META-AGGREGATION OF EXPERIENCE IN INCLUSIVE EDUCATION

SYNTHESIZING THE EXPERIENCES OF CHILDREN AND YOUTH WITH DISABILITIES AND SPECIAL NEEDS IN INCLUSIVE EDUCATION USING META-AGGREGATION

By TITHI PAUL, HBSc.

A Thesis Submitted to the School of Graduate Studies in Partial Fulfilment of the Requirements for the Degree Master of Science

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McMaster University MASTER OF SCIENCE (2021) Hamilton, Ontario (Rehabilitation Science)

TITLE: Synthesizing the Experiences of Children and Youth with Disabilities and Special Needs in Inclusive Education Using Meta-Aggregation

AUTHOR: Tithi Paul, HBSc. (University of Toronto)

SUPERVISOR: Dr. Wenonah Campbell

NUMBER OF PAGES: xv, 191

LAY ABSTRACT

Inclusive education refers to the concept that all students, including students with disabilities, attend their neighbourhood schools and have the chance to participate in programs and activities with their peers. Although inclusive education is believed to be beneficial for everyone, we do not know much about the students' experiences in these schools. In this thesis, I studied the school experiences of elementary, middle, and high school students with disabilities and special needs. While completing this study, I faced several challenges and difficult decisions. So, I described some likely challenges to doing this type of study, my decision-making process, and the specific lessons I learned while completing my first study; we hope to help guide researchers taking on similar tasks. Findings from my thesis contributes to a better understanding of students' experiences in school. They also highlight how teachers, families, and others can help and be better supported to improve the students' school experience.

ABSTRACT

It has been well established that inclusive education is important in order to achieve high-quality education for all. Recent literature reviews examining the experiences of educators, parents, and students without disabilities in inclusive educations show that most have a positive attitude towards inclusive education. However, there is an important gap in the literature surrounding inclusive education, namely the perspectives of children and youth with disabilities and special needs.

The first manuscript is a qualitative evidence synthesis on the perspectives of children and youth with disabilities and special needs regarding their experiences in inclusive education. I utilised the meta-aggregative approach developed by Joanna Briggs Institute to select, critically appraise, and synthesise qualitative studies to generate an understanding of the children's experiences in different areas pertaining to their schooling. I suggest recommendations to be considered by policy makers and professionals working in the education system to better support students with disabilities, educators, and families.

The second manuscript presents a reflection on the experience of conducting a meta-aggregative review from my point of view as a novice researcher. I highlight the specific challenges encountered, decision-making process, and the specific lessons learned at each stage of the review process with aims to help guide reviewers taking on a meta-aggregation or other similar tasks. I used my meta-aggregative review presented in my first manuscript as an example, where applicable, to elucidate the processes and lessons learned.

Specific strategies and recommendation are outlined in this thesis that can serve to better support the implementation of inclusive education. Additionally, I present recommendations for

reviewers and organizations developing literature review methods to improve the field and quality of qualitative evidence synthesis.

ACKNOWLEDGEMENTS

This thesis would not have been possible without the continuous support of my supervisor, Dr. Wenonah Campbell, and the members of my supervisory committee, Drs. Peter Rosenbaum and Briano DiRezze, all of whom have encouraged me to think critically and provided me with invaluable insights throughout the duration of my Master's thesis.

Wenonah, I will be forever grateful to you for giving me the opportunity to be your Master's student, and for your patience and unwavering support throughout my Master's journey. I truly appreciate your kindness, your thoughtfulness in sharing resources, the opportunities you have provided me to develop my leadership skills, and for helping me to develop my research and writing skills. You have read each and every part of this thesis multiple time and always taught me ways to make them better, and for that I am beyond grateful to you. I hope one day to be as diligent, intelligent, and articulate as you.

Peter, I am so fortunate to have met and worked with you. Your unique outlook on topics and ability to think outside the box is admirable and it inspires me to do the same. I am thankful to you for your assistance with writing and editing, and for always being open to discussing anything, whether it is research, academic writing skills, or career-related guidance. Briano, you are always willing to further discuss my research work and you challenge me to think critically with the feedback you provide. I am thankful to you for your honest and thoughtful feedback on my research and writing that helped enhance the overall quality of my work. This thesis would not be in the form it is now without your insights and encouragement.

I would like to acknowledge the following individuals for helping with this thesis: Peter Cahill for asking challenging questions and helping me ensure that my study was thorough; Annie Jiang for her input during my study process and assistance with editing this thesis; and Dr.

Sandra VanderKaay for always being so enthusiastic whenever I needed to discuss my work and for her thoughtfulness and sharing resources. Thank you for the invaluable assistance that you all provided during my study.

I am grateful for the financial support I received from Dr. Wenonah Campbell and the School of Rehabilitation Science that made this academic journey possible.

Finally, I wish to acknowledge my family for always believing in me and encouraging me to follow my dreams, and Arnab for being my constant and keeping me going on. This work would not have been possible without your patience, love, and support.

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LIST OF ABBREVIATIONS AND SYMBOLS

CASP – Critical Appraisal Skills Program

HCP – Health care professionals

ICF – International Classification of Functioning, Disability and Health

IE – Inclusive education

IPA - Interpretive phenomenological analysis

JBI – Joanna Briggs Institute

LMIC – Lower-middle income countries

PEI – Prince Edward Island

PICo - Population, Interest, Context

QES – Qualitative Evidence Synthesis

UDL – Universal Design for Learning

UNESCO – United Nations Educational, Scientific, and Cultural, Organization

WHO – World Health Organization

DECLARATION OF ACADEMIC ACHIEVEMENT

The following is a declaration that I, Tithi Paul, was the main author of this document. My supervisor, Dr. Wenonah Campbell, and members of my supervisory committee, Dr. Briano DiRezze and Dr. Peter Rosenbaum, have reviewed all chapters of this thesis and provided me with ongoing support and feedback throughout the research process.

I conceptualized the first study, developed the study' purpose and study question. With guidance from Drs. Wenonah Campbell, Briano DiRezze, and Peter Rosenbaum, I chose the best method and planned the processes to answer the research question. I performed screening, critical appraisal, and data extraction with multiple reviewers, including Peter Cahill, Annie Jiang, and Eileen Kim. Throughout the data synthesis process, I regularly consulted Dr. Wenonah Campbell and conducted peer-debriefing sessions with her, as well as Peter Cahill, Dr. Sandra VanderKaay, and Basiliki Passaretti. I prepared the first manuscript with guidance from Dr. Wenonah Campbell and feedback from Drs. DiRezze and Rosenbaum.

I conceptualized the idea for the second manuscript with the help of Dr. Rosenbaum. I then developed the manuscript independently. All authors reviewed and edited the manuscript and approved the final version.

Chapter 1. Introduction

An Overview

Inclusive education (that is, meaningful access to and participation in education for everyone) (Reid et al., 2018; United Nations Educational, Scientific and Cultural Organization [UNESCO], 1994), hereafter referred to as IE, is critical in achieving high-quality education for all school-aged children and youth, including those with disabilities (Inclusive Education Canada, n.d.; New Brunswick Association for Community Living [NBACL], n.d.). IE contributes to developing fairer and more inclusive societies (Committee on the Rights of Persons with Disabilities, 2016; United Nations International Children's Emergency Fund, 2017). When practiced well, IE can provide a positive learning environment that enables each child to participate and develop to their full academic, social, emotional, and physical potential (Canadian Research Centre on Inclusive Education, n.d.; NBACL, n.d.; United Nations Division for Social Policy and Development & Department of Economic and Social Affairs, 2016). IE promotes a sense of belonging and fosters a culture of respect (NBACL, n.d.).

In this introductory chapter, I present the concept of inclusive education and define relevant terms that I use throughout this thesis. This is followed by a brief history of IE, the current state of IE in Canada, a brief literature review of the benefits of IE for children, and the gaps in current knowledge. Thereafter, I present the philosophical underpinnings of my research and my thesis objectives.

Although the concept of IE has been recognized worldwide, a universal definition is lacking. In 2014, in Ontario, Canada, the Ministry of Education broadly described the IE system as "one in which all students, parents, and other members of the school community are welcomed and respected, and every student is supported and inspired to succeed in a culture of

high expectations for learning" (Ontario Ministry of Education, 2014, p. 5). Others have adopted more explicit definitions. For example, Inclusive Education Canada (n.d.) states that "inclusive education means that all students attend and are welcomed by their neighbourhood schools in age-appropriate, regular classes and are supported to learn, contribute and participate in all aspects of the life of the school" (paragraph 1*)*. This is in accordance with UNESCO's 1994 Salamanca statement, which states "we believe and proclaim that... those with special educational needs must have access to regular schools which should accommodate them within a child-centred pedagogy capable of meeting these needs" (UNESCO, 1994, p. viii).

Much like IE, the terms and definitions surrounding disability are ambiguous. Disability, when defined from a medical perspective, focuses on impairments; in this case, impairment means specific problems in body function or alterations in body structures (e.g., paralysis or blindness) (Leonardi et al., 2006; World Health Organization [WHO], 2011). In contrast, WHO's *International Classification of Functioning, Disability, and Health* (ICF) provides a broad conceptualization of disability through a "bio-psycho-social" model (WHO, 2011, p. 4). Here, *disability* is presented as "the umbrella term for impairments, activity limitations and participation restrictions, referring to the negative aspects of the interaction between an individual (with a health condition) and that individual's contextual factors (environmental and personal factors)" (WHO, 2011, p. 4). In this way of thinking, disability arises from the interaction between one's health condition (disease, disorder, impairment, injury, etc.) and the context of the environment, resulting in decreased functioning and limited activity and participation (Leonardi et al., 2006). A needs-based term, such as *special needs*, is defined by the Merriam-Webster dictionary as "any of various difficulties (such as a physical, emotional, behavioural, or learning disability or impairment) that cause an individual to require additional or

specialized services or accommodations (such as in education or recreation)" (Merriam-Webster, 2020). For my thesis, I will be using the ICF definition of disability, as it highlights the dynamic interactive nature of the several elements that combine to create (a sense or experience of) disability. I will also be using the term *special needs* as it includes children who have various difficulties and require accommodation in the school setting, regardless of their ability.

Essentially, IE means that all students are welcomed into the general education system, whatever their functional abilities and differences, and all have access to and receive any necessary support therein; further, it is the way schools, activities, and programs are designed to respond to individual learning needs by providing sufficient support and removing barriers to participation for all students (Inclusive Education Canada, n.d.; UNESCO, 1994). It refers not simply to the practice of providing students with access to general education, but is a belief system in which each individual feels as if they are valued and they belong (Falvey & Givner, 2005).

IE – A Brief History

In North America and Europe, the move towards IE started in the 1980s when communities began closing segregated institutions for children with disabilities, instead providing education within special education settings in regular schools (Boroson, 2017; Ferguson, 2008; Jahnukainen, 2011). Gradually, the number of classes and the types of special classes for these students increased, continuing to the present day (Jahnukainen, 2011).

The right to inclusive schooling for individuals with special needs was officially endorsed by 92 governments and 25 international organizations at the 1994 World Conference on Special Needs Education in Salamanca, Spain. The Salamanca Statement, a key policy document that emerged from this meeting, furthers the objective of "education for all" (UNESCO, 1994, p. iv).

It proclaims that each child is unique, and that education systems and programmes should take this uniqueness into account. It also affirms that every child has the right to education and must be given that opportunity. Hence, children with special educational needs must be given access to regular schools that accommodate their needs. The document urges governments and communities around the world to adopt laws and policies to support the overall development of IE. This movement has since had a powerful influence on international perspectives on inclusion.

In most countries in Europe and North America, the right to education for individuals with special needs became established through legal acts. Some jurisdictions instituted laws and policies that made education in the general classroom accessible for all, including individuals with disabilities and special needs, by addressing issues of restrictive placements that may limit their opportunity to learn and play. For example, the United Kingdom created the *Special Educational Needs and Disability Act* (2001), while the United States established the *Disabilities Education Improvement Act* (2004). In Canada, there is no federal legislation to guide and standardize IE across the country (Bunch, 2015). However, Canada is signatory to international covenants committed to “upholding and safeguarding the rights of persons with disabilities and enabling their full participation in society” (Council of Canadians with Disabilities, 2014, p 1; Towle, 2015). The purposes of these legal acts were to ensure that these individuals had equal access to appropriate public education and were provided with the same opportunities as those without disabilities. Many other jurisdictions have retained parallel systems of general and special education (Ferguson, 2008; Grynova & Kalinichenko, 2018).

Several international agreements protect the right to education for individuals with disabilities: The International Covenant on Economic, Social and Cultural Rights (1966), the Convention on the Rights of the Child (1989), and the United Nations’ Declaration of the Rights

of Persons with Disabilities (2006). These documents highlight human dignity and the need to respect diverse needs, but in themselves do little to provide any guidance for actual implementation of policy and practice (Towle, 2015). In other words, although these documents are aspirational and could be fundamental in guiding the development of effective legislation and policies, they provide little guidance for the operationalization of these legislations and policies, for example, for implementation of best practice regarding IE.

IE – In the Context of Canada

In Canada, education is a provincial jurisdiction; therefore, each Canadian province and territory has developed its own approach to educating children with special needs. This means that the policies of each province and territory, including how they define inclusion and put it into practice, vary widely (Towle, 2015). Thus, there remain significant variations across jurisdictions and little opportunity for these provinces and territories to collaborate (Specht, 2013).

All provinces and territories have policies in place to support students with special needs through various means, which may differ between jurisdictions. For example, in Ontario, Canada the *Education Act* or Bill 82 was passed in 1980 to govern the provision of education for individuals with disabilities or special needs. Yet, despite the wide spectrum of educational practices across the country, Canada is known as a pioneer in IE (Bunch, 2015; Köpfer & Óskarsdóttir, 2019). This is primarily because the principles of inclusion were acknowledged in Canada before the 1994 Salamanca Statement. This shift was initiated by the Canadian Charter of Rights and Freedoms in 1982. These legal rules put into action the desegregation process, and the dismantling of the separate special education schools (Köpfer & Óskarsdóttir, 2019).

Since then, Canadian provinces and territories have moved towards adopting more inclusive educational policies and practices, with some provinces taking greater steps towards inclusive practice than others. For example, New Brunswick and Prince Edward Island (PEI) have been successful in implementing IE practices (Köpfer & Óskarsdóttir, 2019; Timmons, 2006). PEI has no segregated schools for children with disabilities and has committed to having all elementary students attend regular classrooms in their neighbourhood schools. To better prepare educators, the University of PEI has also implemented a required course in Inclusive Education as part of their Bachelor of Education programme. The province continuously invests resources to create supportive personnel positions to train and collaborate with teachers (Timmons, 2006). However, other provinces struggle to meet the international agreements to which Canada is a signatory (Towle, 2015; Ontario Human Rights Commission, 2018). A recent study in Ontario revealed that children with intellectual disabilities are often excluded from school or the classroom for disability-related reasons, including the child's fatigue level, as well as issues with transportation scheduling, staffing shortages, and behavioural support plans not being in place (Reid et al., 2018). Many parents reported that their children with intellectual disabilities were often excluded from the appropriate curriculum, did not have the proper academic accommodations and support staff, and/or were excluded from extracurricular activities (Reid et al., 2018). However, it is important to note that the population of PEI is just under 160 000, compared to 14.75 million for Ontario (Statistics Canada, 2020, Table. 17-10-0009-01). Thus, population is likely a factor that influences the different approaches of these provinces, because with larger population there is a greater complexity in the number and nature of elements that would need to change within the broader education system. Nonetheless, there are lessons to be learned from the provinces with a more successful implementation of IE.

In summary, while Canada may consider IE to be a core societal value, in many provinces, inclusive education is still only embraced at a conceptual level and has yet to be successfully implemented in practice (Bunch, 2015; Parekh & Brown, 2019). However, this phenomenon is not unique to Canada. Despite the internationalisation of the philosophy and concept of IE (UNESCO, 1994, 2008), its implementation has been uneven across the globe (Mitchell, 2010).

IE – Evidence of Benefit from Children and Stakeholders' Perspectives

Research shows that many children with disabilities achieve more when they are provided with the opportunity to learn in general education classrooms (Cosier et al., 2013; Hehir et al. 2012). Cosier and colleagues' study (2013) assessed the number of hours children between the ages of 3 and 9 years old with disabilities spent in a general education classroom and their math and reading achievements. They found that achievements in reading and math are higher with increased time spent in general education classrooms. However, other potentially confounding factors, such as the students' prior achievements and socio-economic status, also were correlated with achievements in reading and math, but were not controlled for in this study. Thus, we cannot be certain of the relationship of IE to students' achievement scores, as the authors' findings may be confounded by multiple influencing factors. Hehir and colleagues (2012) performed a study with 68,000 primary and secondary school students with disabilities in the state of Massachusetts. Similar to other studies, they identified a number of factors that influence the academic achievement of these students, including family income, school quality, and English proficiency. After controlling for these factors, the authors found that students with disabilities who spent more time being educated in a regular classroom with their peers without disabilities performed, on average, better on measures of language and math than students who

spent a smaller portion of their day with their peers without disabilities. Moreover, children with disabilities educated in inclusive settings are more likely to graduate on time from high school than children educated in segregated settings, according to a study examining the graduation patterns of children with disabilities using statewide educational data from Massachusetts between 2005 and 2012 (Schifter, 2016). Research from European countries also supports the academic benefits of IE for children with disabilities and special needs (Dessemontet et al., 2012; Myklebust, 2007).

Likewise, inclusive settings do not negatively impact the academic experiences of children without disabilities (Salend & Duhaney, 1999; Szumski et al., 2017). A recent meta-analysis of studies about the academic achievements of children without disabilities or special needs in inclusive settings with peers with special education needs shows that inclusive education is beneficial for the children without special needs (Szumski et al., 2017); both their main effect and results of moderator analyses showed no significant negative impact of inclusion. Rather, the authors found that attending IE settings is positively, though weakly, associated with the academic achievements of these children without special needs. There are several factors that could potentially influence the achievement of students without special needs in an inclusive classroom. One of the factors that the authors discussed is the country of study; specifically, how IE is understood and implemented in a country. For example, the authors reported a stronger effect in the United States and Canada, where the idea of IE is understood as process of transforming general education to be inclusive, compared to most European countries where IE may be understood mainly as a form of instruction for children with disabilities and special needs. Hence, there is a larger focus on restructuring of teaching in the United States and Canada and teachers have more experience in teaching heterogeneous groups of learners. In this

system, teachers have to receive support which increases their sense of security and gives them an opportunity to improve their skills, ultimately benefiting all students (Szumski et al., 2017).

In Salend and Duhaney's (1999) narrative review, the authors compared the academic performance of children without disabilities and special needs in different classrooms with respect to their achievement test scores and report card grades. They found that the students who attended inclusive classrooms with peers who have special needs performed similar to or better than their peers without special needs in non-inclusive classrooms. There was also no significant effect on the amount of allocated or engaged instructional time devoted to the students without special needs in inclusive classrooms, and the rate of interruptions to planned activities was similar in both types of classrooms. Moreover, studies focusing on the social outcomes of children without disabilities and special needs indicated that these students have a positive attitude towards inclusion and believe that it benefits them in terms of increased awareness, understanding, and acceptance (Salend & Duhaney, 1999).

Although both studies showed a positive or neutral effect of IE on typically developing children, the findings from the latter study should be interpreted with caution. Because of its narrative design, this review did not have systematic or comprehensive selection criteria, and this may potentially have biased the authors' interpretations and conclusions (Salend & Duhaney, 1999). This does not necessarily mean that the findings should be dismissed, rather that they should be considered with these potential limitations in mind.

The major rationales for segregated classroom settings rarely hold true in reality. Stakeholders in favour of self-contained classrooms often assume that these environments provide children with a more supportive community, a quiet and distraction-free learning environment with specialized instruction, and better opportunities to benefit socially and

behaviourally. However, in a qualitative inquiry of six self-contained education settings in New York state, Causton-Theoharis and colleagues (2011) found that this is seldom true about these classroom environments. Additionally, research from Toronto, Canada shows that children with special needs educated in inclusive settings are less likely to experience limited academic opportunities or be negatively affected in their future academic opportunities, compared to those in self-contained special education classrooms (Mitchell, 2010; Parekh & Brown, 2019).

Evidently, IE does not negatively impact students without disabilities or special needs, and studies from the perspectives of various stakeholders indicate that IE in fact benefits all participants within it. In a recent review of the literature, Roberts and Simpson (2016) found that parents and educators of students with autism agree that inclusive education promotes awareness and a more positive attitude towards diversity, and opportunities to develop social skills. They also identified multiple factors that influence the successful implementation and practice of inclusive education. In the studies reviewed, not only are educators' knowledge and understanding of students with special needs and relevant (effective) teaching strategies seen as key factors for teachers' attitudes toward inclusion – these are also concerns shared by both parents and students (Roberts & Simpson, 2016). A lack of funding is also viewed by parents and educators as a major factor impeding successful inclusion, as this ultimately affects the availability of structural support at school, support for education professionals, and support for the students (Duhaney & Salend, 2000; Roberts & Simpson, 2016; Salend & Duhaney, 1999).

Although these previous studies predominantly represent the perspectives and attitudes of educators and parents, a number of systematic reviews in the last ten years have focused on the experiences of children without disabilities in inclusive settings (de Boer et al., 2012; Dell'Anna et al., 2019; Szumski et al., 2017; Yu et al., 2012). For example, a recent systematic review

showed that attending an inclusive class could have a positive impact on the attitudes of children without disabilities, whereas the existence of a separate special education unit at school could negatively influence their attitudes and beliefs (Dell'Anna et al., 2019). Another review showed that children without disabilities generally held neutral beliefs, feelings, and intentions toward peers with disability (de Boer et al., 2012). This means that, despite the overall neutral score, there were some children who held far more positive and some who held far more negative attitudes. The children's attitudes are influenced by several variables that are both personal and environmental, such as: gender, age, and type of school or class (de Boer et al., 2012; Dell'Anna et al., 2019). The studies also demonstrated that children have a more positive attitude and are more accepting with increased experiences with IE, knowledge and understanding about peers with disabilities, or having prior experience with a friend or relative with disability (de Boer et al., 2012; Dell'Anna et al., 2019).

Knowledge Gap

Despite the volume of research surrounding IE and the varied stakeholders' experiences with it, a very important perspective still seems to be missing from the literature – the perspectives of children and youth with disabilities and special needs. Inclusive education should strive to *include* everybody and accommodate for the students with any needs so that everybody can access high quality education while feeling a sense of belonging. Yet there is a lack of current synthesized knowledge on the experiences of students with disabilities and special needs in IE. This information is crucial to ensure that children and youth with disabilities have an opportunity to voice their perspectives about IE and for others to learn from them about this important aspect of their lives – and these children are the only ones who can provide this

important perspective. This information will offer a deeper, richer understanding of IE, especially when viewed in tandem with the various other perspectives.

Sommer and colleagues (2013) appropriately describe the importance of children's voices in education through their butterfly conceptual model. The dual socialising butterfly model (Figure 1) portrays the child as the centre of the model. The two wings of the butterfly include significant carers, learners, and socialising agents from the child's everyday life. On one wing of the butterfly is the child's family, including parent(s) and sibling(s). The other wing represents the school, which includes staff and peers. There are double-sided arrows between the agents within each wing, and between the agents in both wings and the child in the center of the butterfly. These arrows represent relationships. The model essentially shows that all relationships, whether they include the child or not, are potentially important to understanding the child's life and experiences.

<< Insert figure 1 here>>

Within the context of IE, the modification "Other relationships/ environmental factors" encompassing and contextualizing the whole butterfly, could be where other IE factors sit. This added component would represent any (other) environmental factor(s) and other relevant relationships not captured in the original model that may play a role in the child's learning and education (e.g., physical environment, supports and accommodations etc.). Although originally developed to conceptualize the early childcare and education context, the butterfly model should be applicable to the education context later in childhood as well.

This model is helpful to represent the importance of children's voices because the child is embedded at the center of the model and is related to all the agents in both wings of the butterfly. The various relationships may be experienced differently by the target child and therefore carry

different meanings. Of note, the model is content-empty, as it only contains the skeletal framework and no information; therefore, only by studying the particular child in context can one acquire the appropriate content to fill the model. This is why children's perspectives are important: to understand the strengths and limitations of the education system and to support them better. Through the knowledge gained from my thesis work, I will be acquiring content to add to the butterfly model and build an understanding of the child's experiences within IE.

Arguably, the perspectives of children and youth would be best represented through qualitative research since these approaches are used to understand how people experience the world. Children's voices and experiences can be highlighted through qualitative studies because these approaches prioritize context and meaning when studying human experiences (Pearson et al., 2011). Thus, a synthesis of qualitative studies would help to create a deeper and more comprehensive knowledge surrounding the experiences in IE.

Philosophical Underpinning

A researcher's theoretical and philosophical perspectives guide the framework for their research practice. These philosophical assumptions and beliefs include *ontology* and *epistemology* (Braun & Clarke, 2013).

Ontology examines the nature of reality with many variations in this view that range along a continuum of realism to relativism (Braun & Clarke, 2013). As Braun and Clarke (2013) explain, *realism* assumes a knowable world with one comprehensible truth, whereas *relativism* is a view in which reality depends entirely on human interpretation and knowledge, leading to multiple constructed realities and truths. While a relativist ontology underpins many qualitative studies, critical realist positions are also quite commonly adopted in qualitative research (Braun & Clarke, 2013). Critical realism exists somewhere between realism and relativism and posits

that there are objective realities and truths that exist independent of our thoughts about them. While existence may make us more confident about these realities, their existence themselves is not dependent on observation, and human knowledge only captures a small part of a deeper vaster reality (Braun & Clarke, 2013; Fletcher, 2017; Haigh et al., 2019). As a researcher who aims to understand human experiences captured through diverse research approaches in different social contexts, I identify with the critical realist ontological perspective.

Epistemology is concerned with the nature of knowledge and how knowledge is known – in other words, how we can examine reality (Braun & Clarke, 2013). Qualitative researchers generate knowledge through meanings, and believe that knowledge is not independent of social, cultural, moral, ideological, and political context. Epistemological perspectives underpinning critical realism view knowledge as transitive; this means that truth changes, and with that our knowledge and understanding of a phenomenon also change (Braun & Clarke, 2013; Haigh et al., 2019).

Understanding one's ontology and epistemology as a researcher will help ensure the use of an appropriate methodology and improve the quality of research. Methodology is concerned with how research is conducted (Braun & Clarke, 2013; Haigh et al., 2019). One suitable methodology for understanding human experiences in diverse, and constantly changing, contexts is to perform a knowledge synthesis of existing literature.

Literature review, or knowledge synthesis, makes it possible to assess collective literature from a particular area of research. A literature review, specifically when it is performed systematically, has the power to address a research question with greater capability than any single study (Snyder, 2019). Literature reviews underpinned by a critical realist ontology synthesize knowledge from primary studies to enhance our understanding of a phenomenon in

order to inform decision-making. This ontology does not claim to know about the existence of all realities but supports the notion that "we need to claim some 'authentic' realities exist to produce knowledge that might 'make a difference'" (Braun & Clarke, 2013, p. 27).

Synthesizing Qualitative Research

Synthesis of qualitative research involves using qualitative methods to synthesize the findings of multiple qualitative studies (Tufanaru, 2015). Unlike quantitative reviews, which tend to summarise data numerically, qualitative reviews seek to identify commonalities emerging from the data by synthesizing the findings of the original authors, and more importantly, by "juxtaposing" the different findings from different sources to elucidate insights that may not have been recognised previously from single studies (Booth et al., 2016).

Synthesis of findings from qualitative studies is controversial. Some researchers argue that synthesis is inappropriate for qualitative research because of the subjective and flexible nature of qualitative research, which could potentially confound any results yielded when findings across studies are combined; a few researchers go even further to argue that the synthesis of qualitative research is "impossible and meaningless" (Pearson et al., 2011, p. 24). Other researchers, myself included, support the notion of qualitative research synthesis because it provides knowledge elicited through examination of the personal, social, political, and cultural aspects of a phenomenon that has been explored from multiple perspectives. This broadens collective understanding of the phenomenon beyond the knowledge that is accessible through individual studies or quantitative means. At this time, there is no consensus on the matter of qualitative knowledge syntheses for health and social care research (Pearson et al., 2011; Tufanaru, 2015). Thus, each researcher must decide their view of the value of synthesizing qualitative research. My view is that synthesizing (well-designed) qualitative studies using

systematic and transparent methods provides researchers and stakeholders with valuable insights; information from qualitative research highlights the importance of context and meaning when studying human experiences, which is not available from quantitative studies that focus on cause-and-effect relationships or numerical representations of human experiences.

One common approach to qualitative synthesis is aggregation; aggregative synthesis, or meta-aggregation, summarizes findings of different studies that may be based on different methodologies, whilst being sensitive to the nature of qualitative research (Florczak, 2019; Pearson et al., 2011). The findings, or meanings, extracted from the primary studies are further abstracted to form categories that are then synthesized (Tufanaru, 2015). Meta-aggregative review is based on the philosophic traditions of pragmatism; thus, a valued feature of this approach is the practicality and immediate usability of its findings (Hannes et al., 2018). A meta-aggregative review produces synthesized statements in the form of 'lines of action' to inform healthcare practitioners, policy makers, and other relevant stakeholders in decision-making (Pearson et al., 2011). It does not seek to re-analyse or re-interpret data; rather, the aim is to represent the original authors' interpretation and the participants' voices reliably (Hannes et al., 2018). Because of its systematic and transparent method of synthesizing qualitative research, while also prioritizing the original findings and participants' quotes, the meta-aggregative method of qualitative evidence synthesis is suitable for understanding the experiences of children and youth with disabilities in IE from their perspectives. It also aligns with my philosophical stance as a researcher, as it prioritizes the synthesis of qualitative research to understand a phenomenon to inform action and practice, i.e., producing knowledge to make a difference.

Thesis Objectives

In summary, inclusive education (IE) is critical to achieve high-quality education for all children and youth, including those with disabilities and special needs. Numerous national and international organizations advocate for IE because of its benefits for communities, families, teachers, and students. However, the implementation of IE has not been very straightforward; it differs between countries, as well as across the provinces and territories within Canada, because of factors such as policies, population, and resources. Though existing research on IE explores the experiences of families and educators, as well as the experiences and academic and social outcomes of children without disabilities educated in inclusive settings, the perspectives of the children and youth with disabilities and special needs are seldom considered in research in this area. Yet they are the ones who can provide the best insights into their experiences in IE. Therefore, the objectives of my master's thesis are to:

1. **Examine the perspectives of children and youth with disabilities and special needs regarding their experiences in IE** by synthesizing primary qualitative research using meta-aggregative approach.
2. **Generate recommendations for relevant stakeholders** to take action towards creating a more inclusive education setting by drawing on the knowledge constructed from synthesizing primary qualitative studies.
3. **Describe the lessons learned as a novice researcher performing a qualitative synthesis, specifically a meta-aggregative review,** to provide guidance and insights on the process for other researchers.

References

Booth, A., Papaioannou, D., & Sutton, A. (2016). *Systematic approaches to a successful literature review* (2nd ed.). SAGE Publications.

Boroson, B. (2017). Inclusive education: Lessons from history: Educational leadership. *Differences, Not Disabilities*, *74*(7), 18-23. http://www.ascd.org/publications/educational-leadership/apr17/vol74/num07/Inclusive-Education@-Lessons-From-History.aspx

Braun, V., & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners*. SAGE Publications.

Bunch, G. (2015). An analysis of the move to inclusive education in Canada. What works. *Revista Electrónica Interuniversitaria de Formación del Profesorado*, *18*(1), 1–15. https://doi.org/10.6018/reifop.18.1.214311

Canadian Research Centre on Inclusive Education. (n.d.). *Understanding inclusive education*. Retrieved September 13, 2020, from https://inclusiveeducationresearch.ca/about/inclusion.html

Causton-Theoharis, J., Theoharis, G., Orsati, F, & Cosier, M. (2011). Does self-contained special education deliver on its promises? A critical inquiry into research and practice. *Journal of Special Education Leadership*, *24*(2), 61–78. https://www.gvsu.edu/cms4/asset/64CB422A-ED08-43F0-F795CA9DE364B6BE/does_self-contained_special_education_deliver_etc(2).pdf

Committee on the Rights of Persons with Disabilities. (2016, November 25). *General comment no. 4 (2016) on the right to inclusive education*. Office of the United Nations High Commissioner for Human Rights.

https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=CRPD/C/GC/4&Lang=en

Cosier, M., Causton-Theoharis, J., & Theoharis, G. (2013). Does access matter? Time in general education and achievement for students with disabilities. *Remedial and Special Education*, *34*(6), 323–332. https://doi.org/10.1177/0741932513485448

de Boer, A., Pijl, S. J., & Minnaert, A. (2012). Students' attitudes towards peers with disabilities: A review of the literature. *International Journal of Disability, Development and Education*, *59*(4), 379–392. https://doi.org/10.1080/1034912X.2012.723944

Dell'Anna, S., Pellegrini, M., & Ianes, D. (2019). Experiences and learning outcomes of students without special educational needs in inclusive settings: A systematic review. *International Journal of Inclusive Education*. https://doi.org/10.1080/13603116.2019.1592248

Dessemontet, R. S., Bless, G., & Morin, D. (2012). Effects of inclusion on the academic achievement and adaptive behaviour of children with intellectual disabilities. *Journal of Intellectual Disability Research*, *56*(6), 579–587. https://doi.org/10.1111/j.1365-2788.2011.01497.x

Duhaney, L. M. G., & Salend, S. J. (2000). Parental perceptions of inclusive educational placements. *Remedial and Special Education*, *21*(2), 121–128. https://doi.org/10.1177/074193250002100209

Falvey, M. A., & Givner, C. C. (2005). Chapter 1. What is an inclusive school? In R. A. Villa & J. S. Thousand (Eds.), *Creating an inclusive school* (2nd ed., pp. 1–11). Association for Supervision & Curriculum Development.

http://www.ascd.org/publications/books/105019e4/chapters/What-Is-an-Inclusive-School¢.aspx

Ferguson, D. L. (2008). International trends in inclusive education: The continuing challenge to teach each one and everyone. *European Journal of Special Needs Education*, *23*(2), 109–120. https://doi.org/10.1080/08856250801946236

Florczak, K. L. (2019). Meta-aggregation: Just what is it? *Nursing Science Quarterly*, *32*(1), 11–11. https://doi.org/10.1177/0894318418807933

Grynova, M., & Kalinichenko, I. (2018). Trends in inclusive education in the USA and Canada. *Comparative Professional Pedagogy*, *8*(2), 28–34. https://doi.org/10.2478/rpp-2018-0016

Haigh, F., Kemp, L., Bazeley, P., & Haigh, N. (2019). Developing a critical realist informed framework to explain how the human rights and social determinants of health relationship works. *BMC Public Health*, *19*, Article 1571. https://doi.org/10.1186/s12889-019-7760-7

Hannes, K., Petry, K., & Heyvaert, M. (2018). The meta-aggregative approach to qualitative evidence synthesis: A worked example on experiences of pupils with special educational needs in inclusive education. *International Journal of Research & Method in Education*, *41*(3), 291–305. https://doi.org/10.1080/1743727X.2017.1299124

Hehir, T., Grindal, T., & Eidelman, H. (2012). *Review of special education in the Commonwealth of Massachusetts.* Massachusetts Department of Elementary and Secondary Education. http://doi.org/10.13140/RG.2.2.19735.98725

Inclusive Education Canada. (n.d.). *What is inclusive education?* https://inclusiveeducation.ca/about/what-is-ie/

Individuals with Disabilities Education Improvement Act of 2004, Pub.L. No. 108-446. (2004). https://www.govinfo.gov/content/pkg/PLAW-108publ446/pdf/PLAW-108publ446.pdf

Jahnukainen, M. (2011). Different strategies, different outcomes? The history and trends of the inclusive and special education in Alberta (Canada) and in Finland. *Scandinavian Journal of Educational Research*, *55*(5), 489–502. https://doi.org/10.1080/00313831.2010.537689

Köpfer, A., & Óskarsdóttir, E. (2019). Analysing support in inclusive education systems – a comparison of inclusive school development in Iceland and Canada since the 1980s focusing on policy and in-school support. *International Journal of Inclusive Education*, *23*(7–8), 876–890. https://doi.org/10.1080/13603116.2019.1624844

Leonardi, M., Bickenbach, J., Ustun, T. B., Kostanjsek, N., & Chatterji, S. (2006). The definition of disability: What is in a name? *The Lancet*, *368*(9543), 1219-1221. http://doi.org/10.1016/S0140-6736(06)69498-1

Merriam-Webster. (n.d.). Special needs. In *Merriam-Webster.com dictionary*. Retrieved August 6, 2020, from https://www.merriam-webster.com/dictionary/special%20needs

Mitchell, D. (2010, July). *Education that fits: Review of international trends in the education of students with special educational needs*. Education Counts. https://www.educationcounts.govt.nz/__data/assets/pdf_file/0016/86011/Mitchell-Review-Final.pdf

Myklebust, J. O. (2007). Diverging paths in upper secondary education: Competence attainment among students with special educational needs. *International Journal of Inclusive Education*, *11*(2), 215–231. https://doi.org/10.1080/13603110500375432

New Brunswick Association for Community Living. (n.d.). *Inclusive education and its benefits.* https://nbacl.nb.ca/module-pages/inclusive-education-and-its-benefits/

Ontario Human Rights Commission. (2018, March). *Policy on accessible education for students with disabilities.* http://www.ohrc.on.ca/en/policy-accessible-education-students-disabilities

Ontario Ministry of Education. (2014). *Equity and inclusive education in Ontario schools: Guidelines for policy development and implementation*. http://www.edu.gov.on.ca/eng/policyfunding/inclusiveguide.pdf

Parekh, G., & Brown, R. S. (2019). Changing lanes: The relationship between special education placement and students' academic futures. *Educational Policy*, *33*(1), 111–135. https://doi.org/10.1177/0895904818812772

Parliament of the United Kingdom. (2001). *Special Educational Needs and Disability Act 2001*. Legislation.gov.uk. Retrieved October 18, 2020, from https://www.legislation.gov.uk/ukpga/2001/10/contents

Pearson, A., Robertson-Malt, & S., Rittenmeyer, L. (2011). *Synthesizing qualitative evidence*. Lippincott Williams & Wilkins. https://nursing.lsuhsc.edu/JBI/docs/JBIBooks/Syn_Qual_Evidence.pdf

Reid, L., Bennett, S., Specht, J., White, R., Somma, M., Li, X., Lattanzio, R., Gavan, K., Kyle, G., Porter, G., & Patel, A. (2018). *If inclusion means everyone, why not me?* Community Living Ontario. https://communitylivingontario.ca/wp-content/uploads/2018/05/If_Inclusion_Means_Everyone_Why_Not_Me_FINAL_s.pdf

Roberts, J., & Simpson, K. (2016). A review of research into stakeholder perspectives on inclusion of students with autism in mainstream schools. *International Journal of Inclusive Education*, *20*(10), 1084–1096. https://doi.org/10.1080/13603116.2016.1145267

Salend, S. J., & Duhaney, L. M. G. (1999). The impact of inclusion on students with and without disabilities and their educators. *Remedial and Special Education*, *20*(2), 114–126. https://doi.org/10.1177%2F074193259902000209

Schifter, L. A. (2016). Using survival analysis to understand graduation of students with disabilities. *Exceptional Children*, *82*(4), 479–496. https://doi.org/10.1177/0014402915619418

Sommer, D., Pramling Samuelsson, I., & Hundeide, K. (2013). Early childhood care and education: A child perspective paradigm. *European Early Childhood Education Research Journal*, *21*(4), 459–475. https://doi.org/10.1080/1350293X.2013.845436

Special Educational Needs and Disability Act. (2020, Dec 9). Legislation.gov.uk. Retrieved Feb 6, 2021, from https://www.legislation.gov.uk/ukpga/2001/10/data.pdf

Statistics Canada. (n.d.). *Table 17-10-0009-01 Population estimates, quarterly*. Retrieved September 12, 2020, from https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710000901

Szumski, G., Smogorzewska, J., & Karwowski, M. (2017). Academic achievement of students without special educational needs in inclusive classrooms: A meta-analysis. *Educational Research Review*, *21*, 33–54. https://doi.org/10.1016/j.edurev.2017.02.004

Timmons, V. (2006). Impact of a multipronged approach to inclusion: Having all partners on side. *International Journal of Inclusive Education*, *10*(4–5), 469–480. https://doi.org/10.1080/13603110500392726

Towle, H. (2015). *Disability and inclusion in Canadian education: Policy, procedure, and practice*. Canadian Centre for Policy Alternatives.

https://www.policyalternatives.ca/publications/reports/disability-and-inclusion-canadian-education

Tufanaru, C. (2015, November). *Theoretical foundations of meta-aggregation: Insights from Husserlian phenomenology and American pragmatism* [Doctoral dissertation, The University of Adelaide]. Adelaide Research & Scholarship. https://digital.library.adelaide.edu.au/dspace/bitstream/2440/98255/2/02whole.pdf

United Nations International Children's Emergency Fund. (2017, September). *Inclusive education: Understanding Article 24 of the Convention on the Rights of Persons with Disabilities*. https://www.unicef.org/eca/sites/unicef.org.eca/files/IE_summary_accessible_220917_0.pdf

United Nations Division for Social Policy and Development & Department of Economic and Social Affairs. (2016). *Toolkit on disability for Africa: Inclusive education*. United Nations. https://www.un.org/esa/socdev/documents/disability/Toolkit/Inclusive-Education.pdf

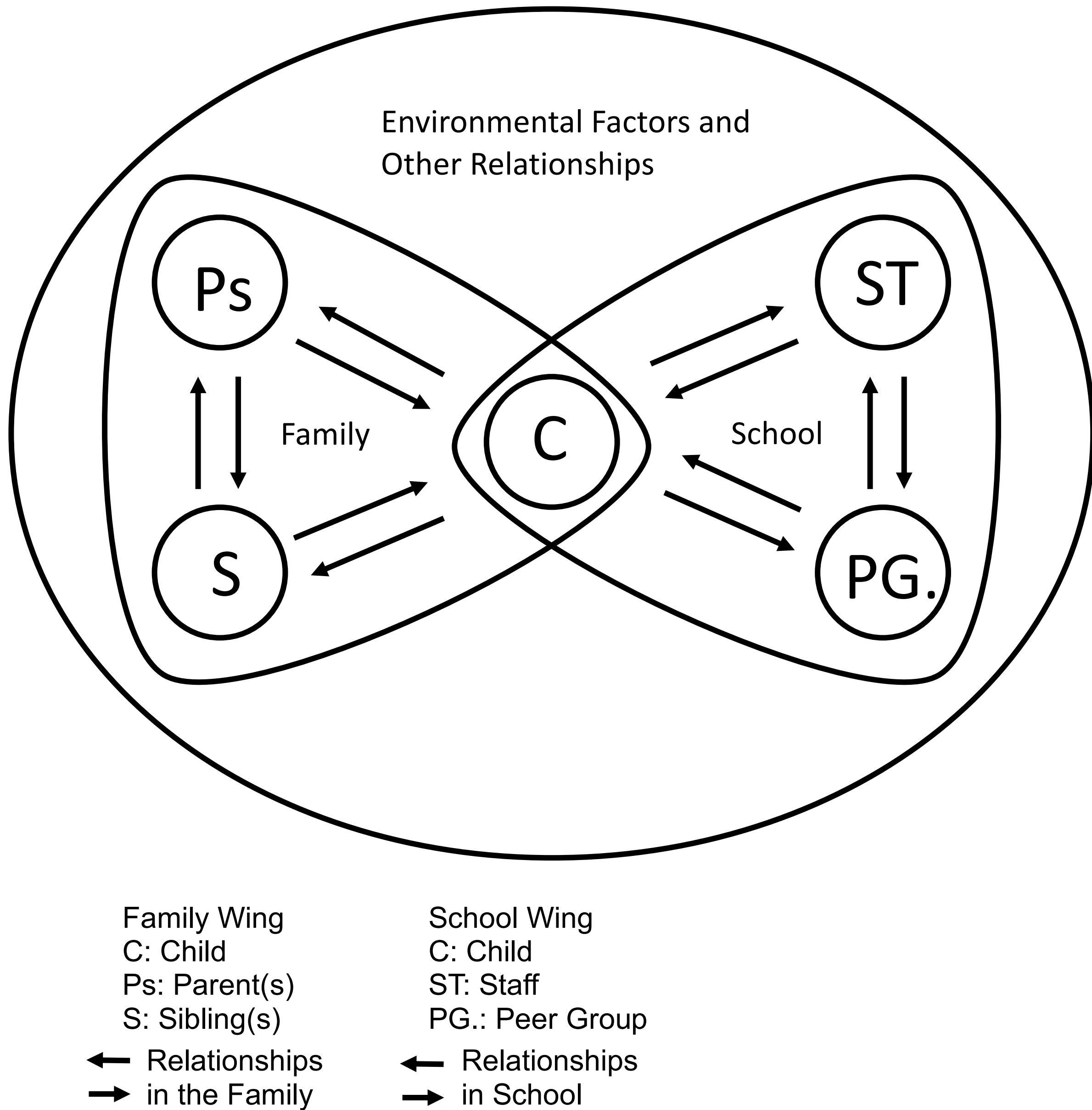
United Nations Educational, Scientific and Cultural Organization. (1994). *The Salamanca statement and framework for action on special needs education*. https://www.right-to-education.org/sites/right-to-education.org/files/resource-attachments/Salamanca_Statement_1994.pdf

World Health Organization. (2011). *World report on disability*. https://www.who.int/disabilities/world_report/2011/report.pdf?ua=1

Yu, S. Y., Ostrosky, M. M., & Fowler, S. A. (2012). Measuring young children's attitudes toward peers with disabilities: Highlights from the research. *Topics in Early Childhood Special Education*, *32*(3), 132–142. https://doi.org/10.1177%2F0271121412453175

Figure 1

The Dual Socialising Butterfly Model (Modified)



Note: This figure has been adapted with permission to better fit the education context at elementary to high school level from the original Butterfly Model of Sommer et al. (2013).

Chapter 2: Manuscript #1

Perspectives of Children and Youth with Disabilities Regarding Their Experiences in Inclusive Education - A Meta-Aggregative Review

Tithi Paul, Briano Di Rezze, Peter Rosenbaum, Peter Cahill, Annie Jiang, Eileen Kim, Wenonah Campbell

School of Rehabilitation Science, McMaster University

Prepared for submission to: Review of Education

Corresponding Author: Wenonah Campbell, School of Rehabilitation Science, McMaster University, Hamilton, ON L8S 1C7.

E-mail: campbelw@mcmaster.ca

Abstract

Inclusive education is important in order to achieve high-quality education for all; however, there is an important gap in the literature surrounding inclusive education, namely the perspectives of children and youth with disabilities and special needs. In this study, we used a meta-aggregative approach to qualitative evidence synthesis to bring together systematically the perspectives of these children and youth regarding their experiences in inclusive education, and to generate recommendations for action. After selecting and critically appraising the methodological quality of eligible studies, we extracted the findings from the results sections of 27 studies with children and youth with various diagnoses and special needs. We aggregated the findings to develop 19 categories, which we further synthesized into six overarching statements pertaining to: i) teachers' and education workers' support and attitudes; ii) implementation of support and accommodations; iii) need for safe and accommodating physical environment; iv) preparation for high school transitions; v) friendships and peer interactions; and vi) participants' own views of themselves. Some implication of our findings for the system to consider are: i) the need for strong leadership at the school level to support implementation of inclusive education; ii) government agencies and school leadership to provide opportunities for teachers to train and collaborate with other professionals; and iii) the necessity of flexibility in curriculum and instruction, for which educators require training and experience. Most importantly, children and youth have profound personal understanding of their strengths and needs, their condition, and its effect on their lives, and are able to provide insightful information when given the opportunities.

Perspectives of Children and Youth with Disabilities Regarding Their Experiences in Inclusive Education: A Meta-Aggregative Review

Education is a fundamental human right. It is recognized worldwide that all individuals with disabilities have a right to an inclusive education (IE) where there is meaningful access to, and full participation, for everyone (Reid et al., 2018; United Nations International Children's Emergency Fund [UNICEF], 2017). IE contributes to developing fairer and more inclusive societies (Committee on the Rights of Persons with Disabilities, 2016; UNICEF, 2017). IE also is critical to achieve high-quality education for all children and youth, including those with disabilities and special needs, because it ensures access to education without discrimination and with appropriate support (UNICEF, 2017). IE promotes a sense of belonging and fosters a culture of respect through a positive learning environment that enables each student to participate and develop to their full academic, social, emotional, and physical potential (Canadian Research Centre on Inclusive Education; n.d.; New Brunswick Association for Community Living, n.d.; United Nations Division for Social Policy and Development & Department of Economic and Social Affairs, 2016, p.4).

Although IE has been recognized worldwide, there is no single universal definition of the concept. In essence, IE means that all types of students are welcomed into the general education system regardless of their functional abilities and differences; further, it is the way schools, activities, and programs are designed to respond to individual learning needs by providing sufficient support and removing barriers to participation for all students (Inclusive Education Canada, n.d.; United Nations Educational, Scientific and Cultural Organization, 1994). IE is not simply the practice of providing students with access to general education; it is a belief system in which each individual feels as if they are valued and they belong (Falvey & Givner, 2005).

Research shows that IE has many benefits for its participants. For example, all children, whether or not they have disabilities or special needs, perform better academically when educated in inclusive settings (Cosier et al., 2013; Hehir et al., 2012; Salend & Duhaney, 1999; Szumski et al., 2017). Also, children with disabilities and special needs in inclusive settings are less likely to experience limited academic opportunities and be negatively affected in their future academic opportunities, compared to those in self-contained special education classrooms (Mitchell, 2010; Parekh & Brown, 2019).

In the last ten years, several literature reviews have focused on the experiences of children without disabilities or special needs in inclusive settings (de Boer et al., 2012; Dell'Anna et al., 2019; Szumski et al., 2017; Yu et al., 2012). For example, de Boer and colleagues (2012) found that these children generally held neutral beliefs, feelings, and behavioural intentions toward their peers with disabilities. In their recent systematic review, Dell'Anna and colleagues (2019) also found that children without disabilities generally held a positive attitude toward their peers with disabilities and special needs; they expressed some social acceptance, empathy, and concern toward those peers. However, the existence of a separate special education unit at school could negatively influence their attitudes (Dell'Anna et al., 2019).

When looking at other stakeholders' perspectives on IE, it appears that many believe IE benefits all. In a recent review of the literature, Roberts and Simpson (2016) found that parents and educators of children with autism agree that IE promotes awareness and a more positive attitude towards diversity, and opportunities to develop social skills. However, the primary studies within this review mostly included the perspectives of education professionals (N=749) and parents (N=347); far fewer children and youth with autism were involved (N=105).

Knowledge and understanding of autism were viewed as an important factor for successful inclusion by all stakeholders, including children and youth with autism. The young participants also discussed their mixed feelings towards socialising with peers and challenges to social communication.

Despite varied evidence on IE, there is a lack of synthesized empirical data within the current research regarding IE from the perspectives of children and youth with disabilities and special needs. Knowledge gleaned from these experiences of children and youth will provide a deeper, richer understanding of IE, especially when viewed in tandem with the various other perspectives already present in the literature. It is crucial to ensure that children and youth with disabilities have an opportunity to voice their experiences with IE and for others to learn from them about this important aspect of their lives, as they are the only ones who can provide this important perspective.

The perspectives of children and youth with disabilities and special needs arguably would best be represented through qualitative research, as these approaches examine the personal, social, political, and cultural aspects of a phenomenon (Pearson et al., 2011). Because qualitative studies prioritize context and meaning when studying human experiences, participants' voices and experiences would be highlighted (Pearson et al., 2011). Thus, a synthesis of qualitative studies would help to create a deeper and more comprehensive knowledge surrounding the experiences of children and youth with disabilities and special needs in IE.

Our review team has identified only one peer-reviewed publication that synthesizes qualitative research about the perspectives of children with disabilities and special needs regarding IE. Hannes and colleagues (2018) utilized the meta-aggregative approach to qualitative evidence synthesis (QES) developed by the Joanna Briggs Institute (JBI). The meta-aggregative

approach is based on the process of systematic review and is pragmatic; it generates synthesized statements, in the form of recommendations, to guide practitioners, policy makers, and other relevant stakeholders without re-interpreting the data from the primary qualitative studies (Hannes et al., 2018). In their study, Hannes et al. drew on the topic of experiences of young students with special education needs in IE as an example to illustrate how the meta-aggregative method works. Informed by their findings, they developed synthesized statements addressing different areas within the school context: teachers, peers, school, and the individual level.

It is noteworthy that Hannes and colleagues' review (2018) is novel in principle as a working example of JBI meta-aggregation and also begins to highlight the voices of children with disabilities and special needs in IE. However, their paper focused on illustrating the approach to the JBI meta-aggregation; the literature review was presented as a working example to illustrate the method. For example, although published in 2018, the literature search covered only studies published up until 2010 and the authors ultimately included only seven primary studies, none of which met all their inclusion criteria. Because of the increased emphasis and awareness of the need for IE internationally over the past decade, we aim to update the existing search and synthesis through our review of the literature on this topic.

In this paper, our primary focus is to explore the perspectives of children and youth with disabilities and special needs regarding their experiences in IE by employing the JBI meta-aggregative approach and building on the work of Hannes and colleagues (2018). We plan to examine the experiences of children and youth with disabilities in IE from their first-person perspectives by conducting a comprehensive search for and synthesis of the most recent and methodologically rigorous relevant primary qualitative studies, as well as to use this knowledge to generate recommendations for relevant stakeholder(s).

Method

Research Question and Search Strategy

For our review, we posed the question: What are the perspectives of children and youth with disabilities and special needs regarding their experiences in inclusive education? *Disability*, in this case, refers to any reduction in functioning, activity limitations, and/or participation restrictions resulting from the interaction between an individual's health condition and functioning (disease, disorder, impairment, injury etc.) and the context of their environment (Leonardi et al., 2006; World Health Organization [WHO], 2011). *Special needs* are defined as "any of various difficulties (such as a physical, emotional, behavioural, or learning disability or impairment) that cause an individual to require additional or specialized services or accommodations (such as in education or recreation)" (Merriam-Webster, 2020).

We structured our question using the "Population, Interest, Context" (PICo) format to identify clearly the main concepts of the review question and help inform the search strategy (Lockwood et al., 2020). Our *population* was children and youth with disabilities and special needs in elementary, middle, and high school; our *interest* was their perspectives regarding their experiences at school; and the *context* was IE.

Upon establishing our research question, we consulted with a librarian to design our search strategy. *Population* included terms for the types of participants, including terms for age groups (school-aged children and youth) combined with terms for specific disabilities and health conditions using the Boolean operator AND. *Interest* included terms for the age group combined with terms for perspectives using an adjacency operator. An adjacency, or proximity, operator searches for two terms next to each other, in any order, up to a specified number of words between them. *Context* included terms that describe school settings and IE. For our review, we

defined IE as attendance of school-aged children and youth with disabilities and special needs in a general education classroom, that is, not education in a segregated setting. It is beyond the scope of this review to determine and discern the extent to which the educational settings of the participants of the primary studies were philosophically and practically inclusive. To further narrow the search yield to relevant studies, we added search terms for qualitative studies. We conducted a comprehensive search of the literature published between January 2011 and August 2019. We did not search literature published prior to 2011 because we were updating the search completed by Hannes and colleagues (2018).

We employed this search strategy with five relevant, major databases: PsycINFO, ERIC, Medline, CINAHL, and Web of Science. In addition to limiting the searches by publication date, we also used a filter for peer-reviewed and English-language publications. Example search terms used for each concept are summarized in Table 1, and the complete search strategy for PsycINFO is provided in Appendix A.

For this meta-aggregative review, we followed the guidelines presented in the JBI manual for systematic reviews of qualitative evidence and registered a protocol with PROSPERO (CRD42020172148) (Lockwood et al., 2020).

<<Insert Table 1 here>>

Inclusion and Exclusion Criteria

We included primary studies that employed qualitative research methods to elicit the perspectives and experiences of children and youth in IE; these could include questionnaires with open-ended answers, interviews, focus groups, etc. Additionally, since meta-aggregative reviews synthesize findings from the literature to make recommendations for policy and practice, we wanted to ensure that the literature had met standards of peer review prior to publication; thus,

we considered only peer-reviewed literature. We included studies with students with a disability, health condition, and/or special education need attending inclusive classrooms from kindergarten through to high school. We also included studies in which participants were not attending school during the study period but were reflecting on their previous experiences in an inclusive school. To increase the relevance of our findings for stakeholders in Canada, we included studies that were completed with participants from high-income countries (The World Bank, n.d.). We only considered studies that reported on school-related experiences of children and youth with disabilities attending inclusive classes in kindergarten to high school. The experiences had to be reported from their first-person perspectives. We also considered studies that included other types of participants along with our population of interest, for example parents, educators, or typically developing peers and friends. However, these studies were included only if the findings representing the perspectives of children and youth with a disability were identifiable as being distinct from those of the other participants.

We excluded studies with quantitative research methods only, or those that employed mixed methods, to maintain a consistent focus on qualitative research. Mixed method studies collect both qualitative and quantitative data, with quantitative data potentially informing the analysis and interpretation of the qualitative data. We excluded all grey literature, including book chapters, dissertations, theses, government publications, and conference proceedings as these publications generally are not peer reviewed. Studies where participants were educated in a specialized/segregated setting, including home-schools, specialized institutions, and self-contained classrooms were excluded.

Selection of Studies

Screening

Three independent reviewers (TP, PC, and EK) completed study selection in two phases using Covidence (Veritas Health Information, 2020). In the first phase, the reviewers independently screened the article titles and abstracts. They excluded studies that clearly did not meet inclusion criteria; they included studies if all criteria were met or when there were any uncertainties. Prior to independent review, the reviewers completed a training session in which they independently reviewed 100 titles and abstracts, compared their decisions, and met to discuss disagreements and refine the inclusion/exclusion criteria. Next, the reviewers performed reliability with 100 titles and abstracts until a level of agreement of 80%, established a priori, was reached among the reviewers. There is no specific recommended Kappa; however, PRISMA guidelines recommend having a predetermined level of agreement, which is typically 70-80% (Liberati et al., 2009; Tricco et al., 2018). A list of all inclusion and exclusion criteria, based on the criteria stated earlier, is included in Appendix B. These criteria guided reviewers in both phases of study selection.

Next, the same three reviewers independently reviewed the full texts of studies advanced from the title and abstract screening stage. Any two of the three reviewers had to agree on the decision to include or exclude a study. Any disagreements were resolved through a discussion and consensus. All reviewers completed training, led by the first author, and reliability testing at the beginning of the full-text review phase. The reviewers independently reviewed 25 full texts for training. A second round of training was completed after making some minor updates to the inclusion and exclusion criteria. Next, the reviewers assessed reliability using 30 citations, approximately 10% of the remaining citations.

Critical Appraisal

An important step in a meta-aggregative review process is to assess methodological quality of the papers included in the final review. This allows reviewers to identify methodologically sound research, because the purpose of meta-aggregation is to produce recommendations to guide practitioners and policy makers. Following the JBI recommendations, we used the standardized JBI critical appraisal instrument for qualitative research and tailored it to fit our review question and purpose (Lockwood et al., 2020). We consulted with JBI through email and with colleagues with experience and expertise in qualitative research, with whom we held multiple peer debriefing sessions regarding critical appraisal. Our modifications to tailor the JBI tool were informed by the Critical Appraisal Skills Program (CASP) qualitative checklist and a modified version of this tool used by McTavish and colleagues for a qualitative meta-synthesis (Critical Appraisal Skills Program [CASP], 2018; McTavish et al., 2017). These tools provided explicit guidance by presenting specific questions to consider and examples of items in a qualitative study that would clearly indicate when a certain criterion has been adequately met. We used these resources and other relevant literature (Hannes et al., 2013; Kivunja & Kuyini, 2017; Korstjens & Moser 2018; Mack et al., 2005; Thorne, 2000) to create an accompanying guideline providing detailed instructions on how to interpret each JBI criterion. Further clarifying and explaining the criteria helped ensure that the appraisers understood what each criterion entailed and how to decide when it was met.

Our modified JBI checklist and guideline, located in Appendix C, included two screening criteria. We incorporated these to ensure both relevance and appropriateness of studies to our review question, before further appraisal of methodological quality. Studies that did not meet these criteria were excluded, as they would not have been relevant to the review question and purpose.

Three appraisers (TP, PC, and AJ) completed training and calibration exercises for this phase. Each study was independently appraised by at least two appraisers. If the study met the two screening criteria, the appraisers completed the critical appraisal checklist and discussed the overall methodological quality of the study. If they reached consensus that a study was of high methodological quality and relevant to the review question and purpose, it was included in the final synthesis.

Data Extraction

In addition to extracting general details of studies, data for meta-aggregative reviews are extracted in the form of "findings," which refer to "a verbatim extract of the author's analytic interpretation" of their data from the results of their published manuscript; this includes themes, categories, or metaphors from the primary study (Lockwood et al., 2020, chapter 2.7.6.3). Each finding is accompanied by an illustration – a direct quotation from a participant – that informs the finding. Subsequently, each extracted finding is assigned one of three levels of credibility: unequivocal, credible, or unsupported, based on the reviewer's perception of whether the findings reported by the authors were supported by the evidence (i.e., the illustration). Table 2 provides a description of the three levels of credibility according to JBI. Unsupported findings are not considered for synthesis (Lockwood et al., 2015).

<<Insert Table 2 here>>

Two review team members extracted data from the included studies. First, we extracted descriptive characteristics of each study, which were reviewed to ensure accuracy. The extracted characteristics included phenomenon of interest, population characteristics, setting, and the study methods used. Second, we extracted the findings from the included studies, which included categories, themes, or metaphors described by the authors of the primary study. Where possible,

we extracted a verbatim description of the theme or category using the authors' own words; however, for studies where the authors did not provide a concise description, we paraphrased the theme. For each finding, we also extracted the first full/complete quote from a participant. We defined a quote as "full" or "complete" when it was "self-sufficient" and did not require the author's interpretation or context to understand it. We chose to extract the first full or complete quote as our illustration in order to be consistent among all findings and limit selection bias. Consistent with JBI guidelines, we then assigned levels of evidence to the extracted findings. A second reviewer verified the extracted findings, including their descriptions, and independently assigned a level of credibility to each finding. Any discrepancies in the level of credibility were addressed by the primary author because of her expertise with the method and familiarity with the primary studies. Only unequivocal and credible findings were considered for further categorization, as per JBI.

Data Synthesis

In a meta-aggregative review, data synthesis is the process of aggregating or grouping findings to develop categories. In this process, two or more similar findings are aggregated to form categories. Subsequently, two or more categories are grouped to develop synthesized findings that form the basis of recommendations for practice or policy.

The primary author, TP, identified and assembled findings with similar concepts based on their descriptions to form categories. Next, she created titles and descriptions that encompassed the overall theme, or essence, of all findings in each category. In the final step, the categories were subjected to a meta-aggregation in which categories with common themes and similar key messages were further grouped to produce a single comprehensive set of synthesized findings.

Throughout the data synthesis process, we ensured thoroughness through peer debriefings. We shared the synthesis results, through four peer debriefing sessions, with peers who were not involved in the initial data categorizing process, to enhance the clarity and fidelity of the categories and the synthesized final statements. These insights from outsiders, who had varied research and clinical backgrounds and provided varied perspectives, ensured that the findings were in fact alike, and the categories and synthesized statements under which they were grouped were clear and represented them well. We ensured further rigour by maintaining a record of all decisions and changes to our categories and synthesized statements during the synthesis process.

Results

The review team identified and screened the titles and abstracts of 11 037 studies and full texts of 355 studies (Figure 1). At the title and abstract screening stage, we had a moderate Kappa, 0.49, and a high level of agreement, 97.5-98.5%, between the reviewers. We tested agreement again after screening approximately half, or 6000, titles and abstracts to ensure a good agreement among reviewers. The Kappa at this point was substantial, at 0.77, and the percent agreement remained high at 96.5-98.5%. At the full text review stage, we had substantial agreement, with a Kappa of 0.79, and a high level of inter-rater agreement at 90.0-96.7%. During data extraction and assignment of level of credibility, there was good agreement between the reviewers since they agreed on which findings were unsupported, and therefore should be excluded, as well as the level of credibility for most of the other findings We excluded 265 studies after reviewing the full texts because: (a) the findings from the population of interest were not distinct from those of the other participants (N = 114), (b) participants did not discuss experiences at their (mainstream) school (N = 46); (c) studies did not use qualitative methods (N

= 36); (d) participants did not attend an inclusive classroom (N = 27), did not discuss experiences at school age (N = 15), or did not have a disability (N = 8); or (e) the study was not peer-reviewed (N = 8), a primary study (N = 6), or was not performed with participants from high-income countries (N = 4). We were unable to locate the full text of one citation.

<<Insert Figure 1 here>>

The team critically appraised 90 studies using the modified JBI critical appraisal checklist, and 29 advanced to the data extraction phase. Of these 29 studies, twelve studies met all nine critical appraisal criteria, eight studies were missing part of one criterion, and 9 were missing one criterion. We excluded 61 studies, of which 34 did not meet our screening criteria and 27 were missing multiple criteria that were crucial to the review question and purpose, or for ensuring the methodological soundness of the study.

At the data extraction stage, two studies using narrative inquiry methodology were excluded, because we were unable to extract data (i.e., specific findings and illustrations) from these study results using the process of data extraction for meta-aggregative reviews, as specified in the JBI manual. The final sample of studies eligible for data extraction include 27 primary qualitative studies described in Table 3. Most studies (N = 24) were conducted either in Australia (N = 8), United States of America (N = 6), Canada (N = 5), England/United Kingdom (N = 3), or Ireland (N = 2). These studies utilized various methodologies: interpretive phenomenological analysis (IPA) (N = 5), phenomenology (N = 3), case study (N = 4), phenomenography (N = 1), grounded theory (N = 1), and participation research (N = 1). Twelve studies did not report a specific methodology. The participants included both males and females from elementary, middle, and high schools; four studies focused on adult participants' reflections on their experiences at school age. Studies included participants with various diagnoses and special

needs, including visual impairment (N = 7), autism (N = 6), cerebral palsy (CP) (N = 3), developmental coordination disorder, type 1 diabetes, asthma, etc. The studies explored a variety of phenomena of interest, such as the participants' experiences related to their schooling in general, transition to high school, and physical education and activity.

<<Insert Table 3 here>>

We identified 126 findings from the 27 included studies. Ten of these were "unsupported" and 14 were irrelevant, i.e., they did not include the children's experiences at school and/or were not accompanied by relevant quotes, and thus were excluded from the synthesis. We synthesized the remaining 102 findings, presented in Appendix D along with their supporting quotes and descriptions.

We generated 19 *categories* based on grouping findings with similar meanings and ideas, and further grouped the 19 *categories* into six overarching *synthesized statements*, as per JBI guidelines described in the *Methods* section. The resulting statements relate to the following areas of school experience of children and youth with disabilities and special needs: i) teachers' and education workers' attitudes and supportiveness; ii) education workers' and support personnel's implementation of suitable support and accommodations; iii) students' need for safe and accommodating physical environments at school; iv) students' preparedness for transitioning to high school; v) students' friendships and peer interactions; and vi) students' views of themselves. We were unable to categorize four findings as their concepts lacked similarity with other findings or categories. Figures 2 through 7 visually represent the categories and the final synthesized statements. The figures also note the number of findings contributing to each category and the studies from Table 3 to which they correspond.

<<Insert Figures 2 - 7 here>>

Synthesis 1 – Teachers' and Education Workers' Attitudes and Supportiveness (Figure 2)

Students with disabilities and special needs appreciated the support and guidance they received from their teachers and other education workers and found it to be beneficial (*category 3*). They wanted an appropriate level of support – not too much and not too little – and wanted it to be provided subtly. They viewed teachers' attitudes as significantly impacting their experiences at school (*category 1*). The level of interest and care teachers showed in the students' education and welfare, and the degree of effort to include them in activities, affected the students' learning, enjoyment, and feelings of inclusion. Students also considered teachers' skills to be important, especially as these related to their teaching styles, strategies, and the level and quality of support they provided (*category 2*). Skills such as knowledge of one's own teaching area, empathy, and knowledge and understanding of the students' strengths and needs were all considered to be positive and supportive characteristics. Teachers and other education workers (for instance, teaching/education assistants and other school staff) should continue to provide support to students, paying close attention to helping all students feel included. It is important that teachers show interest and care for their students and make an effort to include them in activities with their peers. They can accomplish this by gaining an understanding of their students' strengths and needs, empathizing, and utilizing strategies to provide appropriate support subtly and when needed, so as not to make the students stand out and feel different.

Synthesis 2 – Education Workers' and Support Personnel's Implementation of Suitable Supports and Accommodations (Figure 3)

Students mentioned being provided with some support at school, but the supports often were perceived to be inconsistent or inefficacious (*category 4*). Support and accommodations, when provided, lacked thoughtful integration with students' needs in mind. When students didn't

feel they received the support to participate in activities as their peers participated, they felt inferior, disadvantaged, and excluded from school activities (*category 5*). Students also expressed a lack of (expert) support with technology at school. They believed their teachers and other education workers needed to take a more active role in overseeing the implementation of technological interventions and accommodations for students (*category 6*). Also, students often perceived tight work schedules and heavy workloads to be a problem. As a result, inflexibility of curriculum was perceived to be a barrier to enjoying school (*category 7*). To create an inclusive environment where the students feel as though they are given the opportunity to participate as their peers do, accommodations need to be provided with students' needs and wants in mind. Specifically, students expect technological interventions that help them to be incorporated into daily school activities and activities to be adapted, where possible, to give them an opportunity to participate. This implies that these accommodations have to be provided consistently and effectively, without making the students feel uncomfortable. To be able to plan and achieve this successfully, education workers (e.g., teachers, principals, teaching/education assistants) and support personnel (e.g., special education teacher, speech-language pathologists, occupational therapists etc.) need to start by having a good understanding of the student's strengths and needs. Then, they need to take responsibility to implement the interventions and supports, train staff and students to use the technology and troubleshoot, incorporate opportunities for support and accommodation into the curriculum, and actively use and monitor the interventions.

Synthesis 3 – Students' Need for Safe and Accommodating Physical Environments at School (Figure 4)

Students with autism spectrum disorder (ASD) expressed negative feelings about some physical environmental factors (e.g., noise, crowding, unfamiliar surroundings) and certain areas

of the school *(category 8*). The overwhelming feelings of anxiety and stress caused by these factors affected their learning and made inclusive school life harder. Students voiced an appreciation/need for personalized options for de-stressing (e.g., more breaks and a designated room or area to go to) (*category 9*). It is important that education workers and support personnel provide designated quiet room/space for students to use when they feel they need to relax and de-stress. Students would also benefit from frequent breaks, as needed, and a designated space to complete tasks that may be more stressful in other environments (e.g., exams). The availability of a "sanctuary" (Hill, 2014, p. 83) would provide all students with a consistent and familiar space away from the crowd, noise, and other stressful situations when needed.

Synthesis 4 – Students' Preparedness for Transitioning to High School (Figure 5)

Students often needed reassurance about transitioning to high school (*category 10*). Different approaches were considered helpful, such as: opportunities for school visits/tours, meeting the education team, gathering relevant information/advice, and families' support and knowledge. Discussions that focused on the negative aspects of transition or students' worries were considered unhelpful. Students identified many positive factors about transition to high school, such as friendships (even in the face of adversity), increased resources (e.g., larger libraries), level of organization, increased variation in curriculum, and opportunities to engage in lessons of interest. However, they also identified some aspects they found to be challenging, including securing special education services and the stigma surrounding it, changing timetable and teachers, disruptive classroom environments, and limited opportunities to demonstrate their learning strengths (*category 11*). It is important for education workers, support personnel, and families to discuss transition with the student. Students would also benefit from being provided with opportunities to prepare in advance by visiting the new school, meeting the education team

and having discussions with them. These discussions should address academic, social, and environmental expectations, be framed with a positive attitude, and continue after transition.

Synthesis 5 – Students' Friendships and Peer Interactions (Figure 6)

Friendship and peer interactions are important for students. However, their discomfort with socialisation, restriction to participation, and situations where their "disability was pronounced" (Haegele & Zhu, 2017, p. 432) may affect these relationships (*category 12*). As a result, students without friendships and peer relationships are often at a disadvantage. Students cared about how their peers perceived them, which at times depended on the peers' knowledge and understandings of the conditions (*category 13*). They wanted to fit in and be accepted, and not appear different from their peers. This influenced the students' behaviours, such as decisions surrounding information disclosure and self-management tasks. They considered themselves to be more than just their conditions/labels. Some students described positive experiences with their peers, but many reported being bullied and some reported not being respected (*category 14*). They experienced verbal, social, and physical bullying because they were perceived to be different than their peers in how they looked and acted, and the students were often unable to respond to these circumstances. The synthesized statement generated from these categories pertains to the centrality of recognizing the importance for students to fit in; this includes opportunities to interact with their peers without disabilities or special needs in an environment that nurtures respect and strong relationships, as well as flexibility in their curriculum and activities through options that would ensure students with disabilities have an opportunity to interact and build relationships with their classmates. Educators and families of all students should make an effort to normalize the need for accommodations and address bullying in a way that includes students with disabilities.

Synthesis 6 – Students' Views of Themselves (Figure 7)

Students expressed unhappy feelings when describing their conditions and their limitations. They attributed their lack of participation in school physical activities and social interactions to the physical and cognitive limitations imposed by their conditions (*category 16*). Participants seemed to understand and were able to articulate their positive and negative experiences surrounding their conditions (which are sometimes hidden), the associated labels, and their overall identity, as well as how these aspects of themselves affect, or are affected by, other factors (e.g., participation, classmates, teachers) and how those relate to their behaviours (*category 15*). Students developed strategies to solve their problems and cope with negative experiences, such as adopting activities that focus on their strengths, avoiding negative environmental factors (e.g., crowd and noise), and by tapping into their personal sources of strength and success (*category 17*).

Furthermore, the students described having plans/goals for the future (vocational and educational) (*category 18*). They discussed an emerging sense of independence, enthusiasm, and optimism, although these feelings and their plans/goals may be affected by their conditions. Each student has their own unique experiences at school; some are more engaged and have a more positive and enjoyable experience, while others may have more difficulty engaging in social and academic settings (*category 19*). Nonetheless, the students have a good understanding of themselves, including their strengths and needs, which they were able to acknowledge. Hence, they were able to generate solutions to their problems and also plan for their futures. Thus, the overarching synthesized statement for these categories pertains to the importance of giving students an opportunity to share their experiences, and to take these experiences into account, to create a more meaningful and inclusive learning environment.

Discussion

This QES aimed to investigate the perspectives of children and youth with disabilities and special needs regarding their experiences in IE. We synthesized 27 primary qualitative studies to generate synthesized statements to guide practitioners and policy makers. The included studies were considered to be dependable, trustworthy, and congruent, and thus, of high methodological quality. The overarching synthesized statements, generated based on the experiences of these children and youth, identify six areas related to their school life: teachers' and education workers' attitudes and supportiveness, education workers' and support personnel's implementation of suitable supports and accommodations, students' need for safe and accommodating physical environments at school, students' preparedness for transitioning to high school, students' views of their friendships and peer interactions, and students' views of themselves.

The six synthesized statements resulting from our meta-aggregation focus on specific areas that would help to create an inclusive school experience for all, and they also apply to specific stakeholders who would be best fit to address these matters. These stakeholders include, but are not limited to, teachers, principals and other education workers (e.g., teaching/education assistants, school staff), support personnel (e.g., special education teachers, specialist staff, speech-language pathologists, occupational therapists), and families.

Based on our findings, it is evident that strong leadership at the school level is fundamental to creating an inclusive school experience for students. This is due to the fact that it is important for teachers and other education workers (e.g., teaching/education assistants), and support personnel to advocate for IE and take responsibility to include students appropriately within IE. Findings in our first and second synthesized statements emphasize the need for

educators to understand students' strengths and needs to be able to provide supports appropriately; these findings support Hannes and colleagues' (2018) findings regarding the importance of the competencies of teachers to create an inclusive learning environment. Additionally, students require their supports and accommodations to be consistent and effective as well as provided subtly and skillfully.

To provide strong leadership at the school level and support students appropriately in IE, educators and support personnel require adequate knowledge of IE, training to work in inclusive classrooms with students with diverse needs, as well as support from their colleagues with expertise in special education, the school board, and ministries of education (Anaby et al., 2020; McCrimmon, 2015). However, teachers do not always feel they have the necessary level of understanding of students' condition to provide them with the appropriate support (McCrimmon, 2015; Roberts and Simpsons, 2016). Often, teacher preparation programs do not provide general education teachers with adequate training or experience to work with students with diverse needs (DeSimone & Parmar, 2006; McCrimmon, 2015; Timmons, 2006).

Accordingly, we would recommend that schools and school board leadership (e.g., superintendents), government agencies, and policy makers integrate knowledge needed to implement IE, including the students' perspectives, into training opportunities so that teachers are prepared to work effectively in an inclusive environment. Two potential approaches can be considered. One is to incorporate curricula on childhood disability and IE in the existing curriculum for teacher education that would serve to provide educators with the necessary knowledge and training (McCrimmon, 2015; Specht et al., 2016; Thompson et al., 2015). A second approach worth considering, especially for in-servicing teachers, are evidence-based professional development opportunities where educators can enhance their ability to create

inclusive settings for students with various needs and effectively collaborate with other professionals (Florian, 2012; Nishimura, 2014; Thompson et al., 2015). This training will equip educators with skills and confidence to better understand and support learners with diverse needs (Lewis & Bagree, 2013; Specht et al., 2016).

Throughout our synthesis, it has been evident that students, regardless of their conditions and needs, require and expect a level of flexibility in their academic curriculum, other school activities, and their supports and accommodations. As is evident from our second and third synthesized statements, students prefer to have options for support and accommodations as well as individualized support that considers their needs and wants and does not set them apart from their peers. The latter finding is further emphasized in our fifth synthesized statement, where it is stressed that students want and expect to be included in activities with their peers; a lack of appropriate support and accommodation can make students feel isolated from their peers. These observations further support Hannes and colleagues' (2018) finding regarding the importance of individualized support.

Following from our findings, we would recommend educators create a flexible learning environment where all students feel included and appropriately supported by designing curricula lessons using accessible education frameworks such as universal design for learning (UDL) (CAST, 2018). The principles of UDL can be applied to the design of instructional materials and learning environment modifications (CAST, 2018; Edyburn, 2005). UDL can be utilized in tandem with assistive technologies to reduce barriers for students with disabilities and special needs, while also benefitting all other students. By accounting for students' strengths and needs, UDL provides flexibility in the way students access and engage with information and demonstrate their knowledge (CAST, 2018). Therefore, designing curricula using UDL, with the

diversity of the student body in mind, can provide students with opportunities not only to strengthen relationships with their peers, but also to develop and demonstrate their strengths and competency, encouraging inclusion. Further, UDL encourages educators to plan how content can be delivered with scaffolds for all students, rather than isolating students from their peers based on the specific supports they need, thereby reducing social isolation and stigmatization (Learning Disabilities Association of Ontario, 2020; Venkatesh, 2015).

To achieve our recommendation that educators create flexible learning environments, it is vital for educators to have knowledge and understanding of their students, as well as have adequate knowledge and training to implement UDL and other necessary evidence-based practices to create an inclusive learning environment. UDL has been embraced by many educators and government agencies in Canada (Kennedy et al., 2018; Ontario Ministry of Education, 2013). However, these strategies clearly could be reinforced and further supported, especially with respect to implementation.

Our synthesis of the perspectives of children and youth with disabilities and special needs provided rich descriptions and illustrations about these children's school experiences that were not captured in previous syntheses about IE. Of the 27 primary studies included in our synthesis, only four focused on the perspectives of adults regarding their school experiences; most of our findings and generated recommendations are driven by the insights of children and youth attending elementary, middle, and high schools. Thus, it is evident that children and youth, regardless of the type of disabilities/special needs or age, have a profound understanding of their conditions and its effects on their lives; they understand their strengths, needs, the aspects of their school that work well for them, and ones that do not; and they are able to articulate these when given the right opportunities. For example, in our fourth synthesized statement, students

articulated their experience during and after transition to high school. Their concerns during this period are similar to those of students without disability and special needs (Benner, 2011; Neal, 2016; Smith et al., 2008; Zeedyk et al., 2003). But students with disabilities and special needs do not always find all efforts to be helpful, as described in our fourth synthesis. The participants in these original studies indicated a desire and appreciation for strategically implemented supports for transition that address the procedural, academic, social, and environmental aspects in a way that they perceive to be relevant and meet their needs by employing a positive outlook. This finding, along with our sixth statement, further highlights the insights that these children and youth can provide about their experiences and emphasizes the importance of listening to and including their voices.

Therefore, we would recommend families, teachers, principals, and other education workers afford students of all ages and abilities opportunities to voice their experiences and perceptions regarding their learning, social, and environmental needs, and to include them in processes that they are knowledgeable about and that affect them. Students need to be involved in processes of planning, developing, and implementation of measures meant to improve IE, including supports and accommodations for themselves, intervention, and training for their teachers to make their schools inclusive.

Strengths and Limitations of the Review

A notable strength of our meta-aggregative review is that within our own review process, we ensured quality and trustworthiness in several ways. We ensured credibility through engaging multiple trained reviewers during article screening, selection, and data extraction processes as well as addressing confirmability and dependability through peer debriefings and audit trails. Such strategies served to enhance confidence that the outcomes of our synthesis were not based

on any single reviewer's particular viewpoints or preferences but were clearly derived from the data. Further, our meta-aggregative review updated and extended the work of Hannes et al. (2018) in the following ways: 1) by including recent literature, published between 2011 and 2019, which was not included in Hannes and colleagues' literature search; 2) by developing a more comprehensive search strategy by using a wide range of search terms and searching more databases; and 3) by ensuring the methodological quality of included studies.

With respect to methodological quality, although critical appraisal ensured that our synthesis and recommendations were based on evidence from methodologically sound research, two-thirds of eligible studies were excluded during this process. There is ongoing debate on whether quality assessments should be applied to QES, what criteria should distinguish high quality research from others, and what should be done with moderate or lower quality studies (Hannes et al., 2010). One suggestion Hannes et al. (2018) offered is to perform a sensitivity analysis, meaning reviewers examine whether the exclusion of evidence from lower quality studies has any influence on the results of the synthesis. This was not feasible in our case, as we had 90 eligible studies. Hence, our final decision to advance 29 of the highest quality studies from this phase was determined by the need for rigour and trustworthiness, as we were seeking to advance knowledge and inform action, as well as by the reasonably robust number of articles from which we could choose. However, it is not possible for us to know if some important findings were missed because of this decision.

Another potential limitation of our review is that we included only studies from high income countries. Thus, the results of our synthesis may not be transferable to the educational contexts of lower-and-middle-income countries (LMICs). Because the educational contexts of LMICs may differ significantly from those of high-income countries, it did not seem appropriate

to synthesise data from both contexts in one review. Finally, although our synthesis results are transferable to children and youth of various school ages, conditions, and special needs, only one study included participants with intellectual disabilities, specifically fetal alcohol spectrum disorder (Knorr & McIntyre, 2016). Students with intellectual disabilities attend "inclusive" schools, and they experience various barriers when accessing their education (Reid et al., 2018). Thus, the school experiences of children and youth with intellectual disabilities, from their own perspectives, still require further research.

Future Research

The first step to understanding IE, as a whole, and improving the implementation of IE, is to consolidate evidence regarding IE from different perspectives. Consolidating the findings of our meta-aggregative review with experiences of families, teachers and other educators, support staff, peers, as well as what families report about their children's experience can provide a clearer and more complete image of IE, including what works well, what needs to change, and at what level the change needs to occur. Hence, an umbrella review, or overviews or review, is a logical and appropriate next step. An umbrella review would allow for the comparison and contrasting of the experiences in IE from different stakeholders' perspective, providing a broader picture on this topic.

Additionally, it is necessary to consider experiences and perceptions of children and youth, from their perspectives, as in the findings of this review, to ensure that future initiatives are more suitable for all children and youth, including those with disabilities. Hence, future research might also explore how to engage children and youth, especially those with disabilities and special needs, when planning and developing resources, curricula, training/educational material relevant to IE. Children's experiences from their perspectives not only broaden

collective understandings, but also provide unique insights that are necessary, along with knowledge of others' perspectives on IE, to improve evidence-based practice in IE. These initiatives and our resulting recommendations for action can serve to better support students with disabilities, educators, school support personnel, and families in IE.

Conclusion

It has been well established that IE is more than simply the practice of providing students with access to general education; rather, it is the way schools, activities, and programs are designed to respond to individual learning needs by providing sufficient support and removing barriers to participation for all students. Yet, students face a number of barriers in accessing their education in inclusive settings. The findings from this meta-aggregative review suggest that: i) there is a need for strong leadership in IE at the school level, which government agencies, university pre-professional programs, and school board leadership can cultivate by creating opportunities for educators to train and collaborate with other professionals; ii) flexibility is necessary in curriculum, instruction, and the school environment, for which training and experience is needed; and iii) it is important to prioritize students' voices, as they have a profound understanding of their strengths and needs, as well as their conditions and how they affect their lives. These findings should be taken into consideration when planning/developing curricula and activities for students, as well as education and training materials for educators and support staff.

References

Anaby, D. R., Ianni, L., Héguy, L., & Camden, C. (2020). Actual and ideal roles of school staff to support students with special needs: Current needs and strategies for improvement. *Support for Learning*, *35*(3), 326–345. https://doi.org/10.1111/1467-9604.12313

Benner, A. D. (2011). The transition to high school: Current knowledge, future directions. *Educational Psychology Review*, *23*(3), 299–328. https://doi.org/10.1007/s10648-011-9152-0

Bennett, S., Dworet, D., & Weber, K. J. (2013). *Special education in Ontario schools* (7th ed.). Highland Press.

Canadian Research Centre on Inclusive Education. (n.d.). *Understanding inclusive education*. Retrieved September 13, 2020, from https://inclusiveeducationresearch.ca/about/inclusion.html

CAST (2018). *Universal design for learning guidelines version 2.2*. http://udlguidelines.cast.org

Committee on the Rights of Persons with Disabilities. (2016, November 25). *General comment no. 4 on the right to inclusive education*. Office of the United Nations High Commissioner for Human Rights. https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=CRPD/C/GC/4&Lang=en

Cosier, M., Causton-Theoharis, J., & Theoharis, G. (2013). Does access matter? Time in general education and achievement for students with disabilities. *Remedial and Special Education*, *34*(6), 323–332. https://doi.org/10.1177/0741932513485448

Critical Appraisal Skills Program. (2018). *CASP qualitative checklist*. https://casp-uk.net/wp-content/uploads/2018/01/CASP-Qualitative-Checklist-2018.pdf

de Boer, A., Pijl, S. J., & Minnaert, A. (2012). Students' attitudes towards peers with disabilities: A review of the literature. *International Journal of Disability, Development and Education*, *59*(4), 379–392. https://doi.org/10.1080/1034912X.2012.723944

Dell'Anna, S., Pellegrini, M., & Ianes, D. (2019). Experiences and learning outcomes of students without special educational needs in inclusive settings: A systematic review. *International Journal of Inclusive Education*. https://doi.org/10.1080/13603116.2019.1592248

DeSimone, J. R., & Parmar, R. S. (2006). Middle school mathematics teachers' beliefs about inclusion of students with learning disabilities. *Learning Disabilities Research & Practice*, *21*(2), 98–110. https://doi.org/10.1111/j.1540-5826.2006.00210.x

Edyburn, D. L. (2005). Universal design for learning. *Special Education Technology Practice*, *7*(5), 16-22. https://www.ocali.org/up_doc/UDL_SETP7.pdf

Falvey, M. A., & Givner, C. C. (2005). Chapter 1. What is an inclusive school? In R. A. Villa & J. S. Thousand (Eds.), *Creating an inclusive school* (2nd ed., pp. 1–11). Association for Supervision & Curriculum Development. http://www.ascd.org/publications/books/105019/chapters/What-Is-an-Inclusive-School%C2%A2.aspx

Florian, L. (2012). Preparing teachers to work in inclusive classrooms: Key lessons for the professional development of teacher educators from Scotland's inclusive practice project. *Journal of Teacher Education*, *63*(4), 275–285. https://doi.org/10.1177/0022487112447112

Flower, A., McKenna, J. W., Haring, C. D., & Pazey, B. (2015). School-to-life transition: Perceptions of youth in behavior intervention programs. *Preventing School Failure: Alternative Education for Children and Youth*, *59*(4), 217–226. https://doi.org/10.1080/1045988X.2014.917602

Gaskin, C. J., Andersen, M. B., & Morris, T. (2012). Physical activity in the life of a woman with cerebral palsy: Physiotherapy, social exclusion, competence, and intimacy. *Disability & Society*, *27*(2), 205–218. https://doi.org/10.1080/09687599.2011.644931

Gibbs, K. (2018). Australian adolescent boys with attention deficit/hyperactivity disorder (AD/HD): Teacher and teaching factors that assess the efficacy of reducing unwanted behaviours within the classroom environment. *Australian Journal of Learning Difficulties*, *23*(1), 53–65. https://doi.org/10.1080/19404158.2017.1393626

Goodall, C. (2019). 'There is more flexibility to meet my needs': Educational experiences of autistic young people in mainstream and alternative education provision. *Support for Learning*, *34*(1), 4–33. https://doi.org/10.1111/1467-9604.12236

Haegele, J. A., & Buckley, M. (2019). Physical education experiences of Alaskan youths with visual impairments: A qualitative inquiry. *Journal of Visual Impairment & Blindness*, *113*(1), 57–67. https://doi.org/10.1177/0145482X18818614

Haegele, J. A., & Zhu, X. (2017). Experiences of individuals with visual Impairments in integrated physical education: A retrospective study. *Research Quarterly for Exercise and Sport*, *88*(4), 425–435. https://doi.org/10.1080/02701367.2017.1346781

Haegele, J. A., Zhu, X., & Davis, S. (2017). The meaning of physical education and sport among elite athletes with visual impairments. *European Physical Education Review*, *23*(4), 375–391. https://doi.org/10.1177/1356336X16650122

Hannes, K., Lockwood, C., & Pearson, A. (2010). A comparative analysis of three online appraisal instruments' ability to assess validity in qualitative research. *Qualitative Health Research*, *20*(12), 1736–1743. https://doi.org/10.1177/1049732310378656

Hannes, K., Petry, K., & Heyvaert, M. (2018). The meta-aggregative approach to qualitative evidence synthesis: A worked example on experiences of pupils with special educational needs in inclusive education. *International Journal of Research & Method in Education*, *41*(3), 291–305. https://doi.org/10.1080/1743727X.2017.1299124

Hannes, K., Raes, E., Vangenechten, K., Heyvaert, M., & Dochy, F. (2013). Experiences from employees with team learning in a vocational learning or work setting: A systematic review of qualitative evidence. *Educational Research Review*, *10*, 116–132. https://doi.org/10.1016/j.edurev.2013.10.002

Healy, S., Msetfi, R., & Gallagher, S. (2013). 'Happy and a bit nervous': The experiences of children with autism in physical education. *British Journal of Learning Disabilities*, *41*(3), 222–228. https://doi.org/10.1111/bld.12053

Hehir, T., Grindal, T., & Eidelman, H. (2012). *Review of special education in the Commonwealth of Massachusetts.* Massachusetts Department of Elementary and Secondary Education. http://doi.org/10.13140/RG.2.2.19735.98725

Hill, L. (2014). 'Some of it I haven't told anybody else': Using photo elicitation to explore the experiences of secondary school education from the perspective of young people with a diagnosis of autistic spectrum disorder. *Educational and Child Psychology*, *31*(1), 79–89.

Inclusive Education Canada. (n.d.). *What is inclusive education?* https://inclusiveeducation.ca/about/what-is-ie/

Kennedy, J., Missiuna, C., Pollock, N., Wu, S., Yost, J., & Campbell, W. (2018). A scoping review to explore how universal design for learning is described and implemented by rehabilitation health professionals in school settings. *Child: Care, Health and Development*, *44*(5), 670–688. https://doi.org/10.1111/cch.12576

Kivunja, C., & Kuyini, A. B. (2017). Understanding and applying research paradigms in educational contexts. *International Journal of Higher Education*, *6*(5), 26–41. https://doi.org/10.5430/ijhe.v6n5p26

Knorr, L., & McIntyre, L. J. (2016). Resilience in the face of adversity: Stories from adults with fetal alcohol spectrum disorders. *Exceptionality Education International*, *26*(1), 53–75. https://doi.org/10.5206/eei.v26i1.7735

Korstjens, I., & Moser, A. (2018). Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice*, *24*(1), 120–124. https://doi.org/10.1080/13814788.2017.1375092

Learning Disabilities Association of Ontario. (2014, May 7). Universal Design for Learning (UDL). *LD@school*. https://www.ldatschool.ca/universal-design-for-learning-udl/

Leonardi, M., Bickenbach, J., Ustun, T. B., Kostanjsek, N., & Chatterji, S. (2006). The definition of disability: What is in a name? *The Lancet*, *368*(9543), 1219–1221. http://doi.org/10.1016/S0140-6736(06)69498-1

Lewis, I., & Bagree, S. (2013, July). *Teachers for all: Inclusive teaching for children with disabilities*. International Disability and Development Consortium. https://sites.unicef.org/disabilities/files/IDDC_Paper-Teachers_for_all.pdf

Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P. A., Clarke, M., Devereaux, P. J., Kleijnen, J., & Moher, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate healthcare interventions: Explanation and elaboration. *BMJ*, *339*, Article b2700. https://doi.org/10.1136/bmj.b2700

Lindsay, S., & McPherson, A. C. (2012). Experiences of social exclusion and bullying at school among children and youth with cerebral palsy. *Disability and Rehabilitation*, *34*(2), 101–109. https://doi.org/10.3109/09638288.2011.587086

Lockwood, C., Munn, Z., & Porritt, K. (2015). Qualitative research synthesis: Methodological guidance for systematic reviewers utilizing meta-aggregation. *International Journal of Evidence-Based Healthcare*, *13*(3), 179–187. https://doi.org/10.1097/XEB.0000000000000062

Lockwood, C., Porritt, K., Munn, Z, Rittenmeyer, L., Salmond, S., Bjerrum, M., Loveday, H., Carrier, J., & Stannard, D. (2020). Chapter 2: Systematic reviews of qualitative evidence. In E. Aromataris & Z. Munn (Eds.), *JBI manual for evidence synthesis.* JBI. https://doi.org/10.46658/JBIMES-20-03

Loreman, T., Sharma, U., & Forlin, C. (2013). Do pre-service teachers feel ready to teach in inclusive classrooms? A four country study of teaching self-efficacy. *Australian Journal of Teacher Education*, *38*(1), Article 3. https://doi.org/10.14221/ajte.2013v38n1.10

Mack, N., Woodsong, C., MacQueen, K. M., Guest, G., & Namey, E. (2005). *Qualitative research methods: A data collector's field guide*. Family Health International. https://course.ccs.neu.edu/is4800sp12/resources/qualmethods.pdf

Mayes, R. D., Hines, E. M., & Harris, P. C. (2014). *Working with Twice-Exceptional African American Students: Information for School Counselors*. *4*(2), 15.

McCrimmon, A. W. (2015). Inclusive education in Canada: Issues in teacher preparation. *Intervention in School and Clinic*, *50*(4), 234–237. https://doi.org/10.1177/1053451214546402

McTavish, J. R., Kimber, M., Devries, K., Colombini, M., MacGregor, J. C. D., Wathen, C. N., Agarwal, A., & MacMillan, H. L. (2017). Mandated reporters' experiences with reporting child maltreatment: A meta-synthesis of qualitative studies. *BMJ Open*, *7*, Article e013942. https://doi.org/10.1136/bmjopen-2016-013942

Mealings, M., Douglas, J., & Olver, J. (2017). Beyond academic performance: Practice implications for working with students following traumatic brain injury. *International Journal of Speech-Language Pathology*, *19*(5), 441–453. https://doi.org/10.1080/17549507.2016.1221453

Merriam-Webster. (n.d.). Special needs. In *Merriam-Webster.com dictionary*. Retrieved August 6, 2020, from https://www.merriam-webster.com/dictionary/special%20needs

Merrick, R., & Roulstone, S. (2011). Children's views of communication and speech-language pathology. *International Journal of Speech-Language Pathology*, *13*(4), 281–290. https://doi.org/10.3109/17549507.2011.577809

Mitchell, D. (2010, July). *Education that fits: Review of international trends in the education of students with special educational needs*. Education Counts. https://www.educationcounts.govt.nz/__data/assets/pdf_file/0016/86011/Mitchell-Review-Final.pdf

Neal, S., & Frederickson, N. (2016). ASD Transition to mainstream secondary: A positive experience? *Educational Psychology in Practice*, *32*(4), 355–373. https://doi.org/10.1080/02667363.2016.1193478

New Brunswick Association for Community Living. (n.d.). *Inclusive education and its benefits.* https://nbacl.nb.ca/module-pages/inclusive-education-and-its-benefits/

Ng, S. J., Hill, M. F., & Rawlinson, C. (2016). Hidden in plain sight: The experiences of three twice-exceptional students during their transfer to high school. *Gifted Child Quarterly*, *60*(4), 296–311. https://doi.org/10.1177/0016986216656257

Nishimura, T. (2014). Effective professional development of teachers: A guide to actualizing inclusive schooling. *International Journal of Whole Schooling*, *10*(1), 19–42.

Ontario Ministry of Education. (2013). *Learning for all: A guide to effective assessment and instruction for all students, kindergarten to grade 12*. http://www.edu.gov.on.ca/eng/general/elemsec/speced/learningforall2013.pdf

Opie, J. (2018). Technology today: Inclusive or exclusionary for students with vision impairment? *International Journal of Disability, Development and Education*, *65*(6), 649–663. https://doi.org/10.1080/1034912X.2018.1433294

Opie, J., & Southcott, J. (2015). Schooling through the eyes of a student with vision impairment. *International Journal on School Disaffection*, *11*(2), 67–80.

Opie, J., & Southcott, J. (2016). Establishing equity and quality: The experience of schooling from the perspective of a student with vision impairment. *International Journal of Whole Schooling*, *12*(2), 19–35. http://www.wholeschooling.net/Journal_of_Whole_Schooling/articles/12-2%20Opie%20&%20Southcott.pdf

Opie, J., Southcott, J., & Deppeler, J. (2017). *"It helps if you are a loud person": Listening to the voice of a school student with a vision impairment*, *22*(9), 2369–2384. https://nsuworks.nova.edu/tqr/vol22/iss9/7

Parekh, G., & Brown, R. S. (2019). Changing lanes: The relationship between special education placement and students' academic futures. *Educational Policy*, *33*(1), 111–135. https://doi.org/10.1177/0895904818812772

Pearson, A., Robertson-Malt, S., & Rittenmeyer, L. (2011). *Synthesizing qualitative evidence*. Lippincott Williams & Wilkins. https://nursing.lsuhsc.edu/JBI/docs/JBIBooks/Syn_Qual_Evidence.pdf

Poon, K. K., Soon, S., Wong, M.-E., Kaur, S., Khaw, J., Ng, Z., & Tan, C. S. (2014). What is school like? Perspectives of Singaporean youth with high-functioning autism spectrum disorders. *International Journal of Inclusive Education*, *18*(10), 1069–1081. https://doi.org/10.1080/13603116.2012.693401

Reid, L., Bennett, S., Specht, J., White, R., Somma, M., Li, X., Lattanzio, R., Gavan, K., Kyle, G., Porter, G., & Patel, A. (2018). *If inclusion means everyone, why not me?* Community Living Ontario. https://communitylivingontario.ca/wp-content/uploads/2018/05/If_Inclusion_Means_Everyone_Why_Not_Me_FINAL_s.pdf

Roberts, J., & Simpson, K. (2016). A review of research into stakeholder perspectives on inclusion of students with autism in mainstream schools. *International Journal of Inclusive Education*, *20*(10), 1084–1096. https://doi.org/10.1080/13603116.2016.1145267

Saggers, B., Hwang, Y.-S., & Mercer, K. L. (2011). Your voice counts: Listening to the voice of high school students with autism spectrum disorder. *Australasian Journal of Special Education*, *35*(2), 173–190. https://doi.org/10.1375/ajse.35.2.173

Salend, S. J., & Duhaney, L. M. G. (1999). The impact of inclusion on students with and without disabilities and their educators. *Remedial and Special Education*, *20*(2), 114–126. https://doi.org/10.1177%2F074193259902000209

Smith, J. S., Akos, P., Lim, S., & Wiley, S. (2008). Student and stakeholder perceptions of the transition to high school. *The High School Journal*, *91*(3), 32–42. https://doi.org/10.1353/hsj.2008.0003

Specht, J., McGhie-Richmond, D., Loreman, T., Mirenda, P., Bennett, S., Gallagher, T., Young, G., Metsala, J., Aylward, L., Katz, J., Lyons, W., Thompson, S., & Cloutier, S. (2016). Teaching in inclusive classrooms: Efficacy and beliefs of Canadian preservice teachers. *International Journal of Inclusive Education*, *20*(1), 1–15. https://doi.org/10.1080/13603116.2015.1059501

Szumski, G., Smogorzewska, J., & Karwowski, M. (2017). Academic achievement of students without special educational needs in inclusive classrooms: A meta-analysis. *Educational Research Review*, *21*, 33–54. https://doi.org/10.1016/j.edurev.2017.02.004

The World Bank. (n.d.). *World bank country and lending groups.* Retrieved August 1, 2019, from https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

Thompson, S. A., Lyons, W., & Timmons, V. (2015). Inclusive education policy: What the leadership of Canadian teacher associations has to say about it. *International Journal of Inclusive Education*, *19*(2), 121–140. https://doi.org/10.1080/13603116.2014.908964

Thorne, S. (2000). Data analysis in qualitative research. *Evidence-Based Nursing*, *3*(3), 68–70. https://doi.org/10.1136/ebn.3.3.68

Timmons, V. (2006). Impact of a multipronged approach to inclusion: Having all partners on side. *International Journal of Inclusive Education*, *10*(4–5), 469–480. https://doi.org/10.1080/13603110500392726

Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., Moher, D., Peters, M. D. J., Horsley, T., Weeks, L., Hempel, S., Akl, E. A., Chang, C., McGowan, J., Stewart, L., Hartling, L., Aldcroft, A., Wilson, M. G., Garritty, C., … Straus, S. E. (2018). PRISMA extension for scoping reviews (PRISMA-ScR): Checklist and explanation. *Annals of Internal Medicine*, *169*(7), 467–473. https://doi.org/10.7326/M18-0850

United Nations International Children's Emergency Fund. (2017, September). *Inclusive education: Understanding Article 24 of the Convention on the Rights of Persons with Disabilities*. https://www.unicef.org/eca/sites/unicef.org.eca/files/IE_summary_accessible_220917_0.pdf

United Nations Division for Social Policy and Development & Department of Economic and Social Affairs. (2016). *Toolkit on disability for Africa: Inclusive education*. United Nations. https://www.un.org/esa/socdev/documents/disability/Toolkit/Inclusive-Education.pdf

United Nations Educational, Scientific and Cultural Organization. (1994). The Salamanca statement and framework for action on special needs education. https://www.right-to-education.org/sites/right-to-education.org/files/resource-attachments/Salamanca_Statement_1994.pdf

Venkatesh, K. (2015, May). *Universal Design for Learning as a Framework for Social Justice: A Multi-Case Analysis of Undergraduate Pre-Service Teachers* [Doctoral dissertation, Boston College]. Boston College University Libraries. https://core.ac.uk/download/pdf/151481195.pdf

Walker, T. J., & Reznik, M. (2014). In-school asthma management and physical activity: Children's perspectives. *Journal of Asthma. 51*(8). 808-813 https://doi.org/10.3109/02770903.2014.920875

Wang, Y. L., Brown, S. A., & Horner, S. D. (2013). The school-based lived experiences of adolescents with type 1 diabetes. *Journal of Nursing Research*, *21*(4), 235–243. https://doi.org/10.1097/jnr.0000000000000003

Wintels, S. C., Smits, D.-W., van Wesel, F., Verheijden, J., & Ketelaar, M. (2018). How do adolescents with cerebral palsy participate? Learning from their personal experiences. *Health Expectations*, *21*(6), 1024–1034. https://doi.org/10.1111/hex.12796

World Health Organization. (2011). *World report on disability*. https://www.who.int/disabilities/world_report/2011/report.pdf?ua=1

Yamamoto, K. K., & Black, R. S. (2015). Standing behind and listening to Native Hawaiian students in the transition process. *Career Development and Transition for Exceptional Individuals*, *38*(1), 50–60. https://doi.org/10.1177/2165143413498412

Yu, S. Y., Ostrosky, M. M., & Fowler, S. A. (2012). Measuring young children's attitudes toward peers with disabilities: Highlights from the research. *Topics in Early Childhood Special Education*, *32*(3), 132–142. https://doi.org/10.1177/0271121412453175

Zeedyk, M. S., Gallacher, J., Henderson, M., Hope, G., Husband, B., & Lindsay, K. (2003). Negotiating the transition from primary to secondary school: Perceptions of pupils, parents and teachers. *School Psychology International*, *24*(1), 67–79. https://doi.org/10.1177/0143034303024001010

Zitomer, M. R. (2016). 'Dance makes me happy': Experiences of children with disabilities in elementary school dance education. *Research in Dance Education*, *17*(3), 218–234. https://doi.org/10.1080/14647893.2016.1223028

Zwicker, J. G., Suto, M., Harris, S. R., Vlasakova, N., & Missiuna, C. (2018). Developmental coordination disorder is more than a motor problem: Children describe the impact of daily struggles on their quality of life. *British Journal of Occupational Therapy*, *81*(2), 65–73. https://doi.org/10.1177/0308022617735046

Table 1

Example of Database Search Terms

Population terms	Interest terms	Context terms	Study design terms
(child* *OR* student* *OR* youth) *AND* (disab* *OR* special need* *OR* autis*)	(youth* *OR* child*) (adjacency operator) (attitude* *OR* experience* *OR* perspective* *OR* voice*)	inclus* *OR* mainstream *OR* school* *OR* class*	ethnography *OR* interview *OR* qualitative *OR* photovoice

Table 2

Levels of Credibility and Their Descriptions

Level of credibility	Description
Unequivocal	Evidence that is beyond reasonable doubt. This may include findings accompanied by illustrations that are matter of fact, directly reported/observed and not open to challenge.
Credible	Evidence that is plausible but can be open to challenge. This includes findings that are accompanied by an illustration lacking clear association with it.
Unsupported	When none of the other level descriptors apply, and when the finding is not supported by the data.

Note. Adapted from " Systematic Reviews of Qualitative Evidence " by C. Lockwood, K, Porrit, Z. Munn, 2020 (https://wiki.jbi.global/display/MANUAL/2.4+The+JBI+Approach+to+qualitative+synthesis). Copyright 2020 by the Joanna Briggs Institute

Table 3

Main Characteristics of the Studies Selected for Data Extraction and Synthesis

Author	Study characteristic				Participant characteristic		Study setting	
	Phenomenon of interest	Methodology	Method of data collection	Data analysis approach	Participants' gender & age (years)	Type of disability or SEN	Setting	Location of study
1. Flower et al. (2015)	Perceptions of school experiences in preparation for transition of high school students with emotional disturbance	Phenomenography	Interviews	Thematic analysis	6 males and 1 female 15-18	Emotional Disturban-ce	Local high school	United States of America (USA)
2. Gaskin et al. (2012)	Meanings and experiences of activity of an individual with cerebral palsy throughout their life	Case study	Interview	Not specified	1 female 29	Cerebral palsy (spastic Hemiple-gic)	School for disabled children in early primary schooling (late 1970s). Mainstre-am primary school and high school	Australia
3. Gibbs (2018)	Perspectives of adolescent boys with ADHD on teaching and	Multiple, instrumen-tal case study	Semi-structured individual and focus group intervi-ews (as	Constant Compari-son method	6 males Middle or senior years of	ADHD	All-boys high school	Australia

Author	Study characteristic				Participant characteristic		Study setting	
	Phenomenon of interest	Methodology	Method of data collection	Data analysis approach	Participants' gender & age (years)	Type of disability or SEN	Setting	Location of study
	teaching factors that enabled them to regain focus (if distracted) and concentrate on classroom learning		well as school reports)		schooling (Years 9-12) (age not reported)			
4. Goodall (2019)	Perspectives of young people with autism on their educational experiences	Not reported	Semi-structured interviews, participatory methods	Thematic analysis	7 males 13-16	ASD	Mainstream school	Ireland
5. Haegele & Buckl-ey (2019)	Experiences of Alaskan youths with visual impair-ments about physical education	Phenomenology	Semi-structured interviews	Thematic analysis	3 males and 1 female 11-16	Visual imp-airment	Public school	USA
6. Haegele & Zhu (2017)	Experiences of adults with visual impair-ments during school-based integrated physical education	Interpretive Phenom-enological Analysis (IPA)	Semi-structured telephone int-erviews and reflective field notes	IPA	6 males and 10 females 21-48	Visual imp-airment	Public, priv-ate, and Catholic primary and high schools	USA and Canada
7. Haegele, et al. (2017)	The meaning that (adult) elite athletes with visual	Phenomenology	Semi-structured telephone int-erviews and reflective	IPS	4 males 22-37	Visual imp-airment	Public and private primary and high	USA

Author	Study characteristic				Participant characteristic		Study setting	
	Phenomenon of interest	Methodology	Method of data collection	Data analysis approach	Participants' gender & age (years)	Type of disability or SEN	Setting	Location of study
	impairments ascribe to their school-based physical education and sport experiences		field notes				schools	
8. Healy et al. (2013)	Perspectives of children with autism on their physical education (PE)	Not reported	Semi-structured interviews	Thematic analysis	11 males and 1 female 9-13	Autism	Mainstream primary school PE without support from a special needs assistant	Ireland
9. Hill (2014)	Lived experience of mainstream secondary school for young people with a diagnosis of Autistic Spectrum Disorder (ASD)	IPA	Photo elicitation discussions	IPA	6 young people (gender not reported) Secondary school (age not reported)	ASD	Mainstream secondary schools	England
10. Knorr & McIntyre (2016)	School and life experiences of adults diagnosed with fetal alcohol spectrum	Not reported	Semi-structured Interviews	Not specified	2 males and 2 females 19-30	Fetal Alcohol Spectrum Disorders	No specific information on school settings	Canada

Author	Study characteristic				Participant characteristic		Study setting	
	Phenomenon of interest	Methodology	Method of data collection	Data analysis approach	Participants' gender & age (years)	Type of disability or SEN	Setting	Location of study
	disorders (FASD)							
11. Lindsay & McPhers-on (2012)	Experiences of exclusion and bullying among childr-en with cere-bral palsy	Not reported	Semi-structured in-depth inte-rviews and a focus group	Not specifi-ed	6 males and 9 females 8-19	Cerebral Palsy (CP)	Integrated classroom (i.e., has both children with and without disabiliti-es)	Canada
12. Mealin-gs, et al. (2017)	Experiences of students with traumatic brain injury (TBI) with their educational participation; how evidence from student-based experiences can be translated into practice relevant to the role of speech-language pathologists	Not reported	Semi-structured interviews	Grounded theory	3 males 13-17	TBI (severe, post-traumatic amnesia 25-51 days)	No specific Informat-ion on school setting	Not reported (but authors are Australian)

Author	Study characteristic				Participant characteristic		Study setting	
	Phenomenon of interest	Methodology	Method of data collection	Data analysis approach	Participants' gender & age (years)	Type of disability or SEN	Setting	Location of study
13. Merrick & Roulstone (2011)	Experiences of communication and of speech-language pathology from the perspectives of children with speech, language, and communication needs	Grounded theory	Open-ended interviews with non-verbal activities such as drawing, taking photographs, and compiling a scrapbook	Grounded theory	7 males and 4 females 7-10	Speech, language, and communication needs	Mainstream schools	England
14. Neal & Federickson (2016)	Perspectives of children with ASD who recently transitioned successfully into mainstream secondary schools	Not reported	Semi-structured interviews	Thematic analysis	1 male and 5 females Year 7 (age not reported)	ASD	Mainstream secondary schools	United Kingdom (UK)
15. Ng et al. (2016)	Experiences of twice-exceptional students (students with giftedness and learning difficulties) during their transfer from middle school	Not reported	Semi-structured interviews, journal entries made by the student participants, and school documentation relevant to the transfer process.	Categorical aggregation	1 male and 2 females 13	Twice-exceptional (giftedness accompanied by learning difficulties that hinder their ability to reach	Coeducational high school	New Zealand

Author	Study characteristic				Participant characteristic		Study setting	
	Phenomenon of interest	Methodology	Method of data collection	Data analysis approach	Participants' gender & age (years)	Type of disability or SEN	Setting	Location of study
	to high school					their potential in a traditional academic setting)		
16. Opie (2018)	Education experiences of students with visual impairment in mainstream secondary schools	IPA	Semi-structured interviews	IPA	3 females and 4 males 17-19	Visual impairment and blind ness	Mainstream secondary schools. 1 student was completing schooling at home via distance education after attending state (public) school, and the rest attended private schools	Australia
17. Opie et al. (2017)	Experiences of a student with vision impairment with mainstream schooling	IPA	Semi-structured interviews	IPA	1 male 18	Vision impairment	Mainstream secondary school	Australia

Author	Study characteristic				Participant characteristic		Study setting	
	Phenomenon of interest	Methodology	Method of data collection	Data analysis approach	Participants' gender & age (years)	Type of disability or SEN	Setting	Location of study
18. Opie & Southcott (2015)	Perspectives of a student with vision impairment about experiences in an inclusive educational setting	Single case study with IPA	Semi-structured interviews	IPA	1 male >18 (year 12)	Vision imp-airment	Private boys' school	Australia
19. Poon et al. (2014)	Experiences of youth with high functioning autism in secondary schools	Not reported	In-depth semi-structured interviews	IPA	3 males and 1 female 14-16	ASD (high functioni-ng)	Regular sec-ondary schools	Singapore
20. Saggers et al. (2011)	Experiences of students with ASD in inclusive high schools	Not reported	Semi-structured interviews	Constant comparati ve methods	7 males and 2 females 13-16	ASD	Mainstream high school	Australia
21. Southco-tt & Opie (2016)	School experie-nces of a senior student with vision impairment	IPA	Semi-structured interviews	IPA	1 male Final year or year 12 (age not re-ported)	Vision imp-airment	Private boys' college	Australia
22. Walker & Reznik (2014)	Children's perc-eptions of the impact of in-school asthma management on regular	Not reported	Individual inter-views, artwork, observation, field notes	Thematic and conte-nt analys-is	11 males and 12 females 8-10	Asthma	Public elem-entary schools	USA

Author	Study characteristic				Participant characteristic		Study setting	
	Phenomenon of interest	Methodology	Method of data collection	Data analysis approach	Participants' gender & age (years)	Type of disability or SEN	Setting	Location of study
	physical activity							
23. Wang et al. (2013)	School-based lived experiences of Taiwanese adolescents with T1DM	Phenomenology	Semi-structured interviews	Not specified	8 males and 6 females Mean age 14.20 years (SD=1.20 years)	T1DM	Public junior high schools	Taiwan
24. Wintels et al. (2018)	Personal participation experiences of adolescents with CP in daily life areas: school, sports, health care and work	Participatory research	Semi-structured interviews	Grounded theory	13 males and 10 females 12-17	CP	No specific information on school setting	Netherland
25. Yamamoto (2015)	How culture, disability, and prospective first-generation college student status influence the transition decisions of native Hawaiian students with specific	Case study	Individualized semi-structured interviews, observations, collection and review of artifacts	Categorical aggregation	4 males and 1 female 14-17	Specific learning disability	Hawaiian-focused charter school	Hawaii, USA

Author	Study characteristic				Participant characteristic		Study setting	
	Phenomenon of interest	Methodology	Method of data collection	Data analysis approach	Participants' gender & age (years)	Type of disability or SEN	Setting	Location of study
	learning disabilities who attended a Hawaiian-focused charter school							
26. Zitomer (2016)	Perspectives of elementary school children with disabilities in inclusive dance education classrooms	Not reported	Semi-structured interviews, children's art-work, class observations, and research field notes	IPA	8 participants 6-10	Varied types of disabil-ities incl-uding autism spectrum disorder, neurodev-elopment-al disabil-ity, intell-ectual disabiliti-es	Elementary schools	Canada
27. Zwicker et al. (2018)	Perspectives of children with Developme-ental coordin-ation disorder (DCD) on their daily life and quality of life	Inductive realist appr-oach	Semi-structured (individualiz-ed) interviews	Thematic Analysis	10 males and 3 females 8-12	DCD	No specific Informati-on on schooling	Canada

Figure 1

Flowchart Outlining the Review Process

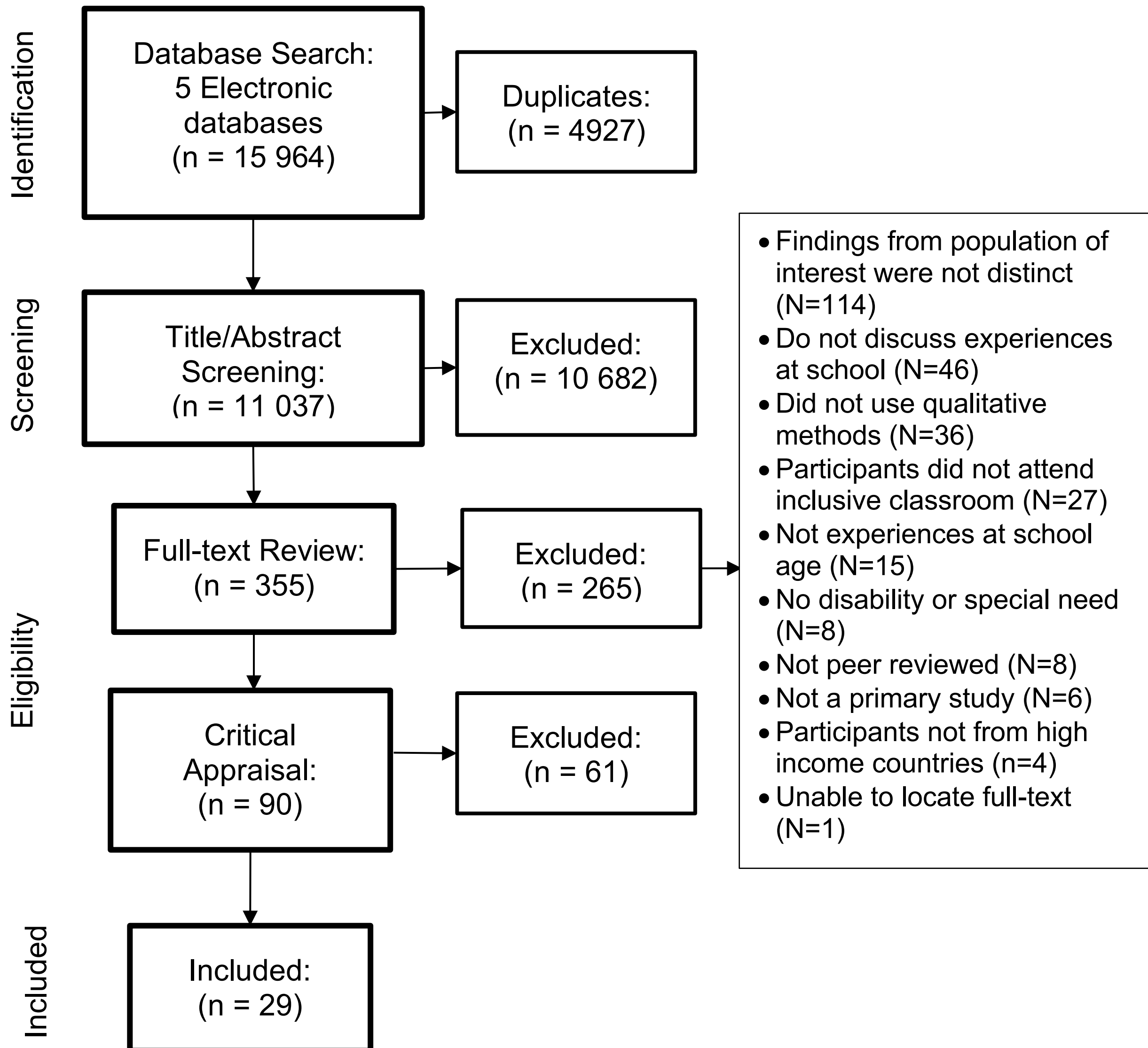
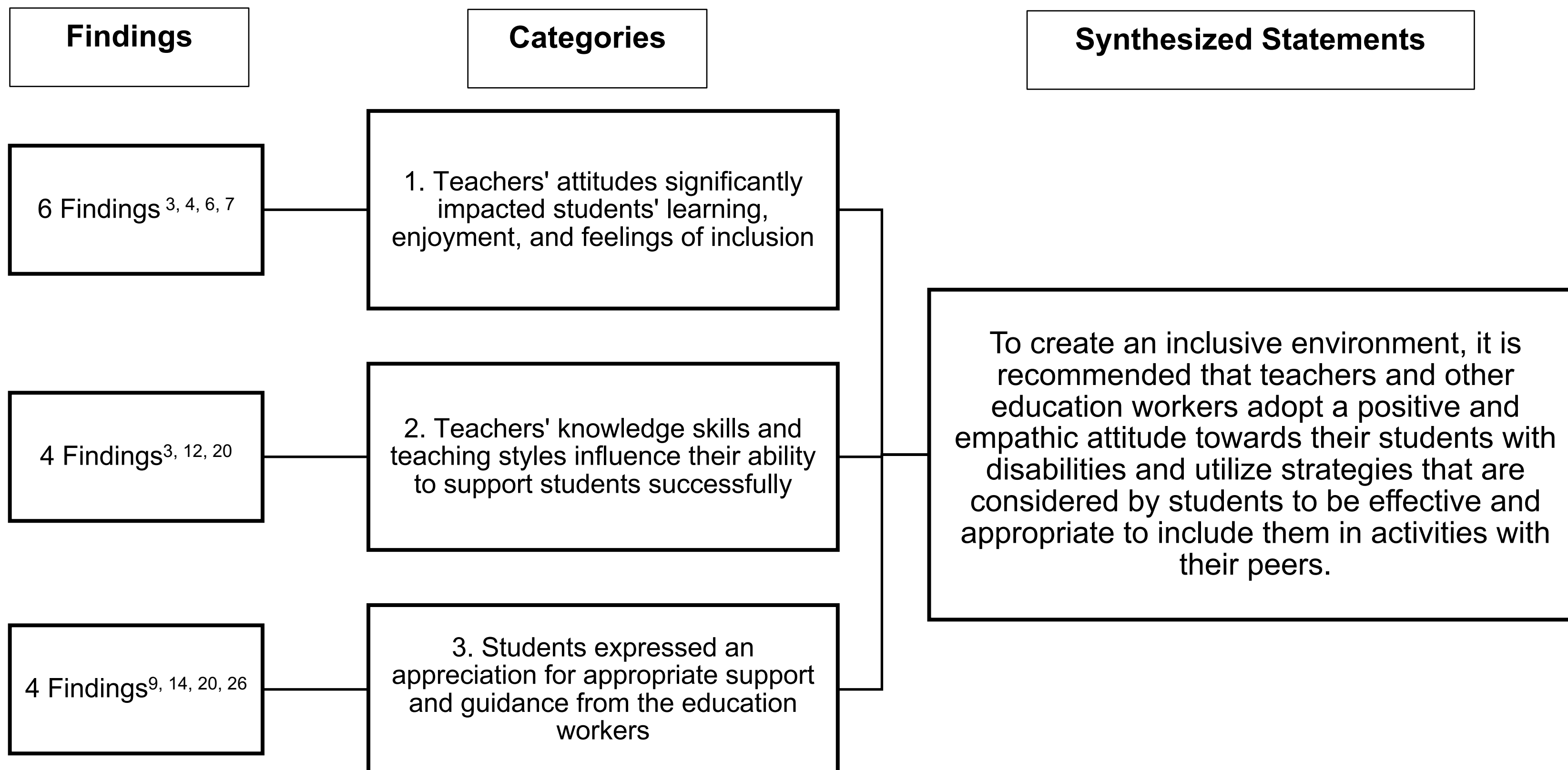


Figure 2

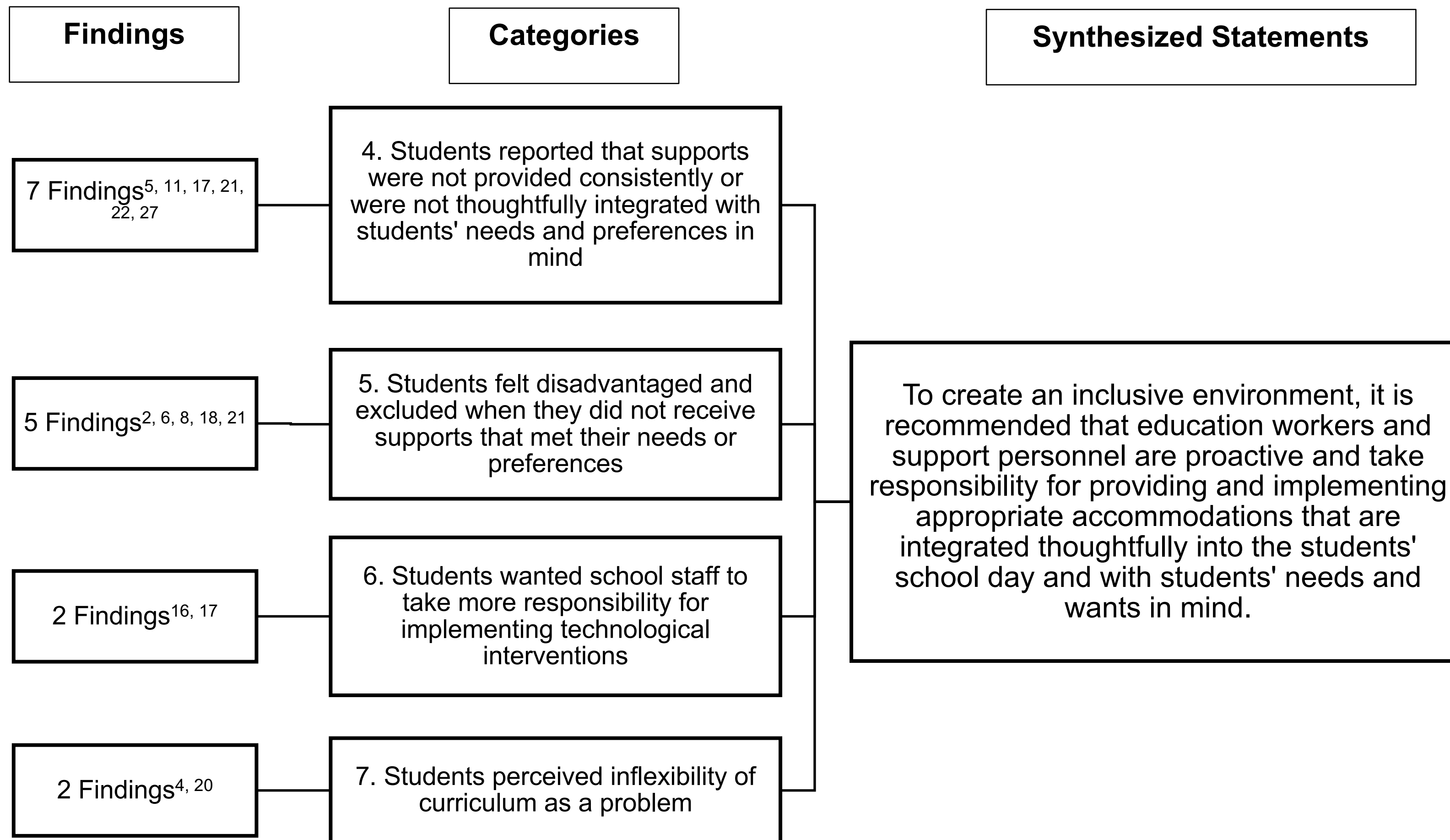
Flowchart Outlining the Categories and Number of Findings Contributing to Each Category for Final Synthesized Statement #1 – Teachers' and Education Workers' Attitudes and Supportiveness



Note. The superscript numbers under "Findings" corresponds to the study numbers in Table 3

Figure 3

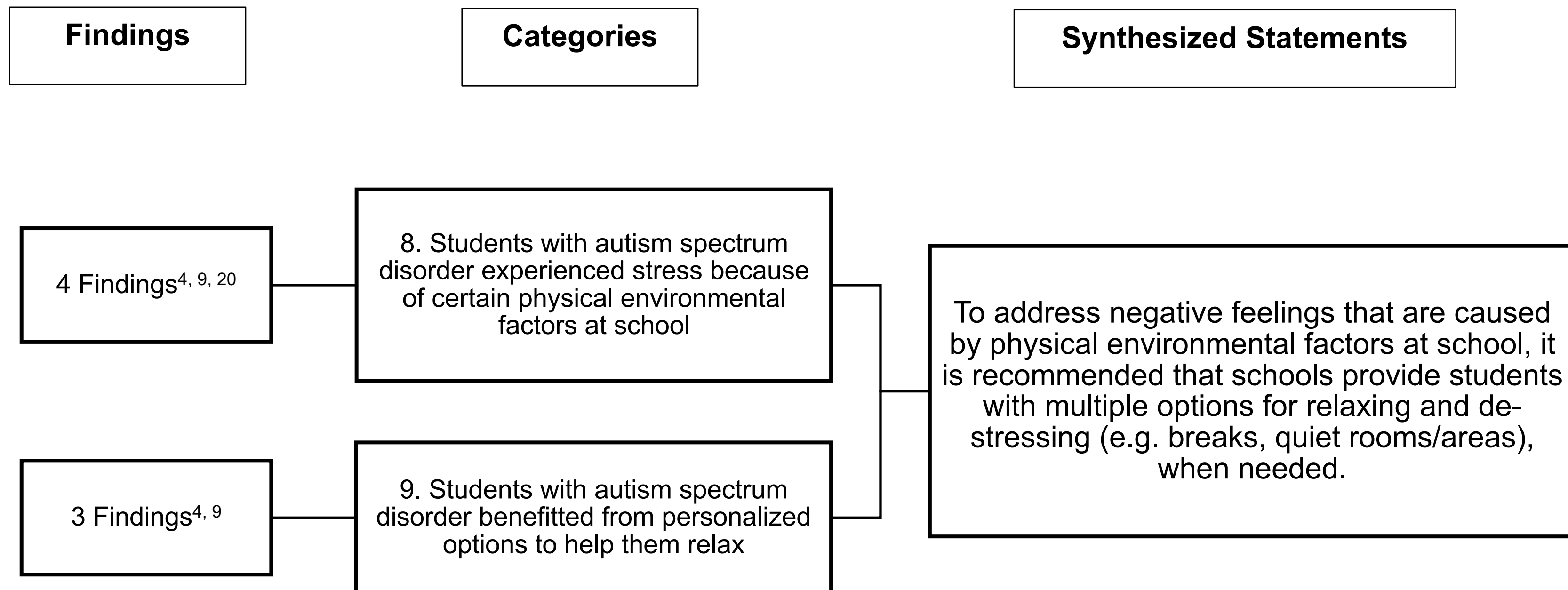
Flowchart Outlining the Categories and Number of Findings Contributing to Each Category for Final Synthesized Statement #2 – Education Workers' and Support Personnel's Implementation of Suitable Supports and Accommodations



Note. The superscript numbers under "Findings" corresponds to the study numbers in Table 3

Figure 4

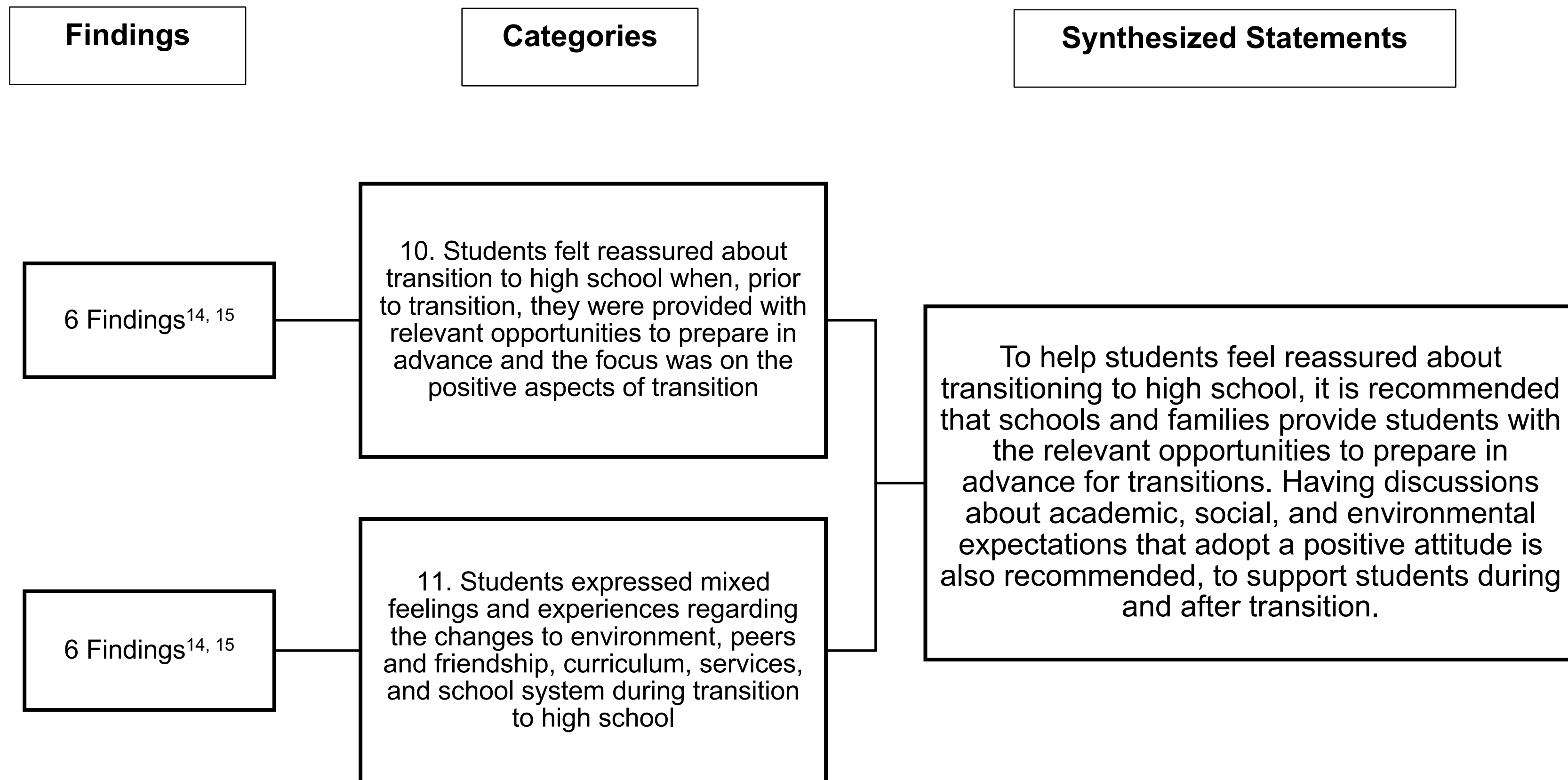
Flowchart Outlining the Categories and Number of Findings Contributing to Each Category for Final Synthesized Statement #3 – Students' Need for Safe and Accommodating Physical Environments at School



Note. The superscript numbers under "Findings" corresponds to the study numbers in Table 3

Figure 5

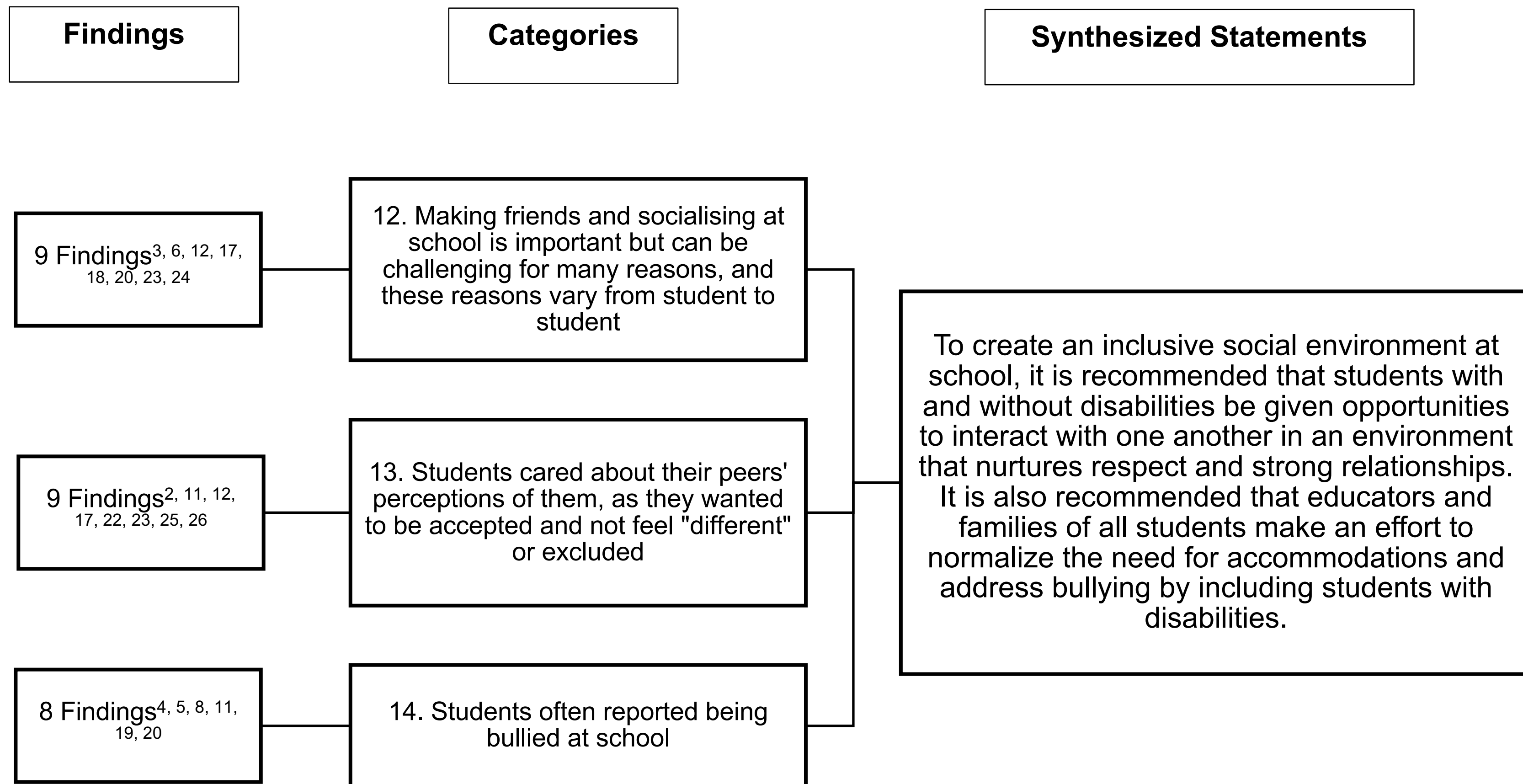
Flowchart Outlining the Categories and Number of Findings Contributing to Each Category for Final Synthesized Statement #4 – Students' Preparedness for Transitioning to High School



Note. The superscript numbers under "Findings" corresponds to the study numbers in Table 3

Figure 6

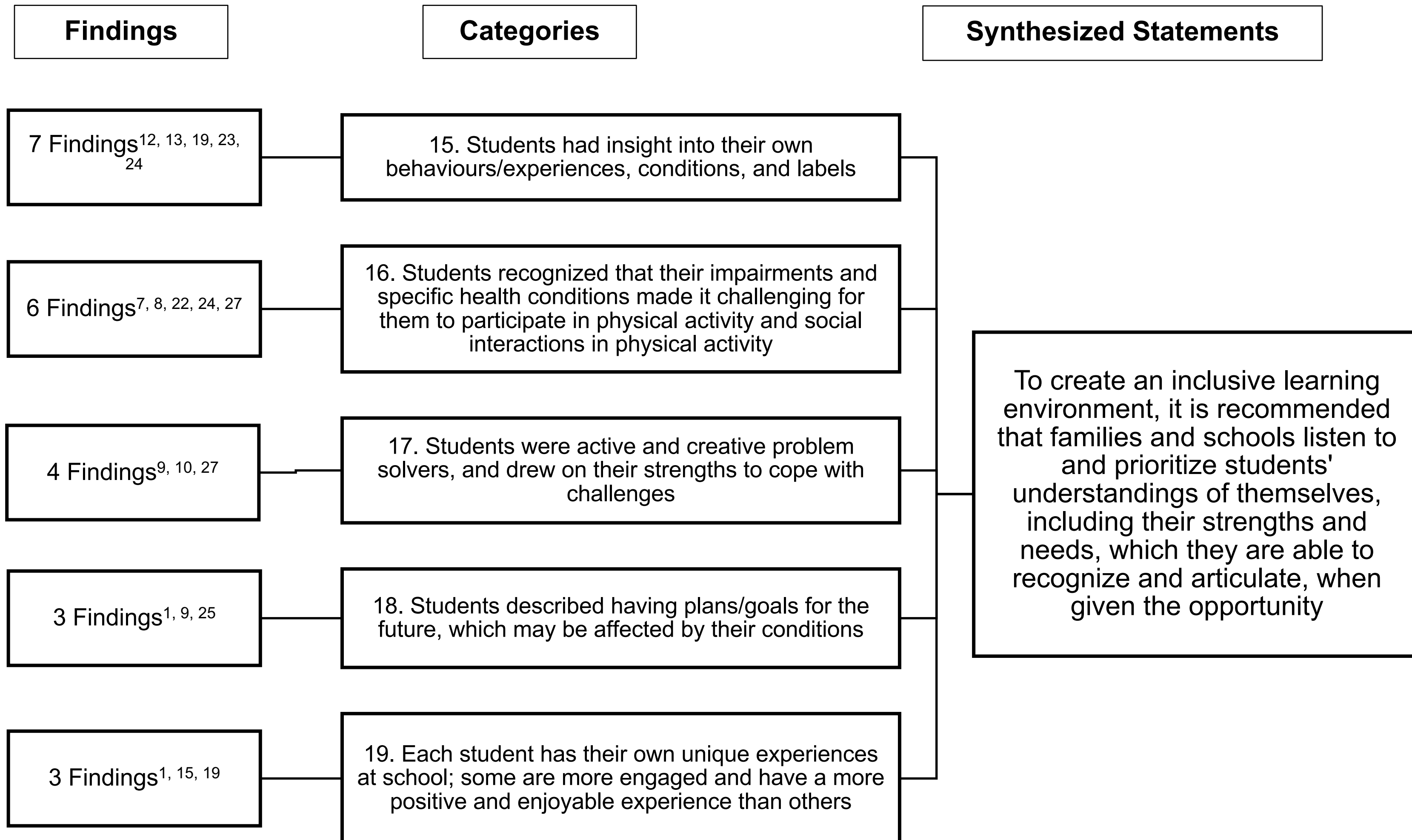
Flowchart Outlining the Categories and Number of Findings Contributing to Each Category for Final Synthesized Statement #5 – Students' Friendships and Peer Interactions



Note. The superscript numbers under "Findings" corresponds to the study numbers in Table 3

Figure 7

Flowchart Outlining the Categories and Number of Findings Contributing to Each Category for Final Synthesized Statement #6 – Students' Views of Themselves



Note. The superscript numbers under "Findings" corresponds to the study numbers in Table 3

Appendix A

PsycINFO Search Strategy

Variable	Population	Concept	Context	Qualitative research term
Keywords	• youth • child* • young • student* • pupil* • teen* • adolescent Broad disability terms • disab* • disorder* • impair* • “special need*” • “special ed*” • handicap* • delay* Physical disability terms • amput* • amputation • “muscular dystrophy” • “cystic fibrosis” • CF • blind • cleft • velopharyngeal	(child* OR adolescen* OR youth* OR young* OR their OR individual* OR student* OR teen OR pupil*) adj3 (attitude* OR perspective* OR voice* OR perception* OR experience* OR respon*)	• “special education” • mainstream* • accept* • belong* • intergrat* • accomodat* • access* • inclus* • inclusiv* • education* • school* • class* • universal* N2 de sign* or UD or UDL or UID or UDI or “universal service” or “class room based interve-ntion*” or “classro-om based collabor-ation” or “school-based intervention” or “collaborat* in tervention” or emb-	• qualitative • ethnograph* • phenomenology or pheno-menological • “grounded theor*” • hermeneutic* • heuristic* • semiotic* • narrative* • “life experience*” or “lived experience*” • action research • “content analys?s” or “the-matic analys?s” • “discourse analys?s” • group discussion* or disc-ussion* or “focus group*” • anthropology or anthropol-ogical • ethnolog* • interview* • photovoice • “photo elicitation” or

Variable	**Population**	**Concept**	**Context**	**Qualitative research term**
	• allerg* • asthma Neurodevelopmental disability • "cerebral palsy" • CP • autis* • ASD • "Asperger syndrome" • ADHD or "attention deficit" or ADD • "fetal alcohol" or "foetal alcohol" or FASD • "spina bifida" • "down* syndrome" • "fragile X syndrome" • behavio* problem* • "sensory integration dysfunction" • idd Communication disability terms • stutter* • stammer* • SLI • DLD • misophonia • deaf		ed* intervention* or classroom intervention* • participat* • iep or "individual* education program*"	photo-elicitation or photoelicitation • autophotograph* or "auto photograph*" or auto-photograph* or autophotograpy (for PsycINFO) • "visual ethnograph*" • "participatory photo graph*" • ethnomethodolog* or eth nomeological or ethnomethology • "arts based method*"

Variable	Population	Concept	Context	Qualitative research term
	Brain injury disability terms • "brain injur*" • "brain damage*" • epilepsy • seizure • DCD • dyspraxia			
Subject headings	• exp elementary school students/ • exp high school students/ • exp junior high school students/ • exp kindergarten students/ • exp middle school students/ • exp preschool students/ • exp special education students/ • exp grade level/ • exp communication disorders/ • exp congenital disorders/ • exp genetic disorders/ • exp chronically ill chil-	• adolescent attitudes • child attitudes • student attitudes	• special education • individual education programs • mainstreaming/ or "mainstreaming (educational)" • social acceptance • belonging • social integration • school integration • school environment • "accommodation (disabilities)"	• qualitative research • ethnography • phenomenology • grounded theory • hermeneutics • heuristics • semiotics • ethnology • life experiences • action research • content analysis • discourse analysis • group discussion • anthropology • ethnology • interviews • photographs

Variable	**Population**	**Concept**	**Context**	**Qualitative research term**
	dren/ • exp health impairments/ • exp metabolism disorders/ • exp vision disorders/ • exp allergic disorders/ • exp musculoskeletal disorders/ • exp neonatal disorders/ • exp physical disfigurement/ • exp neurodevelopmental disorders/ • exp behavior problems/ • exp brain injuries/ • cerebral palsy/ • exp epilepsy/ • exp asthma/ • exp verbal fluency/ • exp neuromuscular disorders/ • exp misophonia/ • exp disabilities/ • exp amputation/ • exp dyspraxia/ • exp sensory integration dysfunction/			

Appendix B

Study Inclusion and Exclusion Criteria

1. English

2. Published on or after 2011
    - Because a similar meta-aggregative review has been done using publications up until the end of 2010

3. Peer-reviewed
    - Has to be published in a journal
    - Exclusions: grey literature such as book chapters, dissertations, theses, government publications, conference proceedings

4. Primary research
    - Study that was conducted by the authors
    - Exclusions: literature reviews

5. Qualitative methods
    - Descriptive qualitative studies
    - Methods like interview, focus groups, photography, etc.
    - Exclusions: quantitative methods (e.g., surveys, questionnaires), and mixed methods

6. Participants are from high-income countries
    - Countries that would be most similar to Canada
    - Exclusions: most participants are from low/middle income countries (i.e., countries not listed in Table 1 below)

7. Individuals discussing their experiences at school age
    - Students that attend kindergarten, primary, middle/junior high, and high school or individuals retrospectively reflecting on their experiences in school
    - Exclusions: discussion of experience in preschool/pre-kindergarten, post-secondary education and non-students
    - From the perspective of the child or the individual reflecting on their own experience (first-person experience)

8. The participants (have) experience(d) a disability
    - Challenges in their health, learning, and social environment, that may or may not be accompanied by diagnoses
    - Specific mention of any type of disability (e.g., intellectual, physical, developmental, acquired, etc.), impairment, illness, injury, condition, and/or special education needs

9. The participating students attend mainstream schools

- Attending regular classrooms/ neighbourhood schools with typically developing peers. This may include additional support when/where necessary
- Exclusion: specialized/ institutionalized schools (i.e., segregated schools), home-school, or only self-contained classrooms

10. The article discusses the participants' experience at [mainstream] school
    - School-related experience is evident throughout the results section, or school-related experience is identified as a section or theme of its own
    - Exclusion: Not experiences related to/following an intervention program

11. If the paper includes a mix of population (some of which may not fit the inclusion criteria), the results from the population of interest must be distinct from others
    - A mix of population is different stakeholders along with children, students with different types of schooling, or a variety of marginalized/minority group along with children with disabilities etc.
    - The themes/findings from the perspectives of children with disability attending inclusive schools must be distinct
    - Included theme must discuss school-relevant experiences

Note. Criterion 11 was only applicable for full-text review, not for title and abstract review.

Table 1: High Income Economies as Defined by the World Bank

High-income economies ($12,236 or more) (n=78)		
Andorra	Greece	Poland
Antigua and Barbuda	Greenland	Portugal
Aruba	Guam	Puerto Rico
Australia	Hong Kong SAR, China	Qatar
Austria	Hungary	San Marino
Bahamas, The	Iceland	Saudi Arabia
Bahrain	Ireland	Seychelles
Barbados	Isle of Man	Singapore
Belgium	Israel	Sint Maarten (Dutch part)
Bermuda	Italy	Slovak Republic
British Virgin Islands	Japan	Slovenia
Brunei Darussalam	Korea, Rep.	Spain
Canada	Kuwait	St. Kitts and Nevis
Cayman Islands	Latvia	St. Martin (French part)
Channel Islands	Liechtenstein	Sweden
Chile	Lithuania	Switzerland
Curaçao	Luxembourg	Taiwan, China

Cyprus
Czech Republic
Denmark
Estonia
Faroe Islands
Finland
France
French Polynesia
Germany
Gibraltar
Macao SAR, China
Malta
Monaco
Netherlands
New Caledonia
New Zealand
Northern Mariana Islands
Norway
Oman
Palau
Trinidad and Tobago
Turks and Caicos Islands
United Arab Emirates
United Kingdom
United States
Uruguay
Virgin Islands (U.S.)

Appendix C

Critical Appraisal Checklist and Guideline

Screening Questions

1. Is there congruity between the research methodology and the research question or objective?

This question is asking if the study methodology is appropriate for addressing the authors' research question or objective. Statement(s) about the research question and/or objective of the study can be found towards the end of the introduction of the paper. The methodology can be found by consulting the methods of the paper. Both the research question/objective and the methodology may also be captured in the abstract.

To answer this question, consider if the authors clearly stated their research question or objective, and if so, what was it? Then consider if qualitative research is the right methodology for addressing that question or objective. Qualitative research seeks to explore or interpret meanings of experiences, actions, and/or beliefs (*CASP Qualitative Checklist*, 2018). Does this align with the research question/objective?

Answer YES, if	Answer NO, if
• Authors include a clear statement about their research question/ objective o To be considered clear, a reader would be able to identify this text in the article o Note that some authors may refer to this as their research objective or question, while other authors may use the terms research goal or aim. • Authors' intention is to explore a phenomenon; specifically, describing, interpreting or illuminating the meanings of experiences, actions, and/or beliefs of people	• Authors' research question or objective is not clearly stated o Unable to locate any text specifically stating the research question or objective o If text is present, the wording is unclear or confusing. o The question or objective has to be inferred by reading the rest of the paper. • Authors' question or objective is not consistent with qualitative research methodology (i.e., does not seek to explore a phenomenon) o Does not seek to explore or interpret the meanings of experiences, actions, and/or beliefs of people o Authors' question or objective is more consistent with quantitative research methodology (i.e., seeks to confirm hypotheses about phenomena, predict causal relationship, and/or describe

	characteristics of a population) (Mack et al., 2005)

2. Are participants, and their voices, adequately represented?

Generally, reports should provide illustrations from the data to show the basis of their conclusions and to ensure that participants are represented in the report. So, this question is asking if the findings/results adequately represent the voices of the children and youth with disability or special needs.

To answer this question, consider if original quotes from the participants are referenced throughout the results section, specifically in each theme/category (Hannes et al., 2013). Are they full direct quotes (McTavish et al., 2017), or small excerpts/partial phrases worked into the author's interpretations? Does the author include participant pseudonyms or ID numbers with the quotes? Are the quotes representative of ALL participants?

Answer YES, if	Answer NO, if
• Original quotes from participants are referenced in each theme/category • The quotes are predominantly full, direct quotes o Note: If there are few or no full quotes, check the participant criteria to determine the age or communication abilities of participants (e.g., children or youth who are AAC users or very young children with communication difficulties who may not speak in full or complex sentences); in such cases, it would be appropriate for the participants to have partial rather than full quotes. • It is clear which participant each quote is from, and the quotes represent ALL participants	• Original quotes from participants are not referenced throughout (e.g., quotes are presented for only a section of the results) • The quotes are predominantly partial excerpts/short phrases worked into the author's interpretations (and this cannot be explained by the participants' age or communication status) • It is not clear which participants the quotes are from, or there is not enough variation in the sources of quotes and are not representative of ALL study participants.
Example of a full direct quote: Emma used her phone. "I often will take them [images] on my phone. It's annoying because then you have to go home and write them down. It just takes more of your time, but yeah, I do that if I have missed things." (Opie, 2018, p.655)	Example of a partial excerpt or short phrase quote: Emma did not want to appear any different to her peers, and was reluctant to 'go against the rules' She did not feel she could ask teachers for permission to use her computer in class as this might have been seen as 'having an advantage', so she suffered in silence,

	although it meant relying on others. (Opie, 2018, p.654)

If <u>either</u> of these two questions are answered "no", the study is excluded. If <u>both</u> questions are answered "yes", proceed to the remaining questions.

3. Is the research ethical according to currently accepted criteria, and is there evidence of ethical approval by an appropriate body?

A statement on the ethical approval process followed should be in the report, usually found in the methods section.
To answer this question, consider if the researcher used at least **two** of the following strategies to ensure ethical issues were taken into consideration: 1) it is sufficiently clear how the research was explained to participants for the reader to assess whether ethical standards were maintained; 2) the researcher discussed ethical issues that arose in the study, such as issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study; or 3) it is explicit that approval was obtained from an ethics committee 2021-04-29 *11:14:*00 AM.

4. Is there congruity between the stated philosophical perspective and research methodology?

Well-designed qualitative studies should be based on particular philosophical perspective, thinking, principles, or set of shared beliefs that inform the meaning or interpretation of research data, as well as choice of methodology and methods. Some common philosophical perspectives are positivist, interpretivist, critical, and pragmatic (Kivunja & Kuyini, 2017). Following is a brief description and research methodologies suited for each one:

Positivist: Pursues an objective search for facts. Employs empirical or analytical approaches, including using deductive logic and formulation and testing of hypothesis to explore observations and answer questions. Suitable methodologies are usually quantitative; thus, studies based on this perspective would not be relevant for this review.

Interpretivist/constructivist: Understanding the subjective experience of the participants by interacting with them. Researcher values the need to understand individual rather than universal laws and the need to consider contextual factors. Suited methodologies, relevant to the review, include naturalist methodology, narrative inquiry, case study, grounded theory, phenomenology, hermeneutics, ethnography, phenomenography, action research, and inquiry.

Critical/transformative: Seeks to address power relationships set up within social structures and agency hidden by social practices. Critical perspective is about giving voice to the voiceless or less powerful and is interested in empowerment and removing oppressive structures around research participants. Researchers interact with participants while valuing respect for cultural norms. Suited methodologies, relevant to the review, include Neo-Marxist methodology, feminist

theories, cultural studies, critical race theory, Freirean studies, participatory emancipation, postcolonial/indigenous methodology, queer theory, disability theories, action research.

Pragmatic: Emphasizes "workability" in research, i.e. the use of any research methods appropriate for addressing the research question without having to position oneself as positivist or interpretivist. Advocates the use of both qualitative and quantitative methods (i.e. mixed methods methodology). Thus, studies based on this perspective would not be relevant for this review.

To answer this question, consider the following: Does the report clearly state the methodological approach adopted on which the study is based? Does the report clearly state the philosophical or theoretical premises on which the study is based; or does the researcher provide a rationale for the chosen methodological approach, providing an insight into their thinking, beliefs, principles, values etc.? Is there congruence between the two (following the descriptions provided above)?

Answer YES, if	**Answer NO, if**
• Philosophical or theoretical premises of the study is are clearly presented, or text pertaining to the researcher's thinking, beliefs, principles, values etc. is accessible by to the reader • The methodological approach to the study is clearly stated • There is congruence between the two	• There is no statement on philosophical orientation, or pragmatic or positivist philosophical perspective is used. • There is no statement on the methodological approach to the study (i.e. only states that the study was qualitative or used qualitative methodology) • There is no congruence between the two
Example: "IPA was chosen as it is committed to the detailed examination of the particular case, exploring how meaning is ascribed to participants' experiences of interactions with the environment… with each [participant] purposefully and intensely analysed" (Opie, 2018, p.652). Methodology is explicit and the researcher's values and thinking that forms the basis of the research (interpretivist/constructivist) was clearly presented, even though it wasn't explicitly stated. Both are also congruent.	Example: Mayes (2014) states they used "a grounded theory approach … to understand data from the participants' individual interviews", in the data analysis section. But they do not explicitly state grounded theory as a methodology, nor is there any text pertaining to the researcher's philosophical or theoretical perspective. The author does not provide a rationale as to why a grounded theory approach was adopted.

5. Is the influence of the researcher on the research, and vice-versa, addressed?

This question is asking if the potential for the researcher to influence the study and for the potential of the research process itself to influence the researcher and her/his interpretations is acknowledged and addressed.

To answer this question, consider the following: Is the relationship between the researcher and the study participants addressed? Does the researcher critically examine her/his own role and potential influence during data collection? Is it reported how the researcher responded to events that arose during the study (i.e., any specific strategies utilized to limit or account for bias/influence)? This information can be found in the methods section of the paper. It may also be found in the limitations section of the discussion.

<table>
<tr><th>Answer YES, if</th><th>Answer NO, if</th></tr>
<tr><td>The researcher used one or more of the following strategies:
• Adequately and explicitly addressed the relationship between researcher and participants
• Critically examined their own role, potential bias, and influence during the formulation of the research questions or data collection, including sample recruitment and choice of location; and/or during analysis and selection of data for presentation
• Discussed how they responded to events during the study and whether they considered the implications of any changes in the research design
• Employed field notes (reflective notes or memos) to record their personal reactions and biases after each interview/focus group
• Made a conscious effort to follow rather than lead the direction of interviews/focus groups
• Conducted member checking with participants
• Maintained an audit trail</td><td>• The potential for the researcher to influence the study, and vice-versa, is not addressed
o Unable to locate any text specifically addressing relationship between the researcher and the study participants, researcher examining her/his own role and potential influence, or specific strategies utilized to limit or account for bias/influence
o If text is present, the wording is unclear or confusing.</td></tr>
</table>

6. Is there congruity between the research methodology and the methods used to collect data?

This question considers whether the data collection methods are appropriate for the research methodology.

Qualitative studies use an open-ended format for their questions with a range of possible responses, when collecting data. Some examples of the data collection methods are in-depth or semi-structured interviews, focus groups, written or videotaped diaries, etc. Data collection is flexible and permits the addition, exclusion, or changes to the wording of particular interview questions. With these questions, participants are free to respond in their own words, and

subsequent questions can be adjusted based on what is learned (Mack et al., 2005). This is in contrast to quantitative methods (surveys and some questionnaires) where the participants choose their responses from "closed-ended" or fixed categories (Mack et al., 2005).

To answer this question, consult the methods section of the study and consider if the authors clearly state their method of data collection. Did they describe the method? (*CASP Qualitative Checklist*, 2018). Is it evident that the data collection method is open-ended and flexible (e.g., focus group, semi-structured interviews, in-depth interviews etc.)? Are these approaches consistent with qualitative methodology (as stated previously)?

<table>
<tr><th>Answer YES, if</th><th>Answer NO, if</th></tr>
<tr><td>

Data were collected through a method consistent with qualitative research methodology (e.g., in-depth or semi-structured interviews, or focus groups)
There is flexibility in the data collection method (i.e., there is some spontaneity and adaptation of the interaction between the researcher and the study participant)
If text pertaining to the flexibility of data collection method is not presented (as in the example below), the use of in-depth, semi-structured interviews, or focus groups methods, as well as probe questions to elicit further exploration would also be appropriate
Questions are open-ended and participants are free to respond in their own words

</td><td>

The data collection method is not explicitly stated
Unable to locate any text specifically stating the method of data collection
If text is present, the wording is unclear or confusing.
Method of data collection has to be inferred by the reader by reading the rest of the paper.
Uses standardized, closed-ended surveys and questionnaires
The data collection method is very fixed from beginning to end
Uses structured interviews or open-ended questionnaires requiring written responses

</td></tr>
<tr><td>Example of flexibility in data collection: A general interview guide for the semi-structured interviews was created based on the researchers' experiences in education and the review of the literature. Questions were added, subtracted, or modified based on the responses of the participants before and during the interview to allow for systematic, comprehensive interviewing (Mayes 2014, p.128).</td><td></td></tr>
</table>

7. Is there congruity between the research methodology and the representation and analysis of data?

This question considers whether the data are analyzed and represented in ways that are congruent with the authors' stated methodological position.

Qualitative data are generated in textual formats, usually in the forms of field notes, audio and video recordings, and transcripts (i.e., anything that is not quantitative/numerical) (Mack et al., 2005; Thorne, 2000). The analytical objective is to describe individual experiences and group norms as well as describe and explain relationships and variations for a particular phenomenon (Mack et al., 2005).

To answer this question, consider if the form of the data is clear (e.g., tape recordings, video materials, observational notes etc.)? Did the authors provide an in-depth description of their analysis process? Is it clear how categories/themes were derived from the data? (*CASP Qualitative Checklist*, 2018). Is the whole analysis process and its objective consistent with qualitative methodology (as described above)? Also consider if the authors follow a systematic, rigorous, and auditable process for data analysis (e.g., respondent validation, more than one analyst, peer debriefing, audit trail, triangulation of data or sources) (*CASP Qualitative Checklist*, 2018; McTavish et al., 2017; Thorne, 2000).

Answer YES, if	**Answer NO, if**

• The format of data generated is textual (obtained from audiotapes, videotapes, and field notes)
• The authors provided in-depth descriptions of their analysis process, including how the data were reduced or transformed for analysis (McTavish et al., 2017)
• It is clear how categories and themes were derived from raw data, where relevant
• Uses constant comparative analysis, thematic analysis, narrative analysis, discourse analysis, hermeneutic analysis, ethnographic analysis, qualitative content analysis, or phenomenological approach (Thorne, 2000)
    o Overall objective of the analysis is to describe individual experiences, group norms, and/or describe and explain relationships and variations for a particular phenomenon
• The authors followed a rigorous and auditable analytic process (Thorne, 2000)
    o They used one or more of the following strategies: member checking to see if participants agreed with the interpretations of the researcher, peers or consultants experienced in qualitative research reviewed the coding process, multiple analysts, peer debriefing, maintaining an audit trail, triangulation of data by using different data collection methods or sources, prolonged
	• The format of data generated is numerical (obtained by assigning numerical values to responses)
	• In-depth descriptions of the analysis process is not provided or is unclear
	• It's not clear how categories and themes were derived from raw data, where relevant
	• Objective of analysis is to quantify variation, predict causal relationships, or describe characteristics of a population (Mack et al., 2005)
	• A rigorous and auditable analytic process is not evident

engagement (Irene Korstjens & Albine Moser, 2017; McTavish et al., 2017)	
Example for qualitative data format: The semi-structured interviews were audio recorded and later transcribed (Opie, 2018, p. 653). Example for in-depth description of the analysis process, including how categories and themes were derived: the stages used throughout the analysis were as follows: Transcripts were read and reread with notes made about important content and language. Further readings, coding notes and compiling categories resulted in the identification of emergent themes. Connections were then made between themes and a summary of pivotal themes created and placed in tentative categories (Opie, 2018, p.653).	Example for unclear description of the analysis process, including how categories and themes were derived: claiming that the conceptual categories “emerged” from the data.

8. Is there congruity between the research methodology and the interpretation of results?

This question is asking whether the results are interpreted in ways that are appropriate for qualitative methodology.

Qualitative research findings do not speak for themselves. Instead, qualitative researchers give meaning to their findings by appropriately interpreting and structuring the data. As mentioned previously, qualitative researchers seek to explore or interpret meanings of experiences, actions, and/or beliefs of people (*CASP Qualitative Checklist*, 2018). Interpretation is basically transforming the data into meaningful and relevant findings (Thorne, 2000).

To answer this question, first consider if the findings are discussed in relation to the original research question or objective (*CASP Qualitative Checklist*, 2018). That is, were they interpreted in a meaningful way? To do this, read the results and discussion sections of the article. Then consider the robustness of their interpretation by examining the extent to which variation in data (i.e., participants' experiences) was taken into account (*CASP Qualitative Checklist*, 2018).

Answer YES, if	**Answer NO, if**

• The researchers interpreted the data in a meaningful and relevant way
  o findings are discussed in relation to the original research question or objective, and are compared to past research
    ▪ i.e., the authors put the new knowledge about phenomena and relations back into the context
	• The researchers did not interpret the data in a meaningful and relevant way
	  o findings are not discussed in relation to the original research question or objective
	• The interpretation is not very robust

• The interpretation in results and discussion is robust o Variations in data were taken into account (e.g., mentioning an interpretation of an individual's experience that seems to be different from the collective experience as a group)	o No mention of any variation in data or different individual experiences.

9. Do the conclusions drawn from the research report flow from the analysis, or interpretation, of the data?

This question concerns the relationship between the findings reported and the views or words of study participants. In appraising a paper, readers seek to satisfy themselves that the conclusions drawn by the researchers are grounded in the data (i.e., can be clearly linked to the text generated through observation, interviews or other processes) and that they do not only exist in the minds of the researchers.

To answer this question, thoroughly read the results, discussion, and conclusion. Then consider, does the conclusion overall seem to flow from the findings and the collected data?

Answer YES, if	**Answer NO, if**
• Overall, the conclusion seems to flow from the findings and collected data o The logical process used to develop findings is accessible (Thorne, 2000) o The relations between actual data and conclusions about data is explicit and appropriate (Thorne, 2000).	• The conclusion doesn't always seem to flow from the findings and collected data o It is not clear what logical process was followed to develop the findings o The relations between the actual data and conclusions about data is not explicit or appropriate

Appendix D

Extracted Findings, Supporting Illustrations, and Assigned Level of Credibility

Category 1: Teachers' attitudes significantly impacted students' learning, enjoyment, and feelings of inclusion.

Theme / Category Title	Description	Supporting illustration	Level of credibility
The Interplay between Teaching and Learning: Helpful teachers (3)	Teachers were regarded as helpful when they took an interest in the boys' education and welfare, by engaging in humour to maintain interest in the learning process and if they genuinely appeared to "like" each of the boys. (pg. 57, par 7, ln 4-6)	Harry: "Boys like me can be lazy as. We need something or someone watching over us so we don't do anything stupid." (pg. 58, par 2, ln 1-2)	Credible
The Interplay between Teaching and Learning: Non-helpful teachers (3)	The boys would complete minimal or no work in a classroom situation for teachers whom they described as boring, who ignored them, would not help them if they asked or whom they perceived could not teach. (pg. 58, par 5, ln 1-3)	Noel: "They should be trying to help the students who are struggling ... they are good on paper but can't teach." (pg. 58, par 7, ln 1-2)	Credible
Unsupportive teachers (4)	The participants felt unsupported by teachers, and some spoke of not being cared for by teachers. For them, personal attributes such as teachers being personable and showing an interest in them are important. (paraphrased from pg. 23, par 2, ln 1-2; and pg. 24, par 3, ln 1-2)	Thomas: "They [main-stream teachers] are not understanding of certain individuals and their needs." (pg. 23, par 2, ln 3-4)	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of credibility
PE teachers central to PE experiences (7)	The participants stressed that the teacher was central to the quality of their experiences in physical education. Most participants described positive experiences with their PE teachers, and a commonly reported attribute among favourable teachers was their commitment toward providing physical activity opportunities. However, 1/4 participants were primarily critical about their experience with PE teachers, suggesting that the teachers were "ill-equipped" and not concerned with teaching students with VI. (paraphrased from pg. 381, par 4, ln 1-2; par 5, ln 1-2; pg. 382, par 4, ln 1-2; and par 5, ln 1-5)	John: "There was never a time where the teacher was like 'you know what, today we are doing this so why don't you just chill. Or why don't you go sit in the library or go to the VI room and catch up on your homework or whatever'. If there was a gym class I was part of it whether it was with the folks doing the warm-up routine, whether it was playing goalball in the other bay while they were shooting hoops and doing their thing. So for me it wasn't ever anyone telling me I couldn't do it." (pg. 381, par 5, ln 4-8)	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of credibility
'She Is blind, she can't do it': Debilitating feelings from physical educators' attitudes (6)	Participants in this study expressed that the quality of the programs they experienced, and therefore their feelings about these programs, rested with the actions, beliefs, and efforts of their PE teachers. For some participants, their PE teachers provided meaningful experiences by treating them similarly to other students enrolled in classes. But most described instances in which they felt as though they were treated differently (with a negative connotation) because of their visual impairment. Participants explained that they believed being treated differently was informed by the teacher's conceptualization that those who were blind could not participate meaningfully in activities. The participants did not believe that their PE teachers cared for them as students. (paraphrased from pg. 431, clm 1, par 3, ln 10-16; clm 2, par 1, ln 5-11; and pg. 432, clm 1, par 1, ln 1-3)	Destiny: "[While playing basketball] my teacher ended up giving me candy because I made the basket but she didn't do that for everyone else. It was kind of like special attention. It didn't make me feel well because it showed everyone that I was different." (pg. 431, clm 2, par 2, 8-12)	Unequivocal
Self-esteem and AD/HD: Effect on self-esteem (3)	Primary school teachers generally impacted negatively on the boys' self-esteem, while secondary teachers affected the boys' self-esteem if they ignored, embarrassed, or made the boys feel "dumb". It was noted that in secondary school, the boys developed a positive work ethic if they liked a subject, and this had a positive impact on their self-esteem. A teacher who knew, liked and encouraged a student was important to each of the boys. (pg. 59, par 8, ln 4-8)	Liam: "My teachers told me I would never go anywhere in life because of my AD/HD." (pg. 60, par 2, ln 1)	Credible

Category 2: Teachers' knowledge, skills, and teaching styles influence their ability to support students successfully

Theme / Category Title	Description	Supporting illustration	Level of evidence
The Interplay between Teaching and Learning: Support (3)	The boys considered several ways to assist students with AD/HD. They indicated teachers who are understanding and knowledgeable about AD/HD and who gave small but frequent breaks during a lesson are supportive as are teachers who give positive reinforcement. (pg. 58, par 10, ln 1-4)	Harry: "If they personally go to a student and have a personal talk to them and tell them they can do better and that they have the ability to succeed." (pg. 59, par 2, ln 1-2)	Unequivocal
The Interplay between Teaching and Learning: Teaching styles (3)	The boys' found that teachers who had established firm boundaries, who had a thorough knowledge of their teaching area and who enjoyed camaraderie with the class group, were important considerations. (pg. 59, par 3, ln 1-3)	Zeb: "The teacher goes slow in his teaching. Even though the students say they understand he knows that some of them probably don't so he repeats a concept." (pg. 59, par 4, ln 1-2)	Credible
Teacher Characteristics (20)	Students identified positive teacher characteristics such as relatedness and active listening. These features seemed to be connected to students' desire for fair treatment and understanding from their teachers. Teachers with these characteristics presented as being well equipped with knowledge about their students' strengths and weaknesses, and they created a structured but flexible learning environment. Students appreciated teachers who made learning fun as this made learning easier and more enjoyable, even for the subjects they were not particularly good at. The students conveyed that they had difficulty in dealing with teachers who often expressed their anger by yelling at students. (pg. 177, par 6, ln 2-8; pg. 178, par 2, ln 1-2)	Oscar: "Mr H because, yeah. Even though I don't really like math that much, he's a, he's a, he's a good teacher ... Because, well he's just, he tells us stories and that. I think he's the most lenient of all my teachers I have and he's nice. Well I like my SOSE teacher. Mr [H]. Well, well he's fun loving some — he's fun a bit sometimes." (pg. 178, par 1, ln 1-6)	Unequivocal
Poor Community	TBI is not a widely recognised or well-understood	Brett: "I notice the teachers that haven't	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
Awareness of TBI (12)	concept in most communities and common misconceptions about recovery from TBI exist. Teachers' reduced awareness and lack of understanding may affect their identification of their students' needs and provision of appropriate accommodations. (paraphrased from pg. 443, clm 2, par 5, ln 1-4; and pg. 444, clm 1, par 1, ln 8-20)	been told, you can tell the difference the way they treat me." (pg. 444, table I, quote 1b)"	

Category 3: Students expressed an appreciation for appropriate support and guidance from the education workers and found it to be beneficial

Theme / Category Title	Description	Supporting illustration	Level of evidence
Anxiety: Protective Factors (9)	Teaching Assistants acted as a protective factor that reduced the students' anxiety. They were seen as a source of guidance when difficulties were encountered. (paraphrased from pg. 84, clm 2, par 2)	Georgie: "Sometimes you got to go to a lesson and think that the work is really hard." Louise: "What things help when you go to a lesson and the work is hard?" Georgie: "That I have a TA there." (pg. 84, clm 2, par 3)	Unequivocal
Support mechanisms (20)	The majority of students expressed their appreciati- on for being able to access specialist support from staff (such as special education teachers) who understood them. Students found support for managing personal matters and developing social skills, in addition to support for academic work, beneficial. Although, they wanted the support to be provided subtly and skilfully, especially in the mainstream classroom.	Matthew: "Like with some things it's sometimes not curriculum or stuff like that I need help with. It's maybe just personal stuff, which is good. It also helps." (pg. 181, par 5, ln 3-4)	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
	(paraphrased from pg. 181, par 4, ln 1-2; par 5, ln 1-2; and par 5, ln 1-2)		
Positive experiences: Teachers (14)	Children expressed positive views regarding their teachers and teaching assistant, and clearly valued the support that they received (pg. 362, par 3)	P6: "I like the fact that they help you out and stuff like if you have any worries .... I like it how they deal with it." (pg. 362, par 3, ln 3-4)	Unequivocal
Engaged support continuum (26)	Generally, the children appeared to appreciate the support they received from their teachers, EAs, or classmates. This engaged support helped children participate in dance activities and socially interact with peers, whereas too much or too little support impeded such opportunities. (paraphrased from pg. 226, par 4, ln 6-10; and pg. 228, par 1, ln 9-10)	Mater: "Dance is harder when Miss (EA) isn't there cause I don't know what we are doing. I don't really understand the moves. She helps me with the dances by showing me the moves and telling me what we are doing." [unequivocal] (pg. 226, par 4, ln 1-3)	Unequivocal

Category 4: Students reported that supports were not provided consistently or were not thoughtfully integrated with students' needs and preferences in mind

Theme / Category Title	Description	Supporting illustration	Level of evidence
The perils of printi-ng: schooling as hard work (27)	Difficulty with printing/handwriting was an obstacle to enjoying and succeeding in school. Printing (handwritten print letters) problems were widespread and led to strategies using technological and human resources. Participants obtained some benefits from using computers, tablets, and typing programs to address printing and handwriting issues. However, what interfered with their printing also interfered with effective keyboarding. In contrast to some	Tristan: "Um, my normal printing, most people can't read it; well it's like my dad can probably read it and my mum can probably. My brother could probably but he'd say he couldn't and that it was really horrible." (pg. 68, clm 2, par 5, ln 6-10)	Credible

Theme / Category Title	Description	Supporting illustration	Level of evidence
	participants' frustrations with technology, others appreciated help from parents and teaching staff. The participants tried to master the fine motor skills needed for scholastic success, but their efforts often came with emotional costs. (paraphrased from pg. 68, clm 2, par 5, ln 1-2; ln 4-6; par 6, ln 1-6; and pg. 69, clm 1, par 2, ln 1-3; par 5, ln 1-3)		
Equality in the Class-room (21)	It is apparent that a state of equality, establishing a situation where the participant was not disadvantaged because of his disability, did not always occur. On a number of occasions, the participant alluded to the impossibility of parity with other students in the classroom because he took so much longer to read worksheets, particularly when they were not presented in a readable format. Students with vision impairment take longer to read a passage, however no extra time was available in class for the participant to complete everyday tasks (paraphrased from pg. 25, par 2, ln 1-5; and ln 23)	James: "Teachers simply enlarged a worksheet to A3, or if they forgot just sent me to the secretary's office to photocopy it to A3. This always took a lot of time. The font is still too small and the paper size is terrible. It has to be folded and then I don't know what it is then. My locker is a mess and my organization terrible." (pg. 25, par 3)	Unequivocal
Orientation and Mo-bility (21)	Participant mentions a lack of confidence in mobility, as he was continually late to class. The teachers also did not understand the limitations of his vision impairment. Participation in science labs and sport was also affected by James's vision impairment, and the interventions put in place isolated him from his peers. (paraphrased from pg. 24, par 1, ln 3-5;	James: "I remember going to a class [late] and there were no students there. I knew it was where I was supposed to go but I couldn't find the class. I just didn't notice the post-it note on the door that said: Class go to the library." (pg., 24, par 2)	Credible

Theme / Category Title	Description	Supporting illustration	Level of evidence
	par 3, ln 2-3; par 4, ln 1; par 6, ln 1; and par 8, ln 2-3)		
Accommodation needs met and unmet (5)	Interactions with physical educators have been identified as critical to forming positive or negative opinions toward physical education. In many instances, although most participants in this study described positive experiences, individuals with visual impairments reported feeling that their needs were not accommodated properly by their physical educators. (paraphrased from pg. 62, clm 2, par 2, ln 1-4; pg. 63, clm 1, par 2, ln 7-13; par 3, ln 1-2; and clm 2, par 1, ln 1-5)	Max: "Most of them [physical educators] were pretty cool. I actually didn't talk to them much about my eye sight. I just got around with everyone else and acted normal, for the most part. I do feel like they [peers] learn a little different because they can see everything. So, sometimes I have to go up to the teacher and make sure the teacher gets everything printed off for me to make sure I can see it. So, if they [physical educators] noticed [I was struggling] or if I went up and talked to them they would be helpful. If not, they kind of just stayed on their own in the corner talking to another teacher." (pg. 63, clm 1, par 1, ln 16-28)	Credible
Support Received (17)	Edward spoke about the support he has received from external agencies and from his school. He considered support from some agencies less than desirable and thought that the support he received from VTs (visiting teachers) was "very hit and miss", since the VTs did not ask what he wanted very often, rather he was told what he should do or use. Edward made positive statements about the school's support, but it	Edward "Generally, everyone was obsessed with blowing things up to A3 which is not a very workable option. You end up with unmanageable A3 sheets and to find stuff is just impossible. By the time you get to the end of the year you just have a pile of paper and I swear I have thrown out a good forest's	Credible

Theme / Category Title	Description	Supporting illustration	Level of evidence
	appears that it could have been more effective as some issues were avoided rather than addressed. Teachers regularly forgot to prepare materials for him, which meant he had to miss class time to prepare them. The texts and technologies that he used also restricted his ability to socialize in class. He appreciated teachers who used technology to present materials, catering to his vision impairment. (paraphrased from pg. 2374, par 5, ln 1-2; par 6, ln 1; par 7, ln 1-2; pg. 2375, par 2, ln 1-4; and par 4, ln 1-3)	worth. It is just ridiculous. I am sure one day I will make a chiropractor very, very wealthy." (pg. 2375, par 2, ln 5-9)	
Social Context Within Schools (11)	Children reported that the school context played an important role in how social exclusion and bullying was experienced for these youth with disabilities. Teachers' attitudes and the extent to which accommodations for children with disabilities were implemented affected how children experienced inclusion or exclusion within the school setting. These children and youth experienced exclusion at the institutional level within their school. The accommodations they sought for their condition often highlighted their differences and also physically excluded them from their peers. We found that the social exclusion experienced at the institutional level, in many instances, perpetuated the exclusion they experienced from teachers. (paraphrased from pg. 104, clm 2, par, 2, ln 1-6; and clm 2, par 4, ln 1-7)	Participant 5 (on using a staff elevator as they were the only accessible elevators): "You feel strange that you're using an elevator that's got a different label on it...I have to leave my friends in order to do this so it does still feel exclusionary." (pg. 104, clm 1, par 4, ln 10-12)	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
Methods to Control Asthma Episodes during School PA (22)	When discussing topics related to in-school asthma management, students primarily spoke about treating asthma symptoms when they presented rather than controlling or preventing symptoms before they occurred. The primary methods of controlling acute asthma symptoms occurring during recess or physical education were a combination of stopping activity, sitting down, and taking a water break. If/when students used medication to treat their asthma, they asked the teacher for permission instead of the teacher's suggestion. When students went to the nurse for medication, they rarely returned to class, compared to students who self-administered and were able to return to activity. (paraphrased from pg. 5, par 4, ln 1-5, pg. 6, par 1, ln 1-7; and par 2, ln 1-3)	Child 8: "I tell them that I have asthma. I have to drink this bottle of water when I don't feel that good and if I don't have this bottle of water I have to sit out." (pg. 5, par 4, ln 9-10)	Unequivocal

Category 5: Students felt disadvantaged and excluded when they did not receive supports that met their needs or preferences

Theme / Category Title	Description	Supporting illustration	Level of evidence
Classroom Technolo-gy (21)	The participant concedes there was no intervention that successfully enabled notes to be taken from the board to produce a workbook in any way resembling what other students compiled. He did not appear to want to use interventions that made him look different from his peers, and he felt that the assistive technology he was provided was isolating and accentuated his difference. It appears teachers did not appreciate the potential	James: "In senior school with the funds they have they tried to give me the best. They tried all these resources but it just didn't work. They weren't to know and you just ride with it. We just had to go through it and when one didn't work [they] tried another method ... they didn't get there ... but	Credible

Theme / Category Title	Description	Supporting illustration	Level of evidence
	value of the technology and did not actively engage with it. (paraphrased from pg. 26, par 3, ln 1-2; par 5, ln 1-2; and par 8, ln 1-2; pg. 27, par 1, ln 6-7)	it's not necessarily their fault." [credible] (pg. 26, par 4)	
Accessing work in class (16)	Participants were found to use a variety of technologies in trying to access work in the classroom. A strong message from all participants was that accessing information from the board was near impossible. There was no evidence of any technological intervention that enabled notes to be successfully and usefully taken from the board by any participant. (pg. 653, par 4, ln 1-4)	Holly: "I can't get stuff off the board. I need it to be read out. My teacher discusses it in class anyway ... she does a lot of talking so that is helpful for me when I take notes but if I need something read to me off the board, I have to ask one of the students in the class." (pg. 654, par 3)	Unequivocal
Feelings about 'bei-ng put to the side': Frustration and inadequacy (6)	Several participants described being asked to participate in parallel activities away from their classmates. Other participants, however, were not offered alternative activities and would simply "sit out" of PE. For many participants, feelings of exclusion led to feelings of frustration with their teachers or envy toward their peers, and also influenced how they viewed themselves. Regardless of whether exclusion was voluntary or forced, all participants in this study described exclusion as a challenging experience that influenced their perceptions toward PE and their willingness to engage in activities. (paraphrased from pg. 430, clm 1, par 2, ln 15-17; ln 24-26; clm 2, par 1, ln 1-5; and pg. 431, clm 1, par 1, ln 406)	Ashley: "When the rest of the class was doing something else I would just be walking on the track." (pg. 430, clm 1, par 2, ln 18-20)	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
Exclusion (8)	Students recalled various incidents whereby they were excluded from activities in PE: students spoke of times when their teacher sent them from activities, they were excluded due to a lack of ability, or the students requested and were allowed to be excluded. (paraphrased from pg. 225, clm 1, par 4, ln 1-5; par 5, ln 1-5; and par 6, ln 1-2)	John: "He (the teacher) just sent... be cause I wasn't ready for the game he just sent me out of it because... without even telling me so... cause I wasn't ready." (pg. 225, clm 1, par 4, ln 5-8)	Unequivocal
Childhood: the deve-lopment of a sense of difference/inferiority: Physical activity at the mainstream primary school (2)	Alana's limited competence at physical activities was highlighted in the school playground, where she would be the person holding the end of the skipping rope, rather than skipping in the middle. Alana's difficulties interacting with children during physical games appeared to contribute to her social exclusion and feelings of difference/inferiority. In organised physical activity (e.g., school athletics), Alana would be given tasks to do on the sideline, rather than being involved with the other children. During physical education classes Alana would often be taken out of school to do physiotherapy, which was a painful experience. From her childhood, then, Alana appeared to have developed significant feelings of difference/inferiority that seemed to have mostly stemmed from her inability to be as physically competent as her classmates in the mainstream school she attended. Physical activity seemed to mean medical model interventions, social exclusion, and pain (both physical and emotional).	Alana: "I felt very alone during my pri-mary school years, simply for the fact that I wasn't included in a basketball match, or I wasn't included in the chasey game, or whatever. And I guess being alone for me . . . was quite prominent and quite hard to deal with." (pg. 210, par 4, ln 6-8)	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
	(paraphrased from pg. 210, par 4; par 5, ln 1-2; and pg. 211, par 2)		

Category 6: Students wanted school staff to take more responsibility for implementing technological interventions

Theme / Category Title	Description	Supporting illustration	Level of evidence
Engaging with Technology (17)	Edward has benefitted from the school's willingness to try various options for accessing work in the classroom but there was no one overseeing the introduction of new technologies. He only started using an iPad in his final year, through which he gained greater independence in accessing information. He thought he could have been introduced to this technology much earlier by the school or VT. (paraphrased from pg. 2376, par 2, ln 1-2; and par 3, ln 1-3)	Edward: "We got it for mum to use then we realized that it had lots of really good applications for school and was really, really helpful. I have bought the eBooks for literature rather than the actual books, and there is an application that allows me to highlight and add a sticky note so you can just write all your notes. I can make technology work for me and use it quite easily." (pg. 2376, par 3, ln 3-7)	Credible
School and Teacher Limitations (16)	Teachers and aides were not in proficient with the technology used, or the specific challenges associated with vision impairment, and were therefore unable to assist when problems arose. All participants experienced the lack of expert technological support, and some students found they were forced to try technologies without having any training or assistance. There was little evidence of working together to get the best possible outcomes from the technology.	Alex: "ZoomText and things were all rather buggy on the school PC ... but they would say 'its equipment—you have to use this.' I really didn't quite understand their fixation on equipment when that equipment didn't work—and they couldn't help!" (pg. 656, par 9)	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
	(paraphrased from pg. 657, par 1, ln 1-3; pg. 657, par 3, ln 1-3; and pg. 657, par 3, ln 20-22)		

Category 7: Students perceived inflexibility of curriculum as a problem

Theme / Category Title	Description	Supporting illustration	Level of evidence
Curriculum-related issues (20)	Participants found it hard to cope with a tight work schedule such as having exams or assignments due close together and submitting assignments on time. The problem of a heavy workload was one of the areas that the students worried about the most in relation to their schooling. They also perceived the demand for handwriting as a significant problem in their school performance. They found it physically demanding and exhausting. The teachers also played a crucial role in the students' emotional responses to their workload. (paraphrased from pg. 179, par 2, ln 2-5; pg. 180, par 1, ln 15-16; and par 2, ln 1-2)	Oscar: "Well my arm, my finger here gets a bit sore because I, you know, I've got a callous here ... And well it just sort of hurts my arm when I write a lot. Well I, I see my handwriting as neat. Well sometimes it is. Sometimes it isn't." (pg. 180, par 3, ln 3-5)	Unequivocal
Curriculum and homework (4)	Homework in itself was one feature of the curriculum that acted as a barrier to enjoying mainstream education, mostly relating to inflexibility regarding the volume to be completed (pg. 22, par 1, ln 1-3)	Thomas: "They would give you way too much ... like every class would give you homework. I hated it." (pg. 22, par 1, ln 5-6)	Unequivocal

Category 8: Students experienced stress because of certain physical environmental factors at school

Theme / Category Title	Description	Supporting illustration	Level of evidence
Theme / Category Title	Description	Supporting illustration	Level of evidence
Anxiety: Environmental and Social Factors (9)	Each of the young people had particular areas within the school environment in which they experienced anxiety or stress. (pg. 83, clm 1, par 4, ln 1-3)	Eddie (regarding corridors): "I feel really, really, really tiny. Cos it's very, very, very big; very, very, very, very big. Yeah. Yeah. I feel like a tiny man. A tiny man. (pause) Yeah." Louise: "What feelings do you have when you feel like a tiny man?" Eddie: "Very nervous (quietly). Yeah. (pause) Really nervous (quietly). I feel baffled. Don't know what's happening. (pause). Just don't know, don't know who is coming. Can't see them. Don't know which direction they are coming from. That's what makes me worry." (pg. 83, clm 1, par 5)	Unequivocal
Environmental considerations (20)	Learning and participation are also affected by the physical learning environment of an inclusive educational setting. Some physical factors, such as noise and crowding, make inclusive school life harder. (pg. 183, par 6, ln 1-3)	Matthew: "... I think it would have to be — you know some children in class like to make a lot of noise and racket and they're just a bit too noisy and stuff like that. I reckon those type of students that try and stand out; those are the hardest thing here." (pg. 184, par 1, ln 1-4)	Unequivocal
Anxiety: Curriculum and Learning Factors (9)	Students experienced anxiety related to exams. This includes generalised feelings of performance anxiety, but predominantly anxiety related to the context in which exams were taken; the noise, the number of people, and the	Andi (regarding taking his exams in the support base): "You know it better, so you know what all the posters say... so you won't have to look at all of them. And you won't have to be	Credible

Theme / Category Title	Description	Supporting illustration	Level of evidence
	unfamiliarity of surroundings add to the usual exam pressures for these young people. (paraphrased from pg. 84, clm 1, par 3, ln 1-6; and par 5)	surrounded by all the people... it would help me concentrate more...” (pg. 84, clm 1, par 4)	
Overwhelming environment (4)	The participants found the nature of the mainstream school to be overwhelming, relating with the social and sensory aspects of the school environment. (paraphrased from pg. 20, par 3, ln 2-3; and pg. 21, par 3, ln 1)	Timmy: “It [mainstream] was very noisy. There were always kids banging on doors.” (pg. 21, par 3, ln 2)	Credible

Category 9: Students benefitted from personalized options to help them relax

Theme / Category Title	Description	Supporting illustration	Level of evidence
Sanctuary: The Support Base (9)	A designated room or area set aside for vulnerable students, including those identified with ASD, referred to as the 'support base'. The young people used these areas during unstructured times of the school day and for withdrawal work, or if the young person needed a ‘time out’. The students appreciated the quiet atmosphere, range of activities available to them, restricted admission policy, the consistent base where they can withdraw in times of need or trouble, and having a space to fully relax and enjoy their interests. (paraphrased from pg. 84, footnote; clm 2, par 4, ln 1-4; ln 10-11; ln 14-17; pg. 85, clm 1, par 1, 9-12; par 4, ln 5-8; par 5, ln 1-7)	Sammy: “This is where I go (smiles broadly). It’s nice and quiet there and only students who are allowed can go there. Ones that are quiet and don’t like going outside.” (pg. 85, clm 1, par 2)	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
Improving school (4)	Participants wanted more breaks and areas to go to de-stress within school to recalibrate and refocus. (pg. 24, par 4, ln 1-2)	Thomas: “Time out cards if really annoyed to go to chill out spaces. Comfortable places to hide in the classroom with headphones if stressed.” (pg. 24, par 4, ln 4-5)	Unequivocal
Sanctuary: One Size Does Not Fit All (9)	Not all participants needed enjoyed spending time in the support base, at least not for all of the time. For several of the young people, having access to areas where they could observe their neuro-typical peers or having a different place where they could find sanctuary (e.g., the music room) was important. (paraphrased from pg. 85, clm 2, par 4, ln 4-9; and par 3, ln 5-6)	Eddie: “Here’s the stairs, which I always climb to get up to here. I can look out of the window at the top of the stairs. Yeah. I can see what’s happening. I get a better view of the playground. Yeah (excited gasp). Looking. Enjoy looking at it through the window.” (pg. 85, clm 1, par 8)	Unequivocal

Category 10: Students felt reassured about transition to high school when, prior to transition, they were provided with relevant opportunities to prepare in advance and the focus was on the positive aspects of transition

Theme / Category Title	Description	Supporting illustration	Level of evidence
Theme 3: Lived Experiences During Transfer: Positive perceptions of the transfer experience (15)	The participants reported the orientation tours of the high school as positive experiences. A private meeting with the high school SENCos and the RTD helped the participant feel more relaxed about the move. As a result of the orientation visits and meetings, all the students reported feeling happy about their move. All the students commented on the friendly nature of the teachers and older students who assisted them when required. Additionally, all enjoyed various levels	Monica: “Before those meetings I felt quite nervous [about transferring to secondary school], but then I just got the hang of it because of those meetings and with the tours, and I feel pretty comfortable now.” (pg. 304, clm 2, par 1, ln 5-9)	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
	of academic success after an initial adjustment period.		
Facilitators: Positive approaches (14)	Participants highly valued secondary school visits, class and group discussions (focusing on positive aspects of transition), assemblies about transitions, and support from family and friends. This helped spark excitement and reassure them about the transition. (paraphrased from pg. 364, par 6, ln 1-2; par 7, ln 1-2; pg. 365, par 1, ln 1; and par 2; ln 1-3)	P6: "What I think really helped was that Miss gathered us up in the hall and told us about it, that really helped me ... she just said to us, 'It's a huge move and I want you to do as best as you can, there's going to be a lot of new things there compared to here, um so please don't worry ...'". (pg. 365, par 1, ln 4-6)	Unequivocal
Barriers: Negative approaches (14)	Participants did not find it helpful when discussions were focused on negative aspects of the move and concentrated on identifying factors that children were worried about. Therefore, in contrast to positive approaches, strategies that focused on worries and concerns seemed to exacerbate their anxiety. (pg. 365, par 7)	P3: "They do really silly things [laughs] like um they would – you all had to sit in a circle one day at in – at the edge of the classroom, like we're all sitting in a circle and they made us say what we're worried about ... it either made people upset or it was just a bit pathetic." (pg. 365, par 7, ln 4-6)	Credible
Facilitators: Practical information and advice (14)	Participants valued gathering practical information and advice about their new schools, especially through school visits, class and group discussions, and written advice and visits from secondary staff/ pupils. They also valued adaptation of the primary school environment to reflect changes at secondary school, booster classes and support from external agencies to see how they would benefit from the support in secondary school. (paraphrased from pg. 364, par 1, ln 1-2; par 2, ln 1-2; par 3, ln 1-3; par 4, ln 1-2; and par 5, ln 1)	P2 (regarding school visits): "You get to know how much classes there are ... then you know what's going to happen." (pg. 364, par 1, ln 3-4)	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
Emotions (14)	Participants experienced anxiety before the transition, with worries relating to feelings of uncertainty, bullying, increased discipline in secondary school, and missing other people, as well as some excitement. (paraphrased from pg. 361, par 2)	P1: "I got a bit worried if I was going to get bullied or not." (paraphrased from pg. 361, par 2, ln 3-4)	Unequivocal
An experience shared with family (14)	Participants relayed positive views expressed by their parents, as they were familiar with the school and/or transition process, as well as concerns about getting bullied. (paraphrased from pg. 361, par 3, ln 1-4)	P4: "My brother had already gone through this school ... My mum and dad were fine with it." (pg. 361, par 3, ln 2-3)	Unequivocal

Category 11: Children expressed mixed feelings and experiences regarding the changes to environment, peers and friendship, curriculum, services, and school system during transition to high school

Theme / Category Title	Description	Supporting illustration	Level of evidence
Positive experiences: Peers and friendships (14)	Even in the face of some adversity, children's social experiences were generally positive. They spoke about friendships that they had developed during the first term. (paraphrased from pg. 362, par 2)	P6: "I have a few old friends there and then made new ones." (pg. 362, par 2, ln 2-3)	Unequivocal
Characterised by change: Environment (14)	Increase in the number of people and increased size of the secondary school were significant changes and was viewed both positively and negatively at times. Participants reflected positively on the increase in resources. (paraphrased from pg. 362, par 4)	P4: "There's a lot more people .... Make new friends and all that." (pg. 362, par 4, ln 2)	Credible

Theme / Category Title	Description	Supporting illustration	Level of evidence
Characterised by change: School systems (14)	The participants sometimes worried about the increased focus on discipline at secondary school. However, overall, for most participants, an increase in discipline was not a negative experience, and this was also reflected in discussions about specific teachers. They also valued the level of organization in secondary school, however had mixed views regarding having multiple teachers and changing classes. (paraphrased from 362, par 5, ln 1-3; ln 10-11; and par 6)	P3: "I felt a little bit worried cause if I missed out a bit of homework ... then I could get a detention." (pg. 362, par 5, ln 3-4)	Unequivocal
Characterised by change: Curriculum (14)	Participants found homework in secondary school to be similar but slightly harder, which they were sometimes worried about but found to be manageable. They also appeared to value the increased variation and opportunities to engage in lessons of interest. (paraphrased from pg. 363, par 2)	P1: "The questions you usually get aren't much different, the tests are a little bit harder but not too much different ..." (pg. 362, par 2, ln 2-3)	Unequivocal
Theme 3: Lived Experiences During Transfer: Negative perceptions of the transfer experience (15)	All three students faced challenges during transfer. The participants found the structural organization of high school to be difficult, and the changing timetable to be challenging. All reported issues with learning related to disruptions in the classroom caused by other students. All three participants had problems with noise levels indicating their increased sensitivity to the classroom environment. The most significant negative aspect of the transfer process was the lack of opportunity for the students to demonstrate areas of learning strength.	Monica: "Last year I had a different lady called Y, and normally we would go together once or twice a week, and we had sessions during class—like for a whole block—we wouldn't just have 15 minutes, I'd have like an hour with her . . . (but now) I can't. And normally we would just go to a different room and just take the work from the one class, and it's a bit confusing now because we have a whole lot of different [subjects] to work on. And so far we sort of	Credible

Theme / Category Title	Description	Supporting illustration	Level of evidence
		thought of form-time, but form-time is a bit short, and I've got to read the notices."	
Positive experiences: Perceptions of secondary (14)	Most participants expressed positive views about their secondary schools (pg. 362, par 1, ln 1-2)	P3: "I think it's a really good school, I really like this school." (pg. 362, par 1, ln 2)	Unequivocal

Category 12: Making friends and socializing at school is important but can be challenging for many reasons, and these reasons vary from student to student

Theme / Category Title	Description	Supporting illustration	Level of evidence
Friendships (20)	The majority of students reported that they had friends at their high school. Some students, however, had difficulty in sharing a friendship. Students had mixed feelings about socialising. For many of them socialising meant conversing, an activity that caused mixed feelings. The students noted that they enjoyed conversations if they could talk about things they liked. Otherwise, they observed that it could be quite boring or even daunting. (paraphrased from pg. 182, par 2, ln 1; ln 5-6; and par 3, ln 1-4)	Oscar: "I sit with my friends, but I hardly socialise with them." Interviewer: "Don't you?" "No. I sort of find that boring ... even though it is good to socialise ... Interviewer: When you talk about socialise, what do you mean by socialise? Just, just like say, oh how did such and such go and stuff." Interviewer: "Okay, so you don't tend to initiate anything?" "Just small talk." Interviewer: "Yeah. You don't tend to ... keep things going?" "No. Cause I just find it a bit, well, diffi- cult cause I can't really remember ... I mean when I say, when somebody	Credible

Theme / Category Title	Description	Supporting illustration	Level of evidence
		says hello to me I say ... I'll give you an example. It's just when somebody says hello, I sort of say the wrong thing and well, when they say hello, I hardly ever say hello such and such ..." (Omission) ... Well I do like to socialise sometimes, but not that much. Interviewer: When? Like in what sort of situations do you like to socialise? When it's about something I like." Interviewer: "So things like history or animals or?" "Some, yeah, and also military stuff." (pg. 182, par 3, ln 7-23)	
Forming and Mainta-ining Social Relationships (17)	Edward justified sitting alone at the front of the class because the equipment and enlarged texts take up space. Edward described having a fairly limited social group, with rather more acquaintances than friends, but he does not appear to have had undue issues with social rejection or bullying. He did not mention feeling lonely at school as he kept himself busy with numerous extra-curricular activities. (paraphrased from pg. 2376, par 4, ln 1-2; pg. 2377, par 2, ln 1-3; and pg. 2378, par 3, ln 1-2)	Edward: "I am one of those people that chronically sit up at the front of the room which is for some reason not the most popular place in the world." (pg. 2376, par 4, ln 2-3)	Unequivocal
Self-esteem and AD/HD: Feeling different (3)	The data identified the need for the boys to "be long" in school, that is, to be socially accepted by peers and teachers. The boys indicated that primary school was challenging in the sense they found it difficult to make and maintain friends	Noel: "I cannot study for a long period of time or concentrating on a task seems daunting. I can't get my head down and study. I know I have to do some study but when the time comes,	Credible

Theme / Category Title	Description	Supporting illustration	Level of evidence
	thereby making them feel "different" to other students. However, once the boys progressed to secondary school, they were more readily capable and able to establish and manage friendships. (pg. 60, par 5, ln 2-6)	I can't be bothered. I feel like I have to make noises and stuff. I like to muck around. I draw attention to myself because I get bored. I always have to do something apart from school work. It is impossible for me to concentrate and sit and do schoolwork for an hour like most other boys." (pg. 60, par 7)	
Friendships outside school (18)	In terms of academic work, isolation at school means James is not aware of how much effort other students are making, which is particularly important for the final year examinations. He has not experienced the benefits of working closely with someone, sharing ideas, information, and concerns so has no idea of the depth of other student's studies, and gets no peer feedback on his work. Teachers were oblivious to the social isolation of this student. (pg. 74, par 4, ln 1-5; and pg. 76, par 2, ln 1-11)	When asked if he knew how much work other students in his class did he replied, "No. I don't go and ask them. I don't go and say, 'How much are you doing at home?' That's not the conversation you have in class." (pg. 75, par 1, ln 3-6)	Credible
Getting Back to Eve-ryday Life (12)	An important driver for students to go back to the educational environment after TBI is their need to be participating in normal life roles including interacting with peers in everyday, expected activities. Unfortunately for students who are trying hard to fit in with their peers, the initial stages of school re-entry are also likely to be affected by restrictions and changes to the kinds of activities they are allowed to do. These changes, although ultimately acting as integral supports to facilitate successful inclusion, can	Adam: "It was like the whole point of me wanting to go back to school, like hang around with my friends and like do PE. . .but they wouldn't let me do it. . .that was a kind of a pain." (pg. 444, table I, quote 3a and 3c)	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
	provide a further barrier to students' adjustment to school and peer acceptance. (paraphrased from pg. 445, par, 2, ln 2-6; par 3, ln 1-5; and ln 8-12)		
'Not self-esteem raising': Feelings about peer interactions (6)	Participants commonly discussed middle school PE, in particular, as challenging, because the pronounced differences between participants and their peers made "fitting in" with peers challenging. Because of how difference and vulnerabilities were on display during physical education classes, participants suggested that peer interactions were different in PE than in other classes. Peer interactions during exclusionary activities are challenging, however, participants also described negative experiences during group/team activities. (paraphrased from pg. 432, clm 2, par 1, ln 15-21; ln 25-28; and par 2, ln 1-5)	Rachel: "I think for me PE was an area where my disability was pronounced and I was in a situation where I had to deal with it and people had to see it." (pg. 432, clm 2, par 1, ln 21-24)	Credible
Friendships at school (18)	Participant attributed his difficulties forming and maintaining friendships at school to his vision impairment. He did not play sports, as other boys in his class did; and it takes time for him to recognize a face, limiting his social interaction, and this was frustrating. (paraphrased from pg. 72, par 2, ln 1-4; pg. 73, par 2, ln 1-2; and ln 8-9)	James: "Since I didn't play sport the next best thing I guess in the way of socializing and getting conversation going was to go to someone who wasn't busy and not playing sport and that is naturally teachers ... I just started conversations and they seemed to flow and it just seemed to be a very fluent conversation and it worked. It seemed to work and I thought well, if that worked, why stop and it just	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
		continued on. It just snowballed from there.” (pg. 72, par 2, ln 20-25)	
My participation experiences (24)	Respondents described how they enjoyed school, experiencing school as fun or doing well at school. However, negative experiences were also mentioned by the respondents, some stating that they experienced "school as boring" or "found school difficult". These negative experiences with school were sometimes caused by social exclusion. Although being socially excluded at times, respondents also described making friends and being socially included. Some respondents functioned well physically and were able to participate in sports/hobbies, whereas others experienced difficulties finding the right sport/sports club. (paraphrased from pg. 1028, clm 2, par2; ln 1-8; par 2; ln 1-2; and pg. 1029, clm 2, par 1, ln 1-5)	(boy, 15 years, loves cycling, often feels depressed because of his CP and social exclusion): “Er yeah, and all in all I find that I’m being looked down upon because I walk differently. Ah well, it is just difficult to make contact with other kids. And er, they usually have their own friends, but, er, yeah I just feel, I feel I don’t fit in.” (pg. 1028, clm 2, par2; ln 9-14)	Unequivocal
Derailing and Being on Track (23)	Participants recognized that numerous temptations, especially those related to food, might keep them from following instructions. They struggled with whether to curb their cravings for sweet or high-calorie fried foods, or submit to them. School was the site of many pressure situations, and special occasions (e.g. class parties) were particularly challenging. Although participants acknowledged the influence of food on their	Participant M: "When I see my classmates drinking [beverages], I feel unhappy and jealous because I can’t drink like them. I have to suppress my desire... Feeling everyone can drink but I can’t is very unpleasant. It makes me very upset." (pg. 238, clm 2, par 5, ln 7-11)	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
	blood glucose levels, they were afraid that refusal and avoidance would provoke teasing and questions from classmate. (paraphrased from pg. 238, clm 2, par 5, ln 1-5, par 6, ln 1; ln 4-5; and pg. 239, clm 1, par 1, ln 1)		

Category 13: Students cared about their peers' perceptions of them, as they wanted to be accepted and not feel "different" or excluded

Theme / Category Title	Description	Supporting illustration	Level of evidence
The Same yet Differ-ent (23)	Although adolescents with Type 1 Diabetes are externally indistinguishable from their classmates, diabetes symptoms and self-management behaviours revealed the existence of Type 1 Diabetes and set them apart. These adolescents were often confused about their identity and unsure of whether and how much they were similar to or different from their peer classmates. None were comfortable performing diabetes self-management tasks in public because of the accompanying un-wanted attention that heightened the sense of being different. Appearing normal was important to them, often more than physical comfort or possible health risks. (paraphrased from pg. 237, clm 1, par 2, ln 1-9; par 3, ln 1-3)	Participant A: “When I go to the restro-om to give myself insulin, after coming back, usually everybody has already eaten half [their lunch].” (pg. 1028, clm 2, par 2; ln 13-15)	Credible

Theme / Category Title	Description	Supporting illustration	Level of evidence
Covert and Overt (23)	Decisions revealing condition, as well as who would be told and how much information would be shared, presented dilemmas for participants that further complicated their desire to fit in with peer groups. Because participants did not want to be considered special or misunderstood, social anxiety and pressure forced to disguise their diabetes or hide their self-management tasks at school. In addition, many described experiencing unforgettable emotional trauma because of classmates' ignorant or naïve responses. Some also related negative experiences because of schoolteachers' careless handling of their needs. The participants showed varied attitudes, experiences, and processes with regard to disease disclosure at school. (pg. 237, clm 1, par 5, ln 1-10; clm 2, par 1, ln 1-2)	Participant M: "You have to let your good friends know. The teacher and school nurses should also know. It's dangerous if no one knows. Because if something happens, they can save you." (pg. 237, clm 2, par 1, 5-7)	Credible
Negative Feelings about Asthma and Asthma Medication (22)	Students' feelings about asthma symptoms and treatment contributed to limited use of medication at school. Most students reported they did not like to use their asthma pumps in front of classmates. Students were embarrassed or nervous that others would tease them or say something negative towards them. The majority of students claimed they did not like to tell other classmates they had asthma. (pg. 7, par 2, ln 1-5)	Child 1: "Um, I feel, I feel sad [about using pump in front of classmates]. Because I'm scared that everybody's going to tease me." (pg. 7, par 2, ln 9-10)	Unequivocal
Peers as a Source of Social Exclusion and Bullying (11)	Most of the children we spoke to experience social exclusion and isolation from their peers at school. A form of unintended exclusion was that there was a lack of inclusive opportunities, which were mostly a result of ignorance and a	Participant 5: "I get on the bus so I get picked up in the morning and it's all school time. I arrive 10 minutes before class starts and leave 10 minutes before class ends so there is	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
	lack of understanding about children's particular condition and about people with disabilities in general. (paraphrased from pg. 105, clm 1, par 5 ln 1-2; and par 6, ln 1-4)	not a lot of time for social interactions. Kids don't have a lot of time to talk to me and I don't have a lot of time to talk to them...I have an education assistant which is good and bad because I need her assistance but she ended up following me everywhere which I didn't appreciate. They help out with all the academic stuff but I think the perception is 'oh she is with somebody so we won't bother her." (pg. 105, clm 2, par 1, ln 6-15)	
Childhood: the development of a sense of difference/inferiority: The early years (2)	The gradual transition from segregated to main stream school in late '70s and early '80s impeded the participant's social development. For Alana, her mobility, gait, affected left side, and part-time attendance at the mainstream school might have been factors that contributed to other children's perceptions that she was different. These factors seemed to engender in Alana a sense of inferiority. (paraphrased from pg. 209, par 3, ln 1-9; and ln 21-24)	Alana: "I was being, sort of, put in some thing that was totally foreign and totally different, and I felt different. I think that was my biggest thing. I was in a classroom of able-bodied kids, and I felt different, whereas at [her first school] I didn't because ever body had some type of disability, and it wasn't like your disability was focused on. For me, it was like I was plucked out of something that was safe and fine and, y'know, warm fuzzies, and put into something that was cold as hell, and you were being stared at." (pg. 209, par 3, ln 11-17)	Credible

Theme / Category Title	Description	Supporting illustration	Level of evidence
Peer acceptance (26)	Participants expressed experiences of peer acceptance in the dance education environment. This happened when they had opportunities to dance with their classmates and felt recognized and appreciated as part of the group. (pg. 224, par 2, ln 3-5)	John: "I liked being a leader because I remember them (the moves), and because people listen to me. And people don't always listen to me too much. But they do in dance." (pg. 224, par 2, ln 1-2)	Unequivocal
Edward's View of Himself (17)	He is self-assured and has a strong sense of self. He was knowledgeable about his condition, believes that he "projects" being sighted, and wanted to be accepted as if he were "just one of the boys". He was also confident in his ability to succeed academically. (paraphrased from pg. 2373, par 4, ln 1-4; par 5, ln 1-2; and pg. 2374; par 4, ln 1)	Interviewer: "Do you consider yourself to be a person with a vision impairment or a vision impaired person?" Edward: "It doesn't super bother me. I guess probably I prefer the vision impaired thing be more as an afterthought or a footnote." (pg. 2373, par 4, ln 5-8)	Unequivocal
Being Accepted (12)	Students returning to education after TBI are likely to still be adjusting to the unexpected disruption to their lives. At this sensitive time, students with TBI do not want to be singled out as different. In addition to students' desire to preserve their pre-injury identity, there is added concern about being publicly labelled. (paraphrased from pg. 445, clm 2, par 4, ln 1-3, par 5, ln 1-2; and par 6, ln 1-3)	Adam: "Always singling me out in class just 'cause I got hit by a car. . ..it makes you feel stupid in a way." (pg. 444, table I, quote 5c)	Unequivocal
Influence of Disability on the Transition Process: Perception of SE Services (25)	Participants describe experiences with SE services in elementary and middle school, including desires and unsuccessful attempt at securing SE service, as well as unsatisfaction with and stigma of being enrolled in SE classes.	Kekolu: "I was trying to hide it . . . every day I would hang out with them [students in regular education] instead of hanging out with the other kids that would go to special ed. Like in school, they treat me like different	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
		than how the other kids, cuz I was in special ed." (pg. 56, clm 1, par 2, ln 25-28)	

Category 14: Students often reported being bullied at school

Theme/Category Title	Description	Supporting illustration	Level of evidence
Peer Relationships (19)	Participants shared different perceptions of their relationships with their peers. They described what is ideal within a relationship, positive experiences as well as difficulties with classmates, including bullying. (paraphrased from pg. 1076, par 4, ln 1-2; par 6, ln 2-4; par 9; and pg. 1077, par 3, ln 4-6)	Alice: "The problem is, they always keep on interrupting what I say. And whenever I tell them off, they just ignore. Even my teachers too . . . I felt so silly. Didn't they realize that they need to learn how to respect?" (pg. 1076, par 7)	Unequivocal
Teasing and bullying (20)	Teasing and bullying are regarded as one of the most constraining factors for students' learning and participation in an inclusive education setting. While a bullying policy existed at school, and this reassured some of the students, all of the students experienced teasing and bullying, from verbal to physical. (pg. 183, par 2, ln 1-4)	Sally: "I know now, never to respond to my name in public. It's been discarded forever and ever. ... Don't respond when someone calls out your name. So I just keep on walking no matter how many times they call it — even if they're a nice person. I just won't turn around." (pg. 183, par 2, ln 6-8)	Credible
Explicit Social Excl-usion from Peers (11)	Some children reported that they were singled out on purpose for "being different" from their peers. Children who had communication impairments were particularly frustrated with people ignoring and talking down to them. (paraphrased from pg. 105, clm 2, par 4, ln 3-4; and pg. 106, clm 1, par 1, ln 1-3)	Participant 7: "When the bullies picked me out as a target they found out that the best way to intimidate me was the isolation." (pg. 105, clm 2, par 4, ln 5-7)	Credible

Theme / Category Title	Description	Supporting illustration	Level of evidence
Verbal Bullying (11)	The majority of the children in this study reported verbal forms of bullying such as name calling and derogatory comments. Children were often identified as being different because of the way they looked or acted. These children and youth with disabilities often did not know how to respond to verbal abuse because they often lacked self-confidence and peer support. (paraphrased from pg. 106, clm 1, par 5, ln 1-3; and par 7, ln 1-4)	Participant 9: "Instances of bullying for me were verbal because of having cerebral palsy. It was the name calling and the teasing. The bullies made me a target because they often looked for somebody who was weaker or slower, different and easy to intimidate." (pg. 106, clm 1, par 5, ln 6-10)	Unequivocal
Physical Bullying (11)	Some children spoke about physical forms of bullying. This type of bullying was in the form of kicking, pushing and physical injury. The children reported having a difficult time responding to these forms of assault because they moved slower than their peers. Children reported that it was difficult to tell someone about the bullying at the time it was happening to them as they were embarrassed and ashamed. (paraphrased from pg. 106, clm 2, par 5, ln 1-7; and pg. 107, clm 1, par 2, ln1-3)	Participant 6: "I didn't want to isolate myself but it was too emotional for me. Going through it and seeing what the bullies were doing I didn't really want to talk about it for the first two years. I didn't connect when I was going through the bullying. I didn't connect with anybody or any kind of support." (pg. 107, clm 1, par 1, ln 1-6)	Unequivocal
Peer Interactions (8)	This theme encompasses both positive and negative subthemes: camaraderie, signifying goodwill and a positive rapport among classmates; initiation of friendship, demonstrating the potential of PE to be a catalyst for friendship, was also discussed, demonstrating clearly that PE can socially benefit children with autism; negative social comparisons; and bullying. (paraphrased from pg. 225, clm 2, par 4, ln 2-5; and par 5, ln 1-4)	Michael: "You can do lots of cool moves and it's kind of cool and everybody can be your friend and you can make loads of friends... When I'm running and playing with a ball and passing, they say thanks and after that they say do you want to sleep over or something like that." (pg. 225, clm 2, par 5, ln 4-9)	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
Bullying (4)	The participants experienced bullying at the main stream school (pg. 22, par 3, ln 1)	Thomas: "They [pupils] were all assholes as they tried to pick on me for being different." (pg. 22, par 3, ln 2)	Unequivocal
Deleterious peer relationships (5)	Deleterious peer relationships (e.g., social isolation, bullying) were commonly reported among the participants. (paraphrased from pg. 64, clm 1, par 1, ln 6-9; par 2; and clm 2, par 2)	Chikuk: "Sometimes, they [peers] won't even let me try. I really want to play. And I wish they [peers] would be nicer. It makes me feel okay, but sometimes he [one peer in particular] ruins my day. He's not really mean, but just sometimes it feels that way." (pg. 64, clm 1, par 2, ln 12-17)	Unequivocal

Category 15: Children had insight into their own behaviours/experiences, conditions, and labels

Theme / Category Title	Description	Supporting illustration	Level of evidence
Construction of HFA (high-functioning autism) (19)	The participants' construction of the label of HFA was framed in both positive and negative terms. (paraphrased from pg. 1075, par 2, ln 3-5)	Bernard: "I think, [I'm] special, I am different from others . . . and this marks me out of the crowd. Just like Albert Einstein, Hitler, Newton, Stalin. They are also marked out of their own people. There is some research that it's possible Albert Einstein is also autistic; he is great, I can just be as promising." (pg. 1075, par 3)	Unequivocal
Me as a person (24)	Multiple factors regarding adolescents "as a person" were identified that influenced the respondents' participation experiences. These included: several personality traits, the way in	(girl, 14 years, loves to dance): "In the past, I wasn't able to do certain things in gym. For example, jumping over a vaulting box. But now I can do	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
	which participants perceived themselves and their disability (accepting their disability and perceiving themselves as competent/ incompetent. Respondents' participation experiences influenced the way in which they perceived themselves as well as their disability, e.g. being seen as "normal". Respondents also used a broad range of strategies to cope with daily life situations. (Paraphrased from pg. 1030, clm 1, par 6, ln 1-2; clm 2, par 1, ln 1-2; par 2, ln 1-7; and par 3, ln 1-3)	that and can also do other things. I think because I got more self-confidence. I dare to do more and I find that I'm capable of doing much more than I used to think. [...] I think it's mainly because of my friends that I got more self-confidence. They stick up for me." (pg. 1030, clm 2, par 1, ln 6-12)	
Disease Identity and Denial (23)	Facing a lifelong disease with no cure is like living under dark clouds. In contrast to their own restricted lives, their classmates' carefree lives underscored their sense of injustice. This might also explain why negative interactions such as being teased by classmates hindered diabetes self-management at school. In addition, teachers' lack of knowledge about and responses to T1DM reinforced negative emotions. However, support from their classmates and teachers, with positive presence, care, and advocacy, meant a great deal. (paraphrased from pg. 239, clm 1, par 3, ln 1-9; clm 2, par 1, ln 3-5)	Participant N: "I was preparing to eat lunch, had already taken extra doses and my rice fit exactly with my insulin dosage. Still, my teacher said, 'That's too much,' and took some rice away, leaving me just a little. Another time he saw that I was enjoying my Coke Zero and said I couldn't drink that. He poured out my Coke and instead gave me water." (pg. 239, clm 1, par 3, ln 15-21)	Unequivocal
The Invisible Nature of TBI (12)	TBI is often a hidden difficulty, and common changes caused by TBI may present in a student as behaviour that mimics other issues (paraphrased from pg. 444, clm 2, par 2, ln 1-2; and ln 4-6)	Brett: "Just cause I'm walking doesn't mean that everything in my head's ticking correctly." (pg. 444, table I, quote 2a)	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
Discourse of behaviour (13)	Children saw themselves as social actors with power to make choices and determine their own behaviour. The children talked about themselves as active communicators, asserting themselves and choosing what to pay attention to. Many spoke about their preference to talk to their friends rather than listen to the teacher in class. In the school environment, talking was adult-dominated and restricted; but children still found informal opportunities for exercising choice and control. Children attributed success at school to compliance. From this point of view, compliance need not be equated with passivity. Children made some autonomous decisions to obey rather than resist and took pride in their co-operation and participation. In this discourse, children accepted responsibility and sometimes blame or punishment too, when their behaviour did not fit with others' rules, expectations, and wishes. (paraphrased from pg. 287, clm 1, par 4, ln 1-3; clm 2, par 1, ln 2-6; par 2, ln 1-5; par 3, ln 1-4; and par 4, ln 1-3)	Harry: "When we at school, when we aren't allowed to talk we talk. And when we can talk, we don't really. It odd. [laughs]" (pg. 287, clm 2, par 1, ln 10-12)	Credible
Adjusting to Long-Term Changes (12)	Students' reflections of their educational participation following TBI frequently describe significant changes to their pre-injury vocational or educational goals. Associated with changes in life goals, students frequently describe feelings of loss and grief, including feelings of disconnection with their pre-injury identity. (paraphrased from pg. 446, clm 1, par 2, ln 1-4; par 3, ln 1-2; and ln 4-6)	Adam: "It's just. . .it's frustrating, knowing that you want to do them but you can't." (pg. 444, table I, quote 6a)	Credible

Theme / Category Title	Description	Supporting illustration	Level of evidence
Limitations and Freedom (23)	All of the participants acknowledged the importance of normal metabolic control, as they knew that they were vulnerable to long-term complications if they did not care for themselves properly. The physical symptoms of glucose fluctuation constantly reminded the adolescents of their T1DM. In the face of demanding diabetes management tasks and the stress of T1DM, some of the adolescents expressed frustration and fatigue with their diabetes self-management tasks and a desire to forsake all of these requirements. They repeatedly mentioned the many difficulties they had encountered at school, and developed strategies to handle uncomfortable situations. In addition, teachers misunderstood T1DM and lacked confidence in emergency management, limiting student freedom to participate in school activities. (paraphrased from pg. 237, clm 1, par 3, ln 1-5; pg. 238, clm 1, par 1, ln 7-8; ln 22-23; clm 2, par 1, ln 1-4; and par 4, ln 1-3)	Paticipant N: "I know that I am not like others can totally [be] free to eat what they want to eat and to do want they want to do. I need to test my sugar, adjust my insulin, and pay attention to my body carefully. I Because I don't want to be limited by this disease, I have been working hard to let others know I'm good and I'm doing well." (pg. 237, clm 2, par 3, ln 10-16)	Credible

Category 16: Student recognized that their impairments and specific health conditions made it challenging for them to participate in PA and social interactions in PA

Theme / Category Title	Description	Supporting illustration	Level of evidence
More than a motor problem: left out of left field (27)	Participants had unhappy feelings when describing motor problems at school, especially in sports and social activities. Participants described feeling fatigued and having sore muscles, exclusion,	Cindy: "If I run like a long time then my feet start to hurt and then, and then I walk. Sometimes when I can't do the same things as other friends and kids	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
	bullying, and hassling. (paraphrased from pg. 69, clm 1, par 6, ln 1-2; ln 11-12; par 7, ln 4-5; pg. 70, clm 1, par 2, ln 1-3; and par 6, ln 1-2)	and sometimes it bothers me." (pg. 69, clm 2, par 1, ln 2-5)	
My disability (24)	Respondents reported several factors related to their disability that influenced their participation. They mentioned cognitive and physical limitations. As regards physical limitations, respondents described suffering from fatigue and had limited energy, which influenced their ability to participate like adolescents without CP. Another important aspect appeared to be the visibility of their disability, especially in interactions with their environment, which can be both supporting and limiting factor. Participants kept disability, as well as the limitations they experienced, in mind when thinking about future. (paraphrased from pg. 1030, clm 1, par 3, ln 1-5; par 4, ln 1-2; and par 5, ln 1-2)	(girl, 14 years, finds it difficult to talk about her CP with classmates): "I don't go to school on a pedal bike. I go to school by bus because when I get to school I am just too knackered and then the day hasn't even started yet. And when school is done, right, I am very tired as well and then I will go, I take the bus home." (pg. 1030, clm 1, par 3, ln 7-11)	Credible
Asthma Symptoms during In-School PA (22)	Students reported limited access to scheduled PA in their schools. Despite limited access to scheduled PA, many students experienced asthma symptoms while performing PA (during PE and recess) during the school day. (pg. 5, par 4, ln 1-4)	Child 9: "My asthma it really comes in, and it's like its squeezing myself in so it's like I can't run no more oh my gosh I'm breathing so hard that it's hard for me to really run a lot and that's really it." (pg. 5, par 4, ln 8-10)	Unequivocal
Individual Challeng-es (8)	This theme encompasses the many challenges in PE that the children spoke about. This theme includes subthemes of physical ability, physical fitness, sensory issues and fear of injury. These participants also spoke of instances when their motor deficit was accepted as a reason not to be involved (paraphrased from pg. 224, clm 1, par 4)	Shane (on playing chasing games): "They go fast for me, I can barely catch them." (pg. 224, clm 2, par 1, ln 2)	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
Internalized exclusi-on (7)	Although several participants described their overall experience with PE teachers as positive, each experienced some degree of exclusion from peers during PE activities. For the most part, though, exclusion was not attributed to actions of the PE teacher or peers. Rather, participants internalized their exclusion and ascribed it to either personal characteristics (blindness) or personal choice. (pg. 383, par 4, ln 1-4)	Aaron (describing an instance where he was excluded from activities): "It was pretty negative. It wasn't anything induced by anyone other than me not being able to see to participate. So while I talked to the teacher and the accommodation wasn't necessarily available, it was a pretty bad experience. There was nothing I could do. You feel trapped. As visually impaired people often do with situations where you have no transportation. It kind of felt like one of those situations where I was like, waiting." (pg. 383, par 4, ln 6-10)	Credible
Methods to Prevent Asthma Episodes during School (22)	Despite the majority of children reporting asthma-related symptoms during PA, students were either unaware or did not adhere to a formal asthma action plan to prevent, control, or treat such symptoms when they presented. The most common form of preventive asthma management was sitting out from activity (pg. 6, par 4, ln 1-4)	Child 11: "My mom writes a note...She writes something like [child's name] has asthma and it's acting up again so she can't play in the activity you are doing today." (pg. 6, par 3, ln 9-11)	Credible

Category 17: Children were active and creative problem solvers, and drew on their strengths to cope with challenges

Theme / Category Title	Description	Supporting illustration	Level of evidence
Coping strategies: thinking differently and emphasizing strengths (27)	Participants developed various strategies to cope with their experience of difference that arose from not meeting age-related expectations. This includes attitudes and activity choices that offer an alternative to the typically negative	Jason: "DCD isn't like the whole thing ruling your life or anything . . . You, you'll still be very, very good at everything, just get a scribe and everything will be all right, yeah man."	Unequivocal

	connotation of a motor ‘‘difference,’’ (paraphrased from pg. 70, clm 1, par 9, ln 1-3; and clm 2, par 3, ln 17-19)	[unequivocal] (pg. 70, clm 1, par 9, ln 6-9)	
Young People as Active Agents: Creative Problem Solvers (9)	The participants had created their own ways of solving problems. These mostly revolved around avoiding crowds and noise. They were also able to suggest future adaptations that could be made to help them further. (paraphrased from pg. 86, clm 1, par 3; par 5, ln 1-5)	Corin: “These are like velvet ropes and it keeps you in a line, but I don’t think we should have to have a line, cos everyone gets crushed in the queue. So I skip the line, I go ‘in’ the ‘out’.” (pg. 86, clm 1, par 6)	Unequivocal
Theme 3: Healing the Wounds: Sources of Strength, Success, and Helping Others (10)	The final theme that was found among all four participants’ accounts related to their sources of strength, what helped them become successful, and passing on this positivity to others. Despite the hardships these participants have faced, they have each found sources of strength and success that have made them resilient in the face of adversity, and had a desire to help others (paraphrased from pg. 63, par 5, ln 1-3, pg. 64, par 3, ln 1; and pg. 65, par 2, ln 2-4)	Teresa shared, “I have gone through a lot of things in my life and my whole existence, my calling in life, is to help others.” (pg. 63, par 5, ln 3-4)	Unequivocal
Young People as Active Agents: Making Sense of Self and Others (9)	Participants experienced difficulty making friends, were bullied by their peers, and got into trouble at school. Although each participant had slightly different experiences, common to all four individuals was a sense that they did not quite fit in. Another commonality among all four of the participants was getting into trouble at school. The trouble that the participants got into at school was often because they did not understand what was being taught in the classroom. These difficulties with school often caused the participants to become angry and frustrated with their diagnosis. (paraphrased from pg. 60, par 5, ln 3-5; and pg. 62, par 3, ln 3-7)	Andi (described watching other young people from a distance) : "it was in the middle of trees, which I liked sort of being hidden; some students got in and when I was just sat there, I could watch them, and they wouldn’t see me..." (pg. 85, clm 2, par 6)	Credible

Category 18: Students described having plans/goals for the future (vocational and educational). They discussed an emerging sense of independence, enthusiasm, and optimism; although, these feelings and their plans/goals may be affected by their conditions.

Theme / Category Title	Description	Supporting illustration	Level of evidence
Young People as Active Agents: Young People Becoming (9)	Participants discussed their emerging sense of independence, and enthusiasm and optimism regarding their future educational experiences. Nonetheless, they acknowledged that they would have mixed emotions. (paraphrased from pg. 86, clm 2, par 2, ln 1-2; and par 6)	When prompted by the question “Would you like her [TA] to be with you all of the time?” Georgie responded: “No. Because I’m getting older and I can do things more myself. Probably might not need anybody, hardly, when I’m at college.” (pg. 86, clm 2, par 3)	Unequivocal
Postsecondary Employment (1)	All students stated that they would have a job after graduation. They stated post-secondary plans, including, going to college, gaining employment, as well as indicating other prerequisite skills and characteristics necessary for postsecondary employment. (paraphrased from pg. 221, clm 2, par 2, ln 2-4; and par 4, ln 2-3)	Student 6: “I think I might work at [local grocery store] before I do something more. That way I can learn job skills and have a boss.” [unequivocal] (pg. 22, clm 1, par 2, ln 5-7)	Unequivocal
Influence of Disability on the Transition Process: Academic Challenges (25)	Participants shared challenges that may impact their success in post-secondary education, such as specific subject areas/classes or funding (paraphrased from pg. 56, clm 2, par 2)	Kekolu: “. . . it got more hard than it was . . . My first year, science was to go out, like into the mountains. Like this year we got to stay in class and learn about the earth. Yeah, more book [work now] . . .” (pg. 56. clm 2, par 2, ln 13-16)	Credible

Category 19: Each student has their own unique experiences at school; some are more engaged and have a more positive and enjoyable experience than others

Theme / Category Title	Description	Supporting illustration	Level of evidence
School Perceptions (19)	Participants have very different experiences of school. Some appear to be more engaged in the academic and social aspects of school, though it is not always easy for them to cope with associated pressures, causing some anxiety and frustrations. Whereas others may have less difficulty or appear to be disengaged in school. (paraphrased from pg. 1077, par 4, ln 1-2; and pg. 1078, par 3)	Bernard: "Actually, [to] tell you the truth, I have low expectations of myself. I am not sure whether I [am going to] pass/fail, [and] I am very scared of fail[ure]. I do not know what my parents are going to say, I am not sure what my teachers are going to say, what my tutors and brother going to say. I am very scared if I fail. So, even though I have very low expectations, I just pretend [to have] high expectations [of myself] so that I can stay happy in my mind." (pg. 1077, par 5)	Credible
Theme 2: Past Enga-gement in School (15)	Students had mixed experiences at middle school. One student referred to the middle school experience on the whole in a negative light. This suggested that the earlier intervention put in place to assist him with his social difficulties, mixed with an apparent lack of acknowledgment of his area of learning ability, had resulted in him disengaging from the school setting. Two others reported positive experiences, emphasizing the importance of a good relationship with the teacher. They reported the teachers knew them well and responded quickly and effectively to assist them with any learning needs. (paraphrased from pg. 304, clm 1, par 1, ln 14-20; and ln 24-29)	Michael: "No, never. I just went to the same school and got over it and tried to forget it—that's middle school." Interviewer: "Ok, so you didn't really en joy your last school?" Michael: "Well my last year's school . . . well last year it was really horrid." (pg. 303, clm 2, par 2, ln 10-15)"	Credible
Curricular Relevance and Student Engagement (1)	Overall, students suggested that they were more en-gaged when their coursework was relevant to their future plans and interests. Some students	Student 3: ". . .some stuff you learn in school you're never going to use in real life—I think we should be taught	Credible

Theme / Category Title	Description	Supporting illustration	Level of evidence
	also suggested that they were less engaged in classes that were irrelevant to their postsecondary interests. (pg. 221, clm 1, par 4, ln 1-3; and par 6, ln 1-2)	job skills, I think you should take classes to [train] you for your job." (pg. 221, clm 1, par 4, ln 4-7)	
	Uncategorized Findings		
Bodily Learning (26)	The theme of bodily learning describes experiences where children mastered movement or learned through their bodies in interaction with others or stimulus provided by their environment. These experiences were also made possible through the support children received from teachers, EAs, and their peers. (paraphrased from pg. 225, par 3, ln 2-4; and pg. 226, par 3, ln 14-15)	Richard: "Dance was hard, but now it's easier because I practiced lots all the time." (pg. 225, par 3, ln 1)	Credible
Planning Return to Education (12)	The early stages of transition to education after TBI will often occur within the context of a continuing focus on rehabilitation. Initially the student may need to juggle therapy and educational demands, adding further complexities to issues around school attendance, timetabling, transport between activities and the impact of these on the students' feelings of fitting in. (pg. 445, clm 2, par 2, ln 1-9)	Matt: ''workwise it's gonna be very hard, I'm still doing physio and all that sort of stuff'' (pg. 444, table I, quote 4a)	Unequivocal
Theme 1: "I Don't Fit In": Negative School Experiences Leading to Anger and Frustration	Participants experienced difficulty making friends, were bullied by their peers, and got into trouble at school. Although each participant had slightly different experiences, common to all four individuals was a sense that they did not quite fit in. Another commonality among all four of the participants was getting into trouble at school.	Derek: "At times I was bullied in school, and I didn't really have a lot of friends. No one really wanted to be friends with anyone who was slow." (pg. 60, par 5, ln 1-2)	Unequivocal

Theme / Category Title	Description	Supporting illustration	Level of evidence
Toward Diagnosis (10)	The trouble that the participants got into at school was often because they did not understand what was being taught in the classroom. These difficulties with school often caused the participants to become angry and frustrated with their diagnosis. (paraphrased from pg. 60, par 5, ln 3-5; and pg. 62, par 3, ln 3-7)		
Social Support Systems (1)	Students suggested that they relied on their friends, including girlfriend or boyfriend, for personal and academic support as well as motivation. Three of the seven students directly referred to friends offering academic assistance, encouragement, and support to complete their coursework and high school, in general. In addition to friends, families served as a significant source of support or encouragement regarding school completion and preparation for postsecondary life. Outside of friends and family, several teachers and school programs were identified as offering significant support for successful life outcomes. The students expressed the belief that these teachers and programs provided them with motivation and encouragement to meet their postsecondary goals. (paraphrased from pg. 222, clm 1, par 3, ln 2-9; par 4, ln 1-3; and clm 2, par 2, ln 1-5)	Student 7: ". . .my mother reminds me of what it takes and encourages me to get to my goals." (pg. 222, clm 1, par 4, ln 6-7)	Unequivocal

Note. The numbers in parentheses in column 1 corresponds to the study numbers in Table 3. Information regarding the location of findings and accompanying illustrations are provided in parentheses; *pg.* stands for page, *clm* stands for column, *par* stands for paragraph, and *ln* stands for line.

Chapter 3: Manuscript #2

Performing a Meta-Aggregative Review as a Novice Researcher: Lessons Learned

Tithi Paul, Briano Di Rezze, Peter Rosenbaum, Wenonah Campbell

School of Rehabilitation Science, McMaster University

Corresponding Author: Wenonah Campbell, School of Rehabilitation Science, McMaster University, Hamilton, ON L8S 1C7.

E-mail: campbelw@mcmaster.ca

Abstract

A systematic review of qualitative evidence provides an opportunity to acquire a broader and in-depth understanding of a phenomenon. The Joanna Briggs Institute's meta-aggregation method is one of many widely used approaches for qualitative evidence synthesis. Meta-aggregation combines qualitative and quantitative research techniques, methods, approaches, concepts, and language to synthesize qualitative research, and several of its stages are distinct from other qualitative evidence synthesis methods. This chapter provides reflections on the experience of conducting a meta-aggregative review, from the point-of-view of a novice researcher, including challenges encountered and lessons learned. The key lessons at different stages of the meta-aggregative review include: (i) as with all research, the importance of developing a well-structured review question using an appropriate format; (ii) managing the iterative process of developing search strategies, inclusion criteria, and selection of studies; (iii) reporting agreement between reviewers; (iv) considerations to make during critical appraisal of methodological quality; (v) extracting findings from qualitative studies; and (vi) ensuring thoroughness in data synthesis. Using our own review, we present some examples of how to approach and resolve potential issues.

Performing a Meta-Aggregative Review as a Novice Researcher: Lessons Learned

A systematic review has the power to address a research question with greater capability than any single study (Snyder, 2019). A thoughtful review of the literature, leading to knowledge synthesis, makes it possible to assess collective literature from a particular area of research. A synthesis of qualitative research aggregates knowledge elicited through examination of the personal, social, political, and cultural aspects of a phenomenon that has been explored from multiple perspectives; this broadens collective understanding of the phenomenon and elucidates in-depth knowledge (Booth et al., 2016).

There are numerous emerging methods for qualitative evidence synthesis (QES) with different applicability and outputs. The most widely used methods are meta-synthesis, meta-ethnography, and meta-study (Kastner et al., 2016). All three can be used for the purposes of exploring experiences, perception, preferences, beliefs, and values; the outputs of these syntheses can be presented in the form of a theory or model, or new interpretations of the literature (Kastner et al., 2016).

The Joanna Briggs Institute (JBI) recently proposed an approach to systematic review of qualitative evidence known as *meta-aggregation*. It combines quantitative and qualitative research techniques, methods, approaches, concepts, and language to summarize findings (themes, metaphors, categories, or concepts) of different qualitative studies that may be based on different methodologies, whilst being sensitive to the nature of qualitative research (Florczak, 2019; Kastner et al., 2016; Pearson et al., 2011). The findings, or meanings, extracted from the primary studies are further abstracted to form categories that are then synthesized (Tufanaru, 2015).

A valued feature of the meta-aggregative approach is the practicality and immediate usability of its findings (Hannes et al., 2018). Based on the philosophic traditions of pragmatism, a meta-aggregative review produces synthesized statements in the form of 'lines of action' to inform healthcare practitioners, policy makers, and other relevant stakeholders in decision-making (Pearson et al., 2011). It does not seek to re-analyse or re-interpret data; instead, the aim is to bring together and represent the original authors' interpretation and the participants' voices reliably (Hannes et al., 2018). This method is well-documented in the second chapter of the *JBI Manual for Evidence Synthesis* on the JBI Global Wiki, and in previous meta-aggregative reviews (Hannes et al., 2018; Lockwood et al., 2020).

Our research team recently completed a meta-aggregative review, following the procedure outlined on the JBI Wiki (Lockwood et al., 2020) and by Hannes and colleagues (2018). The key aim of our review was to understand – from their own perspectives – the experiences of children and youth with disabilities and special needs in inclusive education. This was the first meta-aggregative review performed by the research team and the first qualitative evidence synthesis performed by the first author of the review, who also led the study. The goal of this chapter is to share lessons learned. We hope that this report will provide novice researchers with some insights on what a QES entails, some potential challenges and pitfalls to conducting a QES, and how to address them.

The Challenges We Encountered

As a novice (qualitative) researcher working with a review team new to the meta-aggregative process, I required explicit guidance from JBI and other resources that describe QES approaches to complete our review successfully and efficiently Hannes et al., 2018; Lockwood et al., 2015; Lockwood et al., 2020). However, throughout the course of the work we encountered

various uncertainties and were not always able to find guidance that was sufficiently detailed to meet our needs, many of which were specific to the meta-aggregative method. Thus, the first author of the meta-aggregative review completed additional steps and kept extensive documentation of the review process. In this paper, we have compiled some lessons learned that we hope will be helpful to others undertaking this task or similar QES.

The Lessons We Learned

We learned six key lessons while completing our JBI meta-aggregative review. These lessons relate to the steps of meta-aggregative review, with the first three lessons applicable to all literature reviews (because these steps are common across reviews), and the final three being specific to the JBI meta-aggregative approach. Briefly, these lessons address: (i) the importance of developing a well-structured review question using an appropriate format; (ii) the iterative process of developing search strategies, inclusion criteria, and selection of studies; (iii) reporting agreement between reviewers; (iv) considerations to make during critical appraisal of methodological quality; (v) extraction of findings from qualitative studies; and (vi) ensuring thoroughness in data synthesis. Each lesson is discussed in turn.

1. The Importance of a Well-Structured Review Question

A strong 'question' is an essential starting point for any research, and this is no less true as the backbone of the literature review. For this reason, one must make the effort to form and structure the review question carefully and thoughtfully. Review questions can take several forms, and there are useful mnemonics to help researchers ensure that they are addressing all the important components of their research/review. The format often used for quantitative systematic reviews is PICO: Population, Intervention, Comparison, Outcome. This tool is endorsed by the Cochrane Collaboration and is used to identify evidence for systematic reviews (Thomas et al.,

2020). Another format that may be familiar to many researchers is the PCC format for scoping reviews: Population, Concept, Context (Peters et al., 2020). A slightly different version, PICo, is the format recommended for qualitative systematic reviews (Lockwood et al., 2020): Population, Interest, Context. This format ensures a well-structured question that covers the important concepts of a review.

We formatted our review question – "What are the perspectives of children and youth with disabilities and special needs regarding their experiences in inclusive education?" – using the PICo format as follows: Our *population* was children and youth with disabilities and special needs, our *interest* was their perspectives regarding their experiences, and the *context* was inclusive education. We found that formatting a review question using PICo not only clearly conveyed our aims, but also helped build our search strategy. We organized our search terms using the PICo format and found it was very helpful to keep our keywords, subject headings, and searches from different databases organized. For our review, we started building the search strategy by brainstorming and researching synonyms and alternative terms for each concept in our PICo. After we decided on the appropriate databases, we began searching the databases with our preliminary search terms; our list of search terms for each PICo concept then grew, based on the different subject headings and keywords recommended by each database. Throughout this iterative process, we regularly consulted with a librarian; we found this to be extremely helpful, since we were not yet familiar with the scope of the different databases or how to search them effectively and efficiently. Then, we began to strategize ways to combine the PICo concepts; some concepts may have several components that require combining before all the PICo concepts can be combined. For example, as our *population* was children and youth with disabilities or special needs, we combined the terms for children with terms for disability before

combining them with our *interest* and *context* terms. This was very helpful in keeping our search strategy organized and our searches efficient. Having an organized search strategy also helped ensure that it was comprehensive, meaning that we covered all the possible terms from the different databases under each PICo concept.

Summary: Lesson #1

Using the PICo (population, interest, context) format helps ensure a "well-built" review question that clearly identifies all the concepts to be included in a literature review; this will result in a more organized and comprehensive search strategy.

2. Search Strategy, Inclusion Criteria, and Selection of Studies is an Iterative Process

After developing a review question using the PICo format, it is much easier to begin to build the search strategy. However, no matter how comprehensive and well-developed a search strategy is, it is only as good as the results it yields. Thus, it is also important, while developing the search strategy, to screen the searches often. This helps ensure that no important search terms are missing and only a minimal number of unnecessary results (which are inevitable) are being included.

As researchers are developing their review question and search strategy, they may also be developing the inclusion criteria. We realized that this process to develop the inclusion criteria should actually be done simultaneously with both literature search and study selection. After screening the results following each search, we often found that, based on our inclusion and exclusion criteria, we could put some further limitations around our search strategy to yield more relevant results. As an example, we were interested in including research that studied children and youths' experiences with inclusive education from their first-hand perspectives. When we only used terms such as perspectives, voice, attitude, etc. for our *interest*, we were still

identifying a large number of results surrounding teachers' and parents' perspectives. To address this, we combined our *population* terms with terms for perspectives and attitudes using an adjacency operator as part of our *interest* (e.g., perspective* NEAR/3 child*), before combining once again with our *population* and *context*. The adjacency operator searches for two terms next to each other, in any order, up to a specified number of words between them. After trialing a few numbers for the adjacency operator, we were able to improve significantly the relevance of our yields. In this way, the process of literature search and development of inclusion and exclusion criteria was iterative.

During the study selection process, we also made further updates to the inclusion and exclusion criteria. Once we had our final search results and began the title and abstract screening process, our review team realized that some inclusion and exclusion criteria had to be further elucidated. As an example, we started with criteria that ensured that the participants in the primary study were children and youth with a disability who attended an inclusive school, and that the study discussed their experiences at school. But soon after beginning our title and abstract screening process, we realized that there should be a criterion that ensured that the participants were 'Individuals discussing their experiences at school age'. This way, we could also include individuals reflecting retrospectively on their experiences at school age.

Subsequently, during the training process for full-text review and after reading a few full-text articles, it became evident that we needed an additional inclusion criterion, along with specific exclusion criteria, to select only the studies that were relevant to our review question and purpose; in comparison, there was no clear need for these criteria during the title and abstract screening process. For example, when we started reviewing the full texts, we realized many studies included participants other than children with disabilities, so we added a new criterion to

select studies that presented the results from our population of interest distinctly from other participants, if the study had a mixed population. This is a level of detail that was not captured in the titles and abstracts and could only be ensured at the full-text level. Thus, the process of development of inclusion and exclusion criteria and study selection process was also iterative. However, it is important to ensure that all studies are being reviewed using the most updated criteria. This iterative process is usual and acceptable, especially for novice researchers who are not familiar with the literature, as long as all the changes and decisions, along with their rationales, are well-documented.

Summary: Lesson #2

It is not necessary to have all the inclusion and exclusion criteria perfectly worked out before beginning the screening process; it may not even be possible. Depending on the results of the early searches, it may be necessary to update the search strategy, which may need to be reflected in the inclusion and exclusion criteria. These inclusion and exclusion criteria can also be changed and refined after evaluating the search results, depending on the relevance of the results to the review question and purpose. Thus, the development of search strategy, inclusion criteria, and the process of study selection should all be iterative processes.

3. Ensuring and Reporting Agreement Between Reviewers

Peer consultations and discussions are fundamental to a good literature review because of the helpful insights and feedback reviewers can gain. Another important aspect of teamwork is the collaboration that must occur during the study selection process. For literature reviews, it is generally recommended that multiple independent reviewers carry out the study selection process to avoid a single reviewer potentially introducing a biased or flawed interpretation of selection criteria, and to reduce the possibility of excluding relevant literature (Liberati et al.,

2009; Pollock & Berge, 2018). Along with reporting the number of reviewers, authors should also report the process of resolving disagreements. However, before all of this can be done, the reviewers must be trained, because the potential for errors and interrater disagreements can be substantial, especially if reviewers with varying knowledge and experience are involved. To reduce the potential for errors and increase interrater reliability, reviewers should train and perform a calibration exercise (also known as pilot test) before each phase of the study selection (Tricco et al., 2018).

We were unable to locate any guidelines on performing and reporting interrater reliability for QES. We were looking specifically for information regarding how many or what percentage of citations to use for the calibration exercises, and how to report interrater agreement. Therefore, we looked beyond QES and systematic reviews for some guidance on this matter. The most frequently used methods to report interrater reliability are kappa statistics and percent agreement (McHugh, 2012). Percent agreement is directly interpretable and should be used when reviewers are well trained and little guessing is likely to exist, whereas kappa statistics are more appropriate when there is likely to be much guessing among the reviewers (McHugh, 2012). Since it may be difficult to know in advance the degree to which guessing will influence percent agreement, it is recommended that researchers calculate and report both kappa and percent agreement (McHugh, 2012). That was what we did, ensuring our predetermined level of agreement (80%) was reached, as recommended by the PRISMA extension for scoping reviews (Tricco et al. 2018). Consistent with the recommendations of Tricco and colleagues, we selected 100 random citations for the calibration exercise for title and abstract screening. We performed a second calibration check halfway through our title and abstract screening, using an additional 10% of the citations; this was feasible because we had a large number of citations to screen (11,

037). For full text review and quality appraisal, we also performed calibration checks using 10% of the citations at those stages.

Summary: Lesson #3

Two or more independent reviewers should carry out the study selection process. All reviewers must be trained and should perform a calibration check with 50-100 (or a 10% sample) of random citations until a predetermined level of agreement (typically 70%-80%) is reached. It is important that reviewers report this process of study selection and interrater agreement appropriately.

4. Critical Appraisal of the Methodological Quality can be Modified to Suit the Research Question and Purpose

An important step in a meta-aggregative review process is the assessment of methodological quality of the final papers included in the review. There is ongoing debate on whether quality assessments should be applied to QES, and what criteria should distinguish high quality research from others (Hannes et al., 2010). However, unlike all other QES methods, meta-aggregative reviews produce recommendations for actions to be undertaken by practitioners and policy makers (Hannes et al., 2018, Munn et al., 2014). Therefore, it is not only necessary but also imperative that meta-aggregative reviewers identify and include only methodologically sound research (Munn et al., 2014).

JBI Tool for Critical Appraisal

The JBI requires reviewers to use the JBI Qualitative Appraisal Instrument to appraise critically all studies eligible to be included in the synthesis (Lockwood et al., 2020). The JBI tool is a checklist of criteria focusing on congruity between research paradigms, methodologies, and

methods. The criteria can be scored as either 'met', 'unmet', 'unclear', or 'not applicable'. The tool is designed to be used by two independent reviewers blinded to each other's assessments.

Hannes, Lockwood, and Pearson (2010) compared three online critical appraisal instruments for qualitative research and found that the JBI tool, with its focus on congruity, was the most coherent among the three. However, they also found that it provided less detailed instruction on how to interpret the criteria and, compared to the other two instruments, was not very user-friendly for novice researchers.

This was exactly the issue our review team encountered in the critical appraisal phase of the review. JBI provides a checklist of criteria and a brief description of the criteria with some examples. However, as a novice review team, this was not adequate for us to proceed with the critical appraisal process. For one thing, not all of the criteria are accompanied by an example. Also, the examples that are presented are the clearest cases of when a criterion would be 'met' or 'unmet'. But, in our experiences of reviewing the studies, we seldom encountered such clear cases; rather, we often had instances where certain information was missing in the article or we were unsure whether a certain criterion would be met simply based on the descriptions and examples provided. The descriptions and examples for the JBI checklist did not represent the nuances we encountered; thus, it was not a good fit for our team. There is also very little guidance regarding how to interpret the overall quality of a study after completing the checklist. The explanations available for critical appraisal may be adequate for reviewers who are very familiar and comfortable with judging which criteria are most important for qualitative research, but as novices we required additional guidance.

We examined some previous meta-aggregative reviews and sought additional guidance through an email consultation with the JBI (C. Stern, personal communication, Mar 4, 2020).

From the existing literature and email consultation, it was evident that there was no single approach to using the JBI checklist; reviewers often develop their own appraisal criteria by selecting and adapting items from existing tools to fit their needs (Soilemezi & Linceviciute, 2018; Tong et al., 2012). This suggested to us that combining instruments and tailoring the approach to one's review question and purpose was acceptable but should be done through discussion and consensus among the review team and based on the team's expertise (Booth et al., 2016; Soilemezi & Linceviciute, 2018; Tong et al., 2012).

We consulted with colleagues experienced in qualitative research and had multiple peer debriefing sessions to discuss the most appropriate way to proceed (S. VanderKaay, L. Nguyen, S. Gentles, personal communication, March 17, 2020). Following these consultations, we arrived at the decision to modify the JBI tool informed by the Critical Appraisal Skills Program (CASP) qualitative checklist and a modified version of this tool used by McTavish and colleagues for a qualitative meta-synthesis to best tailor it for our review (Critical Appraisal Skills Program [CASP], 2018; McTavish et al., 2017). These tools provided explicit guidance by presenting specific questions to consider and examples of items in a qualitative study that would clearly indicate when a certain criterion has been adequately met. We used these resources and other relevant literature (Hannes et al., 2013; Kivunja & Kuyini, 2017; Korstjens & Moser 2018; Mack et al., 2005; Thorne, 2000) to create an accompanying guideline providing detailed instructions on how to apply each JBI criterion. Further clarifying and explaining the criteria helped ensure that the appraisers understood what each criterion entailed and how to decide when it was met or not (see Appendix C in Chapter 2).

Modifications to the JBI Tool

Our most important consideration, when modifying the critical appraisal tool to suit our review, was our review question and purpose. We wanted not only to ensure that the studies were relevant and appropriate, but also that they were methodologically strong and congruent. For each criterion, we provided an explicit description and examples of when a criterion would be met. We ensured that the guideline was coherent and usable by having regular discussions, reviewing the document, obtaining feedback, as well as piloting it with the critical appraisal team.

First, we had two screening criteria: (1) to appraise the appropriateness of the research methodology and design, and (2) to ensure the voices of the participants were adequately represented. The voices of the participants were an important aspect of this review; hence it was crucial that we identified only studies that represented the participants in the findings through full, direct quotes. If either of these criteria was not met, the study was excluded.

Next, the remaining JBI criteria, which ensure methodological quality and congruity, were refined and supplemented using relevant literature to provide more explicit descriptions and examples from eligible studies to aid our review team. Our modified checklist included criteria to appraise the following: ethical considerations; neutrality and reflexivity of the researchers; and the congruity between research methodology and research paradigm, data collection, data analysis, interpretation of results, and the conclusion.

How we Applied the JBI Checklist

Throughout the process of critical appraisal, we implemented several steps to help us decide whether to include or exclude studies based on our completed checklists. First, we utilised two screening criteria, as described earlier. Second, we discussed the overall methodological quality of the studies after completing the full checklist. We began by focusing on studies that

did not meet several criteria and came to a consensus on whether it would be appropriate to exclude them, as they would have been missing several criteria that are essential for ensuring the congruity and dependability of a study. For example, we excluded a study at this stage for not meeting several of our criteria, including reporting an adequate description of the data analysis process, evidence of rigour, addressing the influence of researchers, or stating methodology used. Our third, and final, step involved determining the number of eligible studies we had left after our previous step. We determined how many of these studies met all criteria, or the number of criteria the studies did not meet. We held a peer debriefing session to inform our decision on how best to proceed with the remaining studies that did not meet some criteria. Ultimately, we decided to proceed with studies that either met all criteria or were missing no more than one criterion or parts of two criteria among the nine. Our decision was largely determined by the need for rigour and trustworthiness, as we were seeking to advance knowledge and inform action. We also had a considerable number of studies that met all or most criteria (n = 29). Thus, in keeping with our review purpose, and given a reasonably robust number of citations to choose from, it did not seem appropriate to include studies of relatively lower methodological quality.

Summary: Lesson #4

When it is evident that there is no single way to use a critical appraisal tool, as in the case with JBI critical appraisal checklist, it may be necessary to modify the tool to suit the review question and purpose. Novice researchers may – in most cases, very likely will – require additional support when critically appraising qualitative studies. Creating an accompanying document that explicitly describes the criteria with examples will also provide the review team with additional guidance (and may be requested by reviewers of papers reporting the study). As for guidance regarding proceeding with studies after they have been appraised, JBI defers to the

reviewers to decide 'how they will use the tool, but it is important to explain and justify your decision' (C. Stern, personal communication, Mar 4, 2020). To advance knowledge using qualitative research, we suggest that it is important that selected studies are dependable, trustworthy, and congruent.

5. Data Extraction May Not be Possible for All Eligible Studies.

The meta-aggregative method does not discriminate among the methodologies of primary studies; it includes a range of methodologies to capture the phenomenon of interest completely (Hannes & Lockwood, 2011; Lockwood et al., 2020). For our meta-aggregative review, we included all types of qualitative methodology and methods. However, when we arrived at the data extraction stage, we realized that we were unable to extract data from certain studies.

Data for meta-aggregative reviews are extracted in the form of *findings*. A finding is 'a verbatim extract of the author's analytic interpretation' of their results or data; this includes themes, categories, or metaphors from the primary study (Lockwood et al., 2020, Chapter 2.7.6.3). Two or more similar findings are subsequently aggregated to form *categories*. All qualitative methodologies in our review lent themselves to this process of data extraction utilized by meta-aggregative reviews, except narrative inquiry. Narrative inquiry generates data in the narrative form (e.g., stories or typologies of stories) in order to preserve the complexity and temporal context of lived experience. For example, the narrative studies eligible for our review provided the stories told by each participant and a narrative description of their experiences as a continuous body of text (Pillay, 2011; Saldanha, 2017). Thus, we could not extract from these studies any findings that were sufficiently discrete to aggregate meaningfully and appropriately, with other findings to form categories. Once again, we searched previous meta-aggregative reviews to examine if their final primary studies had included any narrative studies, and if so,

how were the findings extracted. However, the reviews we examined did not include any primary studies using narrative methodology or mention anything regarding narrative methodology. Therefore, we decided not to include these studies in our data extraction and synthesis stages.

Summary: Lesson #5

It may not be possible to extract findings suited for meta-aggregative reviews from primary studies utilizing narrative methodology. These studies would eventually have to be excluded as they cannot be synthesized with other findings. Thus, it would be appropriate to decide a priori how findings will be extracted from these studies, or to have screening criteria in the earlier stages to select studies that can lend themselves to the data extraction process of meta-aggregative reviews.

6. Ways to Ensure Thoroughness in Data Synthesis

For meta-aggregation, data synthesis is the process of aggregating, or grouping, findings to develop categories. JBI identifies two ways of categorizing like findings: based on similarity of (i) wording or (ii) concept. We learned that to do this accurately, reviewers should be considering each finding from the primary study in its entirety, not just on the title or heading given to the findings by the authors. This is because the titles often don't clearly convey the messages within the findings; in many cases, there are also multiple key messages within one finding. Therefore, it is important to consider each finding within its given title, for data synthesis.

It was helpful to extract a brief description of the findings for this process. When extracting the descriptions, reviewers must ensure that they are extracting the authors' analytic interpretations verbatim or at least staying as close as possible to the original words. This is an important consideration because the purpose of meta-aggregation is to provide a reliable

representation of the primary authors' findings; therefore, reviewers must not re-interpret the findings. To ensure that the extracted descriptions were representative of the original studies and limit any bias, a second reviewer verified the extractions. Extracting a brief description of each finding that includes the key message(s) simplified the data synthesis process and ensured its thoroughness.

An extracted finding may include several concepts or ideas. In this case, it may be difficult to categorize the finding, as it may share similarities with multiple categories. Extracting a brief description of the finding is also useful in these cases, because the descriptions help to ensure that all the concepts within those findings are considered when aggregating them. Furthermore, for findings where overlap in concepts or ideas existed, we found it helpful to look at the overall idea, or the key message, of the theme; we called this 'the essence of the theme'.

Another key step to ensuring thoroughness in data synthesis is having group discussions. We learned that sharing the synthesis results with peers who were not part of the initial data categorizing process added to the clarity and fidelity of the categories and the synthesized final statements. Most of these individuals were fellow graduate students, one of whom was involved in the study selection process, and one post-doctoral fellow. These insights from outsiders, who had varied backgrounds (e.g., health professions, mixture of expertise in qualitative research, and mixture of experience in conducting knowledge syntheses) and provided additional perspectives, ensured that the findings were in fact alike, and the categories and synthesized statements under which they were grouped were clear and represented them well.

Summary: Lesson #6

A finding's title or heading may not necessarily convey the key concepts or messages within the finding. Therefore, it is important to extract a brief description of the findings using

the primary authors' words and take this into account when synthesizing the findings. It is also useful to discuss the synthesized findings with peers who are interested in the topic, but not involved in the synthesis process, to ensure that the findings are thorough and coherent.

Discussion

This chapter describes some challenges we faced, and lessons learned when completing a QES, specifically a JBI meta-aggregative review, as novice researchers. Some of these challenges and lessons will be applicable to researchers performing any literature review (i.e., developing a well-structured review question; the iterative process of developing search strategies, inclusion criteria, and study selection; and reporting agreement between reviewers), while other lessons are specific to the JBI meta-aggregative approach (i.e., the process and purpose of critical appraisal stage, extracting findings from qualitative studies using a meta-aggregative approach, and ensuring thoroughness in the data synthesis stage).

One major challenge we faced during our meta-aggregative review was our inability to extract findings from narrative studies in a systematic manner similar to other studies (Lockwood et al., 2020, chapter 2.3). This is an important issue that needs to be addressed, as this could play a significant role in a reviewer's decisions surrounding QES methods. Reviewers performing meta-aggregative reviews will need to consider how they will extract findings from narrative studies and aggregate them with findings from other studies in a meaningful way; alternatively, they may need to reconsider using the meta-aggregative method for their QES. Preferably, this is a detail JBI could consider clarifying by providing some guidance on how to extract findings and illustrations from narrative studies, and how to synthesize them with findings of other studies using different methodologies (phenomenology, grounded theory, ethnography, etc.).

Novice researchers need to be aware of the lack of specific guidance, especially regarding quality appraisal and data categorization, when considering the meta-aggregative approach (Pearson et al., 2011; Soilemezi & Linceviciute, 2018). So, we would recommend that researchers using this method clearly document and report their process of performing a meta-aggregative review and provide rationales for their decisions and any changes to enhance transparency. For a comprehensive list of descriptions to include see Munn et al. (2019). We also would recommend that reviewers establish measures to ensure trustworthiness wherever it may be possible, for example, peer debriefing during data synthesis, especially when being performed by a single reviewer. Although it is not specifically recommended by JBI, these extra steps would add to the rigour of the final synthesis results.

Ultimately, there is a dire need for more specific guidance for performing a QES systematically, especially for reviewers who are new to the process. Soilemezi and Linceviciute's (2018) recent publication begins to shed some light on this process. They provide insights on a number of key issues and challenges in different stages of planning and conducting a QES. They provide examples and options for approaching and resolving these issues. Another resource we found to be helpful is the book published by Booth and colleagues (2012), which covers approaches to quantitative and qualitative reviews. Although these resources are helpful for new reviewers, throughout the course of our work, we encountered various uncertainties and were not always able to find guidance that was sufficiently detailed to meet our needs, as described throughout this report. Some of these challenges were specific to meta-aggregation, but others were common to most synthesis methods, such as training and calibration exercises during study selection; these also were not described sufficiently in current literature. To advance

the field of QES, it is necessary to have more detailed guidelines for reviewers to follow when performing systematic qualitative reviews.

Although this chapter adds to the available literature on how to perform a QES, specifically a meta-aggregative review, there are potential limitations that need to be acknowledged. The scope and depth of discussion in this chapter may be limited compared to contributions from researchers more experienced in conducting systematic reviews and QES. This chapter is based on the subjective experience of a single reviewer performing her first meta-aggregative review; hence the challenges encountered, lessons learned, and the recommendations proposed may not be representative of other reviewers. Nonetheless, our aim was to share our experiences and highlight the need for more explicit guidance for QES methods to help (novice) reviewers. Reviewers are invited to trial our processes and recommendations to continue to refine and improve the field of QES.

Conclusion

Synthesis of qualitative research can be useful in understanding human experiences in various contexts. Meta-aggregation is a widely used method for systematically synthesizing qualitative research because it is pragmatic, perceived to be linear and straightforward, and the process is described in previous literature. However, during the completion of our first meta-aggregative review, we encountered some challenges. We have drawn upon our experiences to share our lessons learned and recommendations for reviewers to consider. Recommendations include: clearly structuring review questions using an appropriate format; keeping in mind that the process involved in developing search strategies, inclusion criteria, and selection of studies is iterative; ensuring agreement between reviewers through training and calibration exercises, and clearly reporting these processes; reporting what factors were considered and how decisions were

made during critical appraisal; considering how findings will be extracted from studies and ensuring that these extractions are as detailed as possible; and establishing procedures to ensure thoroughness in data synthesis. Further reviews and debate will continue to develop this methodology, helping to maximize the applicability of findings from meta-aggregative reviews and contribute to furthering the field of QES.

References

Booth, A., Papaioannou, D., & Sutton, A. (2016). Systematic approaches to a successful literature review (2nd ed.). SAGE Publications.

Critical Appraisal Skills Program. (2018). *CASP qualitative checklist*. https://casp-uk.net/wp-content/uploads/2018/01/CASP-Qualitative-Checklist-2018.pdf

Florczak, K. L. (2019). Meta-aggregation: Just what is it? *Nursing Science Quarterly*, *32*(1), 11–11. https://doi.org/10.1177/0894318418807933

Hannes, K., Lockwood, C., & Pearson, A. (2010). A comparative analysis of three online appraisal instruments' ability to assess validity in qualitative research. *Qualitative Health Research*, *20*(12), 1736–1743. https://doi.org/10.1177/1049732310378656

Hannes, K., & Lockwood, C. (2011). Pragmatism as the philosophical foundation for the Joanna Briggs meta-aggregative approach to qualitative evidence synthesis. *Journal of Advanced Nursing*, *67*(7), 1632–1642. https://doi.org/10.1111/j.1365-2648.2011.05636.x

Hannes, K., Petry, K., & Heyvaert, M. (2018). The meta-aggregative approach to qualitative evidence synthesis: A worked example on experiences of pupils with special educational needs in inclusive education. *International Journal of Research & Method in Education*, *41*(3), 291–305. https://doi.org/10.1080/1743727X.2017.1299124

Hannes, K., Raes, E., Vangenechten, K., Heyvaert, M., & Dochy, F. (2013). Experiences from employees with team learning in a vocational learning or work setting: A systematic review of qualitative evidence. *Educational Research Review*, *10*, 116–132. https://doi.org/10.1016/j.edurev.2013.10.002

Kastner, M., Antony, J., Soobiah, C., Straus, S. E., & Tricco, A. C. (2016). Conceptual recommendations for selecting the most appropriate knowledge synthesis method to

answer research questions related to complex evidence. *Journal of Clinical Epidemiology*, *73*, 43–-49. https://doi.org/10.1016/j.jclinepi.2015.11.022

Korstjens, I., & Moser, A. (2018). Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice*, *24*(1), 120–124. https://doi.org/10.1080/13814788.2017.1375092

Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P. A., Clarke, M., Devereaux, P. J., Kleijnen, J., & Moher, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate healthcare interventions: Explanation and elaboration. *BMJ*, *339*, Article b2700. https://doi.org/10.1136/bmj.b2700

Lockwood, C., Munn, Z., & Porritt, K. (2015). Qualitative research synthesis: Methodological guidance for systematic reviewers utilizing meta-aggregation. *International Journal of Evidence-Based Healthcare*, *13*(3), 179–187. https://doi.org/10.1097/XEB.0000000000000062

Lockwood, C., Porritt, K., Munn, Z., Rittenmeyer, L., Salmond, S., Bjerrum, M., Loveday, H, Carrier, J., & Stannard, D. (2020). Chapter 2: Systematic reviews of qualitative evidence. In E. Aromataris & Z. Munn (Eds.), *JBI manual for evidence synthesis*. JBI. https://doi.org/10.46658/JBIMES-20-03

Mack, N., Woodsong, C., MacQueen, K. M., Guest, G., & Namey, E. (2005). *Qualitative research methods: A data collector's field guide*. Family Health International. https://course.ccs.neu.edu/is4800sp12/resources/qualmethods.pdf

McHugh, M. L. (2012). Interrater reliability: The kappa statistic. *Biochemia Medica*, *22*(3), 276–282. https://doi.org/10.11613/BM.2012.031

McTavish, J. R., Kimber, M., Devries, K., Colombini, M., MacGregor, J. C. D., Wathen, C. N., Agarwal, A., & MacMillan, H. L. (2017). Mandated reporters' experiences with reporting child maltreatment: A meta-synthesis of qualitative studies. *BMJ Open*, *7*(10), Article e013942. https://doi.org/10.1136/bmjopen-2016-013942

Munn, Z., Dias, M., Tufanaru, C., Porritt, K., Stern, C., Jordan, Z., Aromataris, E., & Pearson, A. (2019). Adherence of meta-aggregative systematic reviews to reporting standards and methodological guidance: A methodological review protocol. *JBI Database of Systematic Reviews and Implementation Reports, 17*(4), 444–450. https://doi.org/10.11124/JBISRIR-2017-003550

Munn, Z., Tufanaru, C., & Aromataris, E. (2014). JBI's systematic reviews: Data extraction and synthesis. *American Journal of Nursing*, *114*(7), 49–54. http://doi.org/10.1097/01.NAJ.0000451683.66447.89

Pearson, A., Robertson-Malt, S., & Rittenmeyer, L. (2011). *Synthesizing qualitative evidence*. Lippincott Williams & Wilkins. https://nursing.lsuhsc.edu/JBI/docs/JBIBooks/Syn_Qual_Evidence.pdf

Peters, M. D. J., Godfrey, C., McInerney P., Munn, Z., Tricco, A. C., & Khalil, H. Chapter 11: Scoping reviews (2020). In E. Aromataris & Z. Munn (Eds.), *JBI manual for evidence synthesis*. JBI. https://doi.org/10.46658/JBIMES-20-12

Pillay, P., & Flanagan, P. (2011). The long term implication of RTLB support: Listening to the voices of student experiences. *Kairaranga*, *12*(1), 59–64.

Pollock, A., & Berge, E. (2018). How to do a systematic review. *International Journal of Stroke*, *13*(2), 138–156. https://doi.org/10.1177/1747493017743796

Saldanha, K. (2017). It should not be a pit stop: Voices and perspectives of homeless youth on labeling and placement in special education. *Journal of Mental Health Research in Intellectual Disabilities*, *10*(2), 55–73. https://doi.org/10.1080/19315864.2016.1276989

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339. https://doi.org/10.1016/j.jbusres.2019.07.039

Soilemezi, D., & Linceviciute, S. (2018). Synthesizing qualitative research: Reflections and lessons learnt by two new reviewers. *International Journal of Qualitative Methods*, *17*(1), 1–14. https://doi.org/10.1177%2F1609406918768014

Thomas, J., Kneale, D., McKenzie, J. E., Brennan, S. E., Bhaumik, S. (2020). Chapter 2: Determining the scope of the review and the questions it will address. In J. Higgins, J. Thomas, J. Chandler, M. Cumpston, T. Li, M. Page, & V. Welch (Eds.), *Cochrane handbook for systematic reviews of interventions*. Cochrane. https://training.cochrane.org/handbook/current/chapter-02

Thorne, S. (2000). Data analysis in qualitative research. *Evidence-Based Nursing*, *3*(3), 68–70. https://doi.org/10.1136/ebn.3.3.68

Tong, A., Flemming, K., McInnes, E., Oliver, S., & Craig, J. (2012). Enhancing transparency in reporting the synthesis of qualitative research: ENTREQ. *BMC Medical Research Methodology*, *12*, Article 181. https://doi.org/10.1186/1471-2288-12-181

Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., Moher, D., Peters, M. D. J., Horsley, T., Weeks, L., Hempel, S., Akl, E. A., Chang, C., McGowan, J., Stewart, L., Hartling, L., Aldcroft, A., Wilson, M. G., Garritty, C., … Straus, S. E. (2018). PRISMA extension for scoping reviews (PRISMA-ScR): Checklist and

explanation. *Annals of Internal Medicine*, *169*(7), 467–473. https://doi.org/10.7326/M18-0850

Tufanaru, C. (2015, November). *Theoretical foundations of meta-aggregation: Insights from Husserlian phenomenology and American pragmatism* [Doctoral dissertation, The University of Adelaide]. Adelaide Research & Scholarship. https://digital.library.adelaide.edu.au /dspace/bitstream/2440/98255/2/02whole.pdf

Chapter 4: Concluding Chapter

My research aimed to examine the school experiences of children and youth with disabilities and special education needs attending inclusive schools. To understand their experiences from their own perspectives, I synthesized primary qualitative research using the meta-aggregative approach. I then reflected on my experience of performing a qualitative evidence synthesis (QES), documented challenges our review team faced performing a meta-aggregative review and our approaches to those challenges, and systematically developed lessons and recommendations based on our process.

In this chapter, I provide an overview of the first three chapters of my thesis. Next, I provide a brief outline of the outcomes of my two manuscripts presented in *Chapters Two* and *Three* and discuss them, in turn, in the context of recent literature, followed by a discussion of the thesis as a whole. Afterwards, I acknowledge some potential limitations of this thesis and present some directions for future research.

Overview of Master's Thesis

In *Chapter One*, I presented the concept of inclusive education (IE) and defined some terminologies that I used throughout this thesis. This was followed by a brief history of IE and how IE is implemented in the Canadian context. I presented evidence for the benefits of IE to all students, different stakeholders' perspectives, and the knowledge gap that exists in research pertaining to IE – the perspectives of children and youth with disabilities and special needs. I then discussed an appropriate method for synthesizing qualitative research to highlight the children's voice, meta-aggregation, which I explored in greater depth in *Chapters Two* and *Three.*

In *Chapter Two*, the specific review question I posed for my QES was: What are the perspectives of children and youth with disabilities and special needs regarding their experiences in inclusive education? I was interested in the perspectives of students from kindergarten through high school who were educated in classrooms with their peers without disabilities. I utilised the meta-aggregative approach to QES developed by the Joanna Briggs Institute (JBI) to identify and synthesise qualitative studies performed in high-income countries that were published on or after 2011 and were of high methodological quality. As a result of this synthesis, I developed six synthesized findings to form the basis of recommendations for practice and policy related to IE.

As a novice researcher conducting my first QES, I was faced with several challenges and difficult decisions while performing the meta-aggregation. In *Chapter Three*, I aimed to highlight these (potential) challenges and issues to help guide reviewers taking on similar tasks and improve the field of QES. Specifically, I reflected on my experience of conducting a meta-aggregative review, presented the specific challenges I encountered, my decision-making process, and the specific lessons I learned at each stage of the review process. In this chapter, I developed six lessons that led to several recommendations for reviewers to consider. I used my meta-aggregative review from *Chapter Two* as an example, where applicable, to elucidate the processes and lessons learned.

Major Findings and Contributions of This Thesis

Chapter 2 – Experiences of Children and Youth with Disabilities in Inclusive Dducation: What are the Implications for Practice and Policy?

In *Chapter Two*, I provided a systematic description of how our team synthesised qualitative research on children and youths' experience at school to develop recommendations for policy and action. In our meta-aggregative QES, we synthesised 27 primary qualitative

studies and generated six synthesized statements, or 'lines of action', that apply to six areas of children and youths' school experiences. The resulting statements indicate that, to create an inclusive environment at school, it is important for:

i. teachers and other education workers to adopt a positive and empathic attitude towards students with disabilities and utilize strategies that are considered by students to be effective and appropriate in activities with peers;
ii. education workers (including, teachers, principals, and teaching/education assistants) and support personnel to be proactive and take responsibility for providing and implementing appropriate accommodations that are integrated thoughtfully into the students' school day and with students' needs and wants in mind;
iii. education workers and support personnel to provide students with multiple options for relaxing and de-stressing (e.g., breaks, quiet rooms/areas), when needed, to address negative feelings that are caused by physical environmental factors at school;
iv. education workers, support personnel, and families to provide students with relevant opportunities to prepare in advance for the transition to high school by having discussions about academic, social, and environmental expectations with a positive attitude to support students during and after transition;
v. students with and without disabilities to be given opportunities to interact with one another in an environment that nurtures respect and strong relationships; and
vi. families and schools to listen to and prioritize students' understandings of themselves, including their strengths and needs, which they are able to recognize and articulate, when given the opportunity.

These synthesized statements focus on specific areas that would help to create an inclusive school experience for all, and they also apply to specific stakeholders who would be best fit to address these matters. These stakeholders include, but are not limited to parents and families, teachers, principals and other education workers (e.g., teaching/education assistants, school staff), support personnel (e.g., special education teachers, specialist staff, speech-language pathologists, occupational therapists), and school board leadership (e.g., superintendents).

As described in *Chapter One*, the butterfly model of Sommer et al. (2013), and my modified version of it, portrays significant carers, learners, and socialising agents from the child's everyday life on the two wings of the butterfly, and the child themselves embedded at the centre of the model. On the left wing of the butterfly is the child's family, including parent(s), guardian(s), and sibling(s). The right wing of the butterfly represents the school, which includes school staff and peers. I modified the model to include an additional component: "Other relationships/environmental factors," to encompass and contextualize the whole butterfly and to represent any (other) environmental factor(s) and other relevant relationships not captured in the original model that may play a role in the child's learning and education.

In the context of the butterfly model, most of our synthesized findings apply to the right wing of the butterfly, the school wing. Only two of the six statements (statements four and six) are intended for families (left wing). This could perhaps be attributed to the types of literature we sought out, since the main focus of our research question was on school experiences. Thus, there is still a need to examine children and youths' perspectives on inclusive education, with a focus on their families' roles (left wing).

The butterfly model helps to conceptualize the importance of children's voices in the context of their education as well as the major stakeholders involved. Since the model is content-

empty, understanding the children's experiences in context helped to acquire the appropriate content to fill the model. However, the model does not do well to capture the various personnel involved within the school and the education system, nor the nature or level of complexity of the relationships between these stakeholders (e.g., the relationship between the teachers, principals, other education workers, and the support staff). Also, even with the modifications, it does not capture the collaborations involved/needed within the education system (e.g., collaboration between the educators and support staff), as well as between the two wings of the butterfly (family and school). Thus, a more comprehensive model – perhaps, one that uses the idea of the butterfly model as a foundation – is needed to help conceptualize the relevant stakeholders involved, and their relationships, within and surrounding the IE system.

Based on our findings in *Chapter Two*, school staff and other support personnel's knowledge and training are fundamental to creating an inclusive school experience for students. Classroom teachers interact with the students daily and create the context for learning, so they play a major role in students' school experience (Thompson et al., 2015). Thus, teachers and other school staff are encouraged to learn about their students' strengths and needs, from the students first-hand, to provide appropriate support. Educators and other school staff are urged to seek their students' insights; collaborate with families, other education workers, and support staff to learn about and discuss the students' perspectives; and include the students in decision-making processes to design and implement learning environments that meet the needs and wants of the students.

To create an inclusive school environment, educators need to be able to exhibit strong leadership by taking responsibility to include students and advocating for IE. To enact this successfully, sufficient time and resources need to be made available (Gallagher et al., 2020;

Thompson et al., 2015). Thus, government agencies, university training programs, policy makers, and school board leadership are urged to create adequate training opportunities for teachers to work effectively in an inclusive environment. Educators require practical knowledge of childhood disability and experiences on implementing evidence-based classroom practices to create an inclusive learning environment (McCrimmon, 2015). Hence, university training programs, government agencies, and professional colleges need to ensure adequate provision of training for pre-service teachers and professional development opportunities for licensed teachers so that they are prepared to instruct students effectively in an inclusive classroom. It is also necessary to ensure access to resources and teamwork opportunities for educators and support staff working in schools to collaborate appropriately and optimize school-based service delivery (Anaby et al., 2020). It is recommended that children and youth with disabilities and special needs be engaged in the processes of planning, developing, and implementing measures meant to improve IE. Educators and other professionals therefore require training to engage students in these processes. This is important to ensure that the students' academic, social, and environmental needs and wants are being addressed appropriately.

In today's schools, it is quite common for educators and healthcare professionals (HCPs), such as occupational therapists and speech-language pathologists, to collaborate with each other in educating children and youth with disabilities (Causton & Tracy-Bronson, 2015). In this way, HCPs also have a role in promoting inclusive education. Thus, it is important for HCPs to have necessary information and training to collaborate effectively with all education staff to promote meaningful learning and a sense of belonging for all students (Tomas et al., 2018). To achieve this, school-based HCPs are encouraged to advocate for engagement and effective collaborative practices with educators and school administrators to deliver services

universally in the classroom setting (Campbell et al., 2016; Phoenix et al., 2021). HCPs are urged to form a communication system with educators and families and harness each other's knowledge and expertise to foster collaboration (Kennedy et al., 2019). Additionally, using the Universal Design for Learning (UDL) framework to embed services in the classroom setting and provide whole class services, instead of the traditional one-to-one therapy approach, will better align with the students' educational priorities and preferences and promote inclusive educational practices (Kennedy et al., 2018).

HCPs are also urged to recognize each student as an individual in their own right beyond their diagnosis, as well as to value their insights on themselves, their abilities, priorities, and needs. Thus, at a practical level, HCPs could benefit from knowledge of different participatory methods (e.g., photovoice) to engage the child meaningfully, and include them in the process of providing them with the right support (Eisen et al., 2019; Gallagher et al., 2020). This client-centred orientation, where the needs of the children and youth are central when planning supports, can also facilitate further collaboration between professionals (D'Amour et al., 2008; Gallagher et al., 2020).

Overall, this QES provided a more in-depth understanding of the factors that influence school experiences of children and youth with disabilities and special needs. The resulting recommendations for action can serve to better support students with disabilities, educators, HCPs, and families in IE.

Chapter 3 - Meta-Aggregation: Challenges and Recommendations

The meta-aggregative approach was developed in early 2000 by JBI to model the Cochrane Collaboration's process of systematic reviews. This approach is well-documented through a number of published qualitative systematic reviews that have followed this method;

several publications that document the approaches to meta-aggregation are also available in the literature (Lockwood et al., 2015). Still, this method is not without its challenges and controversies (Bergdahl, 2019; Hannes et al., 2018).

In a recent critique of meta-aggregation, Bergdahl (2019) argues that aggregating findings through the process of “generalization and finding common meaning” turns rich qualitative descriptions into “thin abstractions” that are “devoid of meaning” (p. 7). However, aggregating findings based on the similarity of meaning does not merely mean matching like findings, as Lockwood et al. (2019) point out in their response; instead, the findings are grouped into categories based on the similarity of phenomena, a process which aims to “reflect the review team's perspective on what the combined meaning of the findings represents” (p. 2). This move from a set of findings to category is similar to other qualitative research methods, such as constant comparative analysis and thematic analysis (Hannes & Lockwood, 2011). It is, however, noted that JBI does not explicitly indicate that categories should be developed by multiple reviewers through consensus (Lockwood et al., 2015). Throughout my review process, I regularly engaged in research team meetings and peer debriefings, as well as maintained an audit trail, because it was important to ensure that the outcomes of the synthesis were not solely based on my particular viewpoints or preferences but were clearly derived from the data (Korstjens & Moser, 2018). The varied backgrounds of the review team members, in health and social sciences, and their varied perspectives, not only helped ensure rigour, but also enhanced the relevance of the resulting recommendations for stakeholders. Hence, a team approach to analysis should be recommended by JBI to improve quality and rigour of meta-aggregative reviews, much like other qualitative systematic review approaches (Atkins et al., 2008; Lanchal et al., 2017).

A unique and valued feature of the meta-aggregative approach is the practicality and immediate usability of its findings (Hannes et al., 2018). Therefore, to ensure the evidence is derived from trustworthy studies, it is necessary to complete some extra steps, such as critical appraisal. Some QES approaches, such as meta-study and thematic synthesis, require a critical appraisal to evaluate the quality of the primary studies, while others do not consider this step necessary (Hannes & Lockwood, 2011). For meta-aggregative reviews, critical appraisal is an important step, because the synthesis ultimately produces recommendations for actions to be undertaken by practitioners and policy makers. Methodological flaws in studies create the risk of having a negative impact on the credibility of findings and increasing risk of bias, thus lowering confidence in the interpretation of findings (Hannes & Lockwood, 2011). Hence, it is imperative that meta-aggregative reviewers identify and include methodologically sound and rigorous research.

The critical appraisal was the most challenging and time-consuming step of the meta-aggregative review. This is mostly due to the fact that I was unable to locate any resources for the JBI critical appraisal checklist that adequately met my needs as a novice researcher. It seems that explicit guidance regarding several meta-aggregative review steps, such as ensuring rigour and trustworthiness in the review process and the process of critical appraisal, could be enhanced if clarified by the JBI. Without explicit guidance, the reviewers themselves must clarify their approaches to these steps and ensure rigour and trustworthiness throughout the review process through careful scrutiny.

It is also important to note that “poor reporting of methods does not equate to poorly conducted research” (Atkins et al., 2008, p. 5). Hence, authors of original qualitative research and reviewers of qualitative evidence should strive to be clear and comprehensive in reporting

their research to better reflect the quality of their work (Korstjens & Moser, 2018). Transparent reporting is key to enhancing confidence in qualitative health research.

Meta-Aggregation for Health Research

The JBI meta-aggregative approach provided a systematic and transparent approach to synthesizing qualitative evidence on the perspectives of children and youth with disabilities regarding their experiences in IE. Pragmatism is the philosophical foundation for the JBI meta-aggregation. This means that the method aims to emphasize the practical usefulness of ideas by seeking to clarify the meaning of certain concepts or ideas and considering their practical outcomes or consequences (Hannes & Lockwood, 2011; Lockwood et al., 2019). Consistent with a pragmatist perspective, meta-aggregation would be useful for transforming or resolving "problematic situations," thus providing a very practical approach to evidence synthesis (Hannes & Lockwood, 2011; Lockwood et al., 2019, p. 1637). For my thesis, this method of evidence synthesis helped to fill the gap in literature regarding IE from the perspectives of children and youth with disabilities and special needs. In addition, it led to recommendations, derived directly from the findings of the original studies, to inform educators, healthcare practitioners, policy makers, and other relevant stakeholders in decision-making. This approach to QES is much needed to promote evidence-based practice in the field of healthcare. Because meta-aggregation can be used to inform policy and practice, it can aid in bridging the gap between research and practice (Lockwood et al., 2019).

Implications for Researchers

As noted previously, the JBI meta-aggregative approach is not without its controversies. Similarly, even the idea of synthesizing qualitative research at all can be controversial (Pearson et al., 2011). Regardless of the debate surrounding QES, the meta-aggregative approach provided

a means to synthesize qualitative research, creating a deeper and richer understanding of the children's experiences than would be attainable through any single study or quantitative means. It is also evident from our meta-aggregative review, and from previous studies involving children and youth with disabilities or special needs, that they can communicate their experiences clearly and provide clear goals for themselves and their school/classroom (Gallagher et al., 2019). Although parents and professionals acknowledge the usefulness of children's insights and generally agree that children should be involved in decision-making, it is still a very contentious topic (Gallagher et al., 2020). In a recent study exploring inter-professional collaboration when supporting children with developmental language disorder in school and the role of the child in this process, participants (researchers, practitioners, and parents) expressed ambivalence about giving the children influence over decisions and shaping their outcomes (Gallagher et al., 2020). Some participants, mainly parents, believed that it should be the "'expert' knowledge of the professional," rather than the children's insights, which should inform practice (Gallagher et al., 2020, p. 7). However, it is evident from our QES that the insights provided by children and youth not only confirm what is known in literature, emphasizing the importance of the generated recommendations; they also highlight unique nuances that would not be accessible through other stakeholders' perspectives. Four studies in our synthesis examined the past school experiences of adults and young adults from their perspectives; hence, their valuable reflections also contributed to our findings. Therefore, including and studying the experiences of students, current and former, from their perspectives not only broadens collective understandings, but also provides unique insights that are necessary, along with knowledge of others' perspectives on IE, to improve evidence-based practice in IE.

Reviewers performing QES, specifically meta-aggregative reviews, should strive to document, and report clearly, their processes and provide rationales for their decisions and any changes to enhance transparency. Reviewers could also benefit from establishing measures to ensure rigour, especially for steps that could be performed by a single reviewer. These steps improve the trustworthiness and rigour of the final synthesis results and are necessary for enhancing confidence of the field of QES.

Limitations

Although the findings and recommendations from the two phases of my thesis add to the available literature on IE and how to perform a meta-aggregative review, potential limitations need to be acknowledged. One such limitation concerns the transferability of the results from the two chapters. The meta-aggregative review was limited to high-income countries, and the educational contexts in these countries may differ significantly from those of lower-and-middle-income countries (LMIC). Thus, the results of our synthesis may not be transferable to the educational contexts of LMICs. The transferability of the lessons and recommendations regarding meta-aggregative review may also be affected since they were generated based on my subjective experience alone. Hence, the challenges encountered, lessons learned, and recommendations proposed may not be representative of other reviewers' views and experiences.

It also is possible that we may not have captured some unique insights from the studies that we excluded in our QES. However, our decision to focus on studies with high methodological quality was determined by the need for rigour and trustworthiness (we were seeking to advance knowledge and inform action), as well as the robust number of articles to choose from.

Future Research

Now that we have examined the experiences of children and youth with disabilities in IE from their own perspectives, it is important to consolidate these findings with existing knowledge of experiences in IE from other stakeholders' perspectives. Consolidating the findings of our meta-aggregative review with experiences of families, peers, teachers and other educators, and support staff, as well as what families report about their children's experience through an umbrella review, or overview of reviews, is a logical and appropriate next step. An umbrella review would allow for the comparison and contrasting of the experiences in IE from different stakeholders' perspective. These findings could be evaluated to determine what works well in IE, what needs to change, and at what level the changes need to occur, thereby helping to improve future implementation of IE. The addition of children and youths' perspectives in research studies would also help to make future initiatives more suitable for all children and youth, including those with disabilities.

Further, there is a need for additional guidance when performing JBI meta-aggregative reviews. Specifically, sufficiently detailed guidance for the steps of critical appraisal and data extraction is lacking, which makes this method challenging for a novice researcher to implement. Some other steps that are common to most QES methods, such as training and calibration exercises during study selection, are also not described sufficiently in current literature. Hence, developers of these QES methods and experienced qualitative and systematic researchers/reviewers should consider further clarifying these processes and providing more detailed guidelines for reviewers to follow when performing systematic qualitative reviews. These clarifications would make the processes more systematic and help to advance the field of qualitative research.

Conclusion

This thesis not only contributes to the field of rehabilitation and IE through the examination of the school experiences of children and youths with disabilities from their perspectives, but also contributes to the fields of qualitative research and QES. We encourage policy makers, governments agencies, school board leadership, educators, school-based practitioners, families, and other researchers to consider the findings of our review, as well as the voices of children and youth in general, when planning activities for students, structuring curricula, designing schools and surrounding environments, developing education and training materials for educators and support staff, and making decisions that affect these children and youth. We also invite other reviewers to trial our processes of meta-aggregative review and our recommendations, and to continue to refine and improve the field of QES.

References

Anaby, D. R., Ianni, L., Héguy, L., & Camden, C. (2020). Actual and ideal roles of school staff to support students with special needs: Current needs and strategies for improvement. *Support for Learning*, *35*(3), 326–345. https://doi.org/10.1111/1467-9604.12313

Atkins, S., Lewin, S., Smith, H., Engel, M., Fretheim, A., & Volmink, J. (2008). Conducting a meta-ethnography of qualitative literature: Lessons learnt. *BMC Medical Research Methodology*, *8*, Article 21. https://doi.org/10.1186/1471-2288-8-21

Bergdahl, E. (2019). Is meta-synthesis turning rich descriptions into thin reductions? A criticism of meta-aggregation as a form of qualitative synthesis. *Nursing Inquiry*, *26*(1), Article e12273. https://doi.org/10.1111/nin.12273

Campbell, W. N., Selkirk, E., & Gaines, R. (2016). Speech-language pathologists' role in inclusive education: A survey of clinicians' perceptions of universal design for learning. *Canadian Journal of Speech-Language Pathology and Audiology*, *40*(2), 121–132.

Causton, J., & Tracy-Bronson, C. P. (2015). *The educator's handbook for inclusive school practices*. Brookes Publishing.

Cosier, M., Causton-Theoharis, J., & Theoharis, G. (2013). Does access matter? Time in general education and achievement for students with disabilities. *Remedial and Special Education*, *34*(6), 323–332. https://doi.org/10.1177/0741932513485448

D'Amour, D., Goulet, L., Labadie, J.-F., Martín-Rodriguez, L. S., & Pineault, R. (2008). A model and typology of collaboration between professionals in healthcare organizations. *BMC Health Services Research*, *8*, Article 188. https://doi.org/10.1186/1472-6963-8-188

Eisen, I., Cunningham, B. J., & Campbell, W. (2019). Conducting participatory photography with children with disabilities: A literature review. *Disability and Rehabilitation*, *41*(16), 19431954. https://doi.org/10.1080/09638288.2018.1457089

Falvey, M. A., & Givner, C. C. (2005). Chapter 1. What is an inclusive school? In R. A. Villa & J. S. Thousand (Eds.), *Creating an inclusive school* (2nd ed., pp. 1–11). Association for Supervision & Curriculum Development. http://www.ascd.org/publications/books/105019e4/chapters/What-Is-an-Inclusive-School¢.aspx

Gallagher, A. L., Murphy, C. A., Conway, P. F., & Perry, A. (2019). Engaging multiple stakeholders to improve speech and language therapy services in schools: An appreciative inquiry-based study. *BMC Health Services Research*, *19*, Article 226. https://doi.org/10.1186/s12913-019-4051-z

Gallagher, A. L., Murphy, C. A., Conway, P. F., & Perry, A. (2020). Establishing premises for inter-professional collaborative practice in school: Inclusion, difference and influence. *Disability and Rehabilitation*, 1–10. https://doi.org/10.1080/09638288.2020.1725154

Hannes, K., & Lockwood, C. (2011). Pragmatism as the philosophical foundation for the Joanna Briggs meta-aggregative approach to qualitative evidence synthesis. *Journal of Advanced Nursing*, *67*(7), 1632–1642. https://doi.org/10.1111/j.1365-2648.2011.05636.x

Hannes, K., Petry, K., & Heyvaert, M. (2018). The meta-aggregative approach to qualitative evidence synthesis: A worked example on experiences of pupils with special educational needs in inclusive education. *International Journal of Research & Method in Education*, *41*(3), 291–305. https://doi.org/10.1080/1743727X.2017.1299124

Hehir, T., Grindal, T., & Eidelman, H. (2012). *Review of special education in the Commonwealth of Massachusetts*. Massachusetts Department of Elementary and Secondary Education. http://doi.org/10.13140/RG.2.2.19735.98725

Inclusive Education Canada. (n.d.). *What is inclusive education?* https://inclusiveeducation.ca/about/what-is-ie/

Kennedy, J., Missiuna, C., Pollock, N., Wu, S., Yost, J., & Campbell, W. (2018). A scoping review to explore how universal design for learning is described and implemented by rehabilitation health professionals in school settings. *Child: Care, Health and Development*, *44*(5), 670–688. https://doi.org/10.1111/cch.12576

Kennedy, J. N., Missiuna, C. A., Pollock, N. A., Sahagian Whalen, S., Dix, L., & Campbell, W. N. (2019). Making connections between school and home: Exploring therapists' perceptions of their relationships with families in partnering for change. *British Journal of Occupational Therapy*, *83*(2), 98–106. https://doi.org/10.1177/0308022619876560

Korstjens, I., & Moser, A. (2018). Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice*, *24*(1), 120–124. https://doi.org/10.1080/13814788.2017.1375092

Lachal, J., Revah-Levy, A., Orri, M., & Moro, M. R. (2017). Metasynthesis: An original method to synthesize qualitative literature in psychiatry. *Frontiers in Psychiatry*, *8*, Article 269. https://doi.org/10.3389/fpsyt.2017.00269

Lockwood, C., Munn, Z., & Porritt, K. (2015). Qualitative research synthesis: Methodological guidance for systematic reviewers utilizing meta-aggregation. *International Journal of Evidence-Based Healthcare*, *13*(3), 179–187. https://doi.org/10.1097/XEB.0000000000000062

Lockwood, C., Stannard, D., Bjerrum, M., Carrier, J., Evans, C., Hannes, K., Munn, Z., Porritt, K., & Salmond, S. W. (2019). A situated philosophical perspective would make some of the paradigm wars in qualitative evidence synthesis redundant: A commentary on Bergdahl's critique of the meta-aggregative approach. *Nursing Inquiry*, 26(4), Article e12317. https://doi.org/10.1111/nin.12317

McCrimmon, A. W. (2015). Inclusive education in Canada: Issues in teacher preparation. *Intervention in School and Clinic*, *50*(4), 234–237. https://doi.org/10.1177/1053451214546402

New Brunswick Association for Community Living. (n.d.). *Inclusive education and its benefits.* https://nbacl.nb.ca/module-pages/inclusive-education-and-its-benefits/

Pearson, A., Robertson-Malt, S., & Rittenmeyer, L. (2011). *Synthesizing qualitative evidence*. Lippincott Williams & Wilkins. https://nursing.lsuhsc.edu/JBI/docs/JBIBooks/Syn_Qual_Evidence.pdf

Phoenix, M., Dix, L., DeCola, C., Eisen, I., & Campbell, W. (2021). Health professional-educator collaboration in the delivery of school-based tiered support services: A qualitative case study. *Child: Care, Health and Development*. Advance online publication. https://doi.org/10.1111/cch.12849

Salend, S. J., & Duhaney, L. M. G. (1999). The impact of inclusion on students with and without disabilities and their educators. *Remedial and Special Education*, *20*(2), 114-126. https://doi.org/10.1177/074193259902000209

Sommer, D., Pramling Samuelsson, I. P., & Hundeide, K. (2013). Early childhood care and education: A child perspective paradigm. *European Early Childhood Education Research Journal*, *21*(4), 459–475. https://doi.org/10.1080/1350293X.2013.845436

Specht, J., McGhie-Richmond, D., Loreman, T., Mirenda, P., Bennett, S., Gallagher, T., Young, G., Metsala, J., Aylward, L., Katz, J., Lyons, W., Thompson, S., & Cloutier, S. (2016). Teaching in inclusive classrooms: Efficacy and beliefs of Canadian preservice teachers. *International Journal of Inclusive Education*, *20*(1), 1–15. https://doi.org/10.1080/13603116.2015.1059501

Szumski, G., Smogorzewska, J., & Karwowski, M. (2017). Academic achievement of students without special educational needs in inclusive classrooms: A meta-analysis. *Educational Research Review*, *21*, 33–54. https://doi.org/10.1016/j.edurev.2017.02.004

Thompson, S. A., Lyons, W., & Timmons, V. (2015). Inclusive education policy: What the leadership of Canadian teacher associations has to say about it. *International Journal of Inclusive Education*, *19*(2), 121–140. https://doi.org/10.1080/13603116.2014.908964

Tomas, V., Cross, A., & Campbell, W. N. (2018). Building bridges between education and health care in Canada: How the ICF and universal design for learning frameworks mutually support inclusion of children with special needs in school settings. *Frontiers in Education*, *3*, Article 18. https://doi.org/10.3389/feduc.2018.00018

Towle, H. (2015). *Disability and inclusion in Canadian education: Policy, procedure, and practice*. Canadian Centre for Policy Alternatives. https://www.policyalternatives.ca/publications/reports/disability-and-inclusion-canadian-education

United Nations International Children's Emergency Fund. (2017, September). *Inclusive education: Understanding Article 24 of the Convention on the Rights of Persons with Disabilities*.

https://www.unicef.org/eca/sites/unicef.org.eca/files/IE_summary_accessible_220917_0.pdf

United Nations Educational, Scientific and Cultural Organization. (1994). *The Salamanca statement and framework for action on special needs education*. https://www.right-to-education.org/sites/right-to-education.org/files/resource-attachments/Salamanca_Statement_1994.pdf