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

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Inclusive education is important to achieve high-quality education for all; however, there is an important gap in the literature surrounding inclusive education, namely representation of 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 qualitative studies, we extracted the findings from the results sections of 27 studies involving 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. Implications of our findings include: (i) a need for strong leadership at the school level to support implementation of inclusive education; (ii) a need for leadership from government agencies and schools to provide opportunities for teachers to train and collaborate with other professionals; and (iii) a need for flexibility in curriculum and instruction, for which educators require training and experience. Most importantly, our findings show that children and youth with disabilities and special needs, when provided opportunities, demonstrate profound personal understandings of their strengths and needs, their conditions and how these impact their lives, leading to insightful information that can enhance inclusive education practice and policy.

Keywords: qualitative, school, student, special education, accessibility, inclusion, accommodation

INTRODUCTION

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 (United Nations International Children's Emergency Fund [UNICEF], 2017; Reid et al., 2018). 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 [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 (United Nations International Children's Emergency Fund [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 and 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 and 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 (Salend and Duhaney, 1999; Hehir et al., 2012; Cosier et al., 2013; 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 and Brown, 2019).

In the last 10 years, several literature reviews have focused on the experiences of children without disabilities or special needs in inclusive settings (de Boer et al., 2012; Yu et al., 2012; Szumski et al., 2017; Dell'Anna et al., 2019). For example, de Boer and colleagues (2012) found that these children generally held neutral beliefs, feelings, and behavioral intentions toward their peers with disabilities. In their recent systematic review, Dell'Anna et al. (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 toward 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 toward socializing 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 et al. (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 et al. (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, behavioral, 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 et al. (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 **Supplementary 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).

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 gray literature,

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

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 Innovation, 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 **Supplementary Appendix B**. These criteria guided reviewers in both phases of study selection.

Next, the same two reviewers independently reviewed the full texts of studies advanced from the title and abstract screening stage. Any two of the two 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 (McTavish et al., 2017; Critical Appraisal Skills Program [CASP], 2018). 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 (Thorne, 2000; Mack et al., 2005; Hannes et al., 2013; Kivunja and Kuyini, 2017; Korstjens and Moser, 2018) 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 **Supplementary 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**

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.

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+qualita-tive+synthesis).

provides a description of the three levels of credibility according to JBI. Unsupported findings are not considered for synthesis (Lockwood et al., 2015).

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. Results are reported using flowcharts showing the relationship between the number of individual findings, the categories that they form, and the overall synthesized statements that they support. Such flowcharts are accompanied by a narrative description in the text that explains the relationship between the findings, categories, and synthesized statements. The findings themselves along with supporting illustrative quotes and their assigned level of credibility are included in an appendix for transparency.
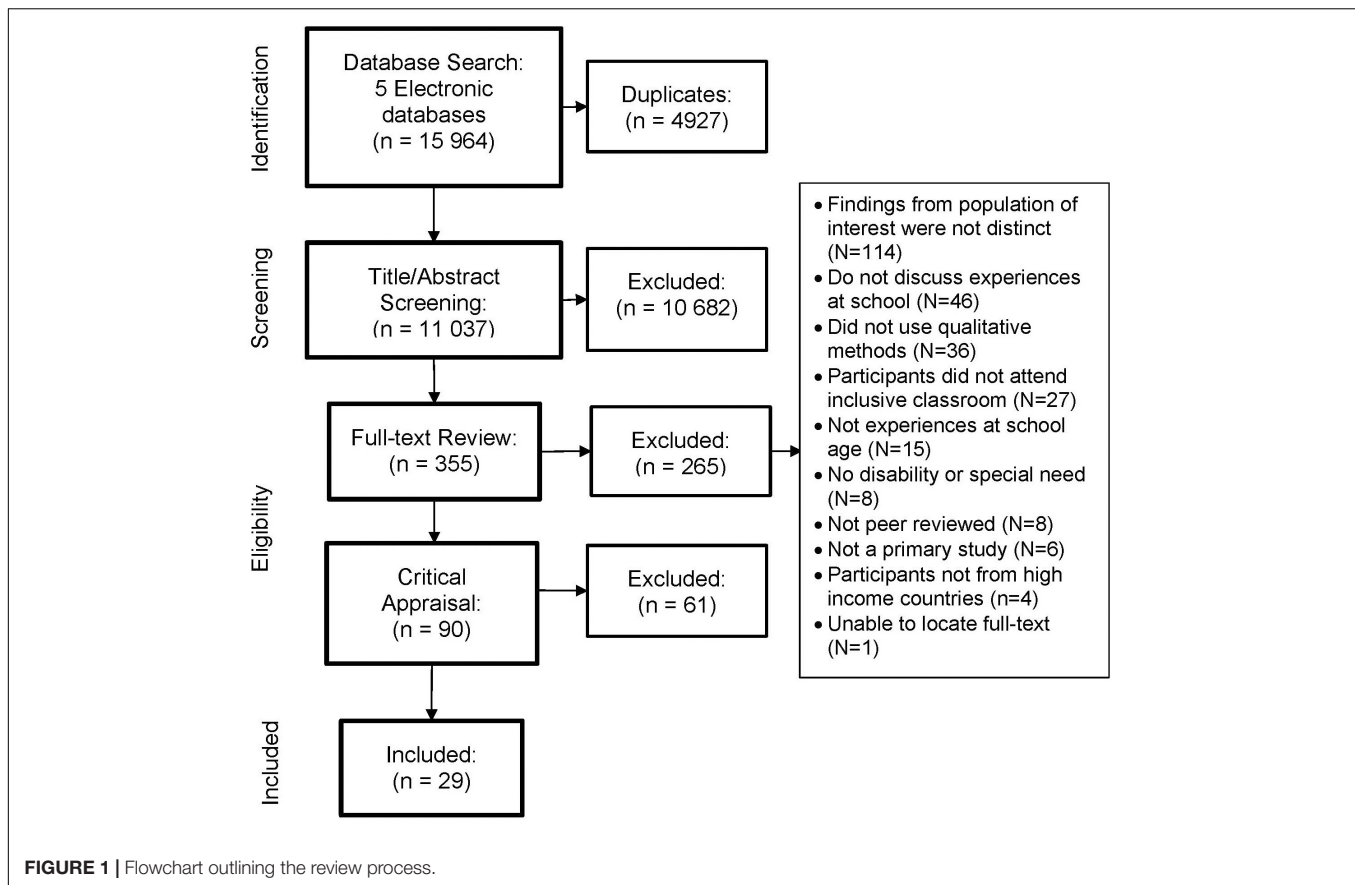
The primary author, TP, identified and assembled findings with similar concepts based on their descriptions to form categories. Next, she created titles and descriptions that encompassed the overall theme, or essence, of all findings in each category. In the final step, the categories were subjected 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 rigor 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

FIGURE 1 | Flowchart outlining the review process.

high-income countries ($N = 4$). We were unable to locate the full text of one citation.

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.

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 **Supplementary 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'

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 and 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 Disturbance	Local high school	United States
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 Hemiplegic)	School for disabled children in early primary schooling (late 1970s). Mainstream primary school and high school	Australia
3. Gibbs (2018)	Perspectives of adolescent boys with ADHD on teaching and teaching factors that enabled them to regain focus (if distracted) and concentrate on classroom learning	Multiple, instrumental case study	Semi-structured individual and focus group interviews (as well as school reports)	Constant Comparison method	6 males Middle or senior years of schooling (Years 9–12) (age not reported)	ADHD	All-boys high school	Australia
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 and Buckley (2019)	Experiences of Alaskan youths with visual impairments about physical education	Phenomenology	Semi-structured interviews	Thematic analysis	3 males and 1 female 11–16	Visual impairment	Public school	United States
6. Haegele and Zhu (2017)	Experiences of adults with visual impairments during school-based integrated physical education	Interpretive Phenomenological Analysis (IPA)	Semi-structured telephone interviews and reflective field notes	IPA	6 males and 10 females 21–48	Visual impairment	Public, private, and Catholic primary and high schools	United States and Canada
7. Haegele et al. (2017)	The meaning that (adult) elite athletes with visual impairments ascribe to their school-based physical education and sport experiences	Phenomenology	Semi-structured telephone interviews and reflective field notes	IPS	4 males 22–37	Visual impairment	Public and private primary and high schools	United States
8. Healy et al. (2013)	Perspectives of children with autism on their physical education	Not reported	Semi-structured interviews	Thematic analysis	11 males and 1 female 9–13	ASD	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 and McIntyre (2016)	School and life experiences of adults diagnosed with (fetal alcohol spectrum disorders) FASD	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
11. Lindsay and McPherson (2012)	Experiences of exclusion and bullying among children with cerebral palsy	Not reported	Semi-structured in-depth interviews and a focus group	Not specified	6 males and 9 females 8–19	Cerebral palsy	Integrated classroom (i.e., has both children with and without disabilities)	Canada
12. Mealings et al. (2017)	Experiences of students with TBI with their educational participation; how evidence from student-based experiences can be translated into practice relevant to the role of SLPs	Not reported	Semi-structured interviews	Grounded theory	3 males 13–17	TBI (severe, post-traumatic amnesia 25–51 days)	No specific information on school setting	Not reported (but authors are Australian)

(Continued)

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Author	Study characteristic			Participant characteristic			Study setting	
	Phenomenon of interest	Methodology	Method of data collection	Data analysis approach	Participants' gender and age (years)	Type of disability or SEN	Setting	Location of study
13. Merrick and 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 and Frederickson (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
15. Ng et al. (2016)	Experiences of twice-exceptional students (students with giftedness and learning difficulties) during their transfer from middle school to high 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 their potential in a traditional academic setting)	Coeducational high school	New Zealand
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 blindness	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
18. Opie and 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 impairment	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 functioning)	Regular secondary schools	Singapore
20. Saggers et al. (2011)	Experiences of students with ASD in inclusive high schools	Not reported	Semi-structured interviews	Constant comparative methods	7 males and 2 females 13–16	ASD	Mainstream high school	Australia
21. Opie and Southcott (2016)	School experiences of a senior student with vision impairment	IPA	Semi-structured interviews	IPA	1 male final year or year 12 (age not reported)	Vision impairment	Private boys' college	Australia
22. Walker and Reznik (2014)	Children's perceptions of the impact of in-school asthma management on regular physical activity	Not reported	Individual interviews, artwork, observation, field notes	Thematic and content analysis	11 males and 12 females 8–10	Asthma	Public elementary schools	United States
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

(Continued)

TABLE 3 | Main characteristics of the studies selected for data extraction and synthesis.

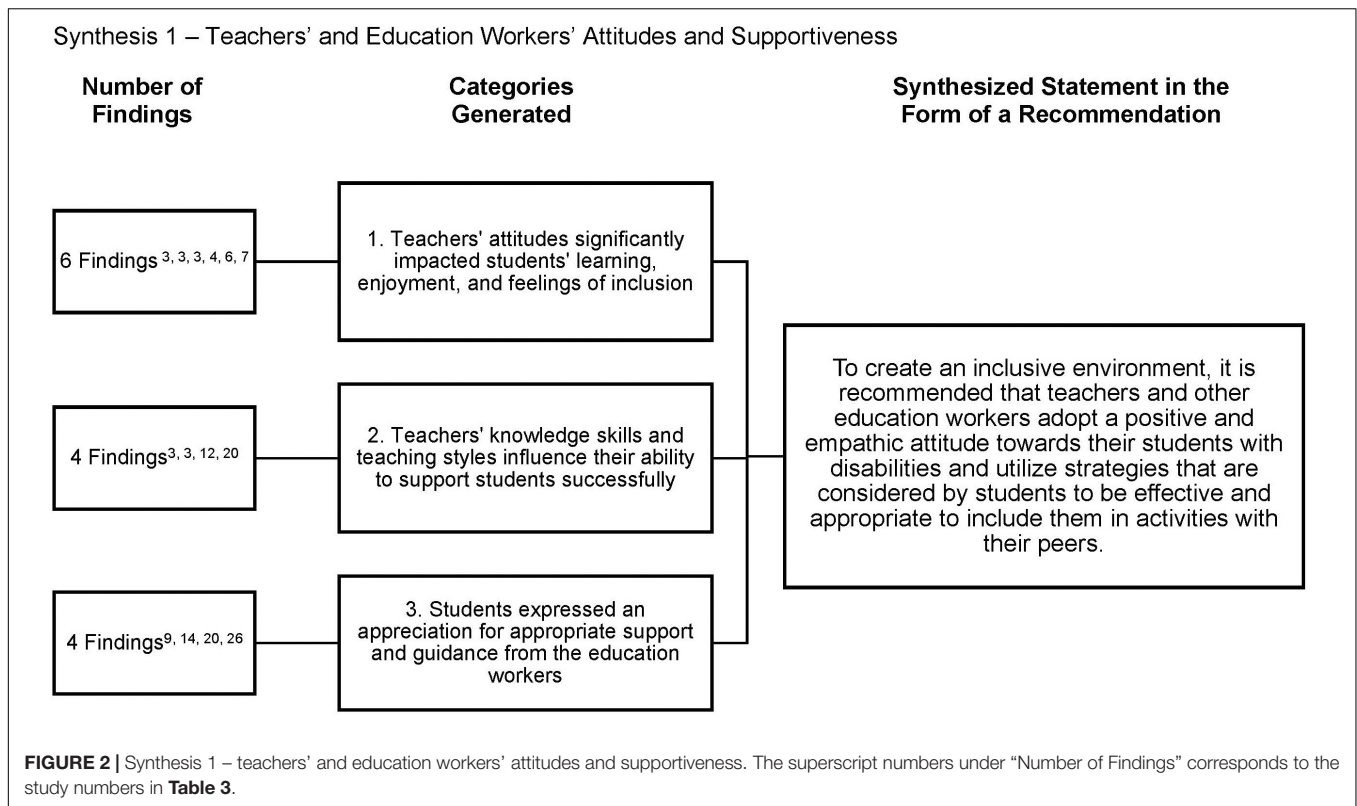| Author	Study characteristic				Participant characteristic		Study setting	
	Phenomenon of interest	Methodology	Data analysis approach	Method of data collection	Participants' gender and age (years)	Type of disability or SEN	Setting	Location of study
25. Yamamoto and Black (2015)	How culture, disability, and prospective first-generation college student status influence the transition decisions of native Hawaiian students with specific learning disabilities who attended a Hawaiian-focused charter school	Case study	Categorical aggregation	Individualized semi-structured interviews, observations, collection and review of artifacts	4 males and 1 female 14–17	Specific learning disability (SLD)	Hawaiian-focused charter school	Hawaii, United States
26. Zitomer (2016)	Perspectives of elementary school children with disabilities in inclusive dance education classrooms	Not reported	IPA	Semi-structured interviews, children's art- work, class observations, and research field notes	8 participants 6–10	Varied types of disabilities including autism spectrum disorder, neurodevelopmental disability, intellectual disabilities	Elementary schools	Canada
27. Zwicker et al. (2018)	Perspectives of children with DCD on their daily life and quality of life	Inductive realist approach	Thematic Analysis	Semi-structured (individualized) interviews	10 males and 3 females 8–12	Developmental coordination disorder (DCD)	No specific Information on schooling	Canada

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. **Figure 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.

Synthesis 1 – Teachers' and Education Workers' Attitudes and Supportiveness

Our first synthesized statement (**Figure 2**) reflects 14 findings grouped into three categories related to students' perceptions of the attitudes and supportiveness of teachers and other education workers. 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, supported by four findings*). 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, supported by six findings*). 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, supported by four findings*). 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. The synthesis of these three categories suggests that 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

Our second synthesized statement (**Figure 3**) reflects 16 findings grouped into four categories regarding students' perceptions about the suitability of supports and accommodations. Students mentioned being provided with some support at school, but the supports often were perceived to be inconsistent or inefficacious (*category 4, supported by seven findings*). 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

FIGURE 2 | Synthesis 1 – teachers' and education workers' attitudes and supportiveness. The superscript numbers under "Number of Findings" corresponds to the study numbers in **Table 3**.
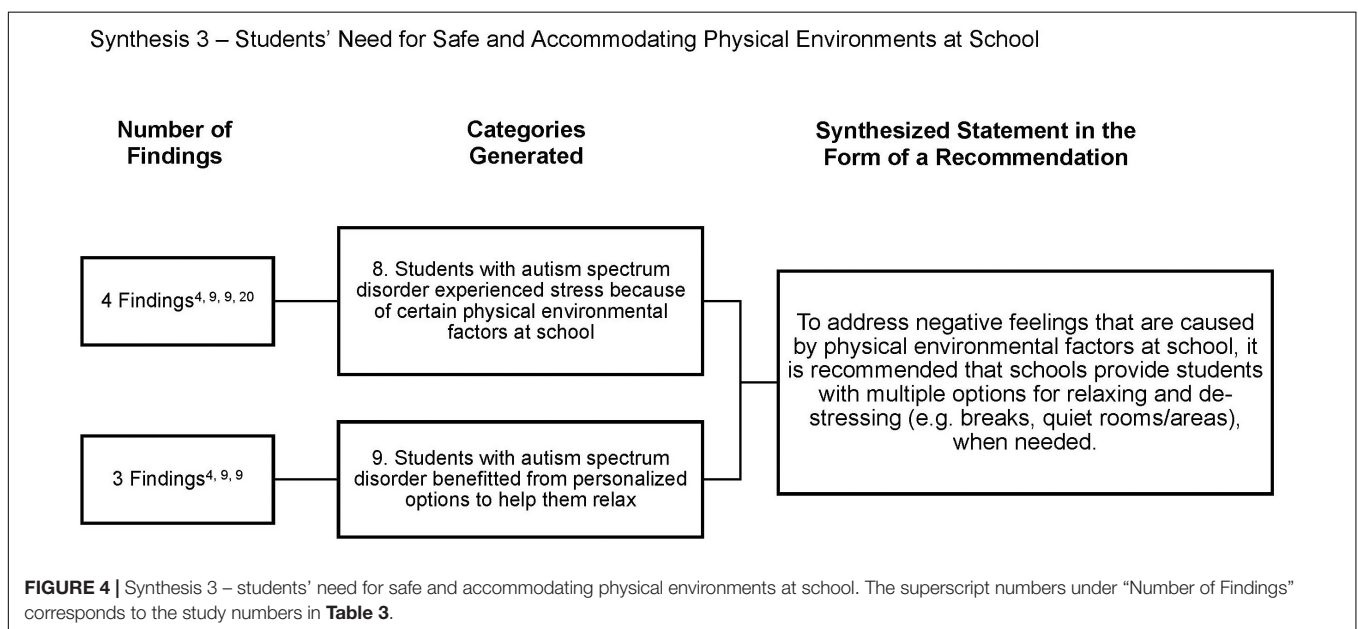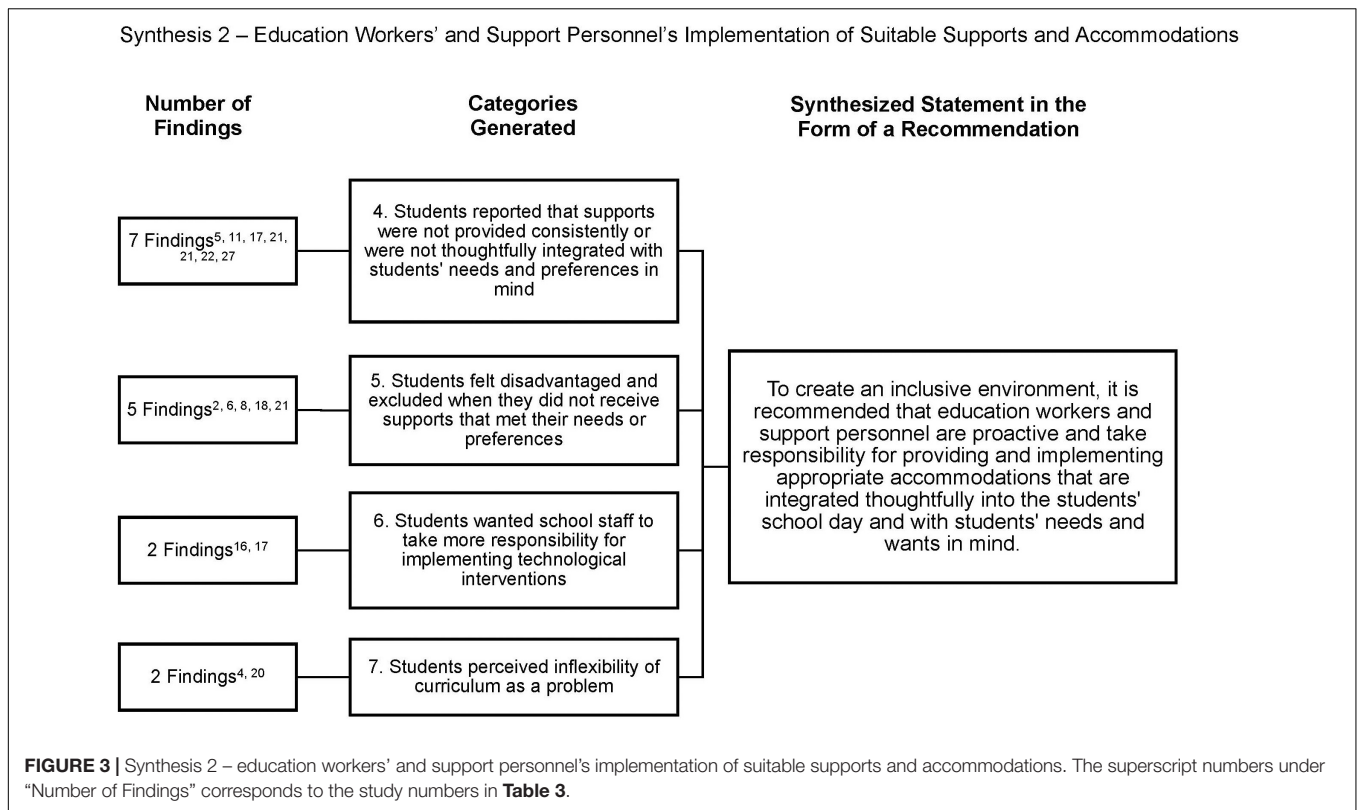
excluded from school activities (*category 5, supported by five findings*). Students also expressed a lack of (expert) support with technology at school. They believed their teachers and other education workers needed to take a more active role in overseeing the implementation of technological interventions and accommodations for students (*category 6, supported by two findings*). 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, supported by two findings*). Together, the synthesis of these four categories suggests that to create an inclusive environment where 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.

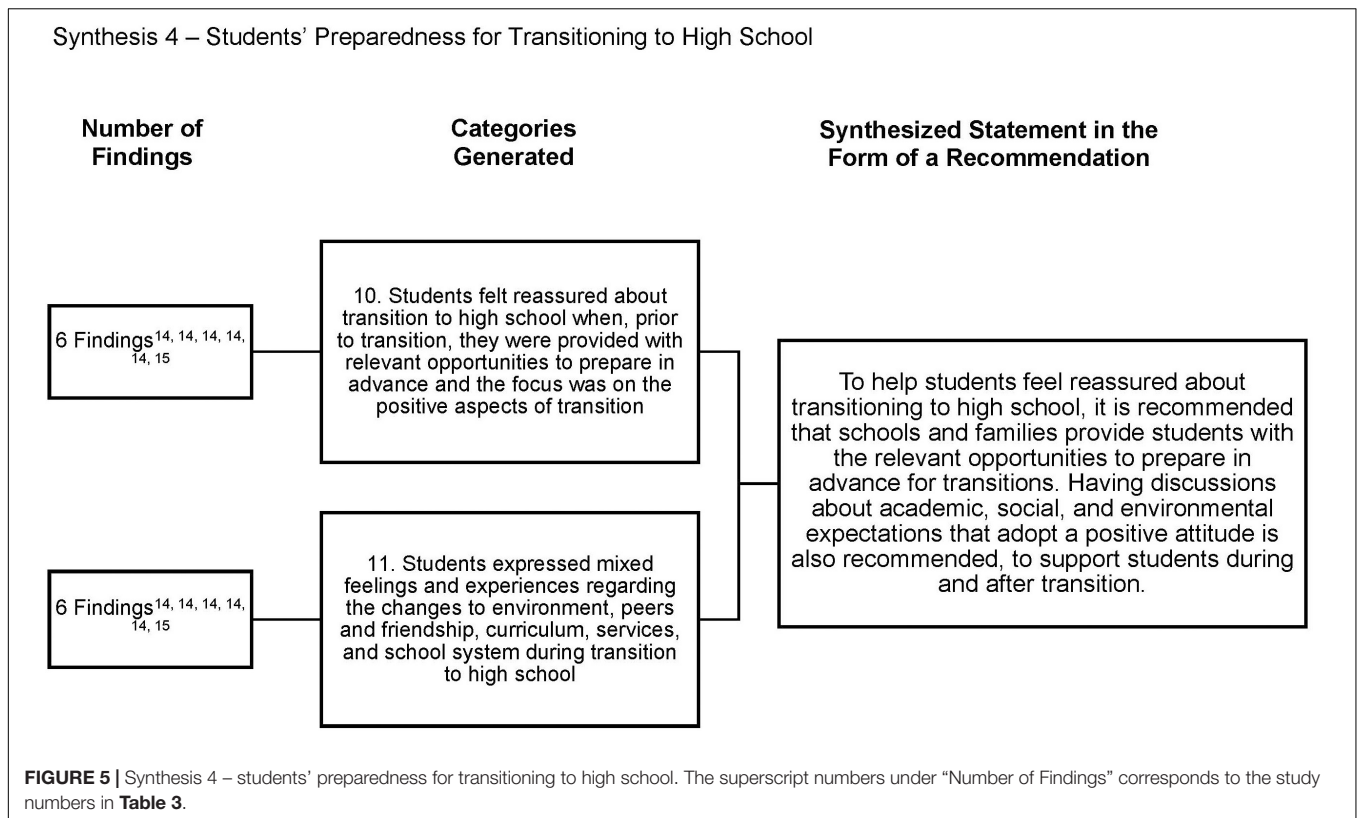## Synthesis 3 – Students' Need for Safe and Accommodating Physical Environments at School

Our third synthesized statement (**Figure 4**) reflects seven findings grouped into two categories focused on students' perceptions about the need for physical environments at school that feel safe and accommodate their needs. 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, supported by four findings*). 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, supported by three findings*). Synthesizing these two categories suggests 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.

FIGURE 3 | Synthesis 2 – education workers' and support personnel's implementation of suitable supports and accommodations. The superscript numbers under "Number of Findings" corresponds to the study numbers in **Table 3**.

FIGURE 4 | Synthesis 3 – students' need for safe and accommodating physical environments at school. The superscript numbers under "Number of Findings" corresponds to the study numbers in **Table 3**.

Synthesis 4 – Students' Preparedness for Transitioning to High School

Our fourth synthesized statement (**Figure 5**) reflects 12 findings grouped into two categories related to students' perceptions about being prepared for the transition to high school. Students often needed reassurance about transitioning to high school (*category 10, supported by six findings*). 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

FIGURE 5 | Synthesis 4 – students' preparedness for transitioning to high school. The superscript numbers under "Number of Findings" corresponds to the study numbers in **Table 3**.

(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, supported by six findings*). The synthesis of these two categories suggests that 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.
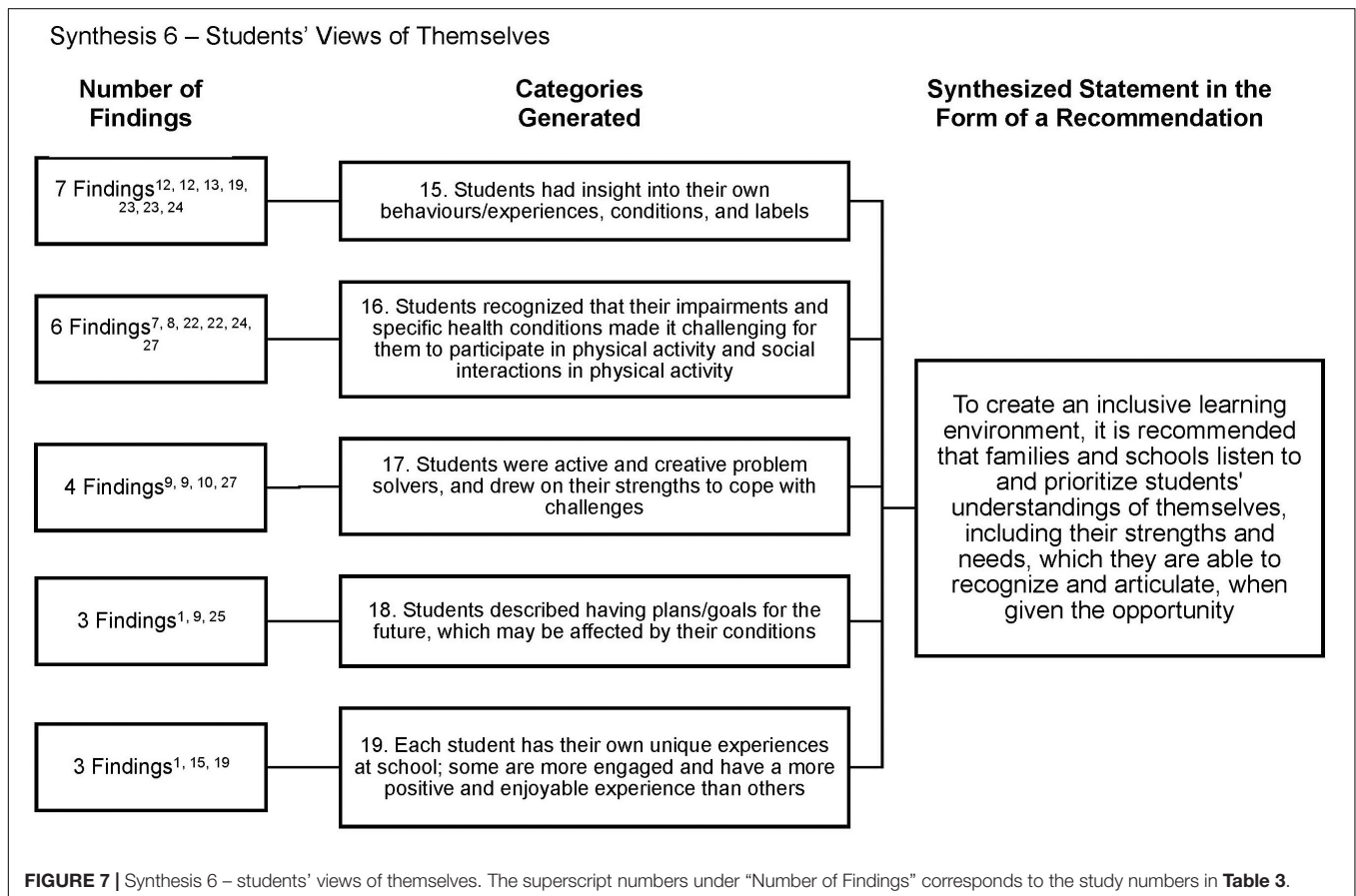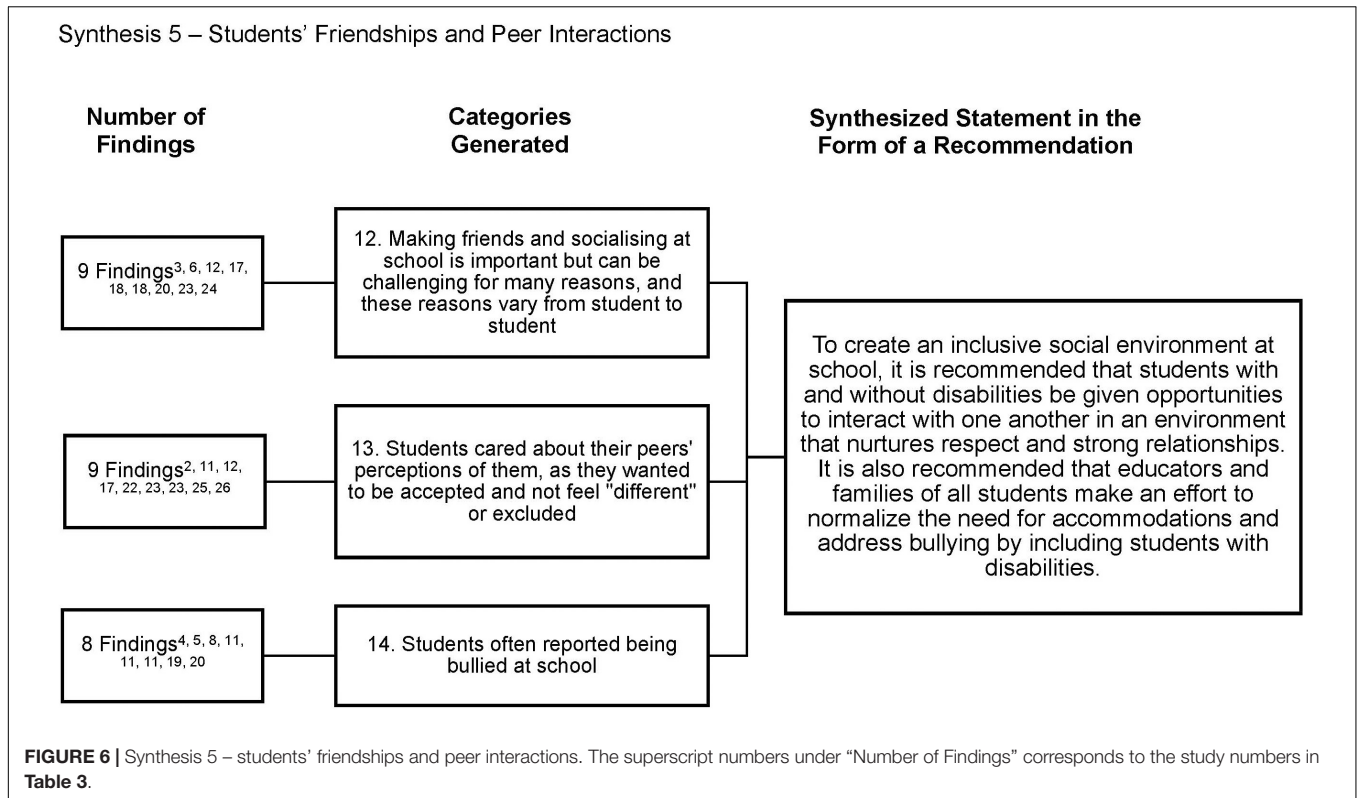
Synthesis 5 – Students' Friendships and Peer Interactions

Our fifth synthesized statement (**Figure 6**) reflects 26 findings grouped into three categories reflecting students' perceptions about their friends and peers. Friendship and peer interactions are important for students. However, their discomfort with socialization, restriction to participation, and situations where their "disability was pronounced" (Haegele and Zhu, 2017, p. 432) may affect these relationships (*category 12, supported by nine findings*). 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, supported by nine findings*). They wanted to fit in and be accepted, and not appear different from their peers. This influenced the students' behaviors, 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, supported by eight findings*). 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 three 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

Our sixth and final synthesized statement (**Figure 7**) reflects 23 findings grouped into five categories reflecting students' perceptions about themselves. Students expressed unhappy

FIGURE 6 | Synthesis 5 – students' friendships and peer interactions. The superscript numbers under "Number of Findings" corresponds to the study numbers in **Table 3**.

FIGURE 7 | Synthesis 6 – students' views of themselves. The superscript numbers under "Number of Findings" corresponds to the study numbers in **Table 3**.

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, supported by six findings*). 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 behaviors (*category 15, supported by seven findings*). 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, supported by four findings*).

Furthermore, the students described having plans/goals for the future (vocational and educational) (*category 18, supported by three findings*). 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, supported by three findings*). 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 five 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 studies contributing to each synthesized statement include the perspectives of children and youth of various ages from different high-income countries. The only exception to this would be the fourth synthesized statement, which only applies to youth transitioning to high school. The educational needs and experiences of children and youth with different diagnoses and needs are also very similar in its essence. These shared experiences and needs are portrayed in the six synthesized statements and, ultimately, the recommendations presented in this section.

The overarching synthesized statements identify six areas related to the children and youths' 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 because 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 et al. (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 (McCrimmon, 2015; Anaby et al., 2020). 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 Simpson, 2016). Often, teacher preparation programs do not provide general education teachers with adequate training or experience to work with students with diverse needs (DeSimone and Parmar, 2006; Timmons, 2006; McCrimmon, 2015).

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; Thompson et al., 2015; Specht et al., 2016). 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 and 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 et al. (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 (Edyburn, 2005; CAST, 2018). UDL can be utilized in tandem with assistive technologies to reduce barriers for students with disabilities and special needs, while also benefiting 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, 2014; 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 (Ontario Ministry of Education, 2013; Kennedy et al., 2018). 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 (Zeedyk et al., 2003; Smith et al., 2008; Benner, 2011; Neal and Frederickson, 2016). 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 rigor 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 synthesize 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 and 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 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, 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.

AUTHOR CONTRIBUTIONS

TP, WC, BD, and PR contributed to the conception and design of the study. TP, PC, AJ, and EK worked as team to refine inclusion and exclusion criteria and completed the article screening and selection process with guidance from WC. TP, PC, and AJ critically appraised articles selected after full-text review and the final set of included articles was made in consultation with WC. TP extracted and synthesized findings with guidance from WC and in consultation with PC and AJ. TP wrote the first draft of the manuscript. WC, BD, and PR provided feedback and guidance on manuscript revisions. All authors read, provided feedback on, and approved the submitted version of the manuscript.

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