

Title: Fostering inclusion for learners with special educational needs through teacher education: Comparing educators' experiences from Canada and Mauritius to consider the future of inclusive education

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Abstract:

The purpose of this study was to explore similarities and differences between special educator preparation in Ontario and in Mauritius through a comparative case study methodology. The cases are two practicing and experienced special educational needs (SEN) educators, one from each country, who are experts in special education teacher training programs in their respective country. Data were collected through semi-structured interviews and thematic analysis was used to analyse the qualitative data through deductive and inductive coding. Findings indicate major differences in teacher training opportunities, practicum aspects, and key challenges. On the other hand, limited technology integration and unsuccessful responses to COVID-19 disruption are similar features. Recommendations are provided including a call for increased efforts to develop and study emerging technologies to support special education training. The results of the study have implications for stakeholders and policy makers

Keywords: Special educational needs, teacher training, technology integration, emerging technologies, inclusive education, COVID-19

Introduction

Efforts to support inclusive education have increasingly become priorities for governments around the world. Inclusive education refers to the ability of all students, regardless of gender, socioeconomic background, ability, or other defining characteristics, to attend their neighbourhood community school and be in classes with similar aged peers (Sider et al., 2021). Students with disabilities and other special educational needs, including learning disabilities, visual or hearing disorders, developmental disabilities, or mental health disorders, among many other conditions, are key stakeholders in inclusive education. Inclusive education reflects a belief that all students are capable of learning and that every student can make a valued contribution to a classroom and school (Sider et al., 2017). Key international agreements, including the Sustainable Development Goals and the United Nations Convention on the Rights of the Child, have provided foundational direction to jurisdictions in implementing policies to engage all students including those with disabilities and other special educational needs.

This study provides an opportunity to consider how inclusive education for students with disabilities is implemented in schools in two country contexts, Canada and Mauritius. Although vastly different in population and geography, the two countries both belong to the Commonwealth and have had similar policy and implementation processes regarding inclusive education. The experiences of inclusive education in Canada and Mauritius inform the understanding of the opportunities, and barriers, to inclusive education. As both countries grapple with seemingly unlimited needs but with finite resources, inclusive education provides an opportunity to consider how emerging technologies can be used to meet these needs without corresponding financial costs.

In this exploratory study, we consider the insights of two experienced educators in teacher education programs in both contexts to better understand the experiences of teacher educators with fostering inclusive education. We also use these experiences as an opportunity to unearth how they responded to the challenge of ensuring pedagogical continuity through COVID-19 and integrating technology to enhance education for students with special needs.

Literature

Inclusive Education

Ainscow and Sandill (2010) argue that, “The issue of how to build more inclusive forms of education is arguably the biggest challenge facing school systems throughout the world” (p. 401). School systems globally have increasingly recognized the importance of adapting to meet the wide variety of student needs (Specht et al., 2016). This recognition has largely been fostered through international agreements which champion inclusive education.

One of the most important international agreements which set the stage for today’s efforts in inclusive education was the signing of the United Nations Declaration of the Rights of the Child in 1947. Forty years later, in 1989, the United Nations Convention on the Rights of the Child (CRC) articulated widespread commitment to ensure that all children receive an adequate education. Then in 2006, the United Nations Convention on the Rights of Persons with Disabilities was developed and recognized the full rights of all those with disabilities. Finally, the Millennium Development Goals and the subsequent Sustainable Development Goals specifically identified the importance of inclusive education as foundational to development. These global educational declarations and initiatives have had a direct influence on educational practices around the world as governments have attempted to achieve these educational priorities and standards (Spring, 2014).

Teacher Education Programs

The challenge of inclusive education has not been so much in the development of agreements but in the implementation of inclusive educational practices. One of the most important ways to foster inclusive classroom practices is through pre-service and in-service teacher education. There has been significant research in the field of teacher education and inclusive education (see Carroll et al., 2003; Specht et al., 2016) highlighting the importance of how to design, develop, and improve teacher training programs to supply a sufficient number of qualified teachers to meet the varied and increasing demands of special education services. Mamlin (2012) discussed several attributes of a special education program, including: (1) a competency-based approach, (2) theory and practice link, (3) field placements, (4) emphasis on inclusive practices, (5) focus on diversity, (6) collaboration and partnerships, (7) use of technology and (8) continuous evaluation and adjustments, amongst others. However, one particular issue that is largely lacking is a sound understanding of how technologies (augmentative, assistive, emerging) are being effectively integrated by special educational needs (SEN) educators to support and foster inclusive education.

Emerging Technologies in Special Education

Aside from research by Tucker and Dexter (2011), Dexter et al. (2020), and Sider et al., (2021), there is limited research examining the use of emerging technologies in inclusive education. Emerging technologies include a wide variety of technology-based mechanisms. Examples include: simulations, chat-bots, artificial intelligence, and immersive case studies. One form of emerging technology has been interactive case studies and simulations which include branching options and are sometimes referred to as “choose your own adventure” cases (Sider et al., 2021). Sider et al (2021) as well as Dexter and Richardson (2020), conclude that emerging technologies show great promise for teacher education but that much more research is needed. The limited educational research on emerging technologies and their use for fostering inclusive education demonstrates great potential in this field.

COVID-19 Response

During the COVID-19 pandemic, distance learning, broadcasts of educational programs, provision for home tasks, and web-based instruction and support were some of the responses by many educators to minimise the disruption of the pandemic to teachers and learners. While the COVID-19 pandemic has provided opportunities to embrace creativity, technology adoption, and collaborative practices, it has also revealed vulnerabilities of the education system. In particular, the studies of Cameron et al. (2022) in Norway found that the provisions made during the school closure period, namely, distance learning and digital home-schooling, failed to meet the needs of many learners.

Methodology

This study is an exploratory study to identify key aspects of inclusive education training in teacher education programs in Ontario, Canada and Mauritius. Two key informants in two teacher education programs, one in Ontario and one in Mauritius, participated in semi-structured interviews. Using a comparative case study approach, insights were sought into their experiences with supporting teachers in developing skills for inclusive classrooms (see Appendix for the guiding questions). Case study research approaches provide an opportunity for in-depth descriptive elements and insights into problems of practice (Yin, 2013). Similarly, comparative case studies offer insights into similar topics but in different contexts.

The same guiding questions were asked of the participants from both countries. Interviews were recorded using field notes. Additional data source included written information provided by the participants and government documents from the jurisdictions.. The participant from Mauritius is an experienced SEN educator who has more than ten years of teaching experience in the field and has worked previously in a specialised school for deaf and is now posted in a resource centre for students who are deaf, blind, and have other disabilities. The participant from Ontario is a leading trainer in SEN in the province who has served as a teacher of students who have learning disabilities and/or who are gifted. He has more than 25 years of experience as a teacher and consultant in SEN.

Data Analysis

Analysis was completed to examine surface, manifest, and latent meanings (Wallen & Fraenkel, 2001) using the thematic analysis method (Braun & Clarke, 2006). We employed a hybrid approach of deductive and inductive coding for identification of themes (Fereday & Muir-Cochrane, 2006). The interview questions served as a list of *a priori* themes.

Study Context

The two contexts for the study are Ontario, Canada and Mauritius. As noted earlier, these two jurisdictions are significantly different in population and geography but share a common connection through their membership in the Commonwealth and their respective histories and policy frameworks in regard to inclusive education. They are the two contexts in which the two authors work in teacher education.

Ontario, Canada

Canada is a federal system in which the provinces have responsibility for education. Ontario is Canada’s largest province with a total population of approximately 15 million people. It is the province that is the focus of the Canadian element of this study. Approximately 15% of students have been identified with a special educational need in Canada (Bennett et al., 2019). In Ontario, more than 240 000 students require some form of special education support in regular classrooms (Bennett et al., 2019). Successive governments in Ontario, since 1980, have promoted

inclusive education policies and practices. These include specific sections of the Education Act, other regulations, and Policy and Program Memoranda (PPM) which provide direction for schools in special education programming.

Mauritius

Mauritius is signatory or adherents to numerous international agreements on inclusive education and, for more than seven decades, has been showing its commitment to establish inclusive education for learners with special needs. Recently, under the Government Program 2015-2019, the education system in Mauritius has undergone a major reform and has been attentive to the needs of learners with special educational needs and aligned its approach with the policy directions of SDG4 by promoting inclusion (MOE, 2017). In addition, the policy orientation on inclusion focuses on the holistic development of learners by ensuring that all learners are educated in the education settings that are commensurate with their learning needs and facilitate realisation of their potential to the extent possible.

Children with disabilities are classified according to their learning needs: around 25% of such learners are placed in SEN schools while the rest are expected to study in general mainstream classes. Intellectual impairment is identified as the most common disability among learners enrolled in SEN schools. In addition, the ratio of boys is to girls in SEN schools is 2 : 1 (Statistics Mauritius, 2020).

Findings

The themes which were identified following the hybrid analysis approach are shown in Table 1.

Deductive Coding	Inductive Coding
In-class training	Sexuality Education
Practicum Experiences	Violence
COVID-19	Recruitment as SEN Educator

Table 1: Themes from interview data

In-Class Training

The participants identified that it is important to provide training for p teachers on inclusive education. The two noted that the training is beneficial in providing broad insights and guidance on how to systematically identify and support the special needs of learners, particularly through the development of individualized education programs.

In the Mauritian context, it was noted that teacher training was too long in duration. The training typically includes examples of cases which are far from the contextual realities and do not reflect the new types of learners. It was also noted that there is no technology integration and the training programme merely mention the importance of some technological tools without empowering the teachers with the adequate knowledge to integrate these into their teaching practices.

In Ontario, teacher education in the context of the participant involves two different courses on special education that pre-service teachers complete in their Bachelor of Education program. It was not seen as too long in the Canadian context; in fact, it was noted as an area that further training should be provided given the increasing complexity of student needs. Similar to Mauritius, it was noted that the training was not seen as dynamic as it often took place in the university classroom, outside of the context of an actual school.

Practicum Experiences

Practicum experiences can be important experiential learning opportunities for new teachers. They provide an opportunity for new teachers to engage in difficult situations in real-time. They also are valuable because senior teachers will mentor pre-service teachers to help them navigate the complexities of the classroom.

In the Mauritian context, the practicum component of the program was viewed as being carried out superficially. The lecturer is not viewed an expert on the field and relies on a standard checklist for completing required tasks. As

well, teachers tend to conduct pre-planned lessons without consideration for disruptive events in the class or for accounting for complex student needs.

In the Ontario context, practicum experiences can foster inclusive practices for teachers. However, it was noted that much of this depends on the mentor teacher. If the mentor teacher provides an effective model of inclusive practices, this can influence the teacher in very positive ways. Unfortunately, examples were provided of times that new teachers had poor examples and mentoring of inclusive practices and thus developed some ineffective practices themselves. In these cases, new teachers often demonstrated exclusionary and not inclusive teaching practices.

COVID-19

The COVID-19 pandemic has had a massive impact on education globally. It is no different in teacher education. Many teacher education programs had limited experiential learning opportunities as teacher candidates took online classes and had restricted opportunities to engage in practicum experiences.

The global pandemic certainly impacted education in Mauritius. During COVID-19, hardly any teaching and learning took place. Examples that were shared included lack of awareness of educational programs and gaps in programming. Another example included home delivered tasks which were hardly completed. In one case, out of 40 students only two did some of the given tasks in only one occasion and the response rate was subsequently 0%. There was no provision for deaf, blind, and other students with learning disabilities. Opportunities to engage in learning about inclusive education may have been lost because of the gaps in courses and programs. Consequently, SEN educators were 'idle' for more than 1 ½ years.

Similarly, in the Ontario context, teacher candidates had limited opportunity for learning in both the university and the school classroom. This restricted their ability to learn about inclusive practices. It was noted that pre-service teachers were often disengaged with the learning process both in the university and school classroom. Pre-service teachers did not engage in learning about complex student needs because they were not allowed to be in school environments for these students because of some of the medically fragile students in the classrooms. Again, the lack of these experiences inhibited their ability to engage in developing skills to support inclusion.

Sexuality Education, Violence

The SEN educator from Mauritius shed light on the latest challenge he and his colleagues are dealing related to handling puberty, sexual development, and associated risks. He provided several persistent episodes at his school (inappropriate touches, sexual activities, assault) for which no satisfactory resolution have been obtained. He pointed out that these contextual realities are not discussed in training programmes nor alternative trained professionals are available. The issues are further exacerbated following denial from parents.

From a comparative case methodology perspective it is interesting to note that this theme was not mirrored in the responses of the Canadian participant. Instead, the Canadian SEN educator noted a significant challenge was increasingly aggressive, oppositional, and violent behaviour of students with complex needs. The participant noted that many SEN educators in Ontario have been physically assaulted by at least one student with SEN. He expressed that this concerning trend is a hindrance to those educators considering a career change to being a SEN educator.

Recruitment

The recruitment of SEN educators in the Mauritian context follows an application and an interview process from in-service primary school teachers. These teachers, like our respondent, are mostly former Asian language teachers (e.g., Hindi, Urdu) who are motivated by the prospect of an important pay rise and reduced workload as SEN educators. These teachers have neither any prior experience or induction training in the SEN area nor are required to follow any related teacher education programme.

In Ontario, a teacher becomes a SEN educator after having had at least two years of full-time teaching experience and completing an Additional Qualification program which includes at least 125 hour course. This course provides an overview of specific issues such as Individual Education Plans, human rights and governmental regulations, and training on assistive technology. A teacher who wants to become a specialist in SEN is required to take three of these Additional Qualification courses. There is no financial benefit to being a SEN educator and, according to the Canadian participant, teachers often choose this path due to their teaching values and beliefs.

Discussion

This exploratory study provides an opportunity to consider the training, practicum, and pandemic-related aspects of inclusive education for pre-service teachers in Ontario and Mauritius. Although exploratory in nature, it offers a comparative case approach to consider similarities and differences in the two contexts. It also offers an opportunity to consider how emerging technologies can be leveraged in inclusive education.

Similarities

In both contexts, teacher training matters but it is clear that there are significant gaps in the development of skills that new teachers need to support diverse learners. It was also clear that emerging technologies are not being used effectively to engage pre-service teachers in learning about inclusive education despite being heavily encouraged and promoted (MOE, 2017; UNESCO, 2021). The teachers were not involved in any professional development course during COVID-19 which could have empowered them with making this transition, particularly for students with individualized education programs (Jenkins & Walker, 2021). In addition, provisions for online courses or distance learning and even home-based schooling have been unsuccessful endeavors for SEN learners.

Differences

One of the glaring differences between the two contexts is the importance or emphasis given to initial teacher training for SEN in view to prepare prospective teachers. In the Mauritian context, a shift from being an experienced primary school teacher is adequate preparedness for teaching in SEN schools. In addition, in Ontario, a wide range of teacher training programs are offered to upskills teachers on a continuous basis and these courses are of relatively appropriate duration. Another difference was the experience of the Mauritian participant regarding the intersection of sexuality education with SEN education. In the Canadian context, the participant noted an increase in aggressive, oppositional, and violent behaviours from some students with extensive disorders (Sider et al., 2021).

Considerations for the Future

Using a comparative case study approach allows for in-depth analysis. Although Mauritius and Ontario, Canada present very different geo-political contexts, they are similar in their histories and policies regarding inclusive education. The experiences and insights of the two participants in this study sheds light on these commonalities and differences. It is important to note that both participants expressed concern that emerging technologies such as simulations, augmented reality, artificial intelligence, and web-based case studies have not been developed, used, or researched in a way that they felt could be helpful. This aligns with the conclusions of Dexter (2021) and Sider et al. (2021.) Both experts indicated that the complexity and quantity of SEN are increasing but the training of teachers is not increasing at the same rate. Thus, emerging technologies could provide a scalable, cost-effective mechanism to support inclusive education training. Thus, we propose that concerted effort be made to engage in research on how emerging technologies could be used to support inclusive education. Comparative and international case study research that explores the role of emerging technologies in inclusive education, using diverse contexts such as Mauritius and Canada, can provide valuable lessons, models, frameworks, and examples for global educational jurisdictions.

Conclusion

The purpose of this study was to examine similarities and differences between Ontario and Mauritius with regard to the experiences of two SEN educators who have been engaged with teacher education programs in their respective countries. In both contexts, teacher training for SEN is receiving greater emphasis although the mechanism for professional development differs. Inclusion, technology integration, online teaching and learning, and minimizing learning loss resulted from COVID-19 pandemic remain unaddressed issues. New challenges are surfacing which have not been considered previously in training courses. These challenges also present opportunities for emerging technologies to be implemented and studied.

Although the data for this study emanates from two participants, this paper contributes to the growing literature on enhancing the teaching and learning of SEN learners. Using a comparative case approach provides further insights into recurrent and emerging issues which have implications for school leaders, curriculum developers, teacher training institutions, researchers, and policy makers. Re-prioritising, re-focussing, and re-envisioning of the SEN agenda within the inclusion approach mediated with technology must be activated for purposeful attainment of the

United Nations' 2030 Education agenda directed towards holistic development and societal inclusion of learners with special educational needs.

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