and not vice versa.

This result is consistent with the results of other studies which showed that teachers' attitudes toward inclusion varies according to the type of the student's disability. Teachers' attitudes become more positive toward the inclusion of children with mild disability because their characteristics and needs are not very different from their peers (Boer, Pijl & Minnaert, 2009). For example, Gad and Khan (2007) found that teachers are more in support of the inclusion of students with learning difficulties and dyslexia, but less willing to support the inclusion of students of severer disabilities such intellectual challenged, profound and multiple learning difficulties. Those teachers thought that such students lack skills needed to master the curriculum taught in the classroom. Shadreck (2012) also found that some teachers support the inclusion of SEN students but not those with sever disabilities and behavioral and emotional problems. Teachers, however, owe that to their lack of the appropriate training and skills to work with those students.

As for the third aspect examining teachers' knowledge about inclusion, teachers were asked about the roles of the regular teachers in inclusive classrooms. Most teachers suggested that their roles is to 'sympathize with SEN students and give more to them during lessons' T6, and 'be patient when teaching them and try to accept that they can not learn with the same speed as other children' T2. On the other hand, other teachers stated explicitly that they do not know what roles they are supposed to play when teaching SEN students, because they 'do not know much about the problems and needs of those students'. T40.

This result shows that teachers lack also the knowledge related to the fundamental part they are supposed to play as teachers in the inclusive classrooms. They perceive their role as to only sympathize with SEN students, and not to facilitate their learning process. Similar result was found by Gaad and Khan (2007), where teachers expressed their lack of knowledge about making instruction adaptation for SEN students be.

Second theme: Attitudes of regular teachers toward the inclusion of SEN students: In order to explore teachers' attitudes toward inclusion, we asked them what do they think of the inclusion of SEN students and whether or not inclusion benefits those students. Responses of the majority of teachers showed that they do not favor inclusion. The reasons underlings this view, however, vary among those teachers. Some of them argued that SEN students, due to their disabilities, can not meet the learning requirements in the classroom. Other teachers suggested that SEN students have certain needs and require certain services that are not available in the classroom. Many of the teachers also thought that SEN students often have behavioral problems that can be disruptive to the leaning process in the classroom. Few other teachers thought that inclusion might expose SEN students, who may have certain physical and behavioral characteristics, to the humiliation and mockery of other students. These views are demonstrated in the following extracts:

T15: I do not think inclusion is beneficial to the SEN students. From my experience, it is very difficult for them to engage with the learning activities taking place in the classroom and hence corresponding to the learning requirements and goals similar to their peers.

T3: I do not think regular classroom is the place to educate students with special needs. These students often have needs and physical or medical conditions that require special services which are not available in regular classrooms.

T66: Children with disabilities always have behavior problems. For example they scream sometimes in the middle of the lesson, or do not sit in their desks during the lessons. Such behavior disrupts other children and makes it difficult for me to maintain discipline in the classroom.
T35: I think inclusion is not a good idea. Placing a student with disability with other students will expose him to their humiliation and insults.

This result coincides with the results of many studies, for example, Gaad and Khan (2007) found that mainstream teachers do not favor the inclusion due to various reason among them feeling that SEN students lack skills required to learn and master the learning content taught in the classroom. Also, Gilmore, Campbell and Cuskelly (2003), found that despite teachers in their study recognized the emotional, social and educational benefits of inclusion, the majority of them did not believe that mainstream classroom is the best place to educate children with down syndrome which might be explained by a perceived lack of support and resources for teaching those children in mainstream schools.

On the other hand, few teachers suggested that inclusion could have benefits to SEN students such as: 'boosting their self-confidence and remove negative stigmas usually attached to them' T1, 'helping the development of their social skills and relationships with other students' T2, 'helping them not feeling inferior to others and boost their self-esteem' T43, 'increasing the chances of social interactions' T37, 'changing the attitudes of school's personal and students toward disabilities and students with special needs' T9, 'changing the attitude of the society toward people with disabilities' T25.

Despite such rather important benefits teachers listed above, a close look at these benefits reveal two important issues: first, all these benefits are of social and psychological nature where SEN students' self confidence is boosted and social interaction is encouraged. As for the educational benefits, teachers do not seem to think that inclusion can also be beneficial to SEN students in this area too. Second, teachers discussed the benefits of inclusion but to SEN students only and not to any other parties such as other students, schools or society. This may suggest that teachers see inclusion as a mono approach that its sole goal is to only support SEN students. A rather limited understanding of inclusion which one of its goals is to improve the educational system in its different aspects so to achieve equality among all learners with or without special needs. Society also benefits when having all of its members actively participating in its economic, social and cultural development.

Not favoring the inclusion of SEN students by the teachers reflects their rather negative attitudes toward the inclusion of those students. However such attitude is justifiable on the premise of the very limited knowledge these teachers possess about inclusion and how it is implemented. Moreover, teachers' rather negative attitude toward inclusion is also linked to many existing factors that teachers perceive as barriers toward inclusion as next section demonstrates.

Second question: Teachers' Perceptions on the Barriers Toward Inclusion
This section demonstrates the answer of the second research question which explores the teachers' perception on the barriers that hinder inclusion. Barriers to inclusion are a key issue when discussing inclusion. Although inclusion may seem theoretically feasible, its feasibility is highly challenged when it is implemented on the ground. Studies showed that even when teachers favor inclusion and support it as a right of SEN students, they often express deep their concerns about implementing it due to several challenges and barriers that seem to jeopardize its success. (Anati, 2012; Dapudong, 2013).
 Literature, in general, discusses barriers to inclusion at different levels; economical, educational, social and environmental. Such barriers, nevertheless, vary across cultures, and hence should be discussed with regard to the specific context in which inclusion is implemented. In this section barriers to inclusion in Jordan are explored from its teachers point of view. Teachers' views are particularly important because they are exposed to the day-to-day problems and challenges rising from adapting inclusive practice in schools (Meijer, Pijl, & Hegarty, 2002)

To explore barriers to inclusion, teachers in this study were asked explicitly to discuss the barriers they perceive to hinder implementing inclusion in their schools. Teachers suggested various barriers which were emerged in five sub-themes: 1) students' negative attitudes, 2) staff related barriers 3) environmental related barriers 4) scarcity of learning resources 5) unsuitable curriculum and evaluation modules, 6) family and society related barriers. These sub themes are discussed in the following:

First: students' negative attitudes toward students with disabilities*:* teachers suggested that students hold negative attitudes toward their SEN peers. This results in those students being unsupportive to their SEN peers and gradually developing ineffective relationships with them:

> *T57: In my school, children hold negative attitude toward the disabled. For instance if I ask one of my student to set next to a student with disability they give me a sad face to show that they are unhappy to do it.*

Also, when I ask my students to help a student with disability doing a worksheet they try to make excuses to avoid helping him.
T18: Our students still do not accept children with disability. This is resulting in exposing those children to all kind of insults and humiliation by their peers in the classroom.

Perceiving the students' negative attitudes toward their SEN peers as a barrier to inclusion by the teachers is crucial. Teachers showed how attitudes are linked to our behavior where students' negative attitudes resulted in two behaviors: a) rejection to support their SEN peers in their learning process, and b) building a negative relationship with the their SEN peers. Both behaviors seem to adversely affect both SEN students and teachers: the SEN students who may develop psychological problem due to their peers' mistreatment and missing out on the valuable benefits of peers' learning. And the teachers by lacking the students' support they need to help their SEN students. In conclusion, such negative attitude the students hold toward their SEN peers creates a negative dynamics in the classroom and act as a barrier to achieve inclusion.

Second: Staff related barriers*: teachers discussed here a number of barriers related to the school's staff. These, barriers included: underprepared teachers, staffs' negative attitudes toward inclusion, unclear roles and responsibilities of the school's staff working with SEN students including the regular teachers, special education teachers, head teacher, school counselor. These barriers are presented in the following extracts:

T41: well, currently it is difficult to have children with disabilities in mainstream schools because schools' staff is not prepared to work with them. Teachers, for instance, do not know anything about the teaching strategies that are effective with those children. They also do not know how to tailor the curriculum and the different learning activities and materials to suit those children. I personally do not know how even to assess them! Should they be assessed like other children? I do not know!

T37: one of the problems is the school staff who is not ready to welcome children with disabilities in the school. For example, I do not know what are my responsibilities toward those children and neither do the other staff such as the special education teacher and school councilor. I always thought that those children are sole responsibility of the special education teacher and now they tell us that we also share this responsibility!

The above barriers to inclusion, suggested by the teachers, seem legitimate. Teachers' concern about their lack of preparation to work in inclusive classrooms is a pressing issue as found in different studies (Dapudong, 2013). A study, conducted in Jordan, showed that both pre and in service teachers education programs do not provide teachers with the required knowledge, pedagogies or skills that are necessary to work in inclusive schools. Such lack of preparation hinders their effectiveness as teachers and also leads to develop negative attitudes toward their SEN students and inclusion (Amr, 2011). A recent study also showed that there is no guidance provided by the educational authority or schools on the roles and responsibilities of both general teachers and special education teachers in inclusive classroom, which resulted in confusion among those teachers and led to a general belief that SEN students are the responsibility of special education teachers only (Al Natour, et al., 2015).

Third: Environment related barriers. Teachers suggested three barriers to successful inclusion that are related to school and classroom environment and resources: firstly, the large classroom size, which exceeds 50 students sometimes resulting in the time allocated to each student to be limited. Secondly, schools' buildings not being designed to be disability friendly. Thirdly, the lack of necessary learning resources and materials where available materials are either basic or insufficient:

T19: schools are packed with children; in my school the number of students per classroom is about 50, which makes it impossible for teachers to allocate time for children who might need extra help.
T33: School building is not prepared to suit children with disabilities. For example we have four-stories school building but no lifts in the school.

T5: I think one of the barriers is not having any materials and resources that are important to help me diversifying the teaching strategies to correspond to the students' array of abilities and needs. When I teach reading and writing I only use the chalkboard which seems to be satisfactory to most of my students, but this will not be sufficient to students with special needs. I see their special education teacher, in order to facilitate their learning at the resource room, uses a variety of materials such as flash cards, magnetic letters and numbers, computer programs, stories,

etc. It will not be fair to those students to learn in my classroom unless my classroom is as equipped with learning materials as the resource room.

Environmental related barriers, as teachers seem to argue, affect their ability to fulfill their teaching job limiting their ability to provide effective teaching to all students. Such barriers were also identified by different studies. For instance, Anati (2012) found that teachers are keener to accept the inclusion of SEN students when all necessary learning resources are made available and school buildings are designed to facilitate the mobility of SEN students. Similar result was also found in the Gad and Khan's study (2007), where teachers did not have positive attitudes toward inclusion due to the lack of resources and support. Teachers also found their large teaching load as an obstacle to work with SEN students effectively. Similarly, Shadreck (2012) found that in service teachers in Zimbabwe have negative attitudes toward inclusion because of the large classes and lack of resources and support.

Fourth: unsuitable curriculum and evaluation modules: teachers within this theme suggested a number of barriers that are related to the curriculum, its design, how it is taught and how learning outcomes are evaluated. For example, some teachers argued that the curriculum is dense and lengthy making it difficult for them do diversify its content to suite the wide range of student's abilities in the classroom:

T4: the curriculum is very dense and long. I have a student with learning difficulties and he cannot follow what is taught in the classroom, it is too difficult for him and I do not know how to make it easier to him.

Other teachers suggested that the curriculum must be fully taught and finished according to specific time schedule. This problem limits their ability to adjust the teaching pace to correspond to those who learn at slower pace.

T16: children with special needs are slow in learning the content of the curriculum. I know that because I had a student with learning difficulty last year in my class and it was so difficult for him to follow the speed at which the lessons were taught. He ended up just sitting in his desk without really knowing what we are talking about. Of course I could not help him because I had too many children in my class and the time is really limited.

Teachers also suggested that the educational evaluation to be another problem to face when teaching SEN students. They argued that evaluation is traditionally done at group level and learning outcomes are measured to all students with the use of the same methods and materials. The evaluation usually corresponds to the curriculum's content and designed without taking into consideration the SEN students and their characteristics and needs. Some teachers also argued that even if they want to diversify their evaluation methods to suite the characteristics of those students, their lack of the required knowledge and skills will not enable them to do it successfully.

T51: I do not think the assessment criteria and methods we use suit those children with special needs. Frankly, I do not have any idea how school exams can be made to suite to everybody. What if I have a blind or deaf student or someone who can not hold a pen to write?! How do we asses such students?! And do we use the same learning outcomes and criteria to assess them?! Certainly this issue needs to be addressed before thinking about the inclusion of such students.

Teachers concerns about the unsuitability of the curriculum are legitimate. In Jordan, the curriculum is the core of the educational process, and its effectiveness is measured by the extent to which the students achieve learning this curriculum. Teachers see the students' failure to achieve the required level of the curriculum as their own failure since they are the deliverers of this curriculum. Such problem will not be solved if the curriculum remains the way it is now, dense, lengthy and rigid. This obstacle was also identified by other studies. Gaad and Khan (2007) found that teachers do not prefer inclusion because SEN students lack skills needed to master the curriculum taught in the mainstream classroom.

Fifth: family and society related barriers: Teachers argued here that families and society play a fundamental role in hindering the implication of inclusion. They listed several barriers including: a) families' negative attitudes toward disability and inclusion, b) limited support and collaboration from families of SEN students, c) society limited collaboration and negative attitudes toward SEN students.

T42: Families of children with disabilities are not supportive and do not collaborate with schools. I have in my class a student with learning disability and I want to see his parent to discuss his situation with them but they never reply

to my notes. This is a big obstacle because without their help, I do not think their child will be able to succeed in the school. Also, my job as a teacher of this child will be harder and less effective.

T12: in my opinion, it is too early to talk about inclusion! The society still does not accept children with disabilities and they are still socially excluded. I am saying this judging from what I see in my school; the students, their families and staff all do not held positive attitudes toward children with disabilities. They may sympathize with them and choose to be nice and supportive to such children sometimes but that is not what inclusion is or meant to be.

Teachers' responses show that they are aware of the important role the families and society need to play to support inclusion. They are aware that without such support their job as teachers is more challenging, and the effectiveness of the learning process of SEN students is less effective. Inclusion, after all, cannot be achieved by single effort, but the collective efforts of students, teachers, staff, families, and society.

In summary, teachers' responses about this set of barriers expressed their deep concern and confusion about working with SEN students. This concern expresses their reality working in an educational system that offers no structure and constituent components to support the inclusion of SEN students. Teachers, therefore, view inclusion as an unrealistic idea and its implementation is beyond the capacity of the education system.

Conclusion
The educational authority in Jordan has taken serious actions toward the inclusion of SEN students in mainstream schools. Nonetheless, the readiness of the educational system for inclusion has been in question. The aim of the current study is to provide more insight on inclusion but from the teachers' point of view. Teachers are known for being the agents of the education system; their knowledge, attitudes and experiences are all major factors contributing to the effectiveness of the educational process in schools. The success of the inclusion of SEN students is, as the literature shows, is attributed to teachers whether they have the expected knowledge and attitudes to work with SEN students or not. Therefore, the current study explored whether teachers have enough knowledge and positive attitudes toward inclusion and what are the barriers they perceived to hinder the process of inclusion.

The findings of the study revealed deep concerns by those teachers about inclusion. Teachers expressed their limited knowledge about inclusion and SEN students, owing that to their lack of preparation in this area. Consequently, teachers' attitudes toward inclusion were not particularly positive, which is also explained by the different barriers they viewed to affect the realization of successful inclusion. Teachers discussed different sets of barriers including the negative attitudes of students toward their SEN peers, underprepared school staff, underprepared environment where schools are not well designed and resourced to support the inclusion of SEN students, unsuitable curriculum and evaluation methods and finally the negative attitudes of the family and society toward inclusion.

All the above findings are in line with the literature discussed the inclusion of SEN students, (see: Gaad and Khan, 2007; Anati, 2013, Pijl and Meijir, 2002; Gilmore, Campbell & Cuskelly, 2003). Nevertheless, teachers, in this study, mapped out the specific barriers that they perceived to be salient in the Jordanian context and affect them and their students.

Understandings teachers' attitudes and perceived barriers to inclusion is crucial. It invites the educational authority and those involved in the educational process to revisit their inclusive education agenda. This study recommends that more attention is given toward building an infrastructure that fosters inclusion. This includes; including all required knowledge and skills related to inclusion and SEN students in teacher education programs, improving the learning environment, including school buildings, resources, and classroom size, reconsidering the current curriculum and evaluation models. The curriculum needs be more flexible and less dense to allow teachers diversifying its contents to suite all needs in the classroom. Providing clearer instructions on the different roles school staff are expected to play and how they can collaborate in inclusive schools. Finally, inclusion will not be successful without changing the attitudes of all those involved in the educational process, including students, teachers, schools, families and society. To make inclusion works, all these parties need to take part in it and provide their support, otherwise inclusion will remain, as the teachers in this study liked to describe it, an unrealistic idea.

Study Limitation
This study was limited by two different factors. First, the study sample was not randomly selected limiting the possibility of generalizing the results of the study across the country. This limitation was not to be avoided, however, as the finance for the study was limited and schools and teachers participation was optional. This rendered many schools and teachers not taking part in the study. Second, the study utilized an open-ended questionnaire as a

method of data collection. Though this method is useful when the aim is to survey the teachers' perceptions on inclusion, a use of a face-to-face interview could have served the study's aims better. This method provides more detailed and in depth data and allows the researcher to ask more questions when needed. Using a face-to-face interview was not possible though because it is costly and requires ample time for data collection and analysis.

Future Research
This study provided an overall picture of teachers' knowledge, attitudes toward inclusion and the barriers they perceived to hinder its implication in the capital city of Amman. Future research, however, could consider including teachers from other districts and cities in the country where different barriers may be identified that differ from those found in Amman. Also, a future research could examine the knowledge and attitudes of schools personal and families toward inclusion to provide more information about these important parities that influence the successfulness of inclusion. A continuation of this study could also explore the impact of a training program in the area of inclusion on the knowledge and attitudes of teachers toward inclusion. Such study could invite teachers to enroll in an in-service program that provides teachers with skills they need to work with SEN students in mainstream schools.

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+THE EFFECT OF CLUSTER-BASED INSTRUCTION
ON MATHEMATIC ACHIEVEMENT IN INCLUSIVE SCHOOLS

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The research aimed to investigate the effect of Cluster-Based Instruction (CBI) on the academic achievement of Mathematics in inclusive schools. The sample was 68 students in two intact classes, including those with learning disabilities, selected using a cluster random technique among 17 inclusive schools in the regency of Surakarta. The two classes were pretested and the result showed no significant difference. The research was primarily quantitative using a post test only control group design. One group learnt mathematics in a Cluster-Based Instruction (CBI) setting, another group learnt in a Full Inclusion Instruction (FII) setting. Student achievement was measured using a teacher constructed test with a reliability of .70 in the try out. Data were analyzed using T-test for independent means. Qualitative data from interviews with students with learning disability were used to support the quantitative data. The research found that mathematic achievement of students in the CBI setting (mean = 7.01 , SD = 1.37) was significantly better than that of students in the FII setting (mean = 5.04, SD = 1.53), t = 6.16, p < .01)

Introduction
During the last two decades, Education for All (EFA) has been on the agenda in world gatherings such as the World Conference on EFA in Jomtien Thailand 1990, Salamanca Conference and Declaration on Special Needs Education in Spain 1994, and World Education Forum, Dakar, Senegal in 2000. The last gathering in Senegal 2000 finally agreed upon the Dakar Framework for Action of Education for All (UNESCO, 2000). Since then, EFA has become the major program of educational reform in many countries, the goal of which is to assert that everyone has the right to education, particularly those with disabilities. The goal, however, is unlikely to be met in many countries. Inclusive education, furthermore, is believed to be able to secure EFA by providing education for pupils with disabilities in mainstream schools (Hegarty, 2003).

In Indonesia, the stream of inclusive education is moving even stronger since the issuance of Government Act Number 70/2009 on Inclusive Education signed by Ministry of Education in 2009. This act entails the implementation of inclusive schools in each of elementary, junior high, and senior high school levels in every sub-district area all over Indonesia. Since then, growing number of regular schools were changing to inclusive schools. Such a transformation from regular to inclusive schools is not just a matter of changing name or status. It needs some adjustments to the needs of children with special needs .
One critical point to be kept in mind is, that inclusive education requires some modifications in terms of curriculum, facilities, and teaching strategy. Modification is made to help children with special needs achieve meaningful learning from the full inclusion instruction. In many cases, being declared as an inclusive school, the classroom management is disoriented when the regular teacher is not familiar with the learning characteristics of three or four

children with special needs in her class. As a consequence, such children with special needs feel neglected academically due to the reason that the teacher is just focusing on the running curriculum which actually does not fit them. Children with special needs mainstreamed in inclusive schools are required to learn all the way the same as other children in inclusive schools under the full inclusive system of instruction.

In addition to curriculum, teaching strategy is another problem in a newly established inclusive school. Children with special needs in inclusive classes may not learn as it is expected when the instruction is not designed in such a way that it fits them. They need a specific instructional strategy that might be different from it is applied in regular classes. Differentiated instruction like individualized instructional program might be necessary to accommodate the unique needs of children with severe learning disabilities. In big classes, clustering the children with similar learning problems into smaller groups could be another way of differentiating the strategy of instruction.

The typical challenges emerging recently in the full inclusion system of instruction do not include only teaching strategy but also the evaluation system, particularly the grading system and national examination. Both are compulsory in regular schools. Nevertheless, they are problematic in inclusive schools. One of the most important findings from of a survey on the implementation of inclusive education in Indonesia (Sunardi, 2011) suggests that evaluation system does not support the implementation of inclusive education. The grading system, for instance, might become a barrier for students with special needs in inclusive schools. Such students would remain in the same level for one or two more years. Furthermore, grading system is not age-appropriate and turns to be a learning barrier for under-achieving students. The notable impact of this system is the increasing rate of drop-out students. This system, nevertheless, is inevitable since it has been running as long as the education system was first set up.

In addition to the grading system, the national examination is another learning barrier for students with special needs in inclusive schools. National examination refers to a nation-wide standardized test administered at the final grade of school education level. It is a compulsory measurement for all students except those who are learning under the curriculum below standard. (Ministry of Education Rule no 70/2009). However, national examination causes a great anxiety for most under-achieving students. The students might experience examination nerves due to perceiving their specific learning disability at the subject matter within the National Examination. Furthermore, a survey reported that several students with disabilities learning in inclusive schools demonstrated an increasing failure in three main subject areas; Language, Science, and Mathematics in the National Examination (Annual Report of Inclusive Education Teachers Forum, 2013). To be more specific, the study found that the under-achieving students with learning disability achieved the lowest score in Mathematics.

Given the limitations of national education system, various teaching strategies have been innovated and elaborated. Teachers are required to employ an approach involving active, creative, and fun teaching strategies suggested by Bultzin (2005) in *Joyful-Classrooms*. The primary focus of this program is to improve the students' learning process that enhances their academic achievement. In line with this program, The Board for Indonesian National Standard of Education strongly recommends that the process of classroom instruction should be conducted in interactive, inspiring, exciting, and challenging ways encouraging the students' initiative, creativity, and independence (Government Rule 19/2005). To some extent, the program indeed, improved academic achievement among students in regular schools, while unfortunately, it still could not solve the academic achievement issues among students with special needs. Thus, learning problems and finding ways as how to promote academic achievement among students with special needs are perceived as central issues in this study. All of these efforts, however, could not improve the achievement in Mathematics of students with learning disabilities in the full inclusive schools. Instead of learning in the full inclusive system of instruction, it is believed that differentiated instructional strategy of CBI could help them learn meaningfully. In special education, Cluster-Based Instruction (CBI) has to do with grouping system of students learning in a heterogeneous class, and it is best practiced in big classes in collaboration with a special education teacher.

The Purposes of the Study
The study attempted to investigate the difference in mathematic achievement between students learning in a CBI setting and those learning in a FII setting.

Literature Review
In general, the concept of inclusive education is an approach to education that responds to individual differences among students. It is a process of decreasing exclusion and increasing participation (Meynert, 2014) of learning within the classroom setting. In a similar statement, Ainscow (2003) defines inclusion as a process of searching for

potential alternatives to respond to the diversity of both learning how to live in and learning from diversity. It attempts to identify and remove learning barriers among primarily students who are marginalized and neglected so as to attend, participate, and achieve meaningful learning.

Historically, the changing attitude and awareness towards education for all (EFA) within this couple of decades led the concept of inclusive education in Indonesia. The traditional system in which students with special needs should only enroll in special schools has been replaced with a new system in which all children should get the educational service in mainstreamed or integrated system of education. In this regard, inclusive education serves the latest form of educational services along the special education development. In this context, the Indonesian Directorate of Special Education (2007) has issued a guide book of instructional adaptation for students with special needs in inclusive schools. The instruction covers specific adaptations and modifications adjusted to students with special needs. Modifications may be required in terms of curriculum, process of teaching, instructional media, teaching materials, and evaluation. Now that the inclusive education policy is issued by Ministry of Education no. 70/2009, inclusive education is compulsory in every sub-district of a region all over Indonesia. Since then, the number of inclusive schools grows fast. The Report of Inclusive Education (2013) indicates the number of inclusive schools in the regency of the research site has developed from 25 to 110 inclusive schools within the last two years.

Since the beginning of inclusive education, Full Inclusive Instruction (FII) has been the typical system of inclusive schools in Indonesia. Students with special needs are fully mainstreamed in regular schools regardless their kinds and severity of handicapping conditions. In the instructional context, inclusive education accommodates students with special needs in regular school where the instructional practice responds to individual differences of all students (Gregory & Chapman, 2009). This means that teaching in an inclusive school should address the unique needs of individuals with special needs. Hence, responding to such problems experienced by students with learning disabilities is deemed the most significant consequence of inclusive education (Shaeffer, 2005). In practice, however, the implementation of FII causes distress towards students with special needs, particularly those with learning disabilities. Such causes of distress could occur due to both external and internal barriers.

The external barriers are indicated by the lack of adequate human resources and facilities required by the Government rule number 70/2009 on inclusive education system issued by the Ministry of Education in 2009. A previous study conducted by Gunarhadi, Shaari, Sunardi, Munawir & Andayani (2013), for example, found more than 80 inclusive schools in a district which had only 20 special education teachers. It is, evidently, far from the required condition of inclusive education as such that at least one special education teacher for each class. This indicates that Full Inclusive Instruction (FII) was not able to provide assurance regarding the quality of education for students with special needs. It implies that inadequate learning facilitation in the respect of teaching process may hinder academic achievement due to poor cognitive stimulation.

Internal barriers, in almost the same way, can lead to more psychological distress. Psychological problems such as poor cognition, low self-esteem, and maladaptive social behavior tend to diminish learning motivation that will accumulate to general learning problems, particularly regarding learning of mathematics. For children with learning disability, in particular, cognitive barriers lead to serious difficulties in learning mathematics. Without extra individual scaffolding by applying the concept to the everyday life skills, these students may not be able to learn this subject matter meaningfully. This is in line with the statement by Vygotsky (in Daniels, 2009) who suggests a child with cognitive barriers could learn through concepts which are embedded in everyday referents.

Learning Mathematics involves cognitive processes that determine how individuals gain an understanding of themselves and their environment (Henson & Eller, 1999). Cognitive skill requires a high abstraction process which may occur when students learn mathematics. Through the cognitive process, individuals are more aware of themselves and their behaviors towards the environment (Hernowo, 2008). According to cognitive learning theory, the aspects of learning include thinking processes such as response to stimuli, memory, problem solving, and creativity (Piaget, 1980; Henson & Eller, 1999; Martin, 2000). Cognitive processing ability differs from one individual to another (Galloti, 2004). For instance, someone having a high score in intelligence tests predictably has high cognitive skills.

In line with the theory, Mayer (2008) argues that learning mathematics is interrelated to cognitive learning in which a concept is learned through abstraction and generalization such that where students learn the concept of an object beyond the numerical symbols (Hadi, 2005). Learning process happens through association, perception, and creation based on their experiences of finding the core ideas from their own conclusions. Students with mathematic

problems are characterized by specific cognitive or academic difficulties such as perception problems, distractibility, difficulty in screening out irrelevant stimuli, and impulsivity in responding to classroom tasks (Heruman, 2013). Regarding those problems, Ormrod (2011) suggests some strategies as to help such students learn better. The strategy includes executing the important information while avoiding distraction at the same time, encouraging greater reflection before responding, and pacing the instruction to allow students to think about and process the information. Nevertheless, this strategy is only feasible when the class size is not too big.

Cognitive theorists of learning are more likely to view that learning plays an important role in intellectual capability in the learning process instead of forming the habit stimulus-response and reinforcement. Piaget (1980) and Vygotsky (1997) argued that practice helps learners to internalize skills and form abstraction which could strengthen associative bonds as cognitive process (Carnell & Lodge, 2002) . Galloti (2004) explained cognitive theory as the process of mind or cognition in which a piece of information is obtained, processed, stored, and transmitted. Mental constructs are symbols represented by rules, images, or ideas between input and output of information (Parkin, 2000). In term of mental construct, Mayer (2008) stated that meaningful learning is dealing with memory which is built up from selecting, organizing, and integrating. Likewise, Ormrod (2011) argued that learning is a cognitive process in which the mind attempts to interpret and remember what is seen, heard, and studied. This means that meaning and understanding are not derived directly from the environment. They are constructed in the learner's mind instead. Cognitive learning strategies correspond to the executive control functions of information processing.

Students with learning disabilities, in particular, could not fully benefit from learning in the similar way of peer students as how they learn in full inclusive system of education where the class usually contains a big number of students. Due to their discrepancy between their normal potentials and real academic achievement, such students require extra guidance from the teachers to allow them to keep up with their peers in term of academic performance (Gargiulo, 2012). Full Inclusion Instruction, in this matter, could not fully facilitate such students in developing their cognitive skills since the teachers do not have enough opportunities to provide them with extra assistance during learning. Hence, individual and small group instruction in differentiated learning is highly required since it is believed that they could learn better in a small group or cluster (Gregory & Chapman, 2009). It implies that teachers in the full inclusive system are required to provide an instructional strategy enabling the students to learn Mathematics in cluster as well as on individual basis.

Cluster-Based Instruction (CBI) is a strategy of teaching in which few students with similar problems are gathered into a group or cluster. CBI is a model of teaching in inclusive education which can be conducted by both in class and pull-out model aligned with the inclusive school system (Gunarhadi, 2014). This teaching strategy is developed from the experiences regarding the effort to diminish traditional barriers in which teaching in a big class of more than 30 students with different abilities is less effective. It is believed that the smaller class size, the easier for the teachers to manage the class. A previous research (Gunarhadi, et.al., 2013) found that regular teachers at inclusive schools prefer teaching a class with fewer students with special needs. This is reasonable as the teachers are not keen to deal with students with special needs. Avramidis and Norwich (2002) also argued teachers are more likely to include students with mild disability in a so-called mainstream class than those with more complex impairment. The more students with learning disabilities in a class, the more difficult the instruction could be. This is true since students with disabilities in the class get less attention than those who are non- learning disabled.

Unlike the FII system, CBI is a model of instruction conducted in inclusive schools where few students with special needs are mainstreamed. In big classes, clustering the children with similar learning problems in to smaller groups could be another way of differentiating the strategy of instruction. A number of three or four students with learning disabilities in full inclusion system , for instance, is grouped to have additional help of teaching either *in class* or *pull out* cluster. At this point, teachers are entailed to be creative in seeking ways as to give assistance to students with learning disability towards better learning. Students with learning disability prefer learning in the small groups or cluster since they may feel more comfortable of having classmates with similar level of difficulties.

In comparison to the full inclusion system, CBI offers teachers better experience. It could develop new ways of thinking about teaching and how to provide adequate intervention in a cluster of students made up from different ways of grouping. At this point, teachers are required to learn the principles of applying CBI in classrooms. In some instances where children have severe learning problems, smaller group division, pair work or even individualized instruction is commonly practiced in CBI model.

Method
Research Design
The research is a quantitative method of quasi-experimental research utilizing a post-test only control group design (Sekaran, 2003; McMillan & Schumacher, 2010). The research provides treatment to examine the change of value of dependent variable (Fraenkel, Wallen, & Hyun, 2012). A sample of two intact groups of students was taken under randomized sampling technique assuring that both groups of the experiment and control groups are equal (Seniati & Setiadi, 2009). To see the effect of the treatment, mathematic instruction was addressed to the class in the experimental group using CBI model, and the control group using FII model. In addition, interview with some students with learning disabilities was used as a secondary data to confirm the quantitative findings.

Population and Sample
The population of this research is a number of 68 students in 17 inclusive schools scattered in 4 sub-districts of the Regency of Surakarta, Central Java, Indonesia. Two intact groups of students from two different schools were assigned as sample using multistage-cluster random sampling technique (Kumar, 1999). The first stage was the selection of two districts in the District of Surakarta where the districts of Solo and Boyolali were randomly selected. The second stage was the selection of one inclusive school from each of the selected district. In this stage, 34 third grade students in *Wiropaten Primary School* (WPS) Solo were selected as an experimental group. On the other hand, other 34 third grade students from *Sukorame Primary School* (SPS) Boyolali represented the sample of the control group. Among 34 students in the experiment group of *Wiropaten Primary School* (WPS), 4 of them were identified to be mildly learning disabled. In the similar number, there are 5 students with learning disabilities in the control group of *Sukorame Primary School* (SPS).

Prior to the treatment, the two groups were pretested in mathematics, the result indicated that there was no significant difference between the experiment group (mean = 4.99, SD = 0.76) and the control group (mean 5.01, SD=0.73), t = 0.15.

Table 1. T-Test analysis between experimental and control groups before treatment of CBI.

Achievement	Group	N	Mean	Std. Dev.	t	Sign.
Math	Experiment	34	4.99	0.76	-0.15	0.89*
	Control	34	5.01	0.73		

Note: *P > 0.05

Data Collection and Analysis
The data regarding the Mathematics achievement were collected from a teacher constructed test. To maintain the validity the test, the academic syllabus of the grade was used as main guide in the construction of the test. A try out of the test indicated a reliability value of 0.70. To measure the normality of data, the *Kolmogorov Smirnov test* was used to see the distribution of the data. Meanwhile, independent sample T-test was used to prove the hypothesis.

Results
Data of Academic Score of Mathematics of the Experimental Group
The scores of the academic achievement on Mathematics were obtained from the post test administered to the sample of 34 students in WPS assigned as the experimental group. The result showed the highest score = 9.25, the lowest score= 3.25, *mean* ($\overline{X}$)= 7.65, *median* (M_e)= 7.25, standard deviation (σ)= 1.37, quartile I (Q_1)= 5.75, which means 75% of the participants have scores > 5.75, quartile 3 (Q_3)= 8.25, meaning that 25% of the participants scored > 8.25. The *mean* ($\overline{X}$) = 7.65 , standard deviation (σ) = 1.37 meant the data distribution was normal.
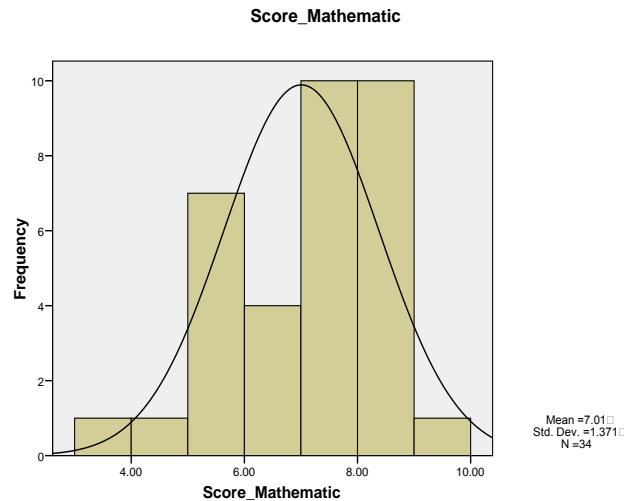
Score_Mathematic

Figure 1. The data distribution of the academic score of Mathematics Data of Academic Score of Mathematics of the Control Group

The score of the academic achievement on Mathematics was obtained from the test of final exam administered for the sample of 34 students assigned as the control group of Sukorame Primary School (SPS). The result showed the highest score = 8.8 and the lowest = 2.3, *mean* ($\overline{X}$) = 5.04, *median* (M_e) = 4.50, standard deviation (σ) = 1.53, quartile 1 (Q_1) = 3.80, which means that 25% of the respondents had scores <3.80, and quartile 3 (Q_3) meaning that 25% had scores > 6,50. That the *mean* ($\overline{X}$) = 5.04 > and the standard deviation (σ) = 1.53 meant the data distribution of Mathematics scores was normal.
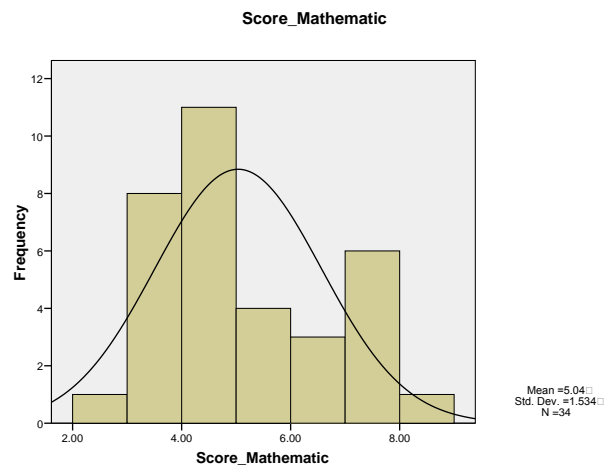
Score_Mathematic

Figure 2.The distribution of Mathematics scores of the Control Group

In order to examine whether the cognition has the power to support the improvement of the academic achievement in Mathematics through Cluster Based Instruction, a T-test for independent means was used to analyze the data.

Table 2. T-Test analysis between experimental and control groups after treatment of CBI

Achievement	Group	N	Mean	Std. Dev.	t	Sign.
Math	Experiment	34	7.01	1.37	6.16	0.000*
	Control	34	5.04	1.53		

Note: *P < 0.05

Table 2 shows the *mean* of Mathematics (M = 7.01, SD = 1.37) was significantly higher than the mean within in the control group (M = 5.04, SD = 1.53, t (34) = 6.16, p = 0.000, meaning that CBI treatment had a significant effect on academic achievement in mathematics rather than that in Full Inclusive Instruction (FII).

In addition to the quantitative findings regarding the influence of CBI on Mathematic achievement, qualitative data from the interview with students with special needs were presented. The interview with students with learning disability enrolled in the inclusive schools showed the important role of cognition. CBI employs stimulating activities that involve direct experience and demonstration during learning, and reinforcement at the closing session. The result indicated that students with learning disability became increasingly enthusiastic in learning Mathematics. Four out of six students with learning disability enrolled in inclusive schools were seriously engaged in learning through CBI indeed. The students became more interested when learning mathematics. The most impressing comment expressed by the students with learning disability learning in cluster was that *learning mathematics in a group of intimate friends like this is the first time we experience.* They did enjoy learning the subject through CBI since they contextually learn through working with others.

Discussion
The increase of *mean score* from the base line (4.99) to the posttest score (7.01) indicated an increase of academic achievement on Mathematics by CBI. The change caused by CBI was significant since the statistical analysis, showed with the value of significance 0.00< 0.05, Fo (41.92) was bigger than Ft (3.99). In the same way, the academic improvement was also contingently influenced by cognition as shown from the value of 0.00< 0.05. From these ways of statistical analysis, therefore, it is confirmed that the change of academic achievement of Mathematics was not only from the CBI treatment, but also controlled by the power cognition. In other words, there seems to be a close relation between learning mathematics and CBI in dealing with intellectual stimulation. CBI provides the teacher with learning facilities through classroom management on one side, and classroom strategy of stimulation through students' activities on the other side.

Classroom management
One important point as to how CBI affects the improvement of academic achievement in Mathematics is classroom management. It deals with class structures of instructional delivery. It includes classical, grouping, and individualizing approach of instruction. In the classical approach, students with learning disabilities learn together with the
 peers in the big class. All students learn the same material at the same time to enhance the opportunities of acquisition in Mathematics. In the case that students with learning disabilities get some problems in understanding the learning material, they are grouped in such a way that members in this group have similar level of knowledge base. Learning activity in this group so called CBI is addressed to strengthen the knowledge already mastered by remedial teaching. In the case of remaining problems, an individual instruction is necessary for personal scaffolding.

Class activities
In addition to classroom management, CBI allows the teacher to organize the class activities of students with learning disability both in a small group and individual basis. It is in CBI that the teacher could more easily stimulate the students' cognitive work in the process of learning (Driscall, 2005). Class activities are characterized by the students' cognitive involvement in constructing the knowledge from the teacher's instruction. Learning mathematics involves working construction of mental abstraction through attention, reasoning, categorizing, making decision, and other mental processes in the contextual situation (Parkin, 2000, & Galloti, 2004). In other words, learning mathematics involves cognitive engagement of abstraction by connecting the concepts into hands-on activities to gain insight to strengthen the associative bonds (Carnell & Lodge, 2002). In practice, teaching mathematics starts from enrolling by selecting the material that most interest the students, relating the material to

knowledge already exist in the students ' mind, organizing the material, assimilating the new material through demonstration of the new knowledge, and lastly, training and transferring the new knowledge through drilling reciting, or simulating.

In addition, the class activities arranged in small group or individual do not only help the teacher manage the classroom more easily but enhance the students to feel convinced of the success in learning. This good point of CBI is supported by Florian and Linklater (2010) who argued that the students' enjoyment is a part of successful cognitive stimulation through CBI. The small number of students in CBI enhances the teacher to provide a lot of opportunities and adequate responses to the students individually. Moreover, teacher's positive attitude towards these students helps them stimulate their power of learning (Avramidis & Norwich, 2002). Feeling good in learning is more likely to solve the most common problems for students with limited skill in term of cognition.

This finding is even asserted by the conclusion of the interviews with three individuals with learning disabilities; *What makes you feel good about learning Mathematics?* Each of them responded in almost a similar manner *Mathematics is the most difficult lesson, but I feel happier to learn this topic in a small group than in a big class.* When they were
 asked why, each of them commented: *… because it is easier for me to understand the topic from clear explanation, drilling, free discussion, less burden of failure, and friendly help from the teacher.* In short, this explanation suggests that mathematics learning requires vigorous cognitive skill, but soothing atmosphere and reinforcing stimulation in CBI can lessen the burden of competition anxiety likely occurring in FII.

The underlying success of learning mathematics in CBI.
Based on the observation during the intervention in CBI, the research found the following strong points of enhancement for children with learning disabilities in learning mathematics.
1. Timely feedback or correction.
   Children with learning disability make mistakes in writing or reading mathematic symbols (such as: -, + , x, >, or < , =). When this happens during practice due to their wrong perceptions, the teacher can make necessary correction or feedback timely. Such corrections are hardly possible in FII due to the reason that many students might need these kinds of scaffolding.
2. Individualized scaffolding.
   Individualized approach of instruction is quite possible for children in small number of group of CBI, and it is believed to be a better instruction, particularly for children with severe learning problems. On the contrary, individualized instruction is not possible in FII .
3. Group scaffolding
   Perceptual and motoric problems leading to mistakes can happen to children with specific learning disabilities. However, corrections to these problems can easily be done without consuming too much time in CBI, especially when the instruction takes place in *pull out* cluster model which is separated from the peers in FII setting.
4. Psychological traits like self-confidence, motivation, or courage to ask or answer questions as a freedom of learning also apparently happen more frequently in CBI.

Limitation of the research
CBI could be implemented on condition that the inclusive school has a special education teacher who can work in collaboration with the regular teacher. In this way, the *pull-out* model of CBI can be possibly implemented. Unfortunately, all inclusive schools are existing in FII model, so research on CBI model is hardly found or published.

Conclusion
The increase of the *mean score* from the base line (4.99) to the posttest score (7.01) indicates that the Mathematics achievement could be improved by Cluster Based Instruction (CBI) for children with learning disabilities. In addition to quantitative results, qualitative findings can be drawn as the following conclusions.
1. CBI allows the teacher to deliver the subject matter in three flexible sequences of learning arrangement; classical, small groups, and individual settings. Weaknesses of instruction in the classical setting are diminished by instruction in smaller class of learning which is called cluster-based instruction (CBI). In the same way, weaknesses of instruction in small group could be overcome by the individual approach of learning.
2. CBI, which is characterized by a small group instruction, has enabled the teacher to arrange the class activities on how the children cognitively construct the knowledge through practice of connection between the conceptual and practical understanding on realistic mathematics.

3. In practice, CBI allows the teacher to foster joyful learning through hands-on activities for students with learning disabilities by means of cognitive stimulation within the reinforcing academic atmosphere. It is believed that meaningful learning is better achieved when the students feel the joy of learning.
4. Based on the observation and interview with children with learning disabilities, typical problems due to perceptual and motor problems leading to mistakes can be promptly corrected as a timely feedback.
5. Some children with learning disabilities prefer learning in CBI to FII for psychological reasons. Instead of competition, they enjoy learning together with peers with similar learning problems in a more cooperative learning environment.

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CHILDREN WITH DISABILITIES: CONSTRUCTING METAPHORS AND MEANINGS THROUGH ART

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The aim of this qualitative study is to explore how art, as a semiotic tool, transforms children with disabilities. To achieve this purpose, one must listen to the voices of teachers and childcare workers in the field of special education. The study's preliminary findings found three main categories through data analysis: 1) Teachers' perceptions of art; 2) How children with disabilities respond to art; and 3) Teaching practices through art. These findings show that children with disabilities can establish a connection with teachers through music. With music practices, teachers become aware of what the child wants to express, and of what the child is learning and developing. The study further shows the importance to understand how children respond to art through the diverse disciplines and the development of the practice routines. In addition, the study identifies the necessity to continue researching the area of art, semiotics, and children with disabilities.

Introduction

Art, like many interdisciplinary approaches to education, suffers from a general lack of research in existing studies. The diverse, but limited research points to an often underexplored, though potential and important, perspective between art and special education. Art gives us the opportunity to intensify our senses, connect with reality, and let humans be more critical in order to recognize the things that make us vibrate and feel. Joosa (2012) showed the necessity to continue researching the relationship of art education and the field of special education. The research findings are just a tiny contribution of acting and uncovering disabled children's identity, learning development, and behavior of the social world in which they interact. Langer (1957) argued that, *A work of art is an expressive form created for our perception through sense or imagination, and what it expresses is human feeling* (p.15). Art is a voice that can be transformed into a healing semiotic tool for a disabled child's learning and cognitive development, especially in the areas of communication and socialization.

The purpose of this qualitative study is to explore how art, as a semiotic tool, transforms children with disabilities, as well as to understand what social and semiotic meanings these children develop through the diverse environments in which they interact. The semiotic signs are used to bridge art and disability. Semiotics, as a conduit, will be considered a tool for children to use it to convey their own expressions. To achieve this purpose, the goal of this research is to listen to teachers and childcare workers in the field of special education, so as to gain an understanding on how they experienced art and education in their practices with children with disabilities. The research study setting is conducted through the exploration of teachers and childcare workers. The explorations allow identification of the diverse meanings immersed in the experience of a teacher's practice. This study was conducted in a Childcare Center located on the U.S. –Mexico border. This study addressed the following research questions in regards to understanding children's meanings through teachers' voices and experiences.

Research Question 1: How do teachers and childcare workers at Childcare Center think about and use art in their practices?

Research Question 2: What do teachers and childcare workers think the impact of using art as a semiotic tool is in their work with children with disabilities?

Research Questions 3: How do teachers and childcare workers describe the ways in which students with special needs respond to art in their classrooms?
The research questions are supported through several data collection sources including interviews, observations, and field notes, which provide participants' evidences; further, the research questions are sustainable by empirical evidence that allows an analysis of the research interest and to identify the gaps in these important fields.

Research indicates that children with disabilities act in a variety of ways (Taylor, 2005; Joosa, 2012; and Nind, Flewitt & Payler, 2011). For instance, there can be considerable cognitive distinctiveness related to each different condition such as Autism, Down syndrome, and Cerebral Palsy. Craick and Simon (1984) and Hunt and Mitchell (1978) related the concept of distinctiveness to the discrimination of other words in the memory system (as cited in Swanson, 1984). In that sense, art can be used as a semiotic system to communicate with students from all types of disabilities, along with their teachers, childcare workers, and parents.

One way to approach the significance of art in the lives of children with disabilities is through the study of semiotics. Semiotics is about the creation and identification of meanings by the use of signs and symbols. In that sense, *semiotics can assist us in becoming more aware of the mediating role of signs and of the roles played by ourselves and others in constructing social realities* (Chandler, 2002, p.14). We must ask: how do teachers and childcare workers use art as a semiotic tool and in where it might transform the experiences of students with disabilities? For this reason, it is necessary to explore teachers' experiences with children with disabilities. The study's preliminary findings found three main categories through data analysis: 1) Teachers' perceptions of art; 2) How children with disabilities respond to art; and 3) Teaching practices through art.

Furthermore, the analysis in this article is based on Eisner's (2002) Art and Education theoretical framework. Eisner's perspective explains how senses, through art, develop the capacity of consciousness, and is a way to explore and uncover the things that surrounds us. The connection of the senses with the environment is a process that continues to shape life, culture, and language. Eisner's perspective makes a connection between art and the following areas: senses, learning, aesthetics, culture, and curriculum. Eisner explains that in western philosophical tradition, knowledge is related with language or words: *The limits of our cognition are not defined by the limits of our language* (p.379). Langer (1957), Eisner (2002), and McLean (2008) showed that art is an expressive form of our imagination. In that sense, teachers forge art with students with disabilities, so that their abilities can develop in imagination and consciousness, as well as in their own expressions. In addition, Eisner (2002) explained how students' thinking are often non-verbal thoughts: *The use of imagination can be understood through their remarks about visualization, audition and the employment of metaphor as ways to deepen understanding* (p.151).

Art and Voices of Children with Disabilities
Analysis in the field of art, education, and disability, research indicates how artwork is the voice of children with disabilities in which they can express their emotions and feelings through the assorted symbols in art (McClain, 2005; Joosa, 2012; Taylor 2005; MacLean, 2008; Bacon & Bennett, 2013; Davis, 2010; Karr, 2013, Darrow, 2006; Dunn, 2013; Desrochers, 2014, and Williams-Carawan & Nalavany, 2010). Furthermore, Taylor (2005) explored the voices of children with disabilities with physical and sensory impairment through artwork in which young students can represent and express their own experiences. Taylor's study revealed how the use and application of art and painting in young people with disability can change their negative and oppressive experiences of life by encouraging positive and inclusive perspectives. It is important to mention how space, texture, and color are important characteristics to the expression of their artwork in order to uncover their self-identity. Their artwork is a voice to their disability, which promotes the inclusivity and diversity through the recognition of a space for them in the society.

On the other hand, MacLean (2008) stated that, *arts gives the opportunity to take 'interdisciplinary approach' to learning, by combining elements of music, dance, drama, and visual arts in order to explore a concept in multiple ways* (p.79). Researchers indicated how music strengthens various areas such as inclusion, teaching practices, identity in children, and younger children and adults with disabilities (Darrow, 2006; Mizuno & Sakuma, 2013; and Gerrity, Hourigan, & Horton, 2013). Darrow (2006) recommended that supporting deaf children in their communication skills can be done by using music within stories: *The pictures help bring meaning to the words, and the background music helps to convey the emotional content story* (p.12). The author explained that deaf participants are more influential to recognize the timbre, texture, and rhythm in the expression of their emotions. In a similar way, Mizuno and Sakuma (2013) discovered that musical instruments give children with disabilities the confidence

to perform in a positive way and encourage them to join the activity with their peers (Mizuno & Sakuma, 2013, p.194). The authors emphasize that children with disabilities are not social; however, musical instruments help develop their language and interaction abilities. Gerrity, Hourigan, and Horton (2013) mentioned that instruments give children the knowledge of different symbols immersed in music. The advantage of introducing music in practice is a benefit that is identified by teachers and children with disabilities. Through my study, it is evident how teachers create communication with children and children with teachers. The diverse symbols immersed in music enable and make this connection conceivable. The study of art through a semiotic perspective makes the identification of signs and symbols immersed in the diverse representations possible as well.

Research studies conducted through the lens of social semiotics and art (Barden, 2012; Stamou, Alevriadou, Elefthteriou, & Vamvakidou, 2008; and Joosa, 2012) showed how students forge their social interaction by recognizing their strengths in literacy events and practices. It also revealed how students show awareness of their disabilities by motivating them to identify their own disability as a strength that is taught in their learning development. Joosa (2012) stated, *For years people with Down syndrome and others with a cognitive disability have been neglected in the discussion of meaning making and little is known how they live their life and experience their social world* (p.26). The author explored art as a social multimodal and semiotic resource field. Joosa (2012) conducted an ethnographic study of a child with Down syndrome named Billy. She analyzed emotions, behaviors, feelings, and social relations in the child's interaction with others. Through narratives and images, the child expressed his meanings by gestures, writing, drawing, and language. Billy used metaphorical depictions of 'super heroes' in his drawings. The findings showed that he represented satisfactory social relation with peers expressing excitement and happiness through body language. In addition, Stockall (2013) stated, *There is little research on the use of visual semiotics to analyze change in teacher beliefs* (p.313). The teaching experiences and practices of inclusion through art promote social interaction with the larger society for children with disabilities (Baker, 2007; Naraian, 2008; and Ponder & Kissinger, 2009). Baker (2007) explained that teachers and practitioners need to understand children's cognitive processing and using the arts as a path to do that. This is especially true for many autistic learners who might engage better with images than with words. In addition, my study shows that teachers recognize how art allows communication without words. The children can express themselves through body movements. Furthermore, Kliwer, (2008) claimed, *Allowing him access to symbols required a teaching team who believed that child could grow in his communicative and language capacities* (p.115). Teachers play an important role in children's learning development. When a teacher and student work together with their creativity, amazing things happen. Art allows a connection between a teacher and student, which is possible not only to identify how the children are able to produce art, but as humans to recognize and feel the mind and body.

Ponder and Kissinger (2009) conducted a study, which encouraged the inclusion of three teachers in student's art learning practices. They proposed classroom inclusion with one art specialist, one special education teacher, and one teaching artist. The teachers shared knowledge between them. The research findings showed how the majority of teachers do not have the knowledge and teaching experience in art education, and for this reason it is limits the integration of art instruction in their daily teaching practice. Also, teachers of diverse content disciplines can learn to work collaboratively amongst each other by encouraging art activities to include children with disabilities.
Through the curriculum, practices are led by a structure; however, it is possible within the formal instruction that teachers create and plan art practices, which leads to all students to develop creativity, imagination, and learning through their senses. The evidence in this study shows that by means of routines, teachers are aware of children's necessities. A teacher explains that children know how to practice routines; however, the teacher wants to develop art practices, especially since children ask for them. Once a teacher is aware of what the children like to do, that teacher can develop a child's consciousness by using art to connect their minds and senses in their everyday life practices. Eisner (2003) stated that, *Our inclination to control and predict is, at a practical level, understandable, but it also, exacts a price; we tend to do the things we know how to predict and contro*l (p.378).

Methodology
Setting
This phenomenological, ethnographic case study took place in a nonprofit organization along the U.S. – Mexico Frontera area in an inclusive Childcare Center. The childcare center is a place that has various services including therapeutic, educational, and day care services for children with/without disabilities. The childcare center supports parents and families by providing special educational programs for all children and their families. The childcare center included children of all ages while incorporating childcare classrooms from: six-week newborns, 1 to 2 yrs., 2

to 4 yrs., 3 to 4 yrs., and 4 to 5 yrs. Each classroom has 12-15 children per group. Also, an afterschool childcare, a program from 6-12 years, and the summer camp are offered once a year.

The study was conducted during the summer of 2014 during the months of July and August. During the study, as the researcher, I had the opportunity to participate as a volunteer in the summer camp provided through the Childcare center. The data collection included teacher and daycare provider interviews, classroom observation activities, and summer camp observations.

Data Collection
The first step in the study data collection was conducting audio-recorded interviews with teachers and childcare workers. The second step was conducted through classroom and summer camp observations. Also, my role as the researcher was as a participant observer and by taking field notes. The interviews were conducted during 6-8 weeks during 20-minute sessions, and observations and field notes were obtained during teachers' instructional times and specific summer camp art activities. During the interview, the research questions were structured to provide participants the opportunity to express their understandings and personal experiences of the role of art in instructional practice for students with disabilities. One teacher and two childcare providers participated in this study. Helen is a Caucasian childcare worker, and she teaches children from 4-5 yrs.; Nora is a Hispanic childcare worker, and she teaches children from 3-4 yrs.; and Alice is a Caucasian teacher who works in the Childcare Center during summer camps with children from 4-12 yrs. The children in the Childcare Center have disabilities such as autism, diabetes, ADHD, Down syndrome, and Cerebral Palsy. Also, to be eligible for the research, participants were required to be a teacher or childcare workers of the Childcare Center, and must be interested to participate in the study. The anonymity of the participants' names and information was given great thought and care. In that sense, consent form procedures were introduced to each participant from the Childcare Center, as well as explaining to each of them the process and purpose of the research project. Further, teachers and childcare workers who contributed their time in face-to-face interviews were required to voluntarily sign their authorization of conformity to participate in this research.

Findings
The different sections came from a list of sixteen codes that led the analysis to respond to the main research questions. Each theme expressed the opinions from one teacher, Alice, and two childcare workers, Helen and Nora, as well as classroom observations with teachers and children from the Childcare Center. The analysis was divided into three main sections: 1) Teachers' perceptions of art; 2) How children with disabilities respond to art; and 3) Teaching practices through art. In addition, the analysis was based and reviewed by relevant literature peer-reviewed journal publications, and founded in the structured theoretical framework based on Eisner's art education perspective. Eisner's perspective provided a framework on how art in education is a medium, which enhanced human learning experiences.

Teachers' perceptions of art
This section describes teachers' perceptions of art. The perceptions involve different sub-themes, such as teachers' and childcare workers' perceptions about art, as well as their learning experience through art.

With assorted personal art experiences, the teachers described how they experienced and perceived art in special education. Helen expressed that art is everything:

I think art relates with everything; to me art is everywhere. But art and special   needs children [is] not specially related with special needs. I think art gives an   extra outlet to let them to express themselves. Depending on children disability   art let to express more. (Helen, Childcare worker)
Helen recognized that art is an extra outlet that allows children to express themselves. Helen's experience allowed her to identify how different children are developing their own learning and expressions. It is important to understand how children with various disabilities, i.e. Autism, Down syndrome, and Cerebral Palsy, act differently, as well as how they develop their own diverse learning cognitive distinctiveness. Joosa (2012) explained that, *From a cultural-historical perspective it required attention to the uniqueness of the individual, as well as the context such as interaction with peers, environment and other [semiotic] [artwork] factors* (p.28). Through art, disabled children have the opportunity to express their feelings and thoughts. In addition, Nora claimed that art is a way to communicate, and recognizes that some children with disabilities cannot express through language:

I think art is beautiful because [it] allow[s] for us to communicate without having to use words, and a lot of my kids do not able to use the words. They can express themselves [through art]; they like to mix colors and it is a wonderful way to interact with them as well. (Nora, Childcare worker)

Nora related art with beauty; she explains that children communicate through the use of art. Because children sometimes cannot speak, they use their body gestures and movements. Art is a voice that transforms the diverse language experience of children with disabilities: Lowenfeld (1982) beautifully explains that, every work of a child will be a new flower if it is their own creation.

It is important to recognize the necessity to create awareness about art meanings in order to develop a sense of learning of life. On the contrary, Helen's perception about art revealed that she enjoys art, and she relates this experience with her teaching practices:

I remember that my family enjoyed my artwork. In that sense, I enjoyed it, and I bring it to class. Sometimes we have the opportunity to do something similar,   with leaves, or rocks, they pick up their own leaves or materials. I enjoyed it and I   try those experiences in class. (Helen, Childcare worker)

Helen is a graphic designer, which allowed her to apply her professional experience in teaching practices. She connects the real context with the materials that she uses in practices. Causton-Theoharis and Burdick (2008) observed that paraprofessionals play the role of a gatekeeper. The paraprofessional opens and closes gates to students with disabilities in the art classroom practices. In addition, the authors mentioned that when paraprofessionals value art in practices, the environment is an opportunity for teachers and students to learn in a positive way.

Responding to art: children with special needs
This section describes teachers' perceptions about the ways children with disabilities respond to art. This theme involves different codes, such as teachers' art experiences with children with disabilities, and teachers' activities with children with disabilities through art.

The following evidence revealed the teachers' own descriptions of their experiences teaching a variety of art activities, and show how the children responded through art. They described diverse activities or materials, which promoted a meaningful tool with art. The most relevant evidence showed how teachers perceived that children respond through art practices, and the first evidence was related to music. Nora explained that children with a severe disability respond in a good way to musical practices, *it is nice to look how children with more disabilities join more to music activities. They like to see in front of the mirror, they like it so much. It is funny* (Nora, Childcare worker). The children with disabilities want to uncover their identity and explore themselves. Identity is an important characteristic that shapes their consciousness of themselves, and they do this through art. Davis (2010) stated that, *Creative and expressive arts activities are well suited for children who often do not have the words or vocabulary to explain or express their feelings* (p.131).

The second evidence explained that some children with disabilities respond in a different way with art related materials. Children develop assorted ways to communicate and express their desires and emotions. Helen mentioned that when children want to ask about activities, they point to her. She said that they have their own way to ask about a certain activity or material. In a similar way, Alice described how Diego, a child with autism, enjoyed painting and touching the paints:

 Diego likes art a lot because we introduced him to the watercolors, and he liked it. Some autistic children do not like to touch paints. Diego has been   introduced to painting at a very early age because that is the first thing he wants to do: play with paint. He likes even to do paintings with his fingers. The way he sees it is the way we just need to go along with it because this is what he sees; this is what he perceives as his [art] creation. (Helen, Childcare worker)

The evidence showed how the child enjoyed doing art by painting. The art material gave the child an opportunity to express himself. For example, he liked to use paint because it is the material that he feels that supports him in communicating better. In addition, I observed during the summer camp activities that Diego did not enjoy listening to music because it altered his senses. Eisner (2003) explained that materials have important qualities, which students use to represent their meanings and forms of expression. The author compared the flute *which makes*

certain qualities that bass fiddle will never produce, and vice versa (Eisner, 2003, p.380). For this reason, teachers and parents need to be aware about how to develop practices in order to support each child in the process of their learning, i.e., through music, art, and dance. The disciplines will forge the children's knowledge of their abilities and emotions.

Kliwer (2008) explained that, *Allowing him access to symbols required a teaching team who believed that [child] could grow in his communicative and language capacities* (p.115). Every child responds in a different way. Baker (2007) mentioned that teachers and practitioners need to understand children's cognitive processing which is a path to do that. The solution is not to avoid the use of metaphors that children expresses during practices; instead, it is necessary to learn what a child's cognitive process for learning is.

Teaching practices through art
This section describes teacher and childcare workers-perception practices through art. Each teacher's and childcare worker's perceptions involves different codes, such as teaching connections with children art practices, course schedules and curriculum, and teachers' and childcare workers' perceptions about teaching practices.

The special education practices require an extra effort in teaching practices. The participants interviewed in this study expressed that they enjoy teaching children with special needs. During the development of many activities with children in special education, a teacher mentioned that it is necessary to schedule and plan routines. Helen mentioned that a routine provides a support to teaching practices. Helen connected planning practices with children's art experiences. Helen discussed how children ask for art activities during instruction:

They ask me, *Can I paint? Can I have a paper?* They always want to do something. That's why I have a plan. Today one child told me, *Can I paint with easel?* Realistically with the schedule, I explain to children to paint on the table. So they are getting a painting experience, but normally [they] use something else.

They always want to do it, even if we have a plan. (Helen, Childcare worker)
By planning, Helen became aware of children's necessities on activities and how children enjoyed developing art activities. Wexler's (2005) research study suggested teaching students with disabilities not only through formal instruction, but he stresses that students should follow their interest and inclinations (p.260). Wexler (2005) explained that students with disabilities follow a routine everyday: *often all get into routines, but I think people with developmental disabilities get really routine oriented* (p.260). Similar to Helen's perspective, Wexler (2005) argued that routine and planning practices support teacher practices; however, the most important factor is to understand how the child responds through these routine teaching practices. Helen mentioned that she follows a structured routine; however, she taught children how to work through a routine environment, which allows child the development in art activities.

In addition, via art instruction, teachers experience the way that the child interacts with art. Children enjoy art activities, and the support of the teacher and childcare providers are important to them. However, they want to develop their own autonomy. Using different movements, gestures and expressions, the children with disabilities express their meanings, their willingness, and their desires through art. The following description reveals Alice's perspective on how a child can convey their language using art with their sense of autonomy by drawing. Alice explained during the interview that one of the children, a boy, was required to trace his hand by drawing, and there the child was able to communicate by himself through his movements. The art activity allowed the child to think about how he wanted to develop the activity by articulating his ideas, gestures, and position:

I think that they do it, like today, one particular child, we were supposed to trace the hand, so I traced his hand the first time, then he closed his hand, he wanted me to close it, you know, we close it. He is different because first he went like this, (fingers closed) and then he went like this (hand closed). (Alice, Childcare-Teacher)

Throughout the interview, Alice explained how the child closed his hand without any verbal communication. The parenthesis in the excerpt expresses the meaning of the teacher's gestures. Alice showed how the child can convey and communicate by his movements using art activity. The child articulated his own desires to create what he likes by communicating and creating. In addition, teachers recognize how children reveal their emotions and autonomy through art.

On the other hand, the evidence showed that art can not only forge the children's expressivity and autonomy, but teachers mentioned that children can develop learning connections with other children through music activities. In addition, the teacher and the childcare workers agreed that children express themselves with music. Music provides the opportunity to establish a connection between a teacher and child. Helen asserted that she encourages practice activities using music. The following evidence showed that Helen established a connection with the child by recognizing that she has an understanding of the children communication:

I had an experience with a child with Down syndrome; he does not speak, he is very   smart,   and   he   knows everything about questions you ask him. In classroom   we play music through a CD or some music, and we sing. He participates by dancing by himself. I can see he knows, but he can't verbalize; he shakes his hands. He showed that he understands what is happening. He was able to experience a life performance of music, and he enjoyed a lot himself. (Helen, Childcare worker)

Mizuno and Sakuma (2013) explained that children with disabilities are not social; however, musical instruments can develop their language and interaction abilities. Teachers' practice perceptions with music showed how children enjoy learning, and express themselves through the diverse signs immersed in art. Gerrity et al., (2013) explained that instruments provide children the knowledge of different symbols immersed in music. The diverse signs immersed in art have meanings that can be used to transform a child's experiences in a significant learning development. This means that with some students with disabilities, it is more difficult to communicate or have an interaction. The learning, which the child gained through art practices, encourages children's identity and self-confidence.

Art, in teaching practices, cannot be seen only as a free activity; art is a discipline that needs to be implemented in the curricula through the education system. The combination of disciplines with art allows teachers and students to develop a learning connection between meanings and senses. Eisner (2002) explained the importance to unify the form and content of teaching practices. In that sense, children have the opportunity to question how things are. Alice identified art with other disciplines:

> Everything is related; math is connected to science; there is art in math; there is art in science; there is art in language arts; there is art [in] social studies; there is art in doctors; there is art in lawyers; there is art in teachers; art is everywhere; art is an expression. (Alice, Childcare teacher)

Alice proclaimed that art is an expression; she recognizes the importance to connect other disciplines with art in order to give meaning to children's knowledge. Eisner (2003) mentioned that more value is assigned to the element of surprise instead of control, especially where the metaphorical approach is more interesting than the literal. Teachers' identified that they require following a structure in their teaching practices. Helen described the teaching experiences through the curriculum, and she mentioned that:

Sometimes [through] curriculum I have some books that I follow; for   example, in summer is different it is more free. The curriculum that I followed is about 10 books. I stopped in the summer; June and July at least and part of August is free projects. Sometimes the curriculum shows me to work subject by subject. (Helen, Childcare worker)

It is important to identify that Helen followed a structure through curriculum, but at the same time she gave students the opportunity to change the structure in regards to practices; the diversity in activities allow teachers to create choices in practices. The development of art with other disciplines and the construction of curriculum using a diversity of choices can shape children's learning, as well as encourage them to develop and take awareness about other possibilities of learning. Art provides freedom for teachers to choose activities and to evaluate students. Art gives all students and teachers the opportunity to work without rules, to evaluate, and make the right decision through the development of teaching and learning experiences.

Conclusion
The opportunity to explore teachers' and childcare workers' experiences and observing how art instruction is applied in an inclusive childcare center allowed for me to reflect upon how teaching art, childrens' responses to art, and the impact of art as a semiotic tool in teachers' practices interplay in an inclusive childcare center. The variety of researchers reviewed showed how image by painting provides children the support to communicate their feelings and expressions. There are multiple expressions of art, such as painting, drawing, dance, music and theatrical expression, which enhance the learning opportunities for children with disabilities. Moreover, this study showed that

children with disabilities establish a connection with teachers via music. Through music instruction, this teacher became aware of what the child wanted to express and of what they are learning and developing.

In the same way through this learning connection, the findings revealed how children with disabilities expressed themselves by sharing his/her thoughts and feelings, and establishing a connection with the teacher. Eisner (2002) mentioned that with art, students reflect on what they have discovered and think on questions that they might have in the inquiry process. In addition, the symbols immersed in art activities encourage and enable children to learn and develop their awareness to learn what is happening in the present moment of the activity, as well as after the activity. Eisner's art and education perspective explained that senses, via art, invigorate the capacity of children's consciousness as a way to explore and uncover things that surround them. The connection of the senses with the environment is a process that continues to shape life, culture, and language.

This study although limited to the experiences observed and voiced by one teacher and two childcare providers revealed how teachers in this setting connect children classroom learning with the real environment through music; this connection makes it possible for child recognition and leaning of symbols immersed in this environment through art. In addition, the study identified the necessity to continue researching in the area of art, semiotics, and disability. Through the recognition of symbols in art practices, it is also possible for teachers and children to communicate and develop other cognitive abilities. MacLean (2008) argued that when children participate in art activities, they can engage in a number of cognitive, sensory, physical, and emotional levels.

Through a study like this, it may be possible to understand how a child responds to routine practices and curriculum structure. The findings also showed that children express what they want to do in art activities. This is an expression of his/her meanings and desires to do art practices. The study further shows the importance to understand how children respond to art through the diverse academic content area, materials and the development of daily routines.

MacLean (2008) stated that, *The arts are seen primarily as a kind of relief from the rigorous demands of academic subjects* (p.76). In line with this, Eisner (2002) emphasized the necessity of attention to students' hidden messages and ideas that they uncover through practices: There is no *one size fits all curriculum for a nation as diverse and large as ours. Intelligent curriculum planning takes into account such differences and uses them to inform its own policymaking and construction process* (Eisner, 2002, p.157). In that sense, this study allowed us an understanding of art in teaching practices, and how teachers intuitively recognized the importance of including art as an activity however were limited in how they could integrate art into academic instruction. Teachers need to be aware and learn how art, as a semiotic tool, provides a child the cognitive learning development to disclose words, codes, and movements, which acts in connection as an intervention in the context.

Limitations and Future Implications
The research results reflect the knowledge and understanding of a teacher and two childcare providers and cannot be generalized to the general population of *all teachers*. However it did provide the knowledge about teacher's experiences in art education, which is useful for researchers, teachers, special educators, and instructors in order to understand how children with disabilities respond through art and their meanings. . However it is necessary to continue researching the role that teaching art through semiotic lenses - and how teachers and professionals develop their practices, their knowledge, and their meanings through art. Teachers and professionals need to identify and follow art symbols created by children in order to specifically understand how children with special needs are learning and develop in their social skills. It is necessary to continue to explore through teachers' experiences how teaching art expands children's world view and understandings of their environment. *Teachers of art have a necessary role to play in bringing culture to nature* (Eisner, p.67). Eisner explained the importance of teacher's role on assisting children by helping them develop their skills, sensibilities, and awareness about the world in which they live in.

Regarding future research implications, it is important to consider further research analysis under Eisner's theoretical perspective. Eisner's theoretical framework provided the lenses to understand art education as a complete word, visualizing aesthetics, representation, creativity, and children cognitive character through art. In addition, the research findings showed how children with disabilities express meanings through music. Music provides confidence in students, and they learn how to express themselves and socialize inside and outside the school (Darrow, 2006; Desrochers et al., 2014; Gerrity et al., 2013). Art allows children to recognize differences between each other and how they discover themselves.

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PROVISION AND MANAGEMENT OF SPECIAL EDUCATION IN COMMUNITY SCHOOLS: A CASE OF DONATA, MALAIKHA AND SHALOM COMMUNITY SCHOOLS IN ZAMBIA.

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Community schools appeared in Zambia in 1992 beginning with Lusaka and they quickly spread to other parts of the country. The Ministry of General Education recognizes its obligation to provide education of good quality to all children in response to national and international protocols to which Zambia is a part. The creation of Community Schools was an initiative to increase access to basic education but they required exceptional attention from government. Since their inception Community Schools have played a critical role in meeting education demands for marginalized children. According to the Ministry of General Education 2013 statistical bulletin there were 2,896 Community Schools offering primary and secondary education. Though the Community Schools were making education more accessible they had scanty information and data on children with special educational needs. This study identified three Schools teaching children with special educational needs these were; Donata Community Special School in Mkushi district of Central Province, Malaikha School for the Blind in Mazabuka district of Southern Province and Shalom Community School in Lusaka district of Lusaka Province. These Schools provide special education to children with various disabilities though they have varied challenges which make the provision and management of special education not entirely successful.

Background

Community Schools were established to meet the educational needs of children in a particular community who were marginalized in terms of; long distances to public schools, high school user fees, and high cost of uniforms.
This was before the Education for All strategies were implemented in 2002. Among the strategies pronounced were: free basic education up to grade 7, uniforms were no longer compulsory and massive infrastructure development was embarked on in increasing classroom space and reducing distance to government schools. Some of the Community Schools were also up graded in terms of infrastructure and staffing. At this point what was not coming out clearly were the statistics of learners with special educational needs in these schools. From the data in the Educational Statistical Bulletin from 2002 to 2013 no statistics show the number of learners with special educational needs in Community Schools. This can be attributed to lack of knowledge on identifying learners with special educational needs in community Schools by the untrained teachers there. In 2011 some Community Schools enrolled learners with special educational needs and these registered themselves with the Ministry of General Education. It is through this initiative that Community Schools were making education for children with special educational needs accessible within their communities. It is a very welcome initiative since learners will not be excluded and segregated from their communities.

Statement of the problem

It is governments' wish to educate learners with special educational needs in schools nearest to their homes within the community. To the authors' knowledge it is not known whether the provision and management of special education in Community Schools responded to the needs of learners with special educational needs. The community schools generally had no trained personnel to move special needs education forward.

Purpose of the study

The purpose of the study was to; establish whether the provision and management of special education in Community Schools responded to the needs of learners with special educational needs. Community schools in

Zambia were poorly serviced with financial, human and material resources. This made them provide an education which was considered second class. The specific objective of the study was to: establish the factors affecting Community Schools in providing and managing education to respond to the needs of learners with special educational needs.

Significance of the study
The findings of the study may be used by the Ministry of General Education. This is to strengthen Community Schools in the provision and management of special education and Inclusive Education. In turn the Ministry will be responding to the needs of learners with special educational needs in the communities.

Review of related literature
There is a worldwide concern about education of children with special educational needs in inclusive settings. This is a realization of the fact that all children have a fundamental right to education. Children with special educational needs, girls and the rural child were most marginalized in terms of education. According to Zambia Open Community Schools (2012), austere poverty and untold social dejection faced many a child of school going age by 1992. Many children dropped out of the formal school system due to the introduction of segregative user fees, unaffordable school uniforms and long distances to school. Furthermore there were massive job cuts due to closure of mines and companies resulting in major social upsets including HIV and AIDS. This resulted in a general economic meltdown driving the country into low income levels.
Community Schools mushroomed from a single school under a tree in Misisi compound of Lusaka district initiated by the Sisters of Charity. It started with out of school girls but by 2015 all children denied education in public schools attends lessons in Community Schools. For 23 years now the schools have continued to play a critical role in making education for all a reality by including learners with special educational needs. The Ministry of General Education recognizes Community Schools as an integral part of the education system. It has pledged to support the schools in a number of areas (MOE, 25th March, 2011). In addition the Zambia Open Community Schools is a prominent defender of children's rights to education. The vision of the organization is: every orphan and vulnerable child in Zambia (especially the girl child and children living with a disability) receives quality education, which enables him or her to build a sustainable livelihood (Zambia Open Community Schools, 2012).It is unfortunate that government support to community schools remains limited to date. However with many achievements scored the Zambia Open Community Schools feels there was need to work extra hard especially with regards to girls and children with disabilities (special educational needs).

Literature shows that despite all the efforts to make school accessible and participatory a number of children particularly children with special educational needs still remain out of school. Simui and Mtonga (2012), state that in the World 72million children currently out of school have a disability and 90 % of children with disabilities in developing countries do not go to school. According to World Bank (2008), disability has more impact on participation in education compared to gender, rural residence or house hold economic status. If Millennium Development Goals have to be met, responsiveness to needs of children with special educational needs was a must. Once children with disabilities were educated, poverty is alleviated and they were empowered with lifelong skills to be independent to fulfill their community's drive for development. Though children with disabilities were a target for community schools their plight has not been catered for effectively due to economic, physical and social barriers. This has been so because of inadequate awareness among teachers and parents in communities. There was also inadequate capacity to respond to the needs of children with disabilities among the volunteer teachers and the Parent Community School Committees. This negatively affected the accommodation of children with disabilities in Community Schools.

ZOCS (2012), postulates that, including children with disabilities increases the opportunity for their presence, participation and achievement in the local schools. Simui and Mtonga (2012), acknowledge that there was the presence of children with special educational needs in Community Schools. The other Community Schools which did not enroll children with special educational needs must have referred them to Public or grant aided Special Schools. The children in Community Schools were learning under difficult conditions. Despite this there was willingness on the part of the parents, pupils and teachers to support the inclusion of learners with disabilities in Community Schools. A study carried out in Western Province by Simui and Mtonga in 2012 revealed that some factors that enabled learners' access schooling in community Schools include:

Accessible school grounds, accessible classrooms, inclusive teaching methods, welcoming infrastructure, positive attitudes among teachers, learners and parents, supportive communities, accessible clean toilets and use of Braille and sign language.

In all the factors above nearly all community Schools did not meet the minimum standard for providing and managing learners with special educational needs effectively. There was need to adapt and modify the Community School system to accommodate learners with special educational needs. Mwansa (2006) conducted a study on the quality and relevance of educational provision in community schools in Mkushi district and concluded that most community schools lagged behind in teacher qualifications, educational supplies and staff professional support and instructional supervision and professional guidance.

According to Nsapato and Chikopela (2012), the enrolments of children with special educational needs in Community Schools were at 2.4 % which is less than the national average. About 19.6 % of children with special educational needs were excluded from school. This was attributed to lack of child friendly facilities to motivate learners and parents to attend and send children to school on regular basis.

The literature review has shown that Community Schools were placed in communities and could be better places to enroll learners with special educational needs since they were close to the learners' home. The only thing was that the Ministry of General Education should improve the schools in terms of staffing, teaching and learning resources, sanitation, zonal collaboration, supervision and infrastructure. The Ministry of Education (1996), indicates that under the liberalized education system, the right of local communities to establish and control their own schools and other educational institutions was recognized and welcomed. The provision and management of special education in Community Schools was frustrated at district level though it was supported by policy.

Methodology

A case study was conducted on three community schools and both qualitative and quantitative research paradigms were used to collect data. The following components were prominent in the methodology: - Target population, Sample size and selection of the sample.

Target Population: This included all Community Schools in Mkushi district of the Central Province, Lusaka district of the Lusaka Province and Mazabuka district of the Southern Province. Specifically all head teachers and all chair persons of the Parent Community School Committee were included in the population.

Sample size and sampling procedures: **-** The purposive sampling procedure was used on the identified districts and schools this was because of the limited number of such schools in Zambia. These schools were exclusively for learners with special educational needs.

Table 1: Captured Sample size

RESPONDENT TYPE	NUMBER OF RESPONDENTS
Head teachers	3
Parents	3
TOTAL	6

Table 2: Captured Community Schools

SCHOOL	DISTRICT	PROVINCE
Donata Special Community	Mkushi	Central
Malaikha school for the Blind	Mazabuka (Magoye)	Southern
Shalom Community	Lusaka	Lusaka

Data Collection: **-** The study employed the following data collection methods, interviews with parents, questionnaire for Head teachers, observation protocol to observe for environment that facilitates for special needs education, document analysis on Community Schools and disability and talk with learners.

Data processing and Analysis: **-** Qualitative data was analyzed using themes while the statistical data was analyzed using the Statistical Package for Social Sciences (SPSS).

Findings

Table 3: Enrolment of CSEN in the Community Schools

SCHOOL	ENROLMENT		TOTAL
	BOYS	GIRLS	
Donata Community Special	25	10	35
Malaikha School for the Blind	10	07	17
Shalom Community	33	21	54

The number of learners with special educational needs in the three schools is shown in the table above. The three schools were established to be special schools. Nsapato and chikopela (2012), observed that enrolment for learners with special educational needs in Community Schools were below the national average. This was attributed to lack of child friendly environments to motivate learners to be in school. Simui and Mtonga (2012), also had a similar conclusion that most Community Schools had not met minimum standards to respond to the needs of learners with special educational needs. There were more learners with special educational needs in Shalom Community School than in Donata Community Special School and Malaikha School for the Blind. The reason could be that Shalom was in a densely populated urban area than Donata and Malaikha which were in rural areas. This shows that there were more children out there still out of school.
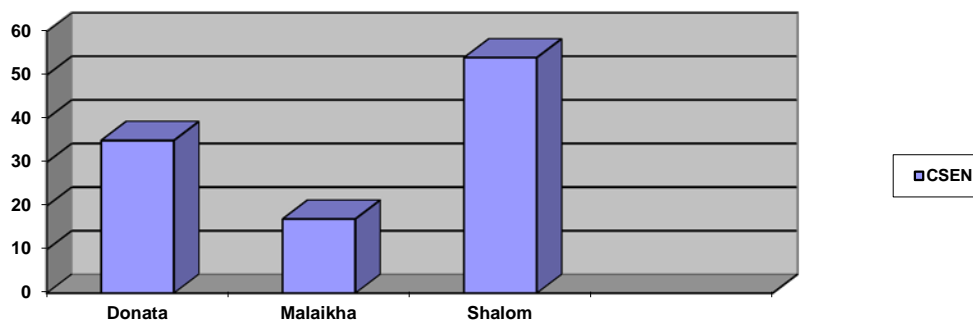
Figure 1: Learners with special educational needs in the three schools

The graph clearly shows the differences in enrolment in the three schools. It may also be certain to conclude that some children were referred to public special schools. The other group may be in the homes since Donata and Malaikha had no trained teachers in special education. It was evident from the study that there were inadequate teaching and learning resources in the schools, this can affect the enrolment negatively since children will not be learning appropriately.

Table 4.Staffing

SCHOOL	TEACHERS		TOTAL	SUPPORT STAFF		TOTAL
	M	F		M	F	
Donata Community Special	3	2	5	3	1	4
Malaikha School for the Blind	1	1	2	1	1	2
Shalom Community	1	1	2	1	1	2

The Pupil- Teacher ratio was a big concern. The enrolment and the staffing on an average made 1: 13 in Donata Community Special School, 1:9 in Malaikha School for the Blind and 1: 17 in Shalom Community School. In special education that was inappropriate since the individual attention will be difficult to practice. Managing such big classes reduces on learner performance and teachers will not teach effectively. The support staff in the table above were cooks who prepared food for the learners and not teacher aides. This scenario was not conducive especially that teachers were not trained in special education. Simui and Mtonga (2012) concluded that despite

having trained teachers in Community Schools they had no confidence to effectively meet the needs of learners with special educational needs. The schools were also understaffed to manage special education and other activities.

Table 5.Special Educational Needs in the School

SCHOOL	TYPE OF SPECIAL EDUCATIONAL NEED						
	CP	DB	DS	HI	LD	PD	VI
Donata Community Special				*	*	*	*
Malaikha School for the Blind		*					*
Shalom Community	*	*	*	*	*	*	*

KEY: CP- Cerebral Palsy
      DB- Deaf Blind
      DS- Downs Syndrome
      HI- Hearing Impairments
      LD- Learning Disabilities/Difficulties
      PD- Physically Disabled
      VI- Visual Impairments
      *- Present in the school

Processes for assessment in Zambia were inadequate and most learners with special educational needs in rural areas were in school un assessed. Therefore the types of special educational needs listed above were just suspected unless where one has an assessment record from registered assessment centers which were only found in Lusaka. Some hospitals gave the medical assessment which may not be very useful in schools. Teaching such children by untrained teachers was not yielding intended results (Simui and Mtonga, 2012). This is also in a situation where these teachers and schools were inadequately supervised by external monitors. Some cases, for example Cerebral Palsy (CP) and Down syndrome (DS) needed a multi-disciplinary committee to be working in the school.

Table 6.Inclusion of average children in the school

SCHOOL	YES	NO
Donata Community Special	*	
Malaikha School for the Blind		*
Shalom Community	*	

The three Community Schools under study were established exclusively to teach learners with special educational needs. In the study two schools included average learners (learners without special educational needs) while one was exclusively for learners with special educational needs. Such an inclusion was encouraged so that learners can help each other. ZOCS (2012) confirmed that including children without special educational needs to learn together with those with special educational needs increases opportunities for presence, participation and achievement for all learners within a similar educational setting and in their local schools.

Table 7.Availability of Teaching and Learning resources

SCHOOL	AVAILABLE	NOT AVAILABLE	INADEQUATE
Donata Community Special		*	
Malaikha School for the Blind	*		
Shalom Community			*

Teaching and learning resources were a vital component in the education of learners with special educational needs. Malaikha had materials while Donata and Shalom had inadequate resources. Though malaikha said they had, it was not all that was needed to teach effectively. Simui and Mtonga (2012) expressed concern on the inadequate teaching and learning resources in Community Schools. This was said to be a serious challenge and was identified as an area of immediate support. Mwansa (2006) concluded that Community Schools lagged behind in terms of school supplies, infrastructure and staffing.

Table 8.Training in Special Education for Teachers

SCHOOL	YES	NO
Donata Community Special		*
Malaikha School for the Blind		*
Shalom Community	*	

Special Education and Inclusive Education cannot succeed without a trained teacher as a major resource and driver. The Ministry of Education (1996) formulated strategies to implement special education and one of them was to train an adequate number of teachers in special education. The Ministry realized that unqualified teachers in special education were liabilities who could not drive the programme efficiently. As shown in the table above, there were no trained teachers in two schools. Simui and Mtonga (2012), also observed that such teachers exposed their deficiencies in the use of Braille and Sign Language. These teachers cherished the opportunity for capacity building in special educational needs management.

Table 9. Infrastructure

STRUCTURE	SCHOOL		
	DONATA	MALAIKHA	SHALOM
Number of classrooms	3	2	3
Number of toilets for Learners	2	2	1 adapted
Number of staff toilets	1	Nil	1
Source of water	Mono pump	Mono pump	Piped
Number of Desks	20	Nil	33 & 1 adapted for CP

Community Schools have struggled to put up recommended infrastructure and equipment**.** Mwansa (2006), revealed that Community Schools did not provide the minimum standards required for a conducive learning environment. Water, toilets and classroom facilities were a problem. In some instances these were temporal arrangements. The table below shows that the infrastructure was not adapted to meet special needs in the two schools while one school had adapted infrastructure for being in the urban it was assumed. It was concluded that lack of these facilities greatly affected the provision and management of special education in the Community Schools (Mwansa, 2006).

Table 10.Availability of adapted Infrastructure

SCHOOL	AVAILABLE	NOT AVAILABLE
Donata Community Special		*
Malaikha School for the Blind		*
Shalom Community	*	

Adapted infrastructure was expensive to be developed in Community Schools were funds were a problem. Only Shalom Community School had adapted infrastructure because it was in an urban area were information could easily be accessed. The two schools Donata and Malaikha had no features of disability friendliness. Nsapato and Chikopela (2012) shows that from the total of 61 schools they studied 78.5% had no disability friendly features while 21.5% had. The schools under study had no staff houses and staff rooms.

Table 11. Support received

SCHOOL	SUPPORT RECEIVED FROM				
	ZONE	DISTRICT	PROVINCE	NATIONAL	OTHER
Donata		*			*
Malaikha		*			*
Shalom				*	*

According to Ministry of Education (1996), Community Schools were expected to be supported by communities as well as other stakeholders like government, NGOs, Cooperating Partners and the Private sector. In particular government made a special commitment that it would contribute to the running costs of Community Schools through provision of teachers and teaching supplies or through the system of capitation grants. Community Schools were supposed to benefit from equity funds at the District Education Board Office were even upgrading of infrastructure could be funded. The table above shows sources of resources in Community Schools. The three schools depended on cooperating partners more than government.

Table: 12.School inspections/ monitoring

SCHOOL	SCHOOL INSPECTIONS/MONITORING BY		
	ZONE	STANDARDS OFFICERS	TESS
Donata	*	*	
Malaikha		*	
Shalom			*

 Even if there were inspections and monitoring these were inadequate. Mostly these
 schools were monitored once in many years. Lack of supervision impacts negatively on the provision and management of special education in schools.

Conclusion

Community Schools were not exempted from providing special education to learners of varied special educational needs using any management practice suggested by the education policy. Since the policy strives to practice inclusion they are also compelled to move in that direction. The factors affecting Community schools in providing and managing education to respond to the needs of learners with special educational needs were many. It is evident that special education is being provided in Community Schools but the management of the program lacks in many ways such as teaching and learning resources, qualified teachers, suitable infrastructure and adequate support from stakeholders. The community was a major stakeholder but it needed to be supported by government as stipulated in the Education Policy and the Operational guidelines for Community Schools. Therefore these factors affected the provision and management of special education in Community schools negatively. Quality was compromised.

Recommendations

The following are the recommendations of the study; The District Education Board Secretary to take cognizance of all Community Schools in the District in order to support them in all areas to enable them provide quality and relevant education to all learners including those with special educational needs. Communities to be proactive and seek for support were they fail and should link Community Schools to Zonal centers or nearby public schools. Furthermore all stake holders should stop looking at children as having problems, the problem was with the system which has failed to provide facilities and manage special needs in Community Schools effectively. All children can learn given appropriate facilities.

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OPPORTUNITIES FOR STUDENTS WITH DISABILITIES IN HIGHER EDUCATION INSTITUTIONS IN TURKEY: WHERE IS ICT?

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Students with disabilities should have equal opportunities to participate in higher education as well as students without disabilities. These opportunities are mentioned in a number of various international conventions within a growing attention. According to this growing attention, Higher Education Council in Turkey, determined the Counseling and Coordination Regulations for Higher Education Disabled Students and within the framework of this regulation, Disabled Students Units (DSUs) were formed. The aim of the study is to determine the opportunities provided by state universities' DSUs in Turkey reveal the role of Information Communication Technologies (ICT) in these opportunities and put forward related suggestions for future studies. The research model of the study is survey model included 104 state universities in Turkey. The research data were collected via the examination of the sections of DSUs on the websites. As a result of the study, it was seen that the services provided by DSUs were generally gathered within the scope of physical services and it is observed that ICT services have small size rate among other services.

Introduction

Individuals with disabilities experience problems in different fields in their daily lives. These problems, in contrast to the general view, do not result from their individual disabilities but from the responses of the society to these disabilities (Heron, 1997; International Labour Organisation-ILO, 2007). Besides the management of social perceptions, providing appropriate educational opportunities could decrease the problems experienced by the disabled and increase their well-being.

In a number of international conventions and contracts, especially in the Convention on the Rights of the Child (1989), the education right is considered to be sacred and universal. The necessity to provide the disabled with appropriate educational opportunities is mentioned in a number of international conventions. These conventions included the 1944 Philedelphia Declaration by International Labor Organization (ILO, 2007), Education Declaration for Everybody by UNESCO (Inter-Agency Commission, 1990), Standard Rules on the Equalization of Opportunities for Persons with Disabilities by the United Nations (United Nations Department of Public Information, 1994), Salamanca Declaration and Action Plan by UNESCO (UNESCO, 1994), Dakar Action Plan by UNESCO (UNESCO, 2000) and 2006 Convention on the Rights of Persons with Disabiltiies by the United Nations.

It is has been a matter of debate for years whether the disabled should be involved in the higher education system or not. According to Fuller, Bradley and Healey (2004), attandance of the disabled at higher education is an opportunity for equal education within the society as well as for the development of the capabilities of the disabled. Hurst (1996) states that attandance at higher education allows the disabled to increase their knowledge, develop their social skills, increase their efficacies and participate in speaking and discussion environments. In addition, as there

was no legislation in the past that forced higher education institutions to accept the disabled or to make the necessary arrangements, the rate of attandance of students with disabilities at higher education was quite low (Holloway, 2001).

With such conventions as the United Nations Convention on the Rights of Persons (2006) with Disabilities which aimed at protecting the rights of the disabled to attend higher education, as can be seen in Figure 1, this situation has demonstrated a positive change in recent years.
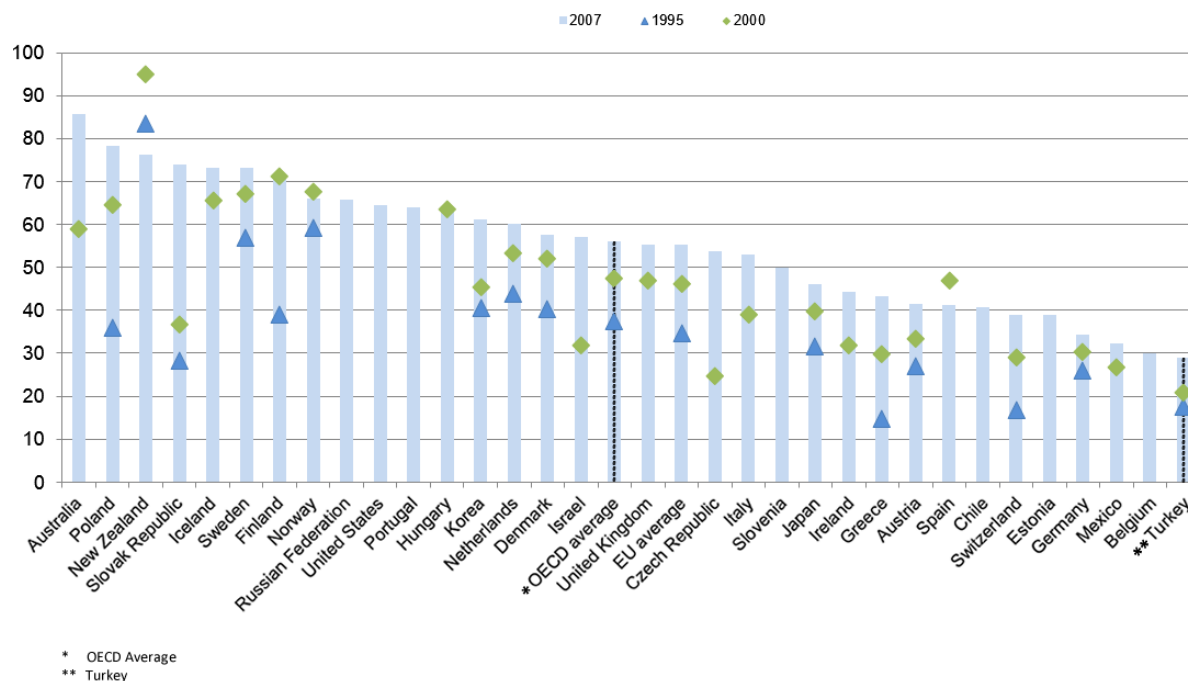

Figure 1. Changes in the rates of attandance at higher education (1995, 2000, 2007), OECD (2011)

As shown in Figure 1, although there was a gradual increase in attandance of the disabled at higher education in our country, it was a thought-provoking fact that our country is among those countries below the OECD average.

Providing Equal Educational Opportunity to Students with Disabilities: Role of Information and Communication Technologies
Though found in international conventions and national regulations (Riddell, Tinklin adn Wilson, 2005), it is debatable whether higher education institutions can provide students with disabilities good-quality and equal educational opportunities or not (Moriña, Cortés and Melero, 2013). In order to create an inclusive environment in higher education environments, not only should all students be able to benefit equally from the opportunties provided but also the obstacles likely to be experienced by the disabled regarding teaching, learning and assessment should be removed (Fuller, Bradley and Healey, 2004). According to Ball (2009),
Information and Communication Technologies (ICT) play the key role in removing these obstacles as well as in helping students benefit effectively from the services provided in educational institutions. In a number of studies, it is pointed out that ICT has the potential to provide all individuals with equal opportunities for education and socialization (Czerniewicz and Brown, 2009; Fitchen et.al., 2012; Warschauer, Knobel and Stone, 2004).

In order to make use of the opportunities provided by ICTs, it is necessary to increase students with disabilities' levels of digital literacy. Digital literacy is a multi-dimensional concept that requires individuals to use such cognitive skills as defining, accessing, evaluting, analyzing and synthesizing so that they can effectively use digital tools and sources (Martin, 2008). Seale and colleagues (2010) state that individuals with disabilities with low levels of digital literacies experience problems in accessing the digital tools and services provided by institutions. For the

purpose of develping individuals with disabilities' digital literacies, there is a need for educators with high levels of digital literacies who can take active role in the process.

Selwyn and Facer (2007), who examined inclusion within the context of sources and choices, stated that all individuals have the right to get informed about ICTs and to make their choice freely and that it is the responsibility of institutions to provide the necessary related sources. Seale and colleagues (2010) consider the concept of equality of opportunity brought about ICT within the scope of digital inclusion and define the concept as equality of opportunities for students with disabilities and without disabilities to participate via ICTs in such areas as learning, finding a job, citizenship and social activities. It is only possible via digital inclusion for an institution to present its services equally and effectively to all its sharers and especially students with disabilities. In addition, it is not appropriate to discuss digital inclusion in the manner of increasing digital access. Draffan and Rainger (2006) pointed out that the concept of digital inclusion has a technical dimension as well as pedagogical and institutional dimensions. In this respect, it is seen that digital inclusion requires a more detailed process for students with disabilities than allowing them to reach products and services.

Ball (2009) suggested an action plan made up of 12 phases for the inclusive use of technology in educational institutions. These phases were: Establishing the digital inclusion team, gathering and introducing good samples of digital inclusion in the institution, preparing handbooks for teaching, learning and assessment, providing inclusive activities for teaching-learning strategies, providing the staff and students with free software, applying assistive technologies for teaching, learning and assessment, students with disabilities' taking part in decision-making mechanisms, preventing conflicts related to technology use, maintaining the functionality of the equality scheme, spreading inclusive applications to all administrative levels, adding inclusive applications into the budget, emphasizing that digital inclusion is a process.

For effective digital inclusion, one of the strategies applied is the *techno-differentitation* of the instructional content. Students with disabilities are regarded as quite a heteregenous group in terms of their individual characteristics (Broderick, Metha-Parekh and Reid, 2005; Stanford, Crowe and Flice, 2010). This situation makes it compulsory to restructure the teaching process within the framework of learner needs.

Differentitation of teaching is basically necessary to help students with disabilities acquire real-life skills and to help them continue their education in harmony with students without disabilities in the same learning environments (Tomlinson, 1999, 2001; Tomlinson, Kaplan, Renzulli, Purcell, Leppien and Burns, 2002). In this respect, it could be stated that techno-differentiation should be made for an effective and economical production of a sufficiently comprehensive instructional content. As can be seen, related regulations, institutional strategies and applications are necessary to allow higher education students with disabilities to make effective use of all the facilities of educational institutions. In this respect, the regulations made in Turkey are as follows.

Regulations Made by Higher Education Institutions in Turkey for Students with Disabilities
The regulations to be made by higher education institutions in Turkey for students with disabilities are determined with the Counseling and Coordination Regulations for Higher Education Disabled Students (Higher Education Council, 2010), and within the framework of this regulation, Disabled Students Units (DSU) were formed (Student with Disability Committee, 2013). In this regulation, the duties of DSU included; determining the needs of students with disabilities in educational, instructional, administrative, physical and social areas as well as in the areas of accommodation and scholarship during their higher education; determining the necessary precautions to meet these needs; suggesting solutions to possible problems; and making the necessary regulations in coordination with other units or other departments found in the university; optimizing the educational environment of higher education students with disabilities in a way to avoid hindering their academic, physical and social lives; providing the tools necessary for the disabled; developing special course materials; organizing education, research and accommodation environments appropriate to the disabled; preparing documents that inform faculty members about disabled and about the restrictions caused by impaired as well as about the related regulations to be made; raising their consciousness; providing related authorities with counseling services; providing in-service training when necessary; developing programs and projects to increase consciousness and sensitiveness in the area of impairment; organizing seminars, conferences and other similar activities; preparing and executing the work schedule of the unit; determining the necessary budget needs for activities; preparing and presenting an annual activity report to the vice-chancellor concerned; preparing a website which provides all parties with publications, documents and any other related information about the duties of higher education disabled students units and which allows university students

with disabilities to report their problems and demands by communicating with the related unit; inspecting the application of the decisions made and of the strategies determined; providing subsidiary tools for free for students with disabilities with financial difficulties; involving all students in a fair and correct measurement and assessment process; providing equal opportunities and making the education process appropriate to students with disabilities; providing students with disabilities with appropriate materials, places, duration and companion readers for their exams; and taking the necessary precautions and making the related regulations depending on the type of impairment; preparing books that give information about employment and professions; presenting these books to handicapped students; determining students with disabilities who have gained the right to attend higher education programs; making the university campus and the buildings and outdoor places in the campus accessible to students with disabilities (YÖK, 2010).

When the items determined regarding the DSU activity areas were examined, it was seen that there were no regulations regarding ICTs. Therefore, it is necessary to reveal the current situation regarding the ICT-related services provided by universities for students with disabilities. In this respect, the purpose of the present study was not only to determine the opportunities provided by state universities in Turkey for students with disabilities but also to reveal the role of ICT in these opportunities and put forward related suggestions for future studies.

Methodology
Research Design
The research is designed with the survey model. 104 public universities in Turkey are selected as the sample of the research. The names of the public universities were obtained from the list of universities given on the webpage of Higher Education Council (HEC). Private universties excluded from the sample to provide equal distribution of the financial and human sources.

Data Collection
The research data were collected via the examination of the sections of Disabled Students Units on the websites of the state universities between the dates of 06.11.2013 and 30.12.2013. The services mentioned on the websites for students with disabilties were classified under the service headings found in the Counseling and Coordination Regulations for Higher Education Institutions. In addition, in line with the services found in Disabled Students Units, the dimension of psychological services was added by the researchers to these headings.

Data Analysis
Descriptive statistics were used to analyze the data. In this respect, the services provided by the disabled students units were scored, the percentages were obtained and presented in tables. With respect to the reliability of the examinations made, the researchers revised the units they had examined by replacing the units within the group.

Findings
When studies conducted by the disabled students units in several higher education institutions in our country were examined, it was seen that there were no such units in some of the institutions; that the units found in some of the institutions were not active; and that the units found in some other institutions carried out certain related studies (Table 1) (Higher Education Council, 2013; Towards Inclusive Universities, 2013).

Table1. DSUs found in state universities in Turkey (Higher Education Council, 2013)

	N	%
Universities with DSU activities *	75	72.11
Universities without any DSU activities **	22	21.15
Universities without any DSUs ***	7	6.73
Total	104	100

* Universities with DSU activities: universities reporting their services for students with disabilities on their DSU webpages
** Universities without any DSU activities: universities with a DSU webpage but not reporting any services for students with disabilities on their DSU webpages
*** Universities without any DSUs: universities without any DSU webpages

The survey revealed that among the 104 state universities found in our country, about 72.11% of them had active DSUs. In other words, it was found out that these units not only allowed students with disabilities to reach their educational environments and to participate in various educational and social activities but also provided faculty

members and other higher education staff with several services to help them raise related awareness. However, of all the state universities, 21.15% of them did not carry out any related activities, and 6.73% of them did not embody DSUs.

Considering the duties of DSUs found in state universities in Turkey, the services provided are as follows;
- Physical services,
- Psychological support services,
- Social support services,
- Academic services (YÖK, 2010).

In line with this classification, the services reported on the webpages of DSUs found in state universities in Turkey were examined and presented in Table 2.

Table 2.Physical, psychological and social suppot services provided by DSUs found in state universities in Turkey

		N	%
Physical services	Wheelchair ramps, balustrades, lifts, special toilet systems, parking lots, services and so on.	46	42.23
Psychological support services	Support provided by psychologists and psychiatrists	16	15.38
Social support services	Activities carried out to the levels of consciousness and sensitiveness (meetings, seminars, workshops, symposiums, conferences and so on)	42	40.38
	Various projects, sports and cultural activities	22	21.15
	Orientation (introduction of the university, guides, leaflets, tools and so on)	32	30.76
	Accommodation, transportation and health services	18	17.3
	Scholarship and economic aid	13	12.5
	Employment (part-time and full-time employment)	11	10.57

According to the survey results obtained regarding the physical, psychological and social support services provided by DSUs, about 42.23% of all the state universities in our country provide such phycial services as wheelchair ramps and lifts, and 15.38% of them provide support given by psychologists and psychiatrists. In addition, among the state universities found in our country, approximately 40.38% of them carry out such activities as seminars and meetings to raise the consciousness and sensitiveness levels regarding the problems experienced by students with disabilities during their education as well as regarding the suggested solutions to these problems; 21.15% of them carry out sports and cultural activities; and 10.57% of them try to provide students with disabilities with the opportunity for part-time and full-time employment.

Besides the services provided for students with disabilities by DSUs found in higher education institutions in Turkey (Table 2), there are also various other academic services provided for the education of students with disabilities as well. These services can be seen in Table 3.

Table 3.Academic services provided by DSUs in state universities in Turkey

	n	%
Academic consultancy for students with disabilities	25	24.03
Organization of exams and arrangement of the exam durations	21	20.19
Various audio materials (music CDs, books read aloud)	15	14.42
Equipment variety (braillewriter, book reader, special keyboards and so on)	11	10.57
Educational and vocational guidance services	10	9.61
Arrangement of special rooms in libraries	8	7.69
Availability of special computers in line with the kind of handicap	7	6.73
Creating an individual adaptation letter (e-environment, braille, large font sizes and so on)	7	6.73
Software variety (screen reader software and so on)	6	5.76
Publications written with the Braille alphabete	6	5.76
Arrangement of websites for students with disabilities	4	3.84
Course partners	4	3.84
Various e-sources / materials	3	2.88
Note-taker in class	2	1.92
Creating education centers in line with the kind of disable	2	1.92
Trainings on how to establish communication with students with disabilities	2	1.92
Establishing an E-library	2	1.92

Among the activities organized by DSUs are providing such services as organization of exams and arrangement of the exam durations besides note-takers, course partners and academic consultants that could help students with disabilities with their courses.

Regarding the academic services examined, it was seen that 24.03% of the state universities in our country provide students with disabilities with academic consultants; that 20.19% of them provide the services of organization of exams and arrangement of the exam durations; that 3.84% of them provide course partners; and that 1.92% of them provide such services as note-takers and carry out activities to help communicate with students with disabilities. In addition, of all the state universities, 1.92% of them embody education centers in line with the kind of impairment of students with disabilities.

It is seen that some of the services regarding the academic activities of DSUs are provided with the use of ICT sources. These services include not only providing a variety of equipment such as book readers and computers depending on the kind of impairment of students with disabilities but also making a variety of software available to students with disabilites such as screen reader programs. In addition, there are audio-visual electronic sources and other publications produced with a braillewriter for social and academic development of students with disabilities.

The survey results also revealed that of all the state universities found in our country, 14.42% of them provide various audio materials such as music CDs and audiobooks; that 10.57% of them provide such services as a braillewriter and book readers; that 3.84% of them arrange their websites according to students with disabilities; and that 1.92% of them try to establish an electronic library. Among the academic services provided by DSUs, the services which involve the use of ICT sources were compared with other services provided, as can be seen in Figure 1.
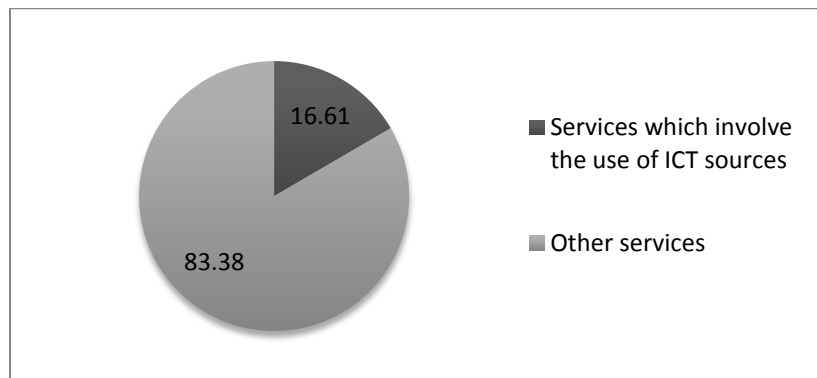
Figure 1. Comparison made between the services involving the use of ICT sources and other services provided by DSUs in state universities in Turkey

As can be seen in Figure 1, when the services provided by N-HSUs found in state universities in our country are examined in general, it is seen that the rate of the services involving the use of ICT sources for students with disabilities is lower than that of other services. Making more use of ICT facilities for the purpose of reaching educational environments as well as for the purpose of equal use of educational opportunities provided in these environments is considered to be an important factor to support the educational and social development of students with disabilities. Considering the results of the survey conducted, it could be stated that among the services provided by DSUs, ICT services have rate of 16.61% while other services have a rate of 83.38%.

Conclusion and Suggestions
The purpose of the development of the Counseling and Coordination Regulations for Higher Education Disabled Students and the establishment of DSUs in higher education institutions within the framework of this regulation is to allow students with disabilities to have equal rights to students without disabilities and to provide these students with disabilities with healthy educational environments via the services provided. In line with this, the study tried to determine the services provided by DSUs and examined the role of ICTs in the education of students with disabilities.

As a result of the survey conducted, it was seen that the services provided by DSUs were generally gathered within the scope of physical services. Especially with the delivery of the Counseling and Coordination Regulations for Higher Education Institutions to all the institutions, these institutions have started to invest in physical improvement and adaptation studies for the purpose of providing the disabled with easily accessible environments. Due to the increasing number of individuals with disabilities in higher education institutions, it is believed that besides the improvement and adaptations studies, it would be a better approach if physical services were rearranged in a way to cover all individuals with disabilities.

In addition to physical services, institutions provide services to increase the level of consciousness and sensitiveness within the scope of social support services. These services generally involve institutional representatives' participation in such scientific activities as meetings, workshops, seminars, symposiums and conferences. In these activities, the problems experienced by students with disabilities are discussed, and solutions to these problems are suggested. In this respect, it is recommanded that higher education institutions provide more support to various scientific activities carried out for individuals with disabilities and that representatives of students with disabilties take part in these activities. Among the social support services provided by DSUs are various projects, sports and cultural activities, orientation, accommodation, transportation, health services, scholarship, economic aid and employment.

Higher education institutions should not only accept students with disabilities and provide them with a good education environment but also help them find a place in the society by providing them with part-time or full-time job opportunities. In this respect, in order to allow students with disabilities to share the learning environment with students without disabilities, higher education institutions are supposed to increase their comprehensive studies on social support studies.

The increasing number of individuals with disabilities in higher education institutions brings about certain difficulties for students with disabilties to adapt themselves to these institutions and to continue their education. Thus, among the most important services to be provided for students with disabilities are psychological support services. When the psychological support services provided by DSUs are examined, it is seen that these services are provided less when compared to other services. In order for individuals with disabilities to get involved in higher education institutions and to continue their education, psychological support services should certainly be provided by all higher education institutions.

When the academic services provided by DSUs found in state universities in Turkey are taken into consideration, it is seen that these services are limited in number when compared to other services. Examination of the services provided makes it clear that appointment of an academic counsellor for each student with disablity is important for easy adaptation of students with disabilities to their education processes. In this respect, it is believed that it would be beneficial if DSUs in other universities were to start studies on the appointment of an academic counsellor for each student with disability.

DSUs should organize the exams and arrange the exam durations in a way to allow students with disabilities to compete equally with students without disabilities during their education process. In this respect, it is seen that DSUs found in state universities in Turkey are not much efficient in organizing the exams and arranging the exam durations. In addition, the DSUs in other state universities should make more efforts to provide students with disabilities with fair exam conditions.

Some of the other academic services provided by DSUs include arranging special rooms in libraries, preparing individual adaptation letters, note-takers, course partners, arranging education centers in line with the kind of impairment and trainings regarding how to establish communication with students with disabilities. It is seen that these services are not efficiently provided by DSUs. Therefore, it could be stated that DSUs in higher education institutions are supposed to make more efforts on physcial and social support services as well as on the academic processes of students with disabilities.

It is also seen that some of the academic services are with the use of ICT sources. The ICT services provided include providing various audio materials, a variety of equipment, special computers in line with the kind of impairment, a variety of software, materials produced with the braillewriter, arranging their websites according to students with disabilities, providing various e-sources and materials and establishing an e-library. When the services involving ICT use are examined, it is seen that such services are the least common among all services. The reasons for this are: investments in ICTs are fairly costly; priority is given to physical services; lack of staff who can effectively use ICT sources in the field; and students with disabilities' ICT use generally includes access to digital sources.

ICTs, besides allowing access to digital sources, also have an important role in helping students with disabilities in an inclusive education environment in higher education institutions to make equal use of the facilities provided for all students. In addition, ICTs allow avoding the obstacles encountered by students with disabilities in the teaching, learning and assessment processes. If these obstacles to students with disabilties can not be avoided, they are then subjected to individual deprivation as well as social exclusion (Selwyn, 2006) and digital discrimination (Bolt, 2000). Therefore, the services provided to help students with disabilities avoid social exclusion and digital discrimination should not only allow access to digital sources but also increase digital literacy. For this reason, it could be stated that higher education institutions should invest in ICT-supported services for students with disabilities.

Limitations and suggestions for future research
Current study possesses some limitations that should be considered when examining findings. The data were gathered via official web sites of state universities' DSUs in Turkey between the dates of 06.11.2013 and 30.12.2013. This date range is set to provide a border for the study. Besides this, it is assumed that the data collected from these web sites are up to date and accurate.

In this research, web sites were used as the main daha collection source to determine opportunities for students with disabilities. Investigating opportunities and needs for students with disabilities with qualitative data collections methods are recommended for future researches to examine physical, psychological, social and academic services more detailed in higher education. This research shows that higher education institutes attach importance to

physical, psychological and social services more than academic service and ICT usage in teaching-learning processes. In respect to this, identifying the opportunities with ICT usage in teaching-learning processes is recommended for future researches. In addition to this, teaching-learning processes need to be organised in a way that provide students with disabilities an open, accessible and equitable instructional environment. The role of ICT needs to be examine provide an open, accessible and equitable instructional environment. Examining the opportunities provided to students with disabilities in higher education institutions internationally is important to reveal the different implementations to address needs of students with disabilities in different contexts. In the context of culture, examining the role of ICT in services for student with disabilities is expected to reveal more generalizable results towards the needs of students with disabilities.

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VIRTUES AND WELL-BEING OF KOREAN SPECIAL EDUCATION TEACHERS

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Although Much Emphasis Has Been Paid To Stress And Burnout Among Special Education Teachers, Little Attention Has Been Paid To Their Well-Being. This Study Aimed To Examine Relations Between Virtues And Well-Being Among Korean Special Education Teachers. Virtues And Well-Being Of 115 Korean Special Education Teachers Were Assessed Using The Character Strengths Test Short Form And The Mental Health Continuum Short Form. Path Analysis Indicated Theological Virtue Significantly Predicted Hedonic Well-Being, And That Interpersonal Virtue Significantly Predicted Eudaimonic Well-Being. The Implications That The Findings Of The Present Study Have On The Education And Recruitment Of Special Education Teachers Are Discussed.

Many Researchers Have Considered Special Education Teacher's Mental Health Is Important In Two Reasons. First, Special Education Teachers Have To Build Close Relationships With Difficult To Teach Students. Second, Special Education Teachers Have To Spend Much Time And Effort Providing Straightforward, Clear Instructions For Low-Achieving Students. These Two Reasons May Cause Much Job Stress And Increase The Likelihood Of Job Burnout (Platsidou, 2010; Zabel & Zabel, 2002).

As Compared With The Considerable Attention Paid To Job Stress And Burnout Among Special Education Teachers, Little Attention Has Been Paid To Their Well-Being. Because Well-Being Was Revealed To Be Independent To Job Stress Or Job Burnout, Even A Special Education Teachers Without Job Stress Or Job Burnout Needs Optimal Level Of Well-Being. There Are Two Types Of Well-Being: Hedonic Well-Being And Eudaimonic Well-Being. Hedonic Well-Being Means A State Of Positive Emotions (Happy, Satisfied With Life, Interested In Life) While Eudaimonic Well-Being Denotes A State Of Positive Functioning (Deci & Ryan, 2008; Keyes & Annas, 2009). Positive Functioning Consists Of 11 Dimensions: Autonomy, Environmental Mastery, Personal Growth, Positive Relations With Others, Purpose In Life, Self-Acceptance, Social Integration, Social Contribution, Social Coherence, Social Actualization, And Social Acceptance (Keyes, 1998). Previous Studies Have Reported That A Special Education Teacher Without Well-Being Is Likely To Deal With Job Demands As Poorly As One With Job Stress Or Burnout (Rothmann, 2014). Thus, Boosting Well-Being Is As Important As Eradicating Job Stress Or Burnout For Special Education Teachers.

Of The Possible Predictors Of Well-Being, Virtue Is A Promising Candidate According To Recent Studies On Well-Being. Virtue Is A Morally Good Trait That Is Valued Across Cultures And Across Time And A Positive Trait That Enables The Individual And A Society To Live And Flourish (Lim, 2015). Of The Theories Of Virtue, Peterson And Seligman's Theory (2004) Proposed Six Virtues Comprised Of 24 Observable Character Strengths.
For General Teachers, Evidence Of An Association Between Virtue And Well-Being Is Accumulating. In A Sample Of Chinese Teachers (Chan, 2009), All Virtues, But The Virtue Of Restraint, Were Significantly Correlated With Positive Affect (An Element Of Hedonic Well-Being), And All Virtues, Except Intellectual Virtue, Correlated Substantially With Life Satisfaction (An Element Of Hedonic Well-Being) (Chan, 2009). In Another Study Of Chinese Teachers (Chan, 2013), The Character Strengths Of Gratitude And Forgiveness, Which Are Elements Of Theological Virtue, Significantly Correlated With Life Satisfaction And Positive Affect Even After Controlling For Orientation To Happiness. In A Study Of The Slovenian Teachers Similar Findings Were Reported, In Particular,

All Virtues, Except Restraint, Were Found To Be Significantly Correlated With Positive Affect (An Element Of Hedonic Well-Being) (Gradisek, 2012).

Also, Several Studies Have Reported The Association Between Virtues And Eudaimonic Well-Being For General Teachers. In A Study Of The Australian Teachers, The Character Strength Of Gratitude, Which Is An Element Of Theological Virtue, Enhanced Teacher–Student Relationships (An Element Of Eudaimonic Well-Being) (Howells, 2014). In A Sample Of The Taiwanese Teachers, The Character Strengths Of Gratitude Contributed Teacher Loyalty Of Elementary Schools (An Element Of Eudaimonic Well-Being) (Ting & Yeh, 2014).

However, Few Studies Have Been Undertaken On Relationships Between Virtues And Well-Being Among Special Education Teachers. In Fact, Relationships Between Virtues And Eudaimonic Well-Being Have Received Scant Attention By Teaching Researchers. Given This Background, Efforts Are Needed To Examine Relations Between Virtues And Well-Being, That Is Hedonic And Eudaimonic Well-Being, Among Special Education Teachers.

In The Present Study, We Examined Relationships Between Virtues And Well-Being Among Special Education Teachers, Because Due To The Lack Of Studies On The Topic In This Population, It Is Difficult To Hypothesize On Relationships Between Virtues And Well-Being. However, According To Significant Associations Established Between Interpersonal/Restraint Virtues And Personal Teaching Efficacy Among Special Education Teachers (Lim & Kim, 2014), It Would Appear That Interpersonal And Restraint Virtues Play Significant Roles In Predicting The Well-Being Of Special Education Teachers, Because Personal Self-Efficacy Seems To Be An Important Source Of Well-Being.

Research Method
Participants
One Hundred And Fifteen Special Education Teachers Were Surveyed In Three Schools In Gyeongbuk, South Korea. The Three Schools Were Randomly Selected From The Total Of 7 Schools In Gyeongbuk. Mean Subject Age Was 38.68 Years (SD 9.70; Range From 22 To 56). Of The Study Subjects, 47.0% Were Male. The Average Number Of Working Years Was 13.2 Years (Range From 1 To 32).

Measures
The Short Form Of The Character Strengths Test (CST-SF; Lim & Kim, 2014) Was Developed From The Full Length Scale Devised By Kwon, Yu, Lim, And Kim (2010). The CST-SF Addresses 24 Character Strengths Using 72 Items, To Which Participants Respond Using A 4-Point Likert Scale (0~3). Reported Correlations Between The CST-SF And The Full Scale Range From .80 To .92, And Its Internal Consistency Reliabilities Has Been Reported To Range From .72 To .84. Lim And Kim (2014) Found By Factor Analysis That The Scale Has A Four Factor Structure: Interpersonal Virtue (Social Intelligence, Kindness, Humor, Love, Leadership, Vitality); Restraint Virtue (Prudence, Self- Regulation, Openness, Modesty, Perseverance, Fairness, Social Responsibility, Honesty); Intellectual Virtue (Creativity, Love Of Learning, Love Of Appreciation, Curiosity, Wisdom, Courage); And Theological Virtue (Spirituality, Gratitude, Forgiveness).

The Korean Version Of The Mental Health Continuum Short Form (K-MHC-SF) (Lim, Go, Shin, & Cho, 2013) Was Used To Assess Well-Being. The Original Version Of The Mental Health Continuum Short Form Was Developed By Keyes,`   Et Al. (2008). The K-MHC-SF Consists Of 14 Items Measuring Two Well-Being Dimensions (Items 1~3: Hedonic Well-Being And Item 4~14: Eudaimonic Well-Being). Each Item Of Hedonic Well-Being Reflects Positive Emotions (Happy, Interested In Life, Satisfied With Life). Each Item Of Eudaimonic Well-Being Reflects Both Positive Functioning In Personal Life (Ryff, 1989) (Autonomy, Environmental Mastery, Personal Growth, Positive Relations With Others, Purpose In Life, And Self-Acceptance) And Positive Functioning In Social Life (Keyes, 1998) (Social Integration, Social Contribution, Social Coherence, Social Actualization, And Social Acceptance). Participants Responded Using A 7-Point Likert Scale (0~ 6). The Cronbach's Coefficient Of The K-MHC-SF Has Been Reported To Be .93 (Lim Et Al., 2013).

Statistical Analysis
Firstly, Exploratory Factor Analysis Was Conducted In Order To Confirm The Factor Structure Of The MHC-SF For Korean Special Education Teachers. Since There Have Been Few Studies About The Factor Structures Of The MHC-SF For Korean Special Education Teachers, Exploratory Factor Analysis Was Used. Secondly, Pearson Correlation Coefficients Were Computed Between Each Pair Of Variables (Well-Beings And Virtues). Thirdly, Path

Analysis Was Used To Evaluate Whether Virtues Predicted The Two Dimensions Of Well-Being. Lastly, Multiple Regression Analysis Was Conducted To Examine Relations Between Character Strengths And The Two Dimensions Of Well-Being. Character Strengths Were Used As Predictive Variables And Two Dimensions Of Well-Being Were Utilized As Criterion Variables.

Results
Prior To Conducted The Main Analysis, Exploratory Factor Analysis Was Used To Confirm The Factor Structure Of The MHC-SF For Korean Special Education Teachers, Because Inconsistencies In Factor Structure Of The MHC-SF Have Been Reported (Jovanović, 2015). The Results Obtained Showed That Two-Factor Structure Was More Suitable Than Three-Factor Structure For Korean Special Education Teachers. Factors Were Labeled As Hedonic Well-Being And Eudaimonic Well-Being.

As Shown In Table 1, The Four Virtues Were Significantly Correlated With The Two Dimensions Of Well-Being. Associations Between Virtues And Eudaimonic Well-Being ($R = .484 \sim .686$) Were Generally Stronger Than Those Between Virtues And Hedonic Well-Being ($R = .318 \sim .410$).

Table 1. Correlation Coefficients Between Virtues And Two Dimensions Of Well-Being

	1	2	3	4	5	6
1. Hedonic Well-Being	-					
2. Eudaimonic Well-Being	.672	-				
3. Interpersonal Virtue	.379	.686	-			
4. Restraint Virtue	.325	.641	.762	-		
5. Intellectual Virtue	.318	.618	.761	.708	-	
6. Theological Virtue	.410	.484	.549	.574	.499	-

Note. All Correlation Coefficients Are Significant At The .001 Level

Table 2 Summarizes The Results Of Path Analysis. In This Analysis, The Two Dimensions Of Well-Being Were Defined As Criterion Variables And The Four Virtues As Predictive Variables. It Was Found Theological Virtue Significantly Predicted Hedonic Well-Being After Controlling For Other Virtues ($B = .294$, $P < .01$), And That Interpersonal Virtue Significantly Predicted Eudaimonic Well-Being ($B = .367$, $P < .01$).

Table 2. Path Analysis On The Relations Between Virtues And Well-Being

Dimensions (% Variance Explained)	Predictors	*B*	S.E.	*P*
Hedonic Well-Being (20.3%)	Interpersonal Virtue	.223	.043	.1330
	Restraint Virtue	-.031	.035	.8243
	Intellectual Virtue	.023	.039	.8626
	Theological Virtue	.294	.052	.0048
Eudaimonic Well-Being (51.8%)	Interpersonal Virtue	.367	.135	.0014
	Restraint Virtue	.205	.109	.0594
	Intellectual Virtue	.148	.123	.1579
	Theological Virtue	.090	.162	.2639

S.E. = Standard Error

To Examining How Character Strengths Predict Well-Being, Two Multiple Regression Analyses Were Conducted Using The Stepwise Procedure. The Findings Obtained Showed Optimism, Love, And Social Responsibility Significantly And Positively Predicted Hedonic Well-Being ($B = .388$, $P < .001$; $B = .282$, $P < .01$; $B = .232$, $P < .05$), And That Vitality, Social Intelligence, Optimism, And Courage Significantly Predicted Eudaimonic Well-Being ($B = .304$, $P < .001$; $B = .266$, $P < .01$; $B = .205$, $P < .01$; $B = .167$, $P < .05$).

Table 3. Multiple Regression Analyses On The Relations Between Character Strengths And Well-Being

Criterion Measures (% Variance Explained)	Predictors	*B*	S.E.	*P*
Hedonic Well-Being (36.7%)	Optimism	.388	.118	.000
	Love	.282	.139	.005
	Self Regulation	-.316	.137	.002
	Social Responsibility	.232	.160	.017
Eudaimonic Well-Being (51.8%)	Vitality	.304	.193	.000
	Social Intelligence	.266	.219	.001
	Optimism	.205	.221	.008
	Courage	.167	.193	.041

S.E. = Standard Error

Discussion

This Is The First Study To Examine Relations Between Virtues And Well-Being In Korean Special Education Teachers. Our Findings Show That The Four Virtues Were Moderately Correlated With The Two Dimensions Of Well-Being. However, According To Path Analysis, Specific Virtues Were Related To Specific Dimensions Of Well-Being. Interpersonal Virtue Was Related To Eudaimonic Well-Being, Suggesting That It Contributes To Functioning Rather Than To Positive Emotion. On The Other Hand, Theological Virtue Was Related To Hedonic Well-Being, That Is, It Concerns Emotion Rather Than Function.

In Addition, It Was Found Associations Between Virtues And Eudaimonic Well-Being Were Generally Stronger Than Those Between Virtues And Hedonic Well-Being. These Results Imply High Levels Of Virtues Influence Function Rather Than Emotion For Special Education Teachers, And That The Contributions Of Virtues To Well-Being Depend On The Notion Of Well-Being.

The Findings Of The Current Study And Those Of A Study Conducted On Korean College Students Show Differences And Similarities (Lim, 2015). The Specific Relationship Between Theological Virtue And Hedonic Well-Being And The Specific Relationship Between Interpersonal Virtue And Eudemonic Well-Being Were Found In Two Studies, But As Compared With College Students, In Whom Intellectual Virtue Predicted All Dimensions Of Well-Being, Intellectual Virtue Was Not Found To Contribute To Well-Being In The Present Study. This Discrepancy Might Be Attributable To Sample Characteristics, As Intellectual Virtue Is More Valued In The College Environment Than In Schools At Which Special Education Teachers Are Employed.

It Is Necessary To Examine If The Findings Of The Present Study Will Be Replicated In Other Cultures Because The Structures Of Virtues And The Relationship Between Virtues And Well-Being Could Be Different Across Cultures (Lim, 2015). In Addition, The Relation Between Virtues And Well-Being Varies In Different Cultures Because Culture-Specific Value Might Influence Well-Being And Virtues.

Some Limitations Of The Present Study Should Be Considered. First, Only Self-Reported Data Was Collected, And Relationships Between Variables Could Have Been Overestimated Due To The Method Factor. Thus, We Suggest A Multi-Trait, Multi-Method Assessment Procedure Be Used In Future Study. Second, The Study Was Conducted In One Geographic Region, And Thus, Additional Study Is Needed In A Much Wider Region In Order To Address Generalization Issues.

This Study Represents A First Step Toward Determining The Natures Of Relationships Between Virtues And Well-Being In Special Education Teachers. We Hope That This Study Stimulates Others To Address The Topic Of Virtue Among Special Education Teachers. Furthermore, The Results Of This Study Suggest A Specific Strategy For The Development Of An Education Program And Provide Guidance For The Recruitment Of The Special Education Teachers.

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EFFECTIVE PRACTICE IN INCLUSIVE AND SPECIAL NEEDS EDUCATION

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The present study attempts to evaluate the effective teaching practice for children with special learning needs. The research question framed in the present study for investigation is which practice will be effective in different inclusive classroom settings and what are the factors that contribute for effective practices? Qualitative research was carried out in the present study using the case study method of embedded single case design to answer the research question. This study was carried out in South Norway. Twenty four Schools from four municipalities in three counties were sampled for the present study. Eighty three observations were carried out in the classrooms of selected schools where different inclusive classroom practice was followed. The study observed different inclusive classroom settings namely traditional practice, variety and flexible practice, one to one support practice outside and within the classroom and small groups outside the classroom. The investigators derived different criterion under three categories: 1) interaction 2) support and 3) adaptation for analysing the best inclusive classroom practices. The following criteria were used under the interaction category; teacher interaction and collaboration, teacher and students interaction and collaboration. The criteria used in the support category are general teacher support, special teacher support, teacher supporting student participating in the learning community. The adaptation category has following criteria; classroom facilitation, learning materials and teachers instructions. The result of the study showed that each type of practice has its own advantages and disadvantages in the education of children with special needs. The strength and weakness of each practice were analysed. The finding from the traditional practice shows that those students that need special support do not get the support they need to master their learning. Under the one to one support practice the students got the support they needed to master their learning and they had positive interaction with the teacher in the students' learning process, and the same results were found with one to one support inside the classroom. In small group practice the students had more support and a closer interaction with the teacher than in the traditional practice. The present study concluded that varied and flexible practice in the classroom had met all the criteria listed by the investigators and served the necessary learning requirements of children with special needs. Whereas the remaining four practices had served children with special need to a certain extent only. The study stated that there is a lack of expertise on the part of the general teachers to deliver adapted teaching learning process in an inclusive classroom practice. The study implied a need to build competencies on the part of the general teachers and provide necessary teaching - learning interaction, support and adaptation in all type of inclusive practices.

Introduction

This research paper dealt with the effective practices in Inclusive and Special Needs Education. Inclusive Education means that all students in a school, regardless of their strengths or weaknesses in any area, become part of the school community. The term *Inclusion* generally means ending all separate special education placement for all students and full time placement in general education with appropriate special education supports within that classroom (Garvar-Pinhas & SchmelkinPedhazur, 1989; Lipsky & Gartner, 1996). There are some individuals who by virtue of their physical and mental abilities require a more relevant or appropriate instruction than is usually available within formal and informal educational structures. A domain of education has been constructed to satisfy their learning

requirements (Laura & Ashman, 1985). This domain is called 'Special Needs Education'. This field of Special Needs Education encompasses heterogeneous groups who demand varied services: visually impaired, hearing impaired, mentally retarded, orthopaedic handicapped, children with behaviour disorders, gifted or talented and finally the learning disabled or children with learning difficulties. Special Needs Education meets the needs of children with specially designed instructional programme to compensate/overcome their disabilities/difficulties. In past, the learning requirements of these children were provided in special settings, such as special classes, special schools and special residential schools or institutions. Recently, inclusion emerges out with the constitutional provision of equal opportunity for all these individuals. The concept of integration' stemmed out from the perspective of democracy**.** Integration leading to inclusive schools cannot be about renegotiating the roles of 'special' educators to meet the needs of 'special' children in ordinary classrooms (Stainback, Stainback & Forest, 1989, p.ix).

To achieve a quality in Inclusive Education school plays vital role. All individuals are unique and 'special' with their strengths and weaknesses. As education binds us together, it has its root in the past and is meant to equip us for the future. It transfers knowledge, culture and values from one generation to the next. It promotes social mobility and ensures the creation of values and welfare for all. For the individual, education is to contribute to cultural and moral growth, mastering social skills and learning self-sufficiency. It passes on values and imparts knowledge and tools that allow every one to make full use of their abilities and realise their talents. It is meant to cultivate and educate so that individuals can accept personal responsibility for themselves and their fellows. Education must make it possible for an individual or a person to develop so that they can make well-founded decisions and influence their own future. It is all about participating in a society to a maximum extent for a successful life. Inclusion is a concept where social and cultural interactions are the main focus (Buli-Holmberg & Ekeberg, 2009). As Inclusive education is the knowledge of putting one's potential to maximum use it has the power to develop every citizen to be the potential contributor for their nation. Any nation's progress lies in the hands of well educated and talented citizens (Strømstad, M., Nes, K. & Skogen, K. 2004). Hence it is a binding duty of every nation to provide quality education to their citizen irrespective of their ability, caste, creed, race, religion and other differences.

Concept of Inclusion
In every country, the paradigm shift in Special Needs Education is to promote the inclusion for children with special needs in academic, vocational and social aspects. The idea of Inclusive Education was given impetus by two conferences set up under the support of United Nations. The first of these, held in Jomtein, Thailand in 1990, promoted the idea of 'education for all', this was followed in 1994 by a UNESCO conference in Salamanca, Spain, which led to a Statement that is being used in many countries to review their education policies. The Salamanca Statement proposes that the development of schools with an 'inclusive' orientation is the most effective means of improving the efficiency and ultimately the cost-effectiveness of the entire education system. Inclusion is a collaborative process among students, parents, and educators which enables students with and without disabilities to learn together in the same class to the greatest extent possible utilizing appropriate support services (Grapevine-Colleyville ISD Inclusion Task Force Report of 1997, P.1). The Federal Individuals with Disabilities Education Act (IDEA) and its 1997 amendments make it clear that schools have a duty to educate children with disabilities in general education classrooms. Later on, in 1997 'The International Journal of Inclusive Education' persuades the same broad outset of 'Inclusive Education', involving an examination of all the processes of inclusion and exclusion in education. The instruction of special needs students in the regular classroom may well deviate from the 'normal' programme. Individual educational plan, more instruction time, individual attention, other instructional methods or specialised professional skills and materials or the resources required to serve better for the children with special needs. In addition to these, resources teachers knowledge, attitude and competencies form the basis for effective inclusive educational set up (Sujathamalini, 2002; Reddy et al, 2006). Skogen & Holmberg (2002) quoted that a common understanding of the term inclusion, a high level of expertise (formalised through training or informal expertise acquired through long practice and the exchange of experiences through various types of co-operation) and systematic work within the field with local development workers are important factors for practice inclusion well.

Effective practices in Inclusion
Inclusive Education is a challenge for teachers who must instruct a classroom including a combination of children with diversified needs and children with special needs. Inclusive classroom settings are arranged in a different ways to attain mastery in learning among a diverse group of learners. In some inclusive schools the previous traditional classroom practice was adopted without any change in the instruction and material (Buli-Holmberg 2008). In this

type of inclusion the children with special needs are included as such where traditional teaching practice followed in the regular classroom without any priority arrangements or adaptations made. But in some schools the concept of inclusion is done with teachers' collaboration for planning and delivering the instruction, preparing and use of instructional materials to suit the needs of children with special needs. Special teachers are assigned to assist the children with special needs within and outside the classroom for meeting the learning requirements of this diverse group of learners. Opens school system with flexible classroom arrangements with creative instructional methods are also done in some inclusive school system. Thus various forms of practices are followed in inclusive settings to promote mastery in learning among children with special needs. As there are lot of practices followed in an inclusive setting, it is needed to find out the effective practices in inclusion. In every practice there are certain important features that need to be carried out to promote mastery in learning among children with special needs. They are *interaction* including teacher collaboration and students' collaboration, different kind of student *support* and variety and flexibility in instructional and material *adaptations*.

Interaction - Teachers collaboration
Teacher Collaboration is a strategy that has been successful in various classrooms (Lederer, 2000). It is not a new instructional technique in the field of Special Needs Education. It is more effective in inclusive settings. The collaborative teaming model is the ideal model in inclusive classrooms because it capitalizes best on the talents and skills of the participating teachers (Boudah, Schumacher, & Deschler, 1997; King-Sears, 1995; Miller & Savage, 1995; Minke, Bear, Deemer & Griffin, 1996; Pugach & Seidl, 1995; Villa, Thousand, & Chapple, 1996; Walther-Thomas, Bryant, & Land, 1996). The variation in teaching roles and responsibilities required in collaborative arrangements require a belief that all students can learn, coupled with competent communication and problem-solving skills (Friend & Bursuck, 2006; Gable & Hendrickson, 2000). Collaboration requires an important amount of faith between partners and a flexible approach in lesson planning and implementation of instructional strategies. Collaborative programs should be well planned with a structure in which the teachers' roles and responsibilities are specified and carried out along with daily management and instructional decisions and classroom interactions (Cole et al., 2000; Friend & Bursuck, 2006; Wood, 1998).

Interaction - Teachers and Students Collaboration
The school is a mini society where the children learn to live in together (Buli-Holmberg & Ekeberg, 2009). The concept of inclusion helps children with special needs to stay in a more society based life at their school age (Strømstad, Nes & Skogen, 2004). In an inclusive set up they get more exposure than what they would get from exclusion, this can help to mould them for their future life. There is more focus on social inclusion in the school and classroom than the academic and cultural inclusion (Buli-Holmberg 2008, Buli-Holmberg, Guldahl & Jensen 2007). Therefore, an inclusive school is more focused on a place to learn to live together rather than to live together to learn. Vygotskys' main emphasis is on the interaction between the individual and the environment (1978). He claims that development is dependent on surrounding conditions such as home conditions and the learning environment in schools. Vygotsky describes the proximal zone of development as follows: *It is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers* (Vygotsky 1978:86). He says that the proximal zone of development is between the actual and potential zone, and considers that development happens when a child moves from the actual to the potential zone of development. Vygotsky attaches great importance to cooperation with more competent others, adults, youth or children in the process of development. Children can attain a higher level of development and achievement through cooperating with others, than they will manage without this consideration. The more competent interactions and collaboration a learner receives may help the learner progress in the process of learning. Wenger (1998) claims that learning is not limited to education, he also includes learning from daily life. He describes how identity is created through participating in the *community of practice*. He point out four components which he says from the wholeness in the process of learning; *practice, community, identity and meaning*. Learning depends on being a real participator in the community *of practice*. Through participating and negotiations about meaning in the community of practice the individual develops a personal identity. *Practice* is an expression for one's historical and social resources, frames and perspectives that can support mutual engagement when one acts. The *Community* represents participation, where one's actions are considered as valuable and where one's performing and participating can be identified as competence. *Identity* represents how learning changes who a person is. *Meaning* is an expression for one's (often changing) ability to experience one's life and world as meaningful that one creates histories of being.

Adaptation - Variety and flexibility in Instructional and Material

There is different instruction methods commonly used to cope with this varied learning environment. Even though the inclusive educational practice is a challenge for regular school teachers they are the active agents exposed to a lot of problems in implementation. Even then they have to develop and implement the inclusive education policies and bring out satisfactory outcomes for themselves and for the pupils. As inclusion stemmed out from the right for equal education of all children, teachers should provide education to them based on their abilities and disabilities.

Teaching all students in the same way no longer meets the rigorous academic demands of today's education reform (Hitchcock, Meyer, Rose, & Jackson, 2002). Effective teaching of diverse students requires different instructional methodology, curriculum materials, and assessment methods (Bateman & Bateman, 2002; Hitchcock et al., 2002). Students who are actively involved and engaged in planning and evaluating their own learning experiences are more likely to improve academic achievement (Choate, 2000). The independence of students with disabilities, in terms of effort and task persistence, is essential in an effective inclusive services environment (Choate, 2000; Friend & Bursuck, 2006; Gee, 2002). Students with disabilities often lack an awareness of their strengths and weaknesses (Brinckerhoff, 1994; Scanlon & Mellard, 2002) as well as skills in self-determination and advocacy (Durlack, Rose, & Bursuck, 1994; Field, 1996; Janiga & Costenbader, 2002). All students with or without disabilities need to learn three types of skills: 1) dispositions and habits of mind, such as inquisitiveness, diligence, collaboration, work habits, tolerance, and critical thinking; 2) content area knowledge, in science, social studies, language arts, computers, the arts, etc; and 3)basic academic skills such as reading, writing, and mathematics (Jorgensen, Fisher, and Roach, 1997). These three types of skills should be included in the curriculum of general education classes as well as in various types of inclusive settings. Student's collaboration, teaming and problem solving strategies in the classroom accommodating a diverse group of learners are common approaches in quality inclusive curriculum (McGregor, Halvorsen, Fisher, Pumpian, Bhaerman, & Salisbury, 1998; Tichenor, Heins, & Piechura-Couture, 1998).

To perform such multidimensional role the teacher's plays a vital role. The teacher should develop a plan within the curriculum that suits all the children with diversified needs. Deschenes, Ebeling, & Sprague (1994) noted a variety of instructional approaches for teachers to design curricula that accommodate a wide range of learners. They are: co-operative learning structures, Multidimensional student grouping, and multilevel instruction, Peer supports, Concrete experimental learning activities, community based instruction. Effective Inclusive Education is based **on a** multidisciplinary approach which warrants regular teachers, special teachers and other professionals' competencies. Special teachers and regular teachers work together for framing curriculum for the children with special needs. Teachers with special teaching competencies in Special Needs Education will always automatically and intuitively adapt the curriculum and instruction to meet the needs of each student. An inclusive curriculum that involves collaboration with colleagues makes this task even easier, enabling the educators to facilitate changes and adaptations (Snyder, 1999; Tapasak & Walther-Thomas, 1999; Tichenor, Heins, & Piechura, Couture, 1998). A lack of expertise and training for general and special teachers, insufficient resources, inadequate shared planning time, and the absence of administrative support are the primary barriers to inclusive efforts (King & Youngs, 2003; Scruggs & Mastropieri, 1996; Scruggs et al., 2007, Baker & Zigmond, 1995; Schumm, Vaughn, Gordan, & Rothlein, 1994). General and special teachers' exposure to a variety of inclusive services models influences their willingness and readiness to implement inclusive practices (McLesky, Waldren, So, Swanson, & Loveland, 2001; Van Laarhoven, et al., 2006). Teachers skilled in scientifically based reading instruction, classroom organization and behavior management have the competencies to establish classrooms conducive to learning and improved results in reading (Oliver & Reschly, 2007; Smartt & Reschly, 2007). Over time many educators have noted that different individuals within their classroom perform better at some tasks than others and that an individual who performs well in one activity may perform badly in another and vice versa (Buli-Holmberg, Guldahl & Jensen 2007, Dunn & Dunn 1993, Vermunt, 1995). Drawing from these observations, educators and theorists have concluded that individuals possess varying learning styles that correspond to the individual's differences in perceptive ability, cognitive processing, information management, and sensory variability. At this juncture a teacher should understand their students' learning styles and plan instructional procedures based on their students' learning styles, abilities and disabilities. The teachers have to adapt the teaching instructional methods and instructional materials to suit the students' needs and abilities for better inclusive educational practice. As there are so many practices stated for an inclusive education, it is the need of an hour to explore which one is an effective practice that interacts, support and adapt the instructions to suit the diverse learners in an inclusive classroom. Therefore the present study has been undertaken to answer the following research questions.

Research Questions of the Study

There are different practices carried out in an inclusive education. We are not quite sure which practice will benefit the children with special needs in an inclusive classroom. To identify the pros and cons of different practices followed in an inclusive classroom the present study had lead the following research questions. *Which practice will be effective in different inclusive classroom settings and what are the factors that contribute for effective practices?*

Methodology and Design of the Study
The qualitative research was adopted in the present study. Case study method of embedded single case design was used to answer the research question. Case study method is relevant because it is helpful to investigate specific individual or specific context for in depth analysis. There is no single way to conduct a case study, and a combination of methods (e.g., unstructured interviewing, direct observation) can be used. In the present study, case study design with direct observation method was adopted. The concept of inclusion is complex and requires observations to investigate the research question from different point of view in their natural settings (Yin, R. K, 2003).

This study consists of multiple observations as the study environment is not confined to one setting it covered multiple sites to draw qualitative analysis (Padegett, 1998). In our observations we have selected them from five different ways that the schools organised their inclusive practice. These are 1) Traditional teaching practice in the classroom, 2) Variety and Flexible teaching practice in the classroom, 3) One to One teaching within the classroom 4) One to One teaching outside the classroom 5) Teaching in Small Groups outside the classroom. Several observations were done related to each of these three inclusive practices. The validity of the findings is obtained with these multiple observations in each inclusive practice were embedded and analysed.

Sample of the Study
Three counties from South of Norway (Oslo, Akershus and Buskerud) served as a locale for the study. Twenty four schools in four municipalities in the above counties were selected based on simple random sampling technique. The 83 students with special needs from first grade to tenth grade in inclusive settings were the sample for the present study, and the investigators observed 83 students with special needs in different inclusive classroom settings. The result from the 83 observations showed five ways of organisation of inclusive classroom settings. The 83 cases were divided in this five different teaching practice in the inclusive classroom settings; 23 cases from Traditional teaching practice in the classroom (23 of 24 schools), 17 cases from One to One teaching practice within the classroom (11 of the 24 schools), 5 cases from One to One Teaching Practice outside the classroom (5 of the 24 schools), 31 cases from Teaching Small group outside the classroom (all of the 24 schools) and 7 cases from Variety and Flexible teaching practice in the classroom (1 of 24 schools).

Data Analysis
The investigators developed **different criteria** to analyse the effective inclusive practices for children with special needs. With the theoretical framework the investigators listed the most **important criteria** to analyse the effective practices out of those five different inclusive classroom settings. The listed criteria have categorised in three dimensions namely; interaction, support and adaptation. The ten criteria are illustrated in table 1 below.

Table 1: Criteria of Effective Inclusive Practice

Interaction Criteria	Support Criteria	Adaptation Criteria
1. Teacher collaboration	4. General teachers role	7. Mastery of learning
2. Teacher and Students collaboration	5. Special teachers role	8. Classroom facilities
3. Students collaboration	6. Students participating in the learning community	9. Learning materials
		10. Instructions

Interaction
Teacher collaboration: It is important in inclusive settings to have interaction within teachers for planning the classroom instruction and delivering. This teacher's interaction promotes better learning environment to the students with special needs (Cole, et al., 2000; Friend & Bursuck, 2006; Wood, 1998).

Teacher and Students collaboration: Interaction of teachers with students creates motivation within the students to learn better. This interaction helps the students to come out with their strengths and weaknesses. In turn the teacher

can adapt the teaching procedures and instructional materials according to the students' ability level (Bateman & Bateman, 2002; Hitchcock et al., 2002).

Students' collaboration: Students' interaction plays a vital role in the concept of inclusion. To improve collaboration between students with and without special needs it is necessary realizing the vision of inclusion. The inclusion is successful when the students without special needs accept the students with special needs which lead for peer acceptance and peer tutoring (McGregor, Halvorsen, Fisher, Pumpian, Bhaerman, & Salisbury, 1998; Tichenor, Heins, & Piechura-Couture, 1998). Interaction within students promotes peer guidance in learning process. Interaction within learning community helps them to learn together and identify their competencies (Wegner, 1998).

Support
General teachers' role: Students with special needs require additional support from general teachers than other students to attain mastery in learning. This support from general teachers helps them to work out their classroom activity without any difficulty (Vygotsky, 1978, Wenger, 1998).

Special teachers' role: Support from special teacher is vital for students with special needs and require specific assistance and adaptation in the instructional procedures and the students activities (Hitchcock, Meyer, Rose, & Jackson, 2002).

Students' participating in the learning community: As inclusion focus on holistic involvement of students with special needs in regular classroom it is important to have a supportive from learning community. This supportive learning community will provide effective peer guidance and peer tutoring (Vygotsky, 1978; Wenger 1998, Buli-Holmberg, Guldahl & Jensen, 2007).

Adaptation
Mastery of learning: This adaptation from the general and special teachers helps students to meet their unusual needs that are required to be fulfilled for attaining mastery in learning (Vygotsky, 1978; Skogen & Holmberg 2002, Buli-Holmberg & Ekeberg 2009; Dunn & Dunn, 1993; Vermunt, 1995).

Classroom facilities: Inclusion of students with special needs doesn't result in successful learning if the classrooms facilities are not adapted to the diverse learner. We can't teach all the children in the same way. The classroom environment need to be adapted to make it barrier free and least restrictive environment for the children with special needs to move around and use the classroom facilities in a full-fledged manner (Hitchcock, Meyer, Rose, & Jackson, 2002).

Learning materials: The students with special needs require adaptation in the learning material to suit to their current ability level and achieve mastery in learning. These adapted learning materials will make the students with special needs to feel at ease in learning environment (Bateman & Bateman, 2002; Hitchcock, et al., 2002).

Instructions: Teacher needs to adapt their teaching methods to meet the needs and abilities of children with special needs. The effective teaching of diverse learners requires different instructional methodology (Bateman & Bateman, 2002; Hitchcock, et al., 2002).

These criteria were formulated by the investigators with a literature background to analyse the effective inclusive settings for children with special needs. The obtained data was analysed in relation to research questions with the above criteria. This criterion has been developed based on our literature overview and theoretical framework for effective practice in inclusion. At the same time, on the basis of information received from the sample were also crystallised in the results of the present study. In this way, the analysis involved both inductive and deductive thinking on the part of the investigators. Our general understanding has been rooted in a tradition that focused on lived experience which requires hermeneutic ability to make interpretive sense of the phenomena to find out the school situations and relations of children in classroom (Van Manen, 1997). Therefore the obtained data was analysed with the framed criteria with real school life situations. The grade points one to ten of each criterion under three dimensions are the coding procedures in the analysis of data. The obtained data were analysed and discussed to answer the research questions. Under each of the five different practices the investigators have narrated one typical observation and analysed the positive and negative points to pinpoint the best practice in inclusive classroom. The qualitative data have also been quantified in the table that combines the type of practice and the criteria used for analyses.

Results and Discussion
The data gathered through direct observation were analysed with criteria to find out the effective practices of the different inclusive classroom settings based on critical evaluation related to the research question. In the presentation of the result the investigators have chosen one typical observation from each of the five different inclusive classroom settings. The observation was interpreted with its advantages and disadvantages in view of the children with special needs. Later on in the discussion of each of the observation we have also used the criteria to find out the effective practice out of different inclusive classroom settings. Overall, five such observations are presented for the five types of practices in an inclusive classroom.

Traditional teaching practice in the classroom
We as investigators have chosen to define the Traditional Teaching Practice as a classroom where children with and without special needs are included without any special support. In the regular classroom there is no modification done for the students with special needs and therefore we categorised this as Traditional Practice. We have twenty three observations from traditional practice in the inclusive classroom. To illustrate the trend in the analysis of our findings we have chosen one example. There are twenty three similar observations from Traditional Practice at different grades in 23 of the schools that showed almost the same practices as in the below example. The example present below is from one observation where maths subject was taught to seventh grade to twenty five students with one teacher.

The teacher started the class with general introduction to all the students about the topic. After the introduction the teacher asked questions on the prior knowledge and tried to link to the present problem. Some students answered the teacher's question. He connected the theoretical framework of the problem with practical examples from the students' daily life. After that the teacher gave exercise to all students and went around in the class to give support to the students. The students who got doubts raised their hands. He went to the students who had raised their hands and helped them to solve the problem. Some students did not do the exercise. There were also some students with special needs who failed to solve the problems even with the support of the teacher.

Investigators comments to this observation: The teacher did not manage to individually adapt his teaching to all the students' needs and particularly those with special needs. They needed special instructional techniques that are different from regular students. At some point the teacher wasn't able to succeed with the students that did not learn in the traditional way of teaching. When the teachers teach traditionally some students will feel that they aren't included.

Investigators analysis of these observations related to the ten criteria: In this observation we evinced that in the interaction dimension criterion No. 2 (interaction with teacher and all students) was met when the general teacher gave instruction to all students. Interaction with teacher and all students showed that all students were taught in the same way. The teacher first gave an introduction to all the students in general irrespective of the students' abilities and needs. In a way, he hasn't given an adapted education to the diverse ability of the students in introduction part. We have the same results from our analysis of the other 22 observations that shows that all students can't be taught in the same way to meet the academic demands of diverse learners (Hitchcock, Meyer, Rose, & Jackson, 2002).

We also evinced in this observation that criterion No.4 (support from general teacher) under the support dimension was met. The teacher created a situation to break the abstract concept into a concrete concept, when he connected the theoretical framework of the problem with practical examples from the students' daily life. By his way of explanation some students in the class understood the concept. When he explained from simple to abstract he reached more students in understanding the steps to solve the problem. In introduction part the teaching style is less inclusive way but when he went to the students to clarify their doubts then it is more of inclusive class than before. This may be because he might have thought that the introduction part is more general to all and then for the explanation part he had adopted the ability to cater to the diversity of the students because he had to meet their individual needs. At some point he couldn't reach the children with special needs because the students hadn't come out with their special needs and because of that he wasn't able to solve their needs. It is also difficult for a teacher to reach all the students with diverse needs in an inclusive classroom with traditional teaching methods. On the other hand, he also needs some special education techniques to solve the diversified needs of the students in an inclusive classroom.

It is evinced in this observation and the other 23 observations that there is a lack of special education techniques to promote an inclusive classroom. It is a need of an hour to develop certain techniques among teachers in these traditional classrooms with such special teaching techniques. Hence successful inclusive education should engage diverse students with diverse instructional methodology, curriculum materials and assessment methods (Bateman & Bateman, 2002; Hitchcock, et al., 2002).

One to One Support teaching practice outside the classroom
We as investigators have chosen to define One to One support practice outside inclusive classroom to a student with special needs from one teacher. This is analysed based on five observations. Five similar one to one Support practices outside classroom are observed by the investigators and the same practice was evinced. The example observation below was in fourth grade and language was taught.

The student with special needs was together with her class. The general teacher motivated all the students with and without special needs about the topic they are going to learn. She questioned to get prior knowledge on the task and then she presented the material. After explaining the concept she gave them exercise to do. The student with special needs received the same instruction as other students. Then the student with special needs went together with the special teacher to the resource room. The special teacher helped the student to understand how to solve the task by adapting the materials to the student level and ability. This adaptation by the special teacher helped the student to complete the task. After completing the task the student with special needs returned to classroom.

In the above observation as the general teacher gave the same instruction to the student with special needs as given to other students the criterion No 2 (interaction with teacher and all students) under interaction dimension was met . Then student went to resource room and got help from special teacher. The student worked with special teacher in a separated room and it is a hindrance for these students to interact with other students. She got the special support and adaptive devices for the learning that helped her to demonstrate mastery in learning, but in a closed circumstance, where the concept of inclusion is not taken its full functioning. As the term inclusion is that of making a child to learn to live together and live together to learn. This method lacks an interaction among students with and without special needs even though they attain mastery in learning. The mere learning doesn't make them to be successful in their social life. So there is a need to have total inclusion. This is possible only when there is full time placement in general education classes with appropriate special education support within that classroom is provided (Garvar-Pinhas & Schmelkin-Pedhazur, 1989; Lipsky & Gartner, 1996). But at the other extreme the one to one support outside the inclusive classroom helps the students to actively involve and engaged in planning and evaluating their own learning experiences and improve their academic achievement (Choate, 2000). In this observation the criterion No. 5 (support from special teacher), No. 7 (adaptation for mastery of learning), No. 8 (adapted classroom facilities), No. 9 (adapted teaching materials) and No. 10 (adapted teacher instruction to meet the needs and abilities of children with special needs) were effectively met. When the students are outside the classroom they are aware of their strengths and weaknesses (Brinckerhoff, 1994; Scanlon & Mellard, 2002) as well as skills in self-determination and advocacy (Durlack, Rose, & Bursuck, 1994; Field, 1996; Janiga & Costenbader, 2002).

One to One Support teaching practice within the classroom
The investigators have chosen to classify One to One support practice within the inclusive classroom to a student with special needs with two teachers in the classroom (one general and one special teacher). Seventeen similar classes are observed for analysis and almost the same practice was evinced. The example observation below was in sixth grade and science subject was taught.

It was early morning the class started with 25 students handled by a general teacher and there was a special teacher near the student with special needs. Before the class the general and special teachers interacted with each other and planned their instruction hours together. The general teacher gave the introduction to all the students and the special teacher explained the introduction adapted to the student's with special needs level. After giving the introduction the general teacher explained the activity to all the students. The student with special needs was supported by the teacher to start the activity explained by the general teacher. The special teacher simplified the activity to meet the level of mastering the particular task. All the time the special teacher was with the students with special needs and gave the support to do the activity and follow up the students' progress. With the special teacher's support the student with special needs managed to complete the task given by the general teacher. At the same time, the general teacher was guiding the other students to do the activity.

The analyses revealed that under interaction dimension the criterion No.1 (interaction with teachers during planning and teaching) was met in the investigators observation as the two teachers interacted with each other and planned their teaching process. As the general teacher gave a common introduction to the all students including the students with special needs and then the special teacher gave introduction once again to the students with special needs in an adapted way and made sure that these students understood what the general teacher is explaining the criterion No. 2 (interaction with teacher and all students) is also effectively observed in this practice. A lot of focus was made on the students with special needs by the support teacher rather than the general teacher. At the same time the general teacher did not interrupt what the support teacher was doing for the students with special needs. The split of work by the general teacher for the other students, and the special teacher for the students with special needs was observed where it is only physical inclusion was taking its form rather than full inclusion. In a way it is an excluded classroom because the general teacher has not taken the full responsibility of students with special needs. On the other side, the special teacher only focused on the students with special needs and there was no interaction with the general teacher.

In the above observation the students have attained the mastery in learning and the criterion No. 5 (support from special teacher), No. 7 (adaptation for mastery of learning), No. 8 (adapted classroom facilities), No. 9 (adapted teaching materials) and No. 10 (adapted teacher instruction to meet the needs and abilities of children with special needs) were effectively met. On the other hand there are some criteria like interaction within teachers and interaction of teachers with all students which are important for the best practice in inclusive classrooms which are not observed. The full inclusion will be followed if both the teachers take their turn to introduce the topic and the activity they are supposed to carry out in an adapted format. Then there will be an interactive session within the teachers and students with and without special needs. Collaboration between teachers is an instructional technique in the field of special education. It is more effective if teachers collaborate to create inclusive settings as it capitalizes best on the talents and skills of the participating teachers (e.g., Boudah, Schumacher, & Deschler, 1997; King-Sears, 1995; Miller & Savage, 1995; Minke, Bear, Deemer & Griffin, 1996; Pugach & Seidl, 1995; Villa, Thousand, & Chapple, 1996; Walther-Thomas, Bryant, & Land, 1996).

Small Group outside the classroom
The investigators have chosen to classify a small group outside the inclusive classroom for three to six students with special needs with special teacher. Thirty one similar small group practices are observed by the investigators and almost the same practice was evinced during observation. The example observation below was in seventh grade and a science subject was taught.

A science topic was going on in a classroom with five students. It was a small group with special needs students and special needs teacher. The teacher motivated and gave **the** *same introduction for five students about the topic they are going to learn. She questioned on their prior knowledge and then she presented the material. After explaining the concept she gave them practical exposure on the topic. The teacher explains the concept and helped the students to finish the exercise. The students with special needs worked together with the teacher's help to complete the task and learnt the material. The students were in interaction with the special teachers when they were working with the exercise. There was little interaction between the students in small group while they were doing exercise. But there is no interaction of these groups with other students in the school.*

Students in this observation received the same instructional procedures from the special teacher as in a traditional classroom and a criterion No.2 (interaction with teacher and all students) is met. The students were outside the class they belong to receive special needs education. The teacher was able to concentrate on each student as the group was small and cater to their special needs within the class to attain mastery in learning and met a criterion No. 7 (adaptation for mastery of learning). This small group also facilitated the teacher to have individualised support when required which in turn facilitated mastery in learning (Vygotsky, 1978). The criterion No. 5 (support from special teacher), No. 8 (adapted classroom facilities), and No. 10 (adapted teacher instruction to meet the needs and abilities of children with special needs) under support and adaptation dimensions were also effectively met. The students within the group were interacting with each other but they haven't got **the** chance for interaction with the other students in the class (Wenger, 1998). It is more like special class rather than an inclusive class set up.

Variety and Flexible teaching practice in the classroom
The investigators have chosen to classify variety and flexible teaching practice in the classroom. Seven similar classrooms were observed by the investigators and evinced successful inclusion practice. The example observation below was in second grade and a social science subject was taught.

It was early morning the three teachers went to a classroom with prior discussion for planning their teaching together. They went to handle a social science class. The students with and without special needs were in the classroom. Two teachers were sitting inside the class along with the students. One teacher gave the introduction and other teachers also supported with additional information and with adapted techniques to explain the concept in a more clear way to benefit the students with special needs. Then the students were assigned to work within small groups where the students with special needs are also there within the group. While all the students are working the three teachers were going around and helping all the students with and without special needs. The classroom facilities were also adapted by the teachers to the suit all the students needs. All of them were able to support with adapted and special techniques required to meet the diversified needs of the students in the classroom. At times teachers also gave individualised instruction to the students who need additional support. At some point one teacher worked with one student and the other teachers were guiding the rest of the students. At the end of the session it was quiet surprising that all students gained mastery over the topic which they were planned to do with their collaborative, individualised and small group work for students with and without special needs.

This observation evinced a variety and flexible classroom teaching. All the criteria under three dimensions – interaction, support and adaptation in inclusive classrooms were observed by the investigators. Under the first dimension of interaction - all the teachers took similar responsibility and shared their work. The teachers interacted with each other and at the same time they also interacted with all students (Criteria No.1 & No.2). Students also interacted with each other within the class (Criteria No.3). In the second dimension support - teachers were moving around the class area and helping the students when they needed individualised instruction (Criteria No. 5). The shift in different ways of working by teacher instruction & interaction, student's individual work and group activity had created flexible and creative learning environment (Criteria No.10). In this practice a better classroom climate was maintained by general teachers' support (Criteria No.4) which provided a supportive learning community (Criteria No.6) which is important for the diversified needs of the students. Under the adaptation dimension – the teachers provided adapted mastery of learning (Criteria No.7) and classroom facilities (Criteria No.8); they also tailored learning materials to the current ability level of students with special needs (Criteria No.9). The teachers also personalized their instruction to meet the needs of children with special needs (Criteria No.10). Thus the observation under three dimensions clarify that all the criteria have met. This result is comparable to the literature stated by Deschenes, Ebeling, and Sprague (1994). They noted a variety of instructional approaches to curricula that accommodate a wide range of learners. In the above result we confirm that they give importance for co-operative learning structures, multidimensional student grouping, multilevel instruction, peer supports, concrete experimental learning activities and community –based instruction. All the above instructional approaches were observed in the above practice in the flexible and creative inclusive classroom. The above observation shows the faith between partners and **the** flexible approach in lesson planning and implementation of instructional strategies. In this observation collaborative teachers are prepared with a structure in which the teachers' roles and responsibilities are specified and carried out along with daily management and instructional decisions (Cole, et al., 2000; Friend & Bursuck, 2006; Wood, 1998).

Summary of Number of Observation in Schools and Criteria met under different inclusive settings
Table 2 presented below shows the summary of the types of practices, observations carried out in different inclusive settings and criterion met in each type of inclusive practice for analysing successful effective inclusive practice.

Table 2: Type of Practices correlated to Criteria of Effective Inclusive Practice

S.No	Type of Practice	No. of Observation	No. of Schools (N- 24)	Criteria met in each type of inclusive practice
1	Traditional Practice in the classroom	23	23	2 & 4
2	One to One Support Practice outside classroom	5	5	2,5,6,8,9&10

3	One to One Support Practice within inclusive classroom	17	11	1,2,5,6,8,9&10
4	Small Group outside classroom	31	24	2,5,6,8,&10
5	Variety and Flexible practice in the classroom	7	1	All
		Total - 83	**Total - 24**	

Conclusions and Interpretation

To answer the research question*: Which practice will be effective in different inclusive classroom settings and what are the factors that contribute for effective practices,* the investigators used the criterion analyses to find out which practice will be effective and the factors that contribute to the effective inclusive practices. To conclude the results from the observations were correlated with the criterion listed by the investigators to know the effective practice and the factors responsible for inclusive settings. The results have also been supported with theoretical background and found out the best practice for an inclusive practice.

I. Interaction in the classroom

As mentioned earlier, we have three criteria under the dimension interaction in inclusive classroom. There are different types of interactions:1) teacher - teacher interaction during planning and teaching, 2) teacher – student interaction and 3) student – student interaction. Those interactions form a base for effective inclusion of children with special needs and the classroom practice that involve all those three interactions effectively will serve for better inclusion.

Criterion 1: Interaction within teachers: Our analyses show that in the traditional teaching practice, there was only one teacher in the class and there is no possibility for interaction between teachers. The similar observation was also found in one to one support and small group practices. At this point, the variety and flexible classroom had the best interaction between the teachers. When there is more than one teacher in the classroom there are more possibilities for interaction between teachers. It paves a way for effective collaboration, teaming and reciprocal teaching (Boudah, Schumacher, & Deschler, 1997; King-Sears, 1995; Miller & Savage, 1995; Minke, Bear, Deemer & Griffin, 1996; Pugach & Seidl, 1995; Villa, Thousand, & Chapple, 1996; Walther-Thomas, Bryant, & Land, 1996; Friend & Bursuck, 2006; Gable & Hendrickson, 2000). The variety and flexible environment gave the teachers possibilities flexible to interact with each other and help the students with special needs. This type of collaboration helps the teacher to share their competencies and this will certainly benefit the students with special needs to interact with the teachers with various skills and talents (Cole, et al., 2000; Friend & Bursuck, 2006; Wood, 1998).

Criteria 2: Interaction with teachers and students: In the traditional classroom it was one way process where the teacher was lecturing and the students were listening. Our analyses show that the teacher's interaction with the students with special needs is very limited. There was weak interaction between teachers and students in this practice. In other types of practice the interaction were not so strong than that of variety and flexible classroom. The variety and flexible practice had created more opportunity for interaction between teachers and all students. The learners benefit from their teachers' and students interaction (Bateman & Bateman, 2002; Hitchcock et al, 2002). The environment is least restrictive and conducive for the learners to concentrate and learn in other types than the traditional method. But in **a** flexible classroom the environment demonstrates better option for effective interaction.

Criteria 3: Interaction of students with and without special needs: In the variety and flexible classroom there was a good opportunity for interaction between students with and without special needs. The results show that those teachers in the flexible classroom used the opportunity in a positive manner for effective inclusion. We didn't saw interaction between students in the traditional classroom and very rare in other practices. Participation in group and pair create possibilities for developing effective learning environment for inclusive education (McGregor, Halvorsen, Fisher, Pumpian, Bhaerman, and Salisbury, 1998; Tichenor, Heins, and Piechura-Couture, 1998).

II. Support in inclusive Classroom
For children with special needs warrant **a** different kind of support in the inclusive classroom to get equal opportunities. We have listed four criteria under the dimension support in inclusive classrooms for analyses. They are 1) support from general teacher, 2) support from special teacher, 3) supportive learning community.

Criteria 4: Support from General teachers: Our analyses shows that the general teacher in the traditional classroom interacts less with the students and the students had little support from the general teacher in the learning process. The opposite observation was noted in the variety and flexible classroom where the teacher had the possibilities to give support to each student in the teaching learning situation. When the teachers were aware of the students' diversity and individual needs with the teaching skills it has helped them to extend support effectively (Vygotsky, 1978, Wenger, 1998).

Criteria 5: Support from Special teachers: In the varied and flexible classroom we observed that there was an apparent support from the general and special teachers to the students with special needs. The conclusion of our analyses exhibits that it is because of their competency they possess to teach the children with special needs. Special teacher's knowledge and skill has been effectively utilised for extending different instructional methodology with adaptive and assistive devices required for the children with special needs. In the other practices there was also support from the special teachers except in traditional practice. In the traditional practice the general teacher lack in knowledge and skill to serve the children with special needs and hence they adapt the same instructional methodology for all students. But the same instruction will no longer help the students with diverse needs in a classroom (Hitchcock, Meyer, Rose, & Jackson, 2002).

Criteria 6: Supportive learning community: The variety and flexible classroom has the opportunities for creating a learning community. The analyses show that it was in a varied and flexible practice that there was an opportunity to get support from the peer group through peer tutoring which promoted peer acceptance and guidance. But peer tutoring is used to a certain level in the other practices, but they hadn't used all the possible opportunities. The teacher has to focus on helping for peer tutoring and guidance, for effective inclusive learning (Vygotsky, 1978; Buli-Holmberg, Guldahl & Jensen, 2007; Dunn & Dunn, 1993; Vermunt, 1995; Wenger, 1998).

III. Adaptation in inclusive classroom
Different types of adaptation that is required for the effective inclusive classroom. In the present study for criterion analyses three criteria have listed out. They are 1) adaptation for mastery in learning **process**, **2)** adapted classroom facilities, 3) adapted teaching materials and 4) adapted teacher instruction to meet the needs and abilities of children with special needs.

Criteria 7: Adaptation for mastery of learning: The students in all the inclusive practices were more or less made adaptation for mastery of learning from the special teacher and general teacher were evinced from our analyses. To acquire mastery in their learning the students need support from their special and general class teachers'. The students in four of inclusive practices got adaptation from their special and general teachers' and demonstrated mastery in learning to a certain extent, but, it is not in the case of traditional method as there is no special teacher and general teacher can only instruct the whole group (Vygotsky, 1978; Buli-Holmberg, Guldahl & Jensen, 2007; Dunn & Dunn, 1993; Vermunt, 1995).

Criteria 8: Adapted Classroom facilities: Our analyses evince variety and flexible classroom have created a more adapted classroom facilities where the student can learn more freely and individually according to their abilities. We have evinced proper lighting and seating arrangement for children with special needs, adaptive devices such as group hearing aids and architectural barrier free environment for free movement of children with physical limitations (Dunn and Dunn, 1993, Buli-Holmberg, 2008; Hitchcock, Meyer, Rose & Jackson, 2002). But the same is not observed in the traditional practice where only a few classroom facilities were available.

Criteria 9: Adapted learning materials: More adapted teaching materials where evinced in the one to one support practice and in the variety and flexible classrooms than the others. Adaptive learning materials such as building blocks, memory learning materials for children with mental retardation, assistive devices for visual and hearing problems, relevant computer assisted instructional packages and kinaesthetic and tactile materials very observed (Buli-Holmberg, Guldahl and Jensen, 2007; Dunn and Dunn, 1993). We saw that these adaptive teaching learning materials motivated the children with special needs and other students as well to be actively engaged in their

learning process (Bateman & Bateman, 2002; Hitchcock et al., 2002). These materials also help them to develop the necessary skills required to learn and mastery their subjects.

Criteria 10: Adapted special teaching competencies among teachers to teach children with special needs: In the one to one support practice inside and outside we observed that the teachers' demonstrated special teaching competencies among teachers to teach children with special needs. That was also the case in a small group outside the inclusive varied and flexible classroom. When we are really responsible for the children with special needs then we really push our self to learn the necessary skills to teach them. This is truer in the case of variety and flexible classroom teachers where they collaborate with other teachers and share their competencies. They demonstrated special teaching competencies and motivated the children with special needs to learn and acquire mastery in learning (Bateman & Bateman, 2002; Hitchcock et al., 2002). Some how they are possible to go with teaching these children effectively but still we have also observed that they warrant more training in teaching children with disabilities (Sujathamalini, 2002; Boudah, Schumacher, & Deschler, 1997; King-Sears, 1995; Miller & Savage, 1995; Minke, Bear, Deemer & Griffin, 1996; Pugach & Seidl, 1995; Villa, Thousand, & Chapple, 1996; Walther-Thomas, Bryant, & Land, 1996).

The above analyses evinced that the variety and flexible teaching practice met the entire ten criteria for the inclusive classroom. We also saw that the other practices met only some of these criteria which focussed more on mastery in learning than interaction in learning. Inclusive learning takes place only when there effective interaction with mastery in learning. It is also demonstrated that there is a lack of support from learning community in other practices than the flexible and creative inclusive practice. Overall results show that the each practice can't be ignored as it has its own strengths and weaknesses. But it can be improved to meet the criterion listed in this study to meet the needs of children with special needs effectively.

Summary
The study is carried out to answer the research questions. For identifying the effective inclusive practice, the investigators have seen different instructional practices followed in inclusive classrooms (Bateman & Bateman, 2002; Buli- Holmberg & Ekeberg, 2009; Hitchcook et.al. 2002; Buli- Holmberg, 2008; Choate, 2000; Gee, 2002). The investigators had identified the different classroom practice and classified under five different categories. They are: Traditional practice, One to One support practice outside the classroom, One to One support practice within inclusive classroom, Small group outside the classroom and Variety and Flexible practice. Each practice has been analysed based on the criterion framed by theoretical framework to know more about the nature of those practices. The result of the study revealed the effective practice out of those above categories of inclusive classroom settings. The study evinced that all the instructional practices that have observed have potential for development of better quality in the inclusive education practice but at different degrees of level for children with special needs. Even the children in traditional classroom develop better but the degree of development is very high in variety and flexible classrooms. The result and discussion of the study revealed that interaction in inclusive classroom is an important issue to promote mastery in learning among children with special needs. A glance of the individual when teachers interact with children with special needs helps them to find out their inner strengths and weakness (Vygotsky, 1979; Buli-Holmberg, 2008). Looking within the childrens ability and disability enables us to plan and design the curriculum that suits their needs. This will be strengthened when the teachers collaborate within themselves and with the children (Mc Gregor at al. 1998; Tichenor, et al., 1998). Interaction within the students with and without disabilities can also extend peer acceptance, peer guidance and peer tutoring (Buli-Holmberg, Schiering, & Bogner 2007; Strømstad, Nes & Skogen, 2004). It gives opportunity to learn from the competent peers.

The study showed that the support in inclusive classroom from general and special teachers is imperative in the education of children with special needs respectively. In one to one practice students get support only from special teachers and in traditional practice they get support only from general teachers. The support from both general and special teacher is a holistic approach for an effective instruction and it is observed only in flexible and creative classroom practice. This support from both teachers will create a successful inclusive classroom practice where they can also get the possibility to get support from learning community and demonstrate mastery in learning (Vygotsky, 1978; Buli-Holmberg, Guldahl & Jensen, 2007; Dunn & Dunn, 1993; Vermunt, 1995). We evinced different level of mastery in learning among children with a special needs depending upon their abilities and disabilities and their teachers support (Hitchcock, Meyer, Rose, & Jackson, 2002).

Adapted inclusive classroom facilities and teaching materials were evinced in this study. The investigators have

documented that there are different classroom facilities and teaching materials in the flexible and creative classroom than in the traditional practice. The adaptation is more in other instructional practices referred to in the study than the traditional practice. Adapted special teaching competencies among teachers to teach children with special needs are observed in all the instructional practices and it is found to be high in the flexible and creative classroom (Bateman & Bateman, 2002; Hitchcock et al., 2002).

Overall results of the present study showed that flexible and creative practice was the best practice that met the learning requirements of children with special needs successfully which evinced all the criterions under three dimension interaction, support and adaptation in teaching learning process leading to effective inclusion. The other instructional practices had met the learning needs to a certain extent only. The best instructional practice in inclusive classroom should possess effective interaction of teachers and students with proper support from the teachers with adapted special teaching competencies that cater successfully to the needs of children with special needs in inclusive classroom.

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BARBADIAN STUDENTS' ATTITUDES TOWARDS INCLUDING PEERS WITH DISABILITIES IN REGULAR EDUCATION
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The purpose of this study was to investigate students' attitudes towards the inclusion of peers with disabilities in Barbados. This research is quantitative and utilizes the Chedoke-McMasters Attitude towards Children with Handicap Scale (CATCH) to collect attitudinal data on a cross section of Barbadian students. The findings suggest that many students did not have contact with peers with disabilities and less than half of students sampled reported having a friend with a disability. The main hypothesis of the study, that students and young adults who had either a personal friend or a friend at school with a disability would report higher scores was supported. The hypothesis that females would report higher scores on all CATCH domain was only supported on the cognitive domain. Age was found to have a small effect on CATCH scores, but clear differences in the mean scores of children 7-12 years, teenagers 13-18 years old and young adults ages 18 and over were supported in this study. The implications of this research suggest that teachers must create more opportunities for meaningful direct contact between peers with and without disabilities that will lead to even better attitudes and pro-social behaviors in inclusive settings.

Barbadian Students' Attitudes Towards Including Peers with Disabilities in Regular Education
Attitudes are generally viewed as dispositions that influence behavior towards a person or object in one's environment (Gall, Borg, and Gall 1996). Research by Triandis (1971) extended the definition of attitudes to include an affective, cognitive and behavioral component, giving researchers a more holistic picture of this dimension of peoples' personality. Some of the earliest documented studies on children's attitudes towards their peers with disabilities date back to the 1970s. One study by Monson and Shurtleff (1979) as cited by Smith-D'Arezzo and Thomas (2008) notes how film was used as part of an intervention strategy to change non disabled children's negative attitudes towards their peers with quadphocomelia. After the intervention, children without disabilities were more keen to have a child with this physical disability as a friend.

In the 1980s, inclusion became part of an education reform initiative worldwide that demanded full participation of children with disabilities in regular education. However, how schools ought to ensure full participation was intimately bound up in the cultural milieu of schools and the attitudes of principals, teachers and non-disabled children. It was therefore necessary for researchers to understand how the views, beliefs and attitudes of non-disabled children could influence the full participation of disabled children. Nowicki and Sandieson, (2002) argue that negative attitudes not only prevent students from participating in school, but lead to more serious problems like bullying, declining academic performance and dropping out of school. This is at variance with pro-inclusionist ideas that tout the social and academic benefits of inclusion, for example- that it promotes: friendships, positive peer support, a boost to self esteem, improved academic performance and social integration rather than segregation of children with disabilities (Flem and Keller, 2000).

The social participation of children with disabilities in regular education settings has continued to garner attention among contemporary researchers like Koster, et. al. (2010) in the Netherlands. They surveyed just under 600

primary school children, including students with a range of impairments, to examine how well disabled children were socially integrated in their schools. Findings suggested that while all students participated in the social life of their school, children with disabilities failed to enjoy the same level of social participation as their peers without disabilities. According to these researchers, disabled students found it harder to make and maintain friendships, had fewer interactions with classmates and were less accepted. These findings therefore support earlier work by Nowicki and Sandieson (2002) and serve as a potent reminder of the influence of children's attitudes on the social integration of children with disabilities in school settings.

More recently a meta- analysis of twenty studies on the attitudes of children with disabilities from a number of European countries, Korea, the United States of America and Canada by de Boer, Pijl and Minnaert (2012) summarized over ten years of attitudinal research on this area. Of interest in this present study, are the findings on gender and age as cited by de Boer, et al., (2012)., They cite Swaim and Morgan's study (2001) that investigated the attitudes of 233, 8-12 year olds towards their peers with severe intellectual impairment in the United States. Findings showed that younger students had more positive attitudes towards peers with intellectual impairment than older pupils.

On the issue of gender it is common for studies to report that girls have more positive attitudes to the inclusion of peers with disabilities than boys (Bossert, et al., 2011; Siperstein et al., 2007; Vignes ,et al., 2009). To illustrate, Bossert and others' (2011) study of 167 Belgian adolescents ranging in age from 11-20 years old used the *Chedoke-McMasters Attitudes Towards Childrens with Handicaps scale* CATCH (Rosenbaum, et al., 1986) to investigate adolescents' attitudes and found that the girls held more favorable attitudes towards peers with disabilities than boys.

Research on Attitudes Towards Inclusion in Barbados and the Caribbean
It is clear that a research base has been established at the international level that investigates the attitudes of children towards their peers with disabilities. However a similar argument cannot be made for the Caribbean setting.

Within the Barbadian context, for example, no research on the attitudes of children, teens and young adults towards their peers with disabilities has not been undertaken. To date, one is more likely to find studies within the Caribbean islands of Barbados, The British Virgin Islands, Trinidad and Tobago, Guyana, that examines the attitudes of teachers (Blackman, Conrad & Brown 2012; Dupoux et al. 2006; Habtes, Hassell-Habtes & Beady, 2012; Hunter-Johnson, Newton & Cambridge-Johnson, 2014; Thomas-Jeremy, 2011) and an even more limited number of studies on school principals' attitudes towards inclusion (Conrad & Brown 2011).

 The most recent study on teacher attitudes was conducted by Hunter-Johnson, et al., (2014) in the Bahamas with a very small group of teachers. These researchers used a phenomenological approach to examine teachers' perspectives of inclusion and the findings indicated that while most teachers expressed negative attitudes towards inclusion, some remained ambivalent and only one found any benefit to including children with special needs in the regular education setting. These findings echo the ambivalent attitudes found among teachers in Barbados, Trinidad and Tobago by Blackman, Conrad and Brown (2012). In Barbados and Trinidad, Blackman, et al., (2012) utilized a cross- sectional survey designed by Antonak and Larivee (1999) to investigate teacher attitudes among 485 undergraduate teachers who taught in primary schools. They found that primary school teachers did not reject the notion of inclusion outright, but felt that they were not adequately prepared to teach or deal with the behavior problems presented by students with special education needs without the necessary support and resources. In spite of this, teachers in Barbados recorded more positive opinions about their ability to instruct children with special education needs in regular education settings than their Trinidadian counterparts.

Similar findings were also recorded by Thomas-Jeremy (2011) among a small group of teachers in Dominica. A survey was designed by the researcher to investigate the perceptions of 24 secondary school teachers in that island to inclusion. The teachers at Thomas-Jermey's study felt that the inclusion was introduced prematurely, especially in the absence of adequate teacher training, resources to facilitate inclusion and teachers' lack of knowledge of special education needs.

Another study in the British Virgin Islands by Habtes, Hassell-Habtes and Beady (2012) surveyed 561 participants in principals and teachers about their beliefs about inclusion. Participants' responses on one item which measured whether teachers felt that students with special needs would be successful in inclusive settings revealed an even split between those teachers and principals who felt that children with special needs can be successful and those who

thought otherwise. According to the researchers, this finding was surprising given that teachers and principals were knowledgeable about the benefits of inclusion and the presence of legislative support for inclusion in the British Virgin Island.

With regard to the attitudes of principals Conrad and Brown (2011) conducted a qualitative study in the twin island republic of Trinidad and Tobago with 18 primary school principals and found that principals only embraced the thought of inclusion at a philosophical level but were not pragmatic about actually implementing inclusion within their respective school settings.

The present study was designed to inquire into the attitudes of a cross- section of children, adolescents and youth in Barbados in order to fill the existing gap in the literature in the international and regional level. It too is descriptive in nature and asks the following questions: 1. What kind of contact do non-disabled students have with disabled peers or an individual with a disability? 2. Do children who have a friend with a disability report higher attitude scores than those without friends with disabilities? 3. Do children who have a friend at school with a disability, report higher attitude scores than those without friends at school with disabilities?   4. Are there any statistically significant differences between the attitude scores of males and females towards the inclusion of peers with disabilities? 5. Are there any statistically significant differences between the attitudes of young children, teens and young adult's scores towards the inclusion of peers with disabilities?

A number of hypotheses were being tested in this research, including 1. that children who report having a friend with a disability would have higher attitude scores than those without a friend with a disability. 2. that females' scores would have higher attitude scores than their male counterparts and 3. that young adults' attitude scores would be higher than those of children and teens.

Methodology
Design
This is a quantitative study and utilizes a survey strategy to collect data on Barbadian students' attitudes towards the inclusion of their peers with disabilities in regular education settings. Surveys assist researchers in gathering data about the "thoughts, opinions, attitudes, opinions, values, personality and behavioral intentions of research participants" (Johnson and Christensen, 2012, p. 197).

Participants
A convenience sample of 178 students, (103 male and 75 females) were surveyed from three schools in Barbados. Schools were selected based on (i). the presence of children or individuals with disabilities in the setting and (ii). ready accessibility to the teachers who taught at the schools where such students were located. School A is a primary school located in an urban district with a school roll of just under 200 students and average class size of 15 students; A sample of N=60 children with a mean age of 8.72 years old, SD= 1.11 were selected from this school. The Teachers used random sampling to select colleagues' classrooms and then asked if students can participate in filling out a questionnaire for the study from first to fourth form. A total of 60 questionnaires were distributed and returned for a response rate of 100%.

 School B, is a secondary school also located in a densely populated urban community with a large school roll of over 1,000 students and average class size of 20 students. A sample of N= 60 students with a mean age of 13.23 years old, SD= 1.84 participated in this study. A similar approach was employed at the secondary school to select participants. Teachers randomly selected colleagues' classrooms and asked if questionnaires could be distributed to students from first to fifth year. Teachers distributed 100 questionnaires and 60 were returned, this represented a response rate of 60%.

School C, has a large roll of students at just over 3,000 students and average class size of 20 students. It is post-secondary institution located in an urban setting for students who wish to pursue technical vocational education options. Unlike School A and B, School C is organized by disciplines such as Mechanics, Home Economics and Woodwork. Teachers enlisted the assistance of discipline coordinators to distributed 100 questionnaires to students and 60 were returned which represents a response rate of 60%, however, two were discarded due to incompletion. A sample of N= 58students with a mean age of 18.35 years old, SD= 4.32 participated in the research from this institution.

Procedure
Data were collected by a group of undergraduate university students, three of whom were teachers from a primary, secondary and tertiary institution enrolled in a thirteen week course entitled ' Working with Exceptional Learners'. Letters were sent to the Ministry of Education and schools asking permission for the study to be undertaken at the three schools in the study. Two copies of *Chedoke-McMasters Attitudes Towards Childrens with Handicaps scale* (CATCH) (Rosenbaum, Armstrong and King, 1986) were made available to groups. One for teachers who taught younger students, and followed the original copy more closely as noted by Rosenbaum, et al., (1986). It was enhanced by the addition of emotion icons to help younger children distinguish between the various levels of agreement and improve the mode of responding to items on the questionnaire. The adapted version of the questionnaire for older students simply used more age appropriate language in the title and items of the questionnaire, for example the words 'child' or 'children' was replaced by the word 'peer' in the title, words like 'party' was replaced by 'social occasion', the term 'handicap' was replaced by 'child/children/peer with a disability' in both versions of the questionnaire. Teachers administered the questionnaires at their respective schools, and then the research group collaborated to code the data and enter it into an SPSS database.

The study also followed the ethical procedures outlined by the university's Institutional Review Board. Children in the study were briefed by researchers using a script that explained the the purpose of the research, the risk involved in the process, the response key for the questionnaire, the term disability, and provided examples of the various types of impairments. Children were also told they could exit the study at any time and were under no obligation to fill in the questionnaire. For very young children and those with disabilities, teachers read each of the questionnaire items, explained any ambiguities and assisted with questionnaire completion. .   Before questionnaires were distributed assent was sought and acquired from children, teens and young adults who agreed to participate in this research.

Instrument
The *Chedoke-McMasters Attitudes Towards Children with Handicaps Scale* (CATCH) (Rosenbaum, Armstrong and King 1986) measures three components of attitudes- namely the affective, behavioral and cognitive- based on Triandis's (1971) component model of attitudes. Each component has six positively and six negatively worded items and scored on a 5 point Likert scale ranging from 0 Strongly Disagree, 2 Can't Decide to 4 Strongly Agree. The affective component comprised of items that involved statements of feelings towards children with disabilities, examples include 'I feel sorry for disabled children. The behavioral component involved statements about what a child would do with a disabled child, examples include 'I would not introduce a disabled child to my friends'. Finally the cognitive component comprised items that examine beliefs about children with disabilities; items include 'Disabled children are as happy as I am'. Scores for each component ranged from 0-40 with a maximum score of 120 on the overall scale. Cronbach alpha reliability statistics on a convenience sample of 64 Canadian children indicated that each component is a reliable measure of attitudes: affective component =. 91, behavioral component =. 74 and cognitive component =. 65 (Rosenbaum, Armstrong and King 1986). Cronbach alphas for the Barbadian sample were adequate for a descriptive study .72 affective component, .72 behavioral component and .60 cognitive component.

Data Analysis
The data were analyzed using SPSS version 19 and measures of central tendency and other descriptive statistics are presented. A t-test was used to investigate the difference between males and females as well as levels of contact on CATCH. A one way analysis of variance was used to explore differences between the independent variables of age and the dependent variable i.e. CATCH.

Results
Findings for research question 1. What kind of contact do non-disabled peers have with disabled peers or a person with a disability? revealed that many students did not have contact with a peer with a disability. Findings for 'friend with a disability' revealed only 43.3% of all students (N=178) sampled said 'Yes' to knowing a 'friend with a disability. A similar picture existed for 'friend at school with a disability' only (34.8%) of students sampled said 'Yes' to having a friend with a disability at school, the majority of students (65.2%). The results for the variable 'family member with a disability' also showed a similar trend with (71.3%) of students sampled saying 'No' to having a family member with a disability.

Research question 2 asked: Do children who have a friend with a disability report higher scores than those without friends with disabilities? Table 1 presents the findings for this research question.

Table 1. Scores for Friend with and without a disability on CATCH

	Contact		T
	Friend with Disability	Friend without Disability	
Total CATCH	73.10 (12.68)	63.47 (12.97)	4.95[*]

Note. [*] = p≤ .05. Standard deviations appear in parentheses below means

Findings suggest that children who reported having a friend with a disability recorded higher scores on CATCH than those who reported that they did not have a friend with a disability. An independent samples t-test suggests a significant difference between the scores for a friend with disability t (176) = 4.95, p=<.001 and those who did not have a friend with a disability and the effect size is large (Cohens d =0.75). .

Research Question 3 asked: Do children who have a friend with a disability at school, report higher scores than those without friends with disabilities at school?" Table 2 presents the findings for this research question.

Table 2. Scores for Friend at School with and without a disability on CATCH

	Contact		T
	Friend at School with a Disability	Friend at School without a Disability	
Total CATCH	74.03 (11.38)	64.22 (13.62)	4.83[*]

Note. [*] = p≤ .05. Standard deviations appear in parentheses below means

Findings suggest that children who reported having a friend with a disability at school recorded higher scores on CATCH than those who reported that they did not have a friend with a disability. An independent samples t-test revealed that there was a significant difference between the scores for a friend with disability t (176) = 4.83, p=<. 001 and those who did not have a friend with a disability and the effect size is very large (Cohens d =0.78)

Research Question 4 asked: Are there any statistically significant differences between the attitude scores of males and females towards the inclusion of peers with disabilities?

Table 3. Scores of Males and Females on CATCH domains

	Gender		
	Male	Female	T
Affective	22.25 (5.76)	23.75 (5.68)	-1.72
Cognitive	24.59 (6.03)	26.81 (5.72)	-2.47[*]
Behavioural	21.52 (4.68)	22.04 (5.38)	-.691

Note. [*]= p≤ .05. Standard deviations appear in parentheses below means

Results suggested that on the affective domain there was no statistically significant difference in scores for Males and females t (176) = -1.72, p=0. 087. On the cognitive domain results suggested that there was a statistically significant difference in scores for males and females t (176) = -2.47, p=.01] but the effect size was small (Cohen's d = 0.26). For the behavioral domain there were no statistically significant differences between the scores of males and females t (176) = -691, p=.491]. These findings only partially support the hypothesis of this study that females would have better attitude scores than males on all components of CATCH.

Research question 5 asked: Are there any statistically significant differences between the attitudes of young children (ages 7-12), teens (ages 13-18) and young adults over 18 towards the inclusion of peers with disabilities? Table 4 reports the results on this research question.

Table 4. Analysis of Variance for Age and CATCH domains and total scores

| | Ages | | | |
	7-12	13-18	>18	F
Affective	24.24 (5.89)$_a$	21.21 (5.20)$_{ab}$	26.53 (5.23)$_{ac}$	9.70[***]
Cognitive	26.35 (5.75)$_a$	24.16 (5.70)$_a$	30.51 (6.18)$_a$	8.19[***]
Behavioural	21.76 (4.85)$_a$	20.43 (4.73)$_{ab}$	25.25 (4.71)	8.60[***]
Total CATCH	70.84 (12.71)$_a$	63.42 (12.74)$_b$	79.49 (14.43)$_{bc}$	12.73[***]

Note. [***] = p ≤ .001. Standard deviations appear in parentheses below means. Means with differing superscripts within row are significantly different at the p≤ .05 based on Tukey's HSD posthoc test

A one way between groups analysis of variance was conducted to explore the impact of age on attitudes towards peers with disabilities as measured by CATCH. Participants were divided into three groups (young children: ages 7-12; teens: ages 13-18; and young adults over 18). There was a statistically significant difference < .001 level in CATCH scores for the three age groups [F(2, 175)=12.73, p=<0.001]. The effect size calculated using partial ² = .127 is small and indicates that age does not exert a powerful influence on overall attitudes towards disability. A post - hoc comparison using Tukey HSD indicated that the mean score for children 7-12 years old (M=70. 84, SD= 12.71) on CATCH was significantly different from the scores of teens (M=63. 42, SD=12. 74). Tukey HSD also indicated that there was a significant difference between the scores of young adults ages over 18 years old on CATCH (M=79. 48; SD =14. 43) and the scores of teens. These results support the hypothesis that young adults would exhibit better attitudes towards peers with disabilities than children and teens.

A one way between groups analysis of variance was also conducted to explore the impact of age on attitudes towards peers with disabilities and CATCH sub-scales. Again, participants were divided into three groups (young children: ages 7-12; teens: ages 13-18; and young adults: over 18). There was a statistically significant difference < 0.001 level on the affective domain of CATCH scores for the three age groups [F(2, 175)=9.70, p=<0.001]. The effect size was small partial ² =.100 and indicates that age did not exert a powerful influence on how students felt about individuals with disabilities. A post - hoc comparison using Tukey HSD indicated that the mean score for teens (M=21. 21, SD= 5.20) on the affective domain was significantly different from the scores of young adults (M=26. 53, SD=5. 23). Tukey HSD also indicated that there was a significant difference between the scores of children (M=24. 24; SD =5. 89) and the scores of teens.

There was also a statistically significant difference at the < .001 level on the cognitive domain of CATCH scores for the three age groups [F(2, 175)=8.19, p=<0.001]. The effect size calculated using partial ² =.086 is small and indicates that age did not exert a powerful influence on how students thought about individuals with disabilities. A post - hoc comparison using Tukey HSD indicated that the mean score for children (M=26. 35, SD= 5.75) on the cognitive domain was significantly different from the scores of young adults (M=30. 51, SD=6. 18) and teens (24.16, SD=5. 70).

There was also a statistically significant difference on the behavioral domain of CATCH scores for the three age groups [$F_{(2, 175)}$=8.60, p=<0.001]. The effect size calculated using partial ^{2} =.090 is small and indicates that age did not exert a powerful influence on how students behaved towards individuals with disabilities. A post - hoc comparison using Tukey HSD indicated that the mean score for children (M=21. 76, SD= 4.85) on the behavioral domain was significantly different from the scores of teens (M=20. 43, SD=4. 73) but not young adults (25.25, SD=4. 71). As expected, young adults exhibited more mature attitudes in their behavioral responses to an individual with a disability than their younger peers.

Discussion
The purpose of this research was to understand how a sample of Barbadian students from primary, secondary and tertiary settings viewed the inclusion of peers with disabilities. The hypotheses of this study were only partially met. As suggested by the results, intimate contact with a peer with a disability, i.e. friendship, does play an important role in mediating attitudes towards the inclusion of peers with disabilities in regular education settings. While large numbers of students in the Barbadian sample did not report knowing or having a peer with a disability as a friend, the findings of this research suggests that inclusion could be the vehicle that fosters stronger social participation and contact between students with disabilities and their non-disabled counterparts.

Historically, the approach to schooling in Barbados has been and continues to be to maintain a separate system of education for children with the most severe disabilities, be it, in special schools or special education units attached to primary school settings. This approach only served to reduce the contact that non-disabled students had with peers with disabilities (Blackman, Richardson and FongKong Mungal 2013) and placed students with disabilities at risk for continued social isolation rather than integration in regular education. In the 1990s a more concerted effort was undertaken by the Ministry of Education to include more children with mild to moderate disabilities in primary and secondary education given the international thrust towards more inclusive education, although the success of this education reform still needs to be evaluated, it does provide a platform for increasing the contact between children with and without disabilities and educating Barbadian students about their disabled peers. At the international level, there is some agreement that social contact can positively influence the attitudes of non-disabled students once it is: organized outside the classroom context and collaborative in nature. Another key ingredient identified in this literature, is that teachers need to model appropriate behaviors for non-disabled children to engage with their disabled peers (Wong 2008; Hendrickson, Shokoohi-Yekta, Hamre-Nietupski and Gable 1996).

The results for the Barbadian sample on gender partially mirrors those of other studies that have been conducted at the international level for example by Vignes ,et al., (2009) which suggest that females report more positive attitudes than their males to the inclusion of their disabled peers. This finding is even more nuanced in the Barbadian sample on the cognitive scale of CATCH which suggests that females were more apt to adopt a positive disposition to the idea of disability, while males remained more ambivalent in their thinking. One must be cautious in assigning too much significance to this finding given the relatively moderate Cronbach alpha co-efficient on the cognitive scale of CATCH for Barbadian students. It is quite possible that the scale was not sensitive enough to measure the attitudes of Barbadian males and therefore their perceptions seem less positive than their female counterparts. Another observation that can be made is that an individual's attitude depends on the situation he/she is faced with (Allport, 1937) and perhaps Barbadian males' perspectives would need to be investigated qualitatively or quantitatively using vignettes to obtain a better understanding of how they think about disability.

Another interesting finding was that age had only a small effect on the overall attitudes towards the inclusion of peers with disabilities. However, the hypothesis that young adults ages 18 and over would have better attitudes towards the inclusion of peers with disabilities was supported by the findings for the Barbadian sample. On many of the sub-components of CATCH teens were found to have less favorable attitudes than younger children ages 7-12 and young adults. This trend among teenagers is of concern but is not necessarily surprising given that teens select their social groups based on propinquity, social norms and homophily (Berndt, 1989; Matheson, Olsen & Weisner, 2007). Fazio's (1989) behavior process model is instructive in explaining the attitudes of Barbadian teenagers. His model posits that attitudes are influenced by a lack of direct contact or experience and knowledge of an object, stimulus or group of people. In this case, given that many students sampled indicated a lack of contact and hence proximity with persons with disabilities, this could explain teens' lower CATCH scores than their other counterparts. Another plausible explanation might be that teens in this study thought and felt that they would violate certain social norms (Fazio, 1989) that govern the selection and the constitution of their peer groups if they looked favorably at including peers with disabilities.

Implications
The results of this research are interesting but should be cautiously endorsed since they are based on a convenience sample and therefore cannot be viewed as representative of all Barbadian children and youth. It, however, raises some important questions about the social inclusion of children with disabilities in the Barbadian context and how best to build school communities and cultures that embrace such students. There is clearly a need for research that examines the knowledge that Barbadian children have about impairments and disabilities. In particular a more culturally sensitive instrument needs to be designed to capture the reality of persons with disabilities in Barbados and to understand how males view disability. Such an instrument might address the link between disability and poverty, the role of superstition and contextualize the circumstances under which a non disabled peer might intervene for a peer with a disability. At the very least, schools can add a component on special education and diversity to their curriculum as part of a targeted intervention to address how students think and perceive their peers with disabilities. This can also be combined with extracurricular activities, community and field experiences that exposes children, adolescents and young adults to peers and other individuals in Barbadian society with disabilities in order to build more pro-social empathetic attitudes that facilitate the inclusion of all students.

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