

Working together: a review of cross-sector collaborative practices in provision for children with special educational needs and disabilities

Abstract

It is widely recognised that cross-sector partnerships are key to improve outcomes for children with special educational needs and disabilities (SEND). However, evidence-based strategies fostering these partnerships have not been systematically identified, and terms designating different forms of collaboration are used interchangeably. This study aims to contribute to systematically identify practices for cross-sector collaboration for children with SEND, critically positioning these within collaborative traditions (*multidisciplinarity*, *interdisciplinarity* and *transdisciplinarity*).

A scoping review of the international literature of the past 10 years was conducted, following Arksey and O'Malley's methodology and considering type of SEND studied, country of origin, approach to collaboration portrayed and study design. Only papers describing empirical applications of collaborative strategies were included in the final review (n=8). Practices identified ranged from multidisciplinary to transdisciplinary and included: partnerships between higher education and healthcare organisations, implementation of school clinics, schools as interdisciplinary hubs, management's own partnerships and networks, assessment in person with the whole team, videoconferencing, periodic meetings with key professionals, informal on-site discussions and transdisciplinary play-based assessment. Implications for practice are considered, in particular the need to examine how these strategies are implemented in a variety of settings and the need to develop the skills that elicit transdisciplinary work.

What this paper adds

This paper provides a review of the existing literature about evidence-based practices of collaboration between the education, health and social care sectors in service provision for children with Special Educational Needs and Disabilities (SEND). This is important because, although there is a substantial body of literature suggesting that cross-sector collaboration is essential for effective provision and positive children's outcomes, little systematic evidence is available on specific strategies with potential to be adopted by professionals within and across sectors, to partner effectively. This paper synthesises the main practices of collaboration that have been documented in the empirical literature over the past 10 years, positions them within models of cross-sector collaboration (multidisciplinary, interdisciplinary and transdisciplinary) and provides directions for future practice and research around cross-sector provision for SEND, including children with developmental disabilities, but also those that may not be in receipt of statutory supports, despite presenting clear learning, behavioural, emotional and educational needs in general.

1. Introduction

It is well established that having professionals from different disciplines working together in provision services for children and young people with special educational needs and disabilities (SEND) is the most effective approach to promote holistic development across life domains (Briggs, 1997; Rapport et al., 2004). Development is plastic, continuously evolving and affecting a multitude of life domains at each single time point, especially in early childhood (Gilmore et al., 2018). Therefore, any changes, risks or delays are likely to affect a variety of developmental domains, requiring different sources of expertise. Additionally, these rapid and dynamic developmental changes occur in unique contextual situations making them even more complex. Consequently, partnerships across and between

professionals are essential to address developmental issues effectively, with positive holistic development as the ultimate goal of every intervention to support children with SEND (Rapport et al., 2004). However, there are at least two related areas of uncertainty surrounding this field of knowledge and work: The first area of uncertainty relates to the terminology used to designate cross-sector collaborative work (often inconsistent); the second area of uncertainty refers to the varied understandings of what constitute SEND and how these different understandings impact professional practice, from medicalised conceptions of SEND, to functioning based approaches.

1.1 Terminology around cross-professional collaborations

Terms used to describe different forms of cross-professional work are varied and often used inconsistently or interchangeably. ‘Multi-agency work’, ‘inter-professional’ ‘interdisciplinary’ work, for example, are some of the terms often used inconsistently and/or interchangeably (McCallin, 2000). In this paper we refer to cross-sector collaboration specifically when different sectors (health, education or social services) work together to provide for children and young people with SEND. Professionals involved in cross-sector service provision for children and young people with SEND can be speech and language therapists, occupational therapists, physiotherapists, teachers, social workers, general practitioners, psychologists, etc. Cross-sector collaborative teams can also be framed by different theoretical approaches, reflecting varied understandings of SEND (Thylefors et al., 2005). Approaches to cross-sector collaboration have been categorized as *multidisciplinary*, *interdisciplinary* and *transdisciplinary* (Collin, 2009). In multidisciplinary partnerships, practitioners work independently from each other in the assessment of a child’s development, staying well within the boundaries of their own discipline. This approach is typical of medical model-based teams, such as rehabilitation settings, where communication between

professionals from different disciplines is limited (Bell et al., 2010). *Interdisciplinary* approaches occur when professionals from different disciplines work together to achieve a coordinated and coherent whole, although contributions from different professionals might still be identifiable in the final outcome, such as discipline specific therapeutic goals (Rapport et al., 2004). Transdisciplinarity is defined as a model of partnership where professionals collaborate from the beginning to develop a holistic and fully integrated narrative about the child, as well as an all-inclusive intervention plan, based on the individual child's needs, rather than on own professional expertise (Bell et al., 2010). There is role release between professionals and disciplinary boundaries are crossed. This results in a much more holistic view of the child, which is thought to allow for more effective problem solving (Rapport et al. 2004). However, expertise in one's domain remains key to this process; one can only transfer and release skills when they have been mastered within their own discipline.

1.2. Understandings of SEND in the context of collaborative traditions

Interdisciplinary and transdisciplinary models have been considered, over the years, as the preferred approaches to intervention for children with SEND, particularly the latter, as it reflects an understanding of development as a complex, holistic, dynamic and continuously changing phenomenon, in line with the Transactional model (Lisa et al. 2001; Rosen et al. 1998; Shonkoff & Meisels 2000). However, specific practices which are typical of multidisciplinary approaches (where there isn't a common narrative about the child, but fragmented interventions by different disciplines) are still observed today in many professional settings. Having full appreciation of which evidence-based practices are being used to support children with SEND, within each of the models of collaboration described is fundamental, because it reflects different understandings of what constitutes 'SEND' in children, and also has direct implications for intervention foci and outcomes. If SEND is

understood as resulting from an impairment of body functions or body structures, this then is, characteristically, a medicalised understanding of the term and can result in discipline specific interventions where children learn isolated skills with little consideration for their ability to function in their everyday life environments (Bruder, 1997). This mind-set has prevailed for years in rehabilitation and medical teams and results largely from the medical model in which these professionals are trained (Samuels et al., 2012). However, today, advances in what should be considered a special educational need or disability imply necessarily a move towards *interdisciplinarity* and/or *transdisciplinarity*.

In 2001, the World Health Organisation (WHO) published the International Classification of Functioning, Disability and Health (ICF), which has facilitated a paradigm revolution in describing and classifying disability. The ICF is a classification system, which includes descriptors for body function and structures, but also for activities and participation and for environmental factors. Conceptually, these components interact in a dynamic way, thus illustrating the complexity and uniqueness of functioning within each individual. Here, SEND may be understood as the result of a participation restriction (rather than a body impairment alone, as described above), which, in turn, results from a particular combination of body function/structures, activities performed, forms of participation and relevant environmental factors influencing those (ICF; WHO, 2001, 2007). The ICF was developed to serve as a common and standard language between practitioners from different disciplines, enabling the description and documentation of individual complex and dynamic functioning profiles, thus eliciting true partnerships in provision for those with disabilities (Harty et al., 2011). This shift in international recommendations for classifying SEND expresses a change in models of disability, from exclusively medicalised approaches to the consideration of the dynamic and systemic nature of development, aligned with the Bioecological model (Bronfenbrenner, 2001). To accompany international recommended practices and models,

professionals across sectors must have the skills, resources and guidance to effectively partner across sector and beyond disciplinary boundaries. However, documented evidence on evidence-based strategies adopted by professionals to promote cross-sector collaboration in provision for children with SEND is fragmented; terminology and ideology are inconsistent. There are also differences at country level, reflecting distinct policy agendas. In England, for example, recent policy changes have aimed to elicit (at least) interdisciplinary collaboration by stating that education, health and social care services *must* work together to achieve holistic provision for children with disabilities (DfE/DoH, 2015). However, no mention of a standard common language and framework to support professionals in doing this was included in this policy (Castro & Palikara, 2016); additionally, several reports and studies demonstrate that in practice, most professionals continue to operate in disciplinary isolation (e.g. Boesley & Crane, 2018; Palikara et al., 2019;). This lack of effective collaboration is also present in other countries, namely in the developing world, albeit for other reasons; in South Africa, for example, studies have demonstrated that although Early Childhood Intervention (ECI) professionals are aware of the need for (at least) interdisciplinary partnerships (Kyarkanaye et al., 2017), challenges to this type of service provision for vulnerable children persist; therapists are seen as experts in child development, and communication between these and community workers, including teachers, often fails (Samuels et al., 2012). This happens because of an entrenched medicalised model of pre-service training for therapists in South Africa, leading to these professionals working very independently from each other (even within the health sector). Therefore, intervention goals address fragmented aspects of development, not reflecting a holistic picture of a child's functioning profile. This is likely what happens in many countries of the Global South.

The aim of this study is to contribute to a more systematic identification of evidence-based practices for cross-sector collaboration in provision for children with SEND, and critically position these practices within collaborative traditions (*multidisciplinarity*, *interdisciplinarity* and *transdisciplinarity*). Additionally, the study aims to highlight areas where future research might be necessary to develop improved strategies for collaboration.

2. Methodology

A scoping review was deemed the most appropriate type of review to address the purpose of this study because of the dearth of research in the field. Scoping reviews ‘map’ the literature in the field of interest, identifying areas where further research might be necessary; they have an exploratory nature (Colquhoun et al., 2014). The identification of evidence-based practices to promote cross-sector collaboration in the literature is a broad aim, necessary to trigger further research developments, and not sufficiently specific to be examined through systematic types of review. Therefore, a scoping review to identify empirically documented practices involving the combined efforts of education, health and/or social care was conducted.

The framework for scoping reviews proposed by Arksey and O’Malley (2005) was adopted in this study. The framework proposes 5 stages for the review process: 1) identification of the research question, 2) identification of relevant studies, 3) study selection, 4) charting the data and 5) collating, summarising and reporting results (synthesis). Additionally, the PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses) Extension for Scoping Reviews Checklist (PRISMA ScR; Tricco et al., 2018) was used for quality assurance of the reporting procedure. This checklist was developed by an expert panel, using the Delphi methodology, to increase the quality and rigour of the growing

number of scoping reviews being conducted. The final checklist consists of essential reporting items specifically for scoping reviews (figure 1). The reporting of the scoping review conducted in this study followed the principles stipulated by PRISMA ScR.

[Figure 1. Items of the PRISMA ScR (Tricco et al., 2018)]

2.1 Identification of the research question

To address the aim of the study, the following research questions were formulated: 1) what are the empirically documented evidence-based practices of cross-sector collaboration in provision for children with SEND, which involve the combined efforts of education, health and/or social care? 2) To what extent do the documented practices of cross-sector collaboration in provision for children with SEND reflect multi-disciplinary, interdisciplinary or transdisciplinary models of collaborative work?

2.2 Identification of relevant studies and study selection criteria

Four electronic databases were used for the identification of relevant studies, as these are the databases with the largest number of published studies on multi- inter- and transdisciplinary work in SEND, including research from within the education, health and social care fields: Academic Search Premiere, Education Research Complete, PsycINFO and Medline (EBSCO platform). The search terms were combined into a formula with boolean operators for obtaining the largest possible pool of potentially relevant studies (given the interchangeable use of terms in the literature), arranged as: ‘Interdisciplinary’ or ‘Multidisciplinary or ‘Interprofessional’ or ‘Transdisciplinary’ AND ‘Disabilities’ or ‘Special Needs’ AND ‘Children’ or ‘Students’(contained in Abstract, to ensure the majority of studies found focused on the aspect of collaboration in provision for children; most studies in the early childhood intervention field, for example, would include these terms as part of their rationale,

but not necessary have collaborations as their focus). The search was filtered to include only periodicals, in English language, published between 2009 and 2019. The latest decade was chosen as the ideal timeframe to identify empirically documented strategies of cross-sector collaboration because in many countries (especially those with highest research production levels) changes to policy regulating provision across sectors have been introduced in this period, which had implications for professional practice. Papers were only included if they reported empirical data, with a clear example of a form of collaborative work between at least two of the main areas of interest - education, health and/or social care, and directly involving children and young people from birth to 18 years of age; if a paper described collaborations within health-based disciplines only, for example, this was not included, as it lay outside the purpose of the current study (cross-sector collaborations). Theoretical papers were excluded, as were papers that, although describing parent-professional partnerships, did not involve direct work with children requiring at least two of the sectors of interest – education, health and social care.

2.3 Data charting

Two review sifts were undertaken, with the first sift focusing on screening the content of resulting abstracts for classification according to the pre-defined inclusion criteria (above). In the second sift papers were read in full and labelled according to reasons for inclusion or exclusion. The review was conducted by two independent reviewers who, following individual reviews, discussed the paper selection to reach consensus on which papers should be included as examples of cross-professional work between disciplines for directly supporting children and young people with SEND. Figure 2 illustrates the review process, from initial identification of records to the final set of papers included in the review.

[Figure 2. Sequence of the review process from initial records identified to final list of full texts included]

2.4 Collating, summarising and reporting results (synthesis)

Following pre-defined criteria for inclusion and exclusion, the final papers included in the review were analysed and practices that exemplify forms of cross-professional work were extracted and labelled per collaborative tradition, as systemised by Colin (2009): multidisciplinary, interdisciplinary and transdisciplinary practices. Additionally, the reviewers chartered the papers based on country of origin of the research, study design and outcomes. This additional information is key to support decision-making on the value of the evidence-based practices reported and critically reflect on directions for future research. The two reviewers discussed each included paper to obtain consensus in relation to the collaborative approach illustrated.

3. Findings

The purpose of this scoping review was to identify practices of cross-sector collaboration in provision for children with SEND, as reported in the scientific literature and between the health, education and social care sectors. Table 1 illustrates the full record of papers screened in the second sift of the review study, labelled by agency in focus (health, education and/or social care), type of SEND studied, country of origin, approach to collaboration portrayed, study design and outcomes. The final eight papers included are highlighted. Papers were excluded mostly for not demonstrating empirical examples of cross-sector collaboration, or for not focusing on children. The two reviewers read all full text papers independently and rated them against the inclusion/exclusion criteria. Agreement at

this level was 95.8%, followed by a consensus discussion between the reviewers, where reasons for labelling were debated until consensus was reached.

Of the final included papers (n=8), four report collaborations between all three sectors, and four report collaborations between health and education. Three of these papers refer to any type of SEND, while the remaining five focused respectively on epilepsy with associated disabilities, severe multiple disabilities, severe learning disability with emotional difficulties, dual diagnosis of intellectual disability and mental health difficulties and sight/vision difficulties associated with various diagnoses. Four papers were conducted in the United States of America, one in Canada and three in Europe. Seven studies are based on case-study designs and one adopts a survey design.

[Table 1. Records included in full-text review with final full-texts selected highlighted]

The final studies included in this review illustrate approaches to cross-sector collaboration ranging from multidisciplinary to transdisciplinary, with some studies blending more than one approach, and including specific strategies.

Partnerships between higher education and healthcare organisations: Silverman et al. (2010) described a partnership between a higher education teacher training programme and a child disability health care centre in the United States of America (USA) to promote transdisciplinary practice both during pre-service training and as in-service training, to ensure greater inclusion and holistic provision. Higher education students were co-taught and mentored by both clinicians and specialists from the creative arts. They also had the opportunity to observe provision, collaborate with professionals in inclusive play groups for children and plan family-centred events. Collaboration happened in a variety of settings – education and health related. Students' reflections on these opportunities illustrate the

development of a flexible mindset, which is key for adapting strategies to specific family needs, and a high level of perceived competence in working as a team for provision of children with SEND. The latter implies the creation of strong relationships with other professionals and loosening the boundaries between disciplines, which is characteristic of *transdisciplinary* approaches to collaboration.

Schools as interdisciplinary hubs: Salm (2017) described a programme in Canada where pre-service and in-service professionals joined a school-based team comprised of school coordinator, two teachers, a social worker and a psychologist, to support children with intellectual disabilities and co-morbid mental health difficulties. In a similar way to the example above, here, pre-service trainee students were partnered with professionals delivering provision, but the setting for the partnership was the school, where all professionals were brought together as a permanent team. Emphasis is placed on the individual competencies necessary to achieve a level of collaboration that is aligned with *transdisciplinary* approaches, involving role release. Both pre-service trainee students and professions on in-service training reported not only more specialized knowledge of the children they were supporting and of their functioning characteristics, but also more perceived competence in working as a team.

School Clinics: In Bodack (2011), a school-based eye clinic for screening of sight difficulties in school children is described. The author explains how vision issues were picked up in approximately 22% of the 273 children examined, which included a large proportion (30%) of children with autism. School-based clinics can help detect and prevent a number of health-related issues across various groups of children with a wide range of needs. However, the authors note the limitations of these clinics when there is no parental involvement or involvement from other professionals in the setting. This type of collaboration is mainly *interdisciplinary*, as it merely requires the integration of the clinic

setting and all health professionals in the school's physical environment, alongside with management of the children's schedule of activities at school. There is no involvement from other professionals in the process of screening, rather than facilitating this physical integration. However, its value lies essentially on the early diagnosis of health conditions likely to receive better treatment approaches if detected early. Implementation of school clinics in other settings may be highly dependent on country-specific and even local-level health and education services and facilities afforded and available.

Management's own partnerships and networks: Payler and Georgeson (2013) described case-studies of provision for young children in early childhood education settings. A common model of collaboration highlighted in these case-studies is the use of a key person from the local authority (district, or region) to centralise all 'referrals' to other services; however, there was no communication between early education staff and those specialists. This may be considered a very basic form of *multidisciplinary* arrangement but with no true partnership, as argued. Amongst the practices suggested by the authors which included some form of direct collaboration added to this basic model is having a manager who engages with other government and independent initiatives, with an outward looking attitude, bridging contexts, inviting specialists to attend provision in different settings and fostering learning from others, which is aligned with an *interdisciplinary* approach to provision. The authors suggest that it is this particular set of values in professionalism in education (consisting of seeking collaboration based on individual case needs and described as *personal potency attitude*) that contribute to enhance systems that are often limited by bureaucratic organisational structures. Collaborative approaches can be triggered and enhanced by individuals, even when institutions do not provide the organisational infra-structure.

Assessment in person with the whole team: In Ogletree et al. (2017) whole team assessments were made possible within an Early Intervention setting, coordinated by one member who

was chosen based on the main difficulties that the child under observation presented – communication difficulties. The speech and language therapist (SLT) was the case manager and was joined by other professionals. Holistic continued throughout the child’s school years. This meets the principles of *transdisciplinary* assessment, where all members of the team jointly contribute for a holistic and unified narrative about the child’s development, and consequent intervention plan, which is highly individualised. The use of the ICF is presented as a suitable framework for supporting assessment and intervention in this context (Ogletree et al., 2017). The author describes various details of the developmental progress observed in the child under observation, a testimonial to the long-term benefit of this type of collaboration, implemented in a highly individualised manner.

Videoconferencing: In Tschamper and Jakobsen (2019), hospitalised children were assessed by different professionals (in a *multidisciplinary* approach), which was followed by videoconferencing and video technology to exchange information between providers (*interdisciplinary* approach) and parents. Although the authors use the term ‘multidisciplinary’, we argue that this is a blended approach, switching between *multidisciplinarity* and *interdisciplinarity*, as it entails a desirable level of partnership and co-construction of a narrative about the child’s health and development. Videoconferencing not only facilitates communication between disciplines, but it seemed, in this study, to be preferred by parents when compared to face-to-face meetings, for reduced stress, enhanced efficacy, reduced responsibility and increased involvement.

Periodic meetings with key professionals: Coleman and McHale-Small (2019) highlights the importance of school staff periodically meeting with assigned specialist health staff when organisational structures do not allow for a fully integrated team approach. In the example given of a student with a specific learning disability, periodic meetings and discussions between the speech-language pathologist and the teachers, helped define common goals and

strategies to improve her reading, listening and social communication. This is widely accepted as a good practice of service provision for children with SEND, however often constrained by local funding and organisational issues. In England, for example, SEND professionals of various disciplines have reported time constraints that limit their ability to effectively meet with others for the benefit of the children involved (Palikara et al., 2019), despite the recognition that this would be beneficial.

Informal on-site discussions: As part of the *personal potency attitude* that Payler and Georgeson (2013) highlighted as key for successful partnerships beyond the restrictions imposed by policy and systemic arrangements, informal discussions are underlined as no minor source of important information that will contribute for holistic assessment and provision. Non-planned regular discussions with parents and other professionals in the settings attended by the children provide important clarifications for combined provision that can be crucial for achieving positive developmental outcomes.

Transdisciplinary Play-based assessment: Transdisciplinary Play-based Assessment (TPBA) stems from the principle that children develop by playing, and that this is the most natural context for observation of children's development. It involves a team comprised of several professionals from a variety of disciplines (psychology, speech-language pathology, occupational therapy, teachers, social workers, etc.) and the family, working together in a transdisciplinary way (Sanchez-Ferreira, et.al., 2015). The whole team observes the child playing (one member of the team is facilitator) and although professionals make individual notes about what they observe, the goal is to reach a holistic narrative about the child's functioning, often requiring that practitioners reflect beyond the boundaries of their own professional expertise.

In sum, these findings describe a number of evidence-based practices empirically studied as forms of collaborative work between professionals. Some of these practices are

transdisciplinary in nature (e.g. TPBA), while others (most of them) will align with one of the collaboration traditions based on *how* they are used, rather than on *what* they consist of. The findings described the specific setting in which these strategies were used and so critical reflection on potential contexts for adoption of these strategies is necessary.

4. Discussion

The purpose of this scoping review was to identify practices of cross-sector collaboration in provision for children with SEND, reported in the scientific literature and involving health, education and social care. Key practices of collaborative work were identified, many of which illustrating ways of collaborating that follow interdisciplinary and transdisciplinary models – regarded as best practice. Practices associated with interdisciplinary collaboration reviewed included: the use of videoconferencing for information sharing and narrative design, periodic meetings between professionals, building professional networks often through professional events and other informal occasions and the use of schools as hubs for integration of services. Practices of transdisciplinary collaboration involve joint assessment in context, joint reflection, and goal setting, both as pre-service and as in-service initiatives.

The results are suggestive of higher education as a particularly important vector driving the expansion of transdisciplinary practices in provision for children with SEND. Higher Education institutions can embed partnerships with health, education and social care services as part of their training curriculum. This is in line with Ironside (2005) who has demonstrated how the co-constructed narratives of teachers, students and clinicians can create professional excellence. More importantly, Silverman et al. (2010) demonstrate how creating these bridges between teachers, students and clinicians (from a variety of backgrounds) promotes positive developmental outcomes for children with SEND, as a reflection of professional excellence.

In parallel to the role of pre-service transdisciplinary training in alliance with professional services, centralising interdisciplinary or transdisciplinary services in the school setting may facilitate the implementation of ecological and transactional approaches; schools are a microsystemic context for child development and learning (Bronfenbrenner, 2001). While the implementation of school clinics as proposed by Bodack (2011) is important and results in a number of health benefits, this approach could be supplemented by transforming the school into a hub for interdisciplinary (to transdisciplinary) discussion, as proposed by Salm (2017). This is particularly relevant in early education and care, due to the plasticity of development in the early years (Gilmore et al., 2018); here, TPBA has been widely recognised as an effective approach to develop transdisciplinary and individualised assessment narratives and provision plans (Sanches-Ferreira et al., 2015).

When these aforementioned partnerships and strategies (which require some level or organisational restructuring) are not possible to implement on a continuous basis, other *ad-hoc* practices have been identified which promote positive cross-sector collaboration.

Videoconferencing can be a very powerful tool. With the onset of the Covid-19 pandemic, this type of approach received more attention, with ‘telehealth’ said to reduce the burden of mental health difficulties (Zhou et al., 2020), and a ‘boom’ in virtual health consultations (Webster, 2020). This contemporary trend might persist beyond the pandemic, thus more research may be needed to overcome some of the limitations that it may entail, such as the difficulty in gauging participants’ reactions in order to effectively promote interdisciplinary to transdisciplinary partnerships. Although it is highly dependent on how familiar one is with video technology, in the Tschamper and Jakobsen (2019) study parents who were more used to it reported more satisfaction in the communication process with professionals. However, it is important to note that this classification of strategies within collaborative traditions is only possible when considering the context in which they were adopted. For example,

videoconferencing may be used in a purely multi-disciplinary way, without regard for other professionals involved in provision, who may well be using it with no sharing or integration of information with others. It is here that the concept of *Personal Action Potency development* might be key to promote the set of professional attitudes and values that are needed to *generate effective professional networks, informal and formal periodic discussions* with other professionals. According to Payler and Georgeson (2013), those with said skill are more able to generate inter-professional links otherwise not facilitated by highly complex organisational structures, but essential for professional excellence in achieving children's outcomes.

The findings of this synthesis have implications for practice and future research. The papers reviewed are mainly case studies illustrating how collaboration happened in specific contexts. Although this is invaluable information with potential for application and adaptation to other contexts, further large-scale research is needed on how these practices can be more systematically implemented and on the long-term outcomes of each strategy for professionals, children and parents. The identification of 'what' is necessary but not sufficient; the 'how' is a much-needed next step. Although the strategies identified in this synthesis were classified within a collaborative tradition (multi-, inter- and trans-disciplinary) according to how they were used in the papers reviewed, they might not always be considered within the same tradition if used in different ways, in different contexts. While some of them are transdisciplinary in essence (e.g. TPBA), others may or may not be trans- and inter-disciplinary, based on how they are used, rather than on what they consist of. In sum, while the identification of these evidence-based practices is of foremost importance to enhance collaborative work, further research into practice is needed, to examine the ways in which they can be applied most effectively. We argue that a multi-modal approach to collaborative provision is necessary to reach optimal levels of cost-effectiveness in cross-

sector collaboration: some contexts will not have the resources to fully embrace transdisciplinary models but could blend interdisciplinary and transdisciplinary approaches where possible – for example, for the same child, some assessments may be conducted following the transdisciplinary play-based model and others may be conducted independently, but followed up by videoconferencing, and using a taxonomy such as the ICF to document holistic developmental change, for example. Further systematic research evaluating the effectiveness of such multi-modal approach is needed. Furthermore, systematic research is needed on what constitute *transdisciplinary skills* as well as studies on the benefit of training these at pre-service and in-service levels.

Lastly, there is a pressing need for further research to be conducted on how widely recognised practices of interdisciplinary and transdisciplinary provision for children with SEND can be adapted and adopted in developing countries with resource deprivation at physical, human and financial levels. The results of this review are clear in that few studies, if any, focus on cross-sector collaboration for SEND provision in the Global South. Initiatives in this area are key to ensure that transdisciplinary skills are not merely exported to developing contexts, but rather that they emerge from contextual needs.

Despite these contributions to practice and future research, the current study presents some limitations. First, scoping reviews tend to be used not only when the field of study is not very researched yet, as in the current paper, but also when the field is very broad (Colquhoun et al., 2014). It is possible that by narrowing down the search to those scientific papers reporting only empirical and evidence-based explorations of cross-sector collaboration, we might have contributed to losing some insights into forms of collaboration being studied in contexts other than empirical research. Second, we presented a rationale for including only the latest 10 years of research, in order to identify evidence-based practices that reflect the most current changes in policy for service provision. This methodological

decision follows closely the definition of ‘evidence-based practice’ as ‘best available, current, valid and relevant evidence (..) informed by the tacit and explicit knowledge of those providing care, within the context of available resources’ (Dawes et al., 2005, p. 4). Therefore, the reduced number of studies resulting from the review is likely to reflect the under-researched nature of the topic, and potentially to the lack of empirical and evidence-based data available. But it is possible that it might have led to some studies with practices that could be applicable today not being considered in the final review.

5. Conclusion

The purpose of this study was to review the international literature of the past 10 years regarding practices of cross-sector collaboration in provision for children with SEND, involving health, education and social care. The study identified key practices ranging from multidisciplinary to transdisciplinary traditions, supporting the clarification of two main areas of uncertainty in cross-sector work provision for children with SEND: the current inconsistent use of terms and the related (mis)understandings of SEND. Various evidence-based practices were identified which aligned, in the reviewed studies, with different collaborative traditions: partnerships between higher education and healthcare organisations, implementation of school clinics, schools as interdisciplinary hubs, management’s own partnerships and networks, assessment in person with the whole team, videoconferencing, periodic meetings with key professionals, informal on-site discussions and transdisciplinary play-based assessment. While some of these strategies are transdisciplinary in nature because they require the joint engagement of whole teams from beginning to end (e.g. TPBA, or assessments in person with the whole team), others will align with different collaborative traditions depending on *how* they are used. Therefore, a few conclusions may be withdrawn: first, the strategies identified constitute a first step in the identification of professional

practices that can elicit holistic forms of collaboration. Second, the identification of *what* can be done is necessary but may not be sufficient; it is key to examine the *how*, including the skills necessary to implement these practices effectively in different settings, following holistic forms of collaboration (towards transdisciplinary); for example, partnerships between higher education and healthcare systems are necessary, but may not be sufficient to ensure transdisciplinarity if the skills and the settings are not enabling. Third, in this process, a multi-modality approach is necessary to ensure best practices are individualised and contextualised. Lastly, such variety of contexts and skills must include those in low- and middle-income countries, where the challenges of collaboration can be much wider than organisational structures, but also include issues related to infra-structure, human and natural resources.

Declaration of interest

The authors have no conflicts of interest to report.

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