



Review Article

Interprofessional Practice Between Speech-Language Pathologists and Classroom Teachers: A Mixed-Methods Systematic Review

Rebecca Armstrong,^a  Emma Schimke,^a Akhila Mathew,^a and Nerina Scarinci^a 

^aSchool of Health and Rehabilitation Sciences, The University of Queensland, Brisbane, Australia

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ABSTRACT

Purpose: There is an important need for interprofessional practice (IPP) between speech-language pathologists (SLPs) and classroom teachers (CTs) in mainstream schools to support student outcomes. This mixed methods systematic review aimed to synthesize existing literature to describe the experiences of IPP between SLPs and CTs in mainstream schools.

Method: A systematic review protocol was utilized to conduct a comprehensive search of six databases (PubMed Central, EMBASE, Cochrane Library, CINAHL EBSCO, ERIC, and ProQuest Dissertations & Theses Global) using key words related to the research question. A total of 1,876 unique studies were retrieved. Of these, 18 studies were identified as relevant to the research question, as they described the experiences of IPP between SLPs and CTs. Thematic analysis was used to analyze the quantitative and qualitative studies.

Results: Six main themes describing IPP experiences were identified: (1) what are you bringing to the collaboration table? (2) putting the value in collaboration, (3) sharing is collaborating, (4) the nature of collaboration varies, (5) the educational context matters, and (6) influences to collaboration beyond professional control.

Conclusions: IPP between SLPs and CTs is complex, with various facilitators and barriers to IPP emerging within the education context. Competencies for SLPs and CTs related to having a shared understanding, adequate communication, and building relationships with each other help support IPP in schools. The utilization of a relationship-centered care approach between SLPs and CTs is also important to foster and support student outcomes.

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Speech-language pathologists (SLPs) working within education settings deliver specialized support for school-age children with a range of communication difficulties or disabilities, and collaboration is considered a key professional responsibility for SLPs in this context (American Speech-Language-Hearing Association [ASHA], 2001). Although different terminologies exist, collaboration between professionals is widely known as interprofessional

practice (IPP). ASHA defines IPP as “multiple service providers from different professional backgrounds providing healthcare or educational services by working with individuals and their families, caregivers, and communities to deliver the highest quality of care across settings” (ASHA, 2019). There are a variety of practices that encompass IPP, including working with another professional on an assessment and treatment plan that centers around the person and their family or working with another professional to achieve a common goal. Ultimately, when successful IPP occurs, it allows professionals to serve larger groups of clients, solve complex client issues, and yield better outcomes for the population served (Green & Johnson, 2015).

Correspondence to Rebecca Armstrong: rebecca.armstrong@uq.edu.au.
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Historically, there has been a strong focus on IPP in the health context (e.g., Seaton et al., 2021), with studies identifying facilitative factors and barriers for IPP in this setting. Common facilitators for IPP in health include transparent team roles and multilateral communication (Müller et al., 2014), knowledge sharing (Sørensen et al., 2018), and having shared goals (Kapp et al., 2013). Common barriers to IPP include imbalances of authority, professional boundary frictions, and limited understanding of different professionals' roles (Baker et al., 2011). Given this importance placed on IPP in health care, the Interprofessional Education Collaborative (IPEC) core competencies (Interprofessional Education Collaborative, 2016) were designed to give professionals a common language in which to begin and maintain collaborative work. Broadly, these core competencies include values and ethics, roles and responsibilities, interprofessional communication, and teamwork with multiple subcompetencies within each competency area (Interprofessional Education Collaborative, 2016, p. 10). Although the IPEC competencies have been widely adopted in health care settings, particularly in the United States, no such shared framework exists in school settings. Identifying this gap, Ludwig and Kerins (2019) applied the IPEC core competencies to the school setting by adapting the language that is inherently different between the two settings to show how this framework could be applied to support multiple disciplines collaborating in schools. However, as acknowledged by Ludwig and Kerins (2019), it cannot be assumed that IPP experiences in health care settings will generalize to school settings, and thus, although health care IPP models/frameworks may apply in school settings, further understanding of the experiences of professionals engaging in IPP in schools would help the applicability of these frameworks for the education context.

SLPs are employed to work in schools by different organizations. For example, SLPs may work in schools by contracted agencies, private insurers, or companies, or they may be employed by the education department itself. Irrespective of their employer, a key responsibility of SLPs is to collaborate with other professionals including classroom teachers (CTs) to promote learning outcomes for their school-age clients. Internationally, SLPs are guided by different professional standards and legislative requirements that impact upon how they work within school settings. Subsequently, these requirements impact the avenues available for IPP with CTs. For example, in the United States, the Every Student Succeeds Act (ESSA) was introduced in federal K–12 education law in 2015 and affords states with funding that can be used for meeting times with teachers and other professionals, including SLPs (Ludwig & Kerins, 2019). In Australia, some SLPs are employed by government organizations affording them the

opportunity to collaborate with CTs on a regular basis due to sharing the same employer. Internationally, these legislative requirements and professional practice standards continue to underpin the need for IPP between CTs and SLPs in schools.

There is evidence supporting SLP–CT collaboration on enhancing outcomes for students with speech, language, and communication needs (SLCN). Two previous systematic reviews (Cirrin et al., 2010; McGinty & Justice, 2006) found evidence supporting the use of classroom-based inclusive models on student outcomes even when compared with pullout SLP services. Furthermore, in an attempt to extend on these prior reviews and broaden the inclusion criteria for included studies, Archibald (2017) found in their literature review evidence supporting the use of SLP–educator collaboration in the classroom, particularly in the areas of vocabulary and phonological awareness. Taken together, these three previous reviews provide evidence supporting the use of SLP–CT collaboration for supporting the language outcomes for school-age students. However, these previous reviews focused specifically on the school-age student outcomes following an IPP intervention and did not capture the experiences of the professionals involved in the IPP exchange.

The current systematic review will address this gap to systematically explore the available evidence in order to understand the experiences and perspectives of SLPs and CTs relating to their unique experiences in collaboration. In order to determine the best approaches for enhancing IPP and the applicability of IPP frameworks for education, it is vital to first consider the collaborative experiences of SLPs and CTs in schools. Given the differences in legislative requirements globally, this review involves an international exploration of the experiences in IPP across different countries as learnings from each country may prove informative in other contexts. Furthermore, given that SLPs work across both primary and secondary schools, this review will also focus on capturing the IPP experiences in both primary and secondary settings. To date, there is a paucity of systematic and synthesized evidence documenting the experiences of SLPs collaborating with CTs. Systematic reviews are the highest level of evidence, as they utilize explicit and reproducible methods to systematically search, critically appraise, and summarize the research evidence that can be used by clinicians, other researchers, and even policy makers to inform practice (Gopalakrishnan & Ganeshkumar, 2013). Therefore, the overarching aim of this systematic review was to search systematically and synthesize the available evidence exploring the experiences of SLPs and CTs participating in IPP in the educational setting.

Method

Search Strategy

A systematic search was conducted across six databases (PubMed Central, EMBASE, Cochrane Library, CINAHL EBSCO, ERIC, and ProQuest Dissertations & Theses Global). The search was restricted to research published between 1994 and 2023. The early date limit of 1994 was selected to align with the UNESCO Salamanca Statement and Framework for Action on Special Needs Education, which recommended reforms to mainstream schools to become capable of educating all children (Ainscow et al., 2019). The initial search was conducted between May 1 and May 11, 2020, and updated searches were rerun between January 12 and January 27, 2022, and January 18 and January 30, 2023.

A comprehensive and systematic search strategy was developed with the assistance of an expert librarian specializing in health sciences. The search strategy was developed based on key terms identified from background reading as well as index terms associated with the different databases (i.e., MeSH terms and subject headings). Given the variation in the key terms used through literature, the search string contained basic variations of the words “collaboration,” “schools,” “SLPs,” and “CTs.” The full search terms and search dates for each individual database are available in Supplemental Material S1.

Selection Criteria

Studies were included if they (a) described the experiences of IPP between SLPs and CTs in mainstream schools; (b) were qualitative, quantitative, mixed methods, or thesis publications; (c) were available in English; and (d) were published between 1994 and January 2023. Studies were excluded if they (a) did not include SLPs or CTs working in mainstream primary or secondary schools; (b) described collaboration with preregistration teachers or SLP students; (c) included other professionals (e.g., school principals and occupational therapists [OTs]) and the results for SLPs or CTs were not reported separately from the other professionals; (d) evaluated the effectiveness of IPP; (e) were not about collaboration experiences; (f) described interventions for improving IPP or IPE; or (g) were not original research (e.g., literature reviews, editorials, or opinion pieces).

Study Selection

Studies were screened by members of a research team. At the time of screening (and data extraction), all members of the research team were qualified SLPs, with

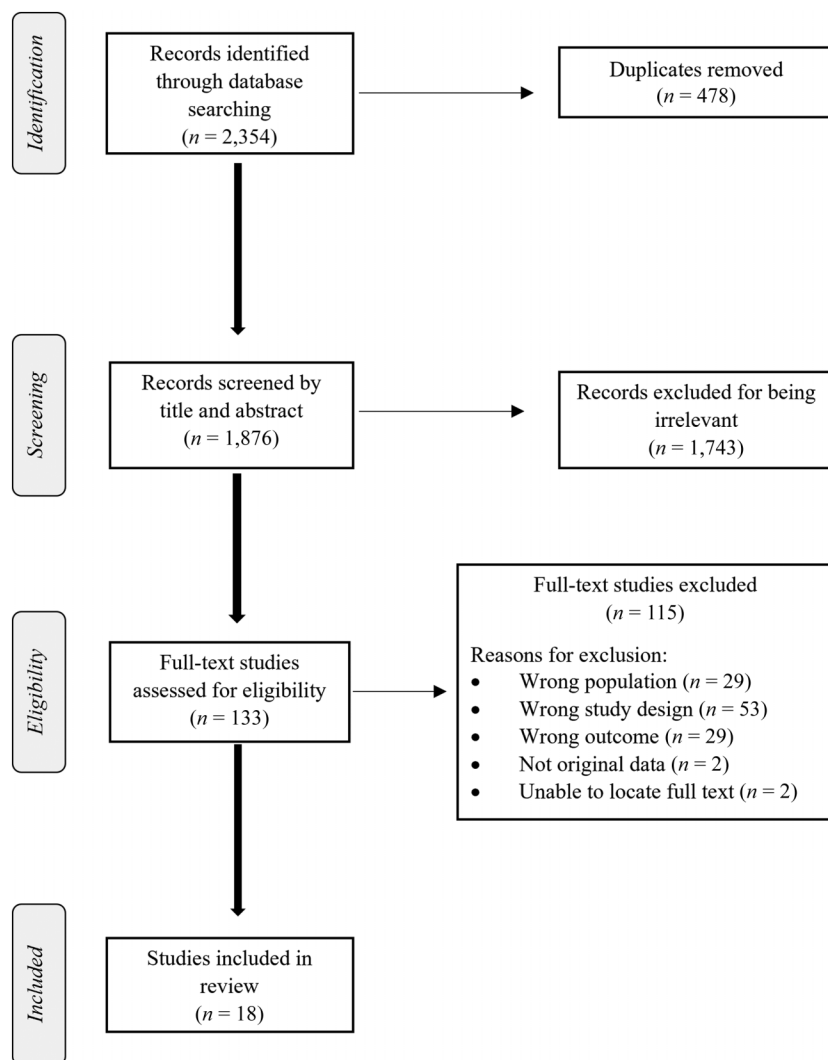
the exception of one who was a final year SLP student completing her honors thesis. Three of the researchers had experience and training in conducting systematic reviews. Before screening commenced, each member of the research team received training in the screening process and eligibility criteria by senior members of the team to ensure each person undertaking screening understood the task requirements.

The PRISMA flowchart showing the study selection process is shown in Figure 1. The database search generated a total of 1,876 studies once duplicates were removed. All studies were screened by title and abstract in Covidence by one member of the research team to identify those that met the inclusion criteria. A second reviewer independently assessed a random sample of 20% of the title and abstracts retrieved in the searches. Once the screening process was complete (100% by Reviewer 1 and 20% by Reviewer 2), the reviewers met to discuss their screening results. A 95.8% interrater reliability was achieved, and any disagreements were resolved in collaboration with another member of the research team. For the 80% of studies that had only been screened by one reviewer, members of the research team met to discuss any studies that had been classified as “maybe” by Reviewer 1 and collaborative decisions were made to determine whether these studies preceded to full-text review. The full text of the 133 remaining studies was then independently assessed by two reviewers to determine their eligibility based on the inclusion criteria. A 91.1% interrater reliability was achieved, and disagreements were resolved by the research team. A final total of 18 studies met the criteria for inclusion in this review.

Data Extraction

Each of the 18 included studies was read by a member of the research team, and general details about each paper were recorded, including participant characteristics, study setting, type of study design and method of data collection, the phenomenon of interest, SLPs’ workplace settings, and the country of the study. Relevant data describing the experiences of SLPs and CTs participating in IPP were extracted from each of the 18 studies and entered into a Microsoft Excel spreadsheet. Quantitative data were extracted from both quantitative descriptions and data reported in tables. All extracted data were checked by a second member of the research team to ensure accuracy and comprehensiveness of the data extracted. Where discrepancies were identified, collaborative discussions were held between the members of the research team to reach consensus on the extracted data.

Figure 1. Study selection process.



Data Synthesis

Thematic analysis, as described by Braun and Clarke (2006), was utilized to analyze the extracted data. Thematic analysis is an appropriate method to explore complex phenomenon such as participants' experiences of collaboration, through identifying, analyzing, and reporting patterns within the data (Vaismoradi et al., 2013). Thematic analysis is also a qualitative approach widely used in systematic reviews (Thomas & Harden, 2008). Thematic analysis of the data extracted involved a number of steps and adhered to those reported by Braun and Clarke (2006): (a) The extracted data were read a number of times to become familiar with the data; (b) the extracted data were coded inductively line by line; and (c) initial codes were collated into categories of similar findings, from which overall sub-themes and themes were synthesized.

There are a number of approaches used for synthesizing results in mixed methods reviews (see Hong et al., 2017, for discussion). This current systematic review adhered to a data-based convergent synthesis design meaning all included studies were analyzed using the same synthesis method. More specifically, quantitative data were transformed into qualitative codes and the findings of both quantitative and qualitative studies were combined and presented together (Hong et al., 2017). This approach was the most common type of synthesis design identified by Hong et al. (2017) and is in line with other mixed methods reviews that seek to answer one research question (e.g., Stern et al., 2020).

The data were initially coded by two members of the research team using inductive coding. Following the coding process, all codes were then reviewed by another

member of the research team to ensure validity and credibility of findings. Consensus was reached between reviewers through discussion. Consensus coding and peer review of data analysis are two methods of enhancing rigor in qualitative research methods (Patton, 2015). Following initial coding of the data, codes ($n = 527$) were grouped into categories, with categories ($n = 464$) then being combined to form subthemes, and finally subthemes ($n = 20$) were grouped under relevant themes ($n = 6$). All categories, subthemes, and themes were checked by members of the research team, including a senior researcher, and consensus was reached through discussion between the reviewers. All coding and analyses were completed in Microsoft Excel.

Quality Assessment (Risk of Bias)

The Mixed Methods Appraisal Tool (MMAT) Version 2018 was used to evaluate the quality of the included studies (Hong et al., 2018). The MMAT was specifically designed for the appraisal stage of systematic mixed methods reviews (Hong et al., 2018). Initially, two members of the research team independently rated two of the included studies using the MMAT. The researchers then met to discuss their ratings and to clarify the meaning of some questions and statements as this has been shown from prior reviews to ensure reliability when using appraisal tools (Souto et al., 2015). Following this, the two researchers continued to independently appraise the remaining 16 studies. The researchers then met to discuss their ratings. Any items of disagreement were discussed, and consensus reached through discussion between the two reviewers. No studies were excluded based on the level of evidence or quality assessment to enable an understanding of the current state of the evidence. Instead, quality scores for each criterion are presented descriptively.

Results

Description of Studies

The majority of the 18 studies were conducted in the United States ($n = 11$; 61%). In terms of participants, 11 of the studies (61%) only included SLPs, two (11%) involved CTs only, and five (28%) included both SLP and CTs. Although a mix of study designs were present, the majority were survey designs (13, 72%), including both closed and open questions. Some studies ($n = 7$) focused specifically on primary school as the setting in which participants worked, whereas others ($n = 8$) included participants across both primary and secondary settings. See Table 1 for further information about the study demographics.

Thematic analysis of the extracted data identified six main themes that described the experiences of SLPs and CTs collaborating within the education context: (1) what are you bringing to the collaboration table?; (2) putting the value in collaboration; (3) sharing is collaborating; (4) the nature of collaboration varies; (5) the educational context matters; and (6) influences to collaboration beyond professional control. Each of these themes and subthemes are discussed below, with further examples of participant quotes and quantitative data from the included studies presented in Table 2.

Theme 1—What Are You Bringing to the Collaboration Table?

The first main theme centered around the key skills and attributes needed to facilitate a collaborative relationship. Within this theme, two main subthemes were present: (a) Collaboration cannot happen without communication skills, and (b) personal attributes are needed to collaborate effectively.

Collaboration Cannot Happen Without Communication Skills

Communication was described as a critical component of successful collaboration, with a particular emphasis on the need for consistent and effective communication between professionals, as well as “a willingness to listen to teacher’s problems and a desire to do what is best for a child” (Bland, 1995, p. 71; Pershey & Rapping, 2003). One CT explained that “the SLP needs to communicate with the classroom teacher so that she can maybe tie units that are being covered in class into the speech lesson” (Bland, 1995, p. 71). When effective communication was present, CTs reported a desire to continue collaborating with SLPs (Pershey & Rapping, 2003), with communication identified as a facilitator of interprofessional relationships, “I think the more you’re present in a school the better relationship you can have . . . it’s all about communication really” (Glover et al., 2015, p. 374). Conversely, insufficient or poor communication was seen as a barrier to collaboration, “key barriers [to collaboration] appear to be [. . .] ‘lack of communication’ between the classroom teachers and speech-language pathologists” (Shelton, 2018, p. 46), including when jargon was used as “professions may become entrenched within their own terminology, making communication difficult” (Reid et al., 1996, p. 98). Insufficient communication was seen to subsequently impact the success of collaborative interventions (Bland, 1995).

Personal Attributes Are Needed to Collaborate Effectively

There were many other important personal attributes or qualities that were valuable in facilitating collaboration.

Table 1. Study characteristics of included studies ($N = 18$).

Study	Publication type	Study design	Country	Study setting	Participants	Phenomenon of interest relevant to this review
Baxter et al. (2009)	Journal article	Quantitative – survey	England	Primary schools	34 CTs	Issues regarding the current SLP service delivery from the school staff perspective
Beck & Dennis (1997)	Journal article	Quantitative – survey	USA	Primary and secondary schools	21 SLPs and 54 CTs	CTs perceptions of classroom-based interventions, and how these perceptions compare with those of SLPs.
Bland (1995)	Thesis	Quantitative – survey	USA	Not reported	50 SLPs and 51 CTs	Factors that contribute to or inhibit successful collaboration between the SLP and CT
Dohan & Schulz (1998)	Journal article	Quantitative – survey	Canada	Schools	253 SLPs	SLPs collaboration with CTs within the classroom, focusing on use and judgments of classroom-based intervention
Elksnin & Capilouto (1994)	Journal article	Quantitative – survey	USA	Schools	31 SLPs	SLPs perceptions of their expertise and the expertise of CTs and integrated service delivery approaches they had adopted
Fallon & Katz (2011)	Journal article	Quantitative – survey	USA	Primary and secondary schools	693 SLPs	SLPs' knowledge, attitudes, and collaborative practices in the area of written language
Glover et al. (2015)	Journal article	Mixed methods – Phase 1: survey; Phase 2: focus group	Australia	Primary schools	Phase 1: 6 SLPs and 14 CTs Phase 2: 2 SLPs and 2 CTs	1. CTs' and SLPs' current practices when managing primary school children and their perceptions of need and preferences for service delivery
Huffman (2020)	Thesis	Quantitative – survey	USA	Primary and secondary schools	87 SLPs and 77 CTs	Perspectives of SLPs' and CTs about collaborative service delivery
Jago & Radford (2017)	Journal article	Qualitative – semistructured interviews	United Kingdom	Primary and secondary schools	10 SLPs	Newly qualified SLPs' beliefs about barriers to and enablers of collaborative practice
McKenna et al. (2021)	Journal article	Quantitative – survey	USA	Primary and secondary schools	567 SLPs	Determine SLPs' level of involvement in multitiered systems of support
Pershey & Rapping, (2003)	Journal article	Quantitative – survey	USA	Primary and secondary schools	17 SLPs	Understand SLP collaborative service delivery practices with CTs
Pfeiffer et al. (2019)	Journal article	Quantitative – survey	USA	Primary and secondary schools	474 SLPs	Factors influencing SLPs' ability to engage in interprofessional practice in schools
Reid et al. (1996)	Final report (uses primary research)	Mixed methods – survey and interviews	Scotland	Primary and secondary schools	381 SLPs and 430 CTs	Understand the provision of speech and language therapy to children and young people in Scotland
Serry (2013)	Journal article	Qualitative – interviews	Australia	Primary schools	9 SLPs	Perspectives and experiences of SLPs' clinical role in primary schools, specifically with low-progress readers

(table continues)

Table 1. (Continued).

Study	Publication type	Study design	Country	Study setting	Participants	Phenomenon of interest relevant to this review
Shaughnessy & Sanger (2005)	Journal article	Quantitative – survey	USA	Kindergartens	484 kindergarten teachers	Examination of how kindergarten teachers perceive the roles and responsibilities of SLPs
Shelton (2018)	Thesis	Mixed methods – survey and online focus group	USA	Primary schools	13 SLPs	School-based SLPs' perception of literacy and collaboration with CTs
Wallace et al. (2022)	Journal article	Quantitative – survey	USA	Primary schools	296 SLPs	SLPs' experiences of and preparation for interprofessional collaboration
Wright & Graham (1997)	Journal article	Quantitative – survey	United Kingdom	Primary schools	356 SLPs	SLPs' perception of collaboration with teachers

Note. CT = classroom teacher; SLP = speech-language pathologist.

Table 2. Summary of themes, subthemes, and example quotes.

Theme	Subtheme	Example quotes or descriptive data from included studies
Theme 1: What are you bringing to the collaboration table?	Collaboration cannot happen without communication skills	"There has been virtually no communication. However, the students are still benefiting from the service. I just don't feel I know enough about what is going on, what the goals are, or what I can do to facilitate these goals" – CT (Bland, 1995, p. 89).
	Personal attributes are needed to collaborate effectively	"I think you have to use your people skills, you have to be quite pragmatic and open to people, you have to be quite patient, sometimes you have tricky characters, you have to express an interest in them and awareness of their attitudes, beliefs and skills they're bringing" – SLP (Jago & Radford, 2017, p. 208).
Theme 2: Putting the value in collaboration	Valuing collaboration	"A willingness of the SLP and classroom teacher to commit to collaborative models" – SLP (Bland, 1995, p. 113).
	Valuing contributions of others is necessary	"I have an exceptional SLP at my school. She goes above and beyond expectations and constantly has input for supporting my students' language development within the classroom context" – CT (Shaughnessy & Sanger, 2005, p. 75).
	Building and maintaining relationships	"Improved working relationships would result in a team approach" (Glover et al., 2015, p. 374).
	Training for collaboration	"SLPs were more likely to identify training as barriers of collaboration between SLPs and teachers" – SLPs (Huffman, 2020, p. 18).
Theme 3: Sharing is collaborating	Shared understanding of roles is necessary	"I don't feel that I have a very good understanding of what the SLP actually does with the students" – CT (Shaughnessy & Sanger, 2005, p. 75).
	"Shared knowledge is powerful"	"It could be that as speech-language pathologists obtain more experience in the classroom and greater knowledge of the curriculum, they will become more willing to teach with the CT"- SLP (Elksnin & Capilouto, 1994, p. 260).
	Collaborators sharing the same views	"Several participants described a perceived theoretical divide between themselves and their educational colleagues" – SLP (Serry, 2013, p. 629).
Theme 4: The nature of collaboration varies	SLPs' role is a provider of skills	"...as a provider of skills, for example modelling intervention sessions for school staff and/or training school staff to carry over work in the absence of the SLT and in functional environments such as the classroom" – SLP (Jago & Radford, 2017, p. 208).
	Different service delivery models drive collaborative practice	"...There are no options for co-teaching in my school" and "unfortunately, the logistics aren't in place for me to co-teach or even do in classroom support" – SLP (Shelton, 2018, p. 48). "Push-in with a group was utilized more often (56.3%) than push-in with an individual (43.7%) but both were utilized more often than team teaching (29.8%)" – SLP (Huffman, 2020, p.16).
	Information and feedback are shared between professionals	"Feedback between collaborative partners is often received in the form of compliments or complaints given directly to one's partner or to a supervisor, colleague, or parent. Some feedback may be acquired 'second-hand'" – SLP (Pershey & Rapking, 2003, p. 217).
	Frequency and modality of collaboration matters	"Only 5% reported regular, timetabled, one-to-one contact with a SLT" – CT (Reid et al., 1996, p. 54).

(table continues)

Table 2. (Continued).

Theme	Subtheme	Example quotes or descriptive data from included studies
Theme 5: The educational context matters	The physical presence of SLPs is important	"The first theme was a request to increase the amount of SLT available to a school; for example: 'more SLT visits in school'" – CT (Baxter et al., 2009, p. 225).
	Caseloads create complexities for collaboration	"...too many students and separate classrooms to deal with..." and "with the large caseload the children are placed in many different homerooms that it is impossible to work with everyone" – CT (Bland, 1995, p. 89).
	Collaboration requires time and there is not enough of it	"Teachers and SLTs reported a lack of time to communicate, to undertake therapy or provide extra assistance in the classroom and to build relationships with each other" – CTs and SLPs (Glover et al., 2015, p. 375). "Time constraints were cited by 15 of the 17 respondents" – SLP (Pershey & Rapking, 2003, p. 216).
	Schedules can influence opportunities for collaboration	"The teacher must also be willing to adjust her schedule to find a time for the SLP to come into the classroom" – CT (Bland, 1995, p. 79).
Theme 6: Influences to collaboration beyond professional control	Organizational functioning influences collaboration	"Collaborative decisions and courses of action can be difficult to implement because of financial implications stretching across different agencies and budgets" (Reid et al., 1996, p. 98).
	Administrative support helps collaboration	"The AHT [assistant head teacher] timetables and provides teaching cover so the SLT is able to have contact with relevant class teachers as well as herself and learning support staff" – CT (Reid et al., 1996, p. 82).
	Role of parents in facilitating collaboration	"Participants identified that lack of parental involvement made it even more important for teachers and SLTs to develop good working relationships" – CTs and SLPs (Glover et al., 2015, p. 376).

Note. CT = classroom teacher; SLP = speech-language pathologist.

SLPs and CTs recognized that strong interpersonal skills were important for collaboration (Bland, 1995; Jago & Radford, 2017; Pershey & Rapking, 2003). Other reported skills included being flexible, adaptable, diplomatic, cooperative, and openness to others' suggestions and ideas (Bland, 1995; Pershey & Rapking, 2003). Discussion and negotiation were also reported to occur when differences in views between professionals needed to be resolved (Reid et al., 1996). It has also been suggested that SLPs need to demonstrate "an ability to lead a planning meeting but not to dominate, an ability to capitalize on teacher skills, the ability to lead meetings" (Bland, 1995, p. 71). Teamwork skills, time management, and organization including preparedness were also identified as supporting collaboration (Bland, 1995; Pershey & Rapking, 2003).

Theme 2—Putting the Value in Collaboration

The second theme highlighted the importance of professionals valuing collaboration. More specifically, four main values were identified: (a) valuing the act of collaboration itself, (b) valuing the contribution of others, (c) valuing the importance of building and maintaining relationships, and (d) training for collaboration.

Valuing Collaboration

Both professionals need to be willing to collaborate and consult with one another for collaboration to be successful (Bland, 1995; Reid et al., 1996; Serry, 2013). Pershey and Rapking (2003) identified that true collaboration contributed to CT satisfaction when "the SLP's work with the teacher was truly a combined effort" (p. 217), with Shelton (2018) finding, "You could certainly make the argument that collaboration will help the SLPs do their jobs more effectively" (p. 52). Valuing collaboration was characterized by professionals being "...committed to work through the rough spots and learn from each other" (Bland, 1995, p. 89) and having shared attitudes and responsibility for programs (Bland, 1995; Reid et al., 1996). Importantly, when valuing collaboration, SLPs and CTs prioritized time and opportunity to liaise, "The SLT makes herself available for consultation by any member of staff ("even if it's only over coffee or lunch breaks"; Reid et al., 1996, p. 67).

A lack of willingness to collaborate demonstrated that professionals did not always recognize the value in collaborating (e.g., Huffman, 2020; Serry, 2013). Noncollaborative attitudes, a lack of interest, or reluctance to engage in collaboration were identified as factors that hindered successful collaborations (Beck & Dennis, 1997; Bland, 1995; Pershey & Rapking, 2003; Serry, 2013; Shelton, 2018). Furthermore, views from SLPs that collaboration was one way and not always reciprocated by CTs was reported, "I

collaborate with them but they don't collaborate with me" (Pershey & Rapking, 2003, p. 217). A lack of valuing collaboration reportedly impacted job satisfaction, "The absence of collegiality in the workplace resulted in SLPs disliking speech pathology as a career and some mentioned leaving the profession" (Pershey & Rapking, 2003, p. 216).

Valuing Contributions of Others Is Necessary

Identifying the two-way nature of collaboration, along with SLPs and CTs valuing each other's knowledge and skills, was seen as important (Elksnin & Capilouto, 1994). Furthermore, the importance of SLPs showing "appreciation of the teacher's talents and open to suggestions, ideas, etc. in how to work with that teacher's class" was recognized (Bland, 1995, p. 71). Some CTs felt the SLP was part of the school (Reid et al., 1996); however, SLPs did not always feel their presence or role within a school was valued, "teachers don't want me in their classrooms," and "I'm just a bother to them" (Pershey & Rapking, 2003, p. 216). CTs who had positive collaborative experiences reported feeling fortunate to work alongside SLPs (Shaughnessy & Sanger, 2005), and that this enjoyment led to ongoing collaborations (Pershey & Rapking, 2003).

Individuals being cautious to share their knowledge and expertise was seen as a barrier to collaboration, "you sometimes come across an individual who might cause a bit of blockage, they might be wrapped up in their own role and their own perspective" (Jago & Radford, 2017, p. 208). Furthermore, "vested interests and feelings of insecurity or jealousy" (Reid et al., 1996, p. 97), and "professionals who are used to working autonomously may feel threatened by having others observe their work, and by working with others" (Reid et al., 1996, p. 98), demonstrated a lack of valuing the contribution of the other professional to the working relationship.

Building and Maintaining Relationships

There was an identified need to build and maintain a trusting collaborative working relationship between SLPs and CTs in order to establish a team approach and support student outcomes (Bland, 1995; Glover et al., 2015; Jago & Radford, 2017). One SLP explained that "I think in my role at the moment [...], there's a lot of groundwork in terms of building relationships with different people, getting them on side so that what you say gets implemented" (Jago & Radford, 2017, p. 208). SLPs also identified that having an established professional and/or social relationship prior to collaborating contributed to effective service delivery (Elksnin & Capilouto, 1994).

Training for Collaboration

SLPs and CTs alike identified a need for specific training on how to collaborate showing they valued this

as an area for professional growth. The provision of joint training was seen as important for equipping SLPs and CTs with skills to engage in collaboration (Bland, 1995; Huffman, 2020; Reid et al., 1996). Despite some instances of joint training, this was identified as a gap as “there is little if any pre- or post-qualification joint training available to teachers and SLTs in working collaboratively” (Reid et al., 1996, p. 98). Thus, both professionals reported a desire for joint training focusing on how to effectively collaborate with each other within the education context (Bland, 1995), with SLPs being more likely to identify training as a barrier to collaboration than CTs (Huffman, 2020).

Theme 3—Sharing Is Collaborating

Within this theme, SLPs and CTs recognized (a) the importance of having a shared understanding of each other's professional role within the educational context, (b) sharing knowledge as being powerful, and (c) sharing common views and priorities.

Shared Understanding of Roles Is Necessary

SLPs and CTs identified that a lack of shared understanding of each other's roles and responsibilities (Jago & Radford, 2017; Pershey & Rapking, 2003; Serry, 2013; Shaughnessy & Sanger, 2005; Shelton, 2018) was a barrier to collaboration (Huffman, 2020). SLPs conveyed that “classroom teachers lack the knowledge of the school-based speech-pathologist's role in schools” (Shelton, 2018, p. 46). In one study, only 27% of the SLPs reported that teachers understood the SLP's role and expertise in literacy (Fallon & Katz, 2011). Ambiguous role definitions and a lack of understanding of the scope of SLP practice impacted collaboration, with SLPs in one study noting “that teachers harbored the misconception that SLPs only work with children who have sound pronunciation problems” (Pershey & Rapking, 2003, p. 216). A shared understanding of each role in terms of service constraints and SLPs being aware of the curriculum and teaching were seen to facilitate collaboration (Reid et al., 1996). Both SLPs and CTs expressed a desire for greater understanding of each other's roles, “particularly teachers understanding speech pathologist roles more” (Glover et al., 2015, p. 373). To foster a shared understanding of roles, advocacy by SLPs was deemed important (Serry, 2013), as was the need for regular and ongoing contact with CTs (Reid et al., 1996), and engagement with senior school management (Jago & Radford, 2017).

“Shared Knowledge Is Powerful”

Another subtheme was the notion that “shared knowledge is powerful – we [CTs] might have a knowledge [sic] about the students background and the speechies

[SLTs] might have simple tricks to move these kids forward” (Glover et al., 2015, p. 374). The knowledge base of CTs was also important for collaboration particularly in relation to their “general knowledge of language acquisition, and understanding of the value of experiences in learning language in order to collaborate effectively with an SLP” (Bland, 1995, p. 72). As a result of a lack of shared knowledge, SLPs expressed the desire for learning from CTs, particularly related to developing their knowledge of classroom functioning and the curriculum (Elksnin & Capilouto, 1994; Glover et al., 2015). Interestingly, CTs reported feeling that they learned more from SLPs about language and literacy than from “classes taken” (Shaughnessy & Sanger, 2005, p. 75).

Collaborators Sharing the Same Views

Differing philosophical and theoretical views between SLPs and CTs impacted upon their collaboration experiences (Reid et al., 1996; Serry, 2013). Reid et al. (1996) noted that participants viewed collaboration with teachers as “unproductive (because teachers and SLTs are not on the same wavelength)” (p. 68). Another study highlighted that theoretical divides between SLPs and CTs exposed conflicting philosophies regarding how children learn to read (Serry, 2013). Importantly, however, at times professionals did share the same philosophy for learning, which facilitated collaboration (Bland, 1995). This was further exemplified in Elksnin and Capilouto's (1994) study whereby 82.4% of SLPs surveyed agreed with the statement that “the speech-language pathologist and CT share a philosophy about learning,” and this shared philosophy was a factor perceived to contribute to the effectiveness of integrated speech and language services (p. 263).

Theme 4—The Nature of Collaboration Varies

This theme described the nature of collaboration between SLPs and CTs, in particular, (a) SLPs' role as a provider of skills, (b) different service delivery models drive collaborative practice, (c) information and feedback are shared, and (d) the frequency and modality of collaboration differs.

SLPs' Role Is a Provider of Skills

It was evident from the literature that SLPs frequently provide training and build capacity in CTs in order to support children with communication difficulties. One way in which SLPs were seen to collaborate most consistently with teachers was via a consultative model (Huffman, 2020; Pershey & Rapking, 2003; Serry, 2013). SLPs provided guidance and advice to CTs (Reid et al., 1996), and when this guidance did not occur, negative views of the collaboration were reported (Baxter et al., 2009). SLPs frequently provided classroom and language intervention

strategies or techniques, supporting CTs with ideas, resources, and materials, “I provide teachers with strategies and resources to enhance their Tier 1 instruction and model them as needed” (Bland, 1995; Jago & Radford, 2017; McKenna et al., 2021, p. 605; Reid et al., 1996; Serry, 2013; Shaughnessy & Sanger, 2005). SLPs also conducted professional development on best practices (Serry, 2013) including across Tier 1, 2, and 3 of a Response to Intervention framework (McKenna et al., 2021). When sharing of ideas and techniques occurred, CTs reported a desire to continue collaborating (Pershey & Rapking, 2003), and training of CTs by SLPs was seen as important to allow school staff to carry over work in the absence of the SLP (Jago & Radford, 2017).

Different Service Delivery Models Drive Collaborative Practice

The nature of collaboration between SLPs and CTs varied depending on the service delivery model used. SLPs and CTs reported collaborating across all areas of management from assessment to goal setting, to intervention. At times, collaboration occurred through joint assessments or initial evaluations (Pfeiffer et al., 2019), although it was reported in another study that the majority of assessments were conducted by the SLP in isolation (Wright & Graham, 1997). Goal setting was identified as an important area for collaboration (Bland, 1995; Jago & Radford, 2017; Pershey & Rapking, 2003). Although this resulted in positive outcomes in some instances, “progress has been significant. We had common goals, planned out activities...” (Bland, 1995, p. 88), at times, CTs reported a lack of knowledge of the goals or required help with understanding and integrating SLP goals (Bland, 1995). Intervention was frequently cited as an avenue for collaboration, with SLPs and CTs often working together for joint planning as well as delivery of programs and interventions (Bland, 1995; Jago & Radford, 2017; Pfeiffer et al., 2019; Reid et al., 1996; Shaughnessy & Sanger, 2005; Shelton, 2018; Wright & Graham, 1997). For example, “I push in [provide in-class service delivery] to my older self-contained class so I am constantly collaborating with that teacher” (Wallace et al., 2022, p. 804).

Across studies, there were a variety of different service delivery models utilized for collaboration between SLPs and CTs (Huffman, 2020). The least collaborative service delivery model was a pullout intervention approach whereby students received SLP services outside of the classroom (Huffman, 2020; Serry, 2013; Shaughnessy & Sanger, 2005), with one SLP reporting “that they are reluctant to engage in collaborative services, on the grounds that ‘it is not as efficient as pull-out’” (Pershey & Rapking, 2003, p. 216). Observing one another at work was also commonly reported (Elksnin & Capilouto, 1994;

Reid et al., 1996), with “76% of respondents reporting that the SLP or CT observes while the other assumes primary instructional responsibility” (Dohan & Schulz, 1998, p. 12). Team teaching or co-teaching occurs with different divisions of roles (e.g., station teaching, parallel teaching, remedial teaching, and supplemental teaching; Dohan & Schulz, 1998; Huffman, 2020), although some SLPs reported rarely or never team teaching with CTs (Fallon & Katz, 2011; Huffman, 2020; Shaughnessy & Sanger, 2005). Another service delivery approach discussed involved the SLP and CT completing collaborative planning but then having the SLP deliver the service (Shaughnessy & Sanger, 2005).

Information and Feedback Are Shared Between Professionals

Another key reason for SLPs and CTs to collaborate was to provide and receive feedback or information about students (Jago & Radford, 2017). CTs also expressed interest in receiving information from SLPs about aims and outcomes of therapy, targets, assessment results, and specific activities to carry out in class (Baxter et al., 2009). Some CTs reported their main contact with SLPs was through receiving reports or feedback (Pershey & Rapking, 2003; Reid et al., 1996), with a lack of feedback from SLP to school staff after a session identified as a barrier to collaboration (Baxter et al., 2009).

Frequency and Modality of Collaboration Matters

The frequency of collaboration and the modality in which the collaboration occurred impacted the collaborative experiences of SLPs and CTs. In terms of frequency, both professionals recognized the importance of regular and ongoing communication to enable effective working relationships (Bland, 1995; Glover et al., 2015; Reid et al., 1996), “from the SLT’s regular and ongoing contact with the teaching staff in this school, a clearer idea of the SLT’s role had developed so the staff were more realistic about what could and could not be done; and they stopped expecting magic wands!” (Reid et al., 1996, p. 68). Feelings of dissatisfaction with the amount of liaising between professionals was reported (Baxter et al., 2009), with a view that increased opportunities to collaborate would enable the development of more effective working relationships (Glover et al., 2015). The frequency of collaboration also differed across studies with some reporting regular interactions (Bland, 1995; McKenna et al., 2021; Pershey & Rapking, 2003), whereas others reported less frequent or limited opportunities for collaboration between SLP and CT (Baxter et al., 2009; Reid et al., 1996; Serry, 2013; Shelton, 2018).

SLPs and CTs expressed various preferences for the modality in which collaboration occurred, including

in-person meetings, phone conversations, and written contact (Baxter et al., 2009), with at least 57% of SLPs who participated in Shelton's (2018) survey responding that they meet in person with CTs (p. 44). Both informal and formal meetings occurred between SLPs and CTs either after school or during CT's timetabled planning/preparation/assessment time (Baxter et al., 2009; Pershey & Rapking, 2003; Reid et al., 1996). Examples of formal meetings included SLP involvement in curriculum planning teams, or schoolwide intervention planning committees (Pershey & Rapking, 2003).

Theme 5—The Educational Context Matters

The educational context in which SLPs and CTs worked influenced collaboration, including (a) the physical presence of SLPs within schools, (b) caseloads, (c) time for collaboration, and (d) schedules.

The Physical Presence of SLPs Is Important

Studies described how the frequency of SLP visits to a school often varied and that how often they were at a school impacted upon collaboration (e.g., Bland, 1995). The physical presence of SLPs in schools enabled increased CT contact with SLPs (Reid et al., 1996), which was important, since “the more you're present in a school the better relationship you can have” (Glover et al., 2015, p. 374). As a result of increased contact with SLPs, CTs were able to better understand the role of SLPs in schools and share information about the needs of students (Bland, 1995; Reid et al., 1996). A limited presence of SLPs in schools created a barrier to teamwork and collaboration (Bland, 1995; Glover et al., 2015; Shelton, 2018), including the fact that SLPs were often not based at the same school as CTs (Glover et al., 2015; Shelton, 2018). Having “several SLTs coming into a school was confusing” (Baxter et al., 2009, p. 225), and thus, CTs often desired more SLP visits to schools, and consistency and continuity for these visits (Baxter et al., 2009).

Caseloads Create Complexities for Collaboration

The workload of both SLPs and CTs within the education context created challenges for collaboration with one other, as both professionals had a large number of students to cater for (Bland, 1995; Glover et al., 2015; Reid et al., 1996; Shelton, 2018). More specifically, the large caseload of the SLP (Shelton, 2018) and subsequent time restrictions (Reid et al., 1996) was often a barrier to collaboration. One SLP explained the difficulties they experienced coordinating meetings and planning collaborative interventions with CTs, expressing that, “with the large caseload, the children are placed in so many different homerooms that it is impossible to work with everyone” (Bland, 1995, p. 89). Equally, CTs often had many children with different needs in their classrooms, meaning it

was difficult to closely collaborate with all the professionals involved in supporting individual students (Bland, 1995).

Collaboration Requires Time, and There Is Not Enough of It

Time was overwhelmingly identified across studies as a key influencer on opportunities for collaboration. Both SLPs and CTs recognized the need for adequate time, the challenges for collaborating when faced with a lack of time, and a desire for more allocated collaboration time. A lack of time was consistently identified across studies as a barrier to effective working between SLPs and CTs (Beck & Dennis, 1997; Bland, 1995; Elksnin & Capilouto, 1994; Fallon & Katz, 2011; Glover et al., 2015; Huffman, 2020; Jago & Radford, 2017; Reid et al., 1996; Shelton, 2018). Time constraints experienced by both professionals resulted in limited time to co-plan, communicate, build relationships, attend meetings, provide extra assistance in classrooms, provide collaborative interventions, and work together (Beck & Dennis, 1997; Bland, 1995; Glover et al., 2015; Pershey & Rapking, 2003; Reid et al., 1996). In addition to identifying a lack of time for collaboration, the time-consuming nature of collaboration was also discussed: “collaboration is time consuming, and classroom teachers and school-based speech language pathologists have little time to share due to ‘hectic schedules and no common planning or prep time’” (Shelton, 2018, p. 46).

Both CTs and SLPs expressed that time to plan was needed (Elksnin & Capilouto, 1994), and there was a desire for more allocated time to collaborate, “I feel that the classroom teachers need more time set aside to collaborate with the SLP on specific goals and objectives for the children requiring SLP services in their classrooms...” (Bland, 1995, p. 114), and “we can always use more time to collaborate without often feeling rushed” (Bland, 1995, p. 89).

Schedules Can Influence Opportunities for Collaboration

Related to the importance of making time for collaboration, both SLPs and CTs recognized that their individual schedules influenced opportunities for collaboration (Bland, 1995). Flexibility in schedules was seen to be an important driver, with a lack of flexibility adding to the difficulty of finding a suitable time to work with one another, “a lack of flexibility regarding schedules (we are not permitted to schedule speech and language therapy during special area classes, music, art, etc.)” (Bland, 1995, p. 114). Furthermore, “...hectic schedules and no common planning or prep time” made it difficult to provide collaborative services (Shelton, 2018, p. 46). These scheduling difficulties also had the potential to impact upon

satisfaction with collaboration as “where scheduling problems occur...SLPs’ perceive that teachers are dissatisfied with collaborative attempts” (Pershey & Rapping, 2003, p. 217). To accommodate conflicting schedules, one study reported that timetabled contact enabled adequate time for collaboration to occur (Bland, 1995), although another study reported that only 8% of mainstream teachers reported regular, timetabled, one-to-one contact with SLPs (Reid et al., 1996, p. 144), and 86% of SLPs disagreed or strongly disagreed that teachers had enough time in their schedules to collaborate with SLPs (Fallon & Katz, 2011, p. 7). Additionally, it was viewed that CTs needed to be willing to adjust their schedule for time for the SLP to visit their classroom (Bland, 1995).

Theme 6—Influences to Collaboration Beyond Professional Control

The final theme captured participant experiences of collaboration that went beyond the professional control of SLPs and CTs. This included (a) the impact of organizational functioning, (b) administrative and leadership personnel, and (c) the role of parents on the collaboration experiences of SLPs and CTs in schools.

Organizational Functioning Influences Collaboration

The different employers of SLPs and CTs (e.g., contracted agencies, private entities, and education departments) influenced the nature of collaboration between the professionals (Bland, 1995; Jago & Radford, 2017; Reid et al., 1996). As Shelton (2018) described, “the responses regarding collaboration between the school-based speech-language pathologists and classroom teachers again showed that it varied from school campus to school campus” (p. 45). Support available within respective organizations such as the flexibility to meet goals, the freedom to be creative, and certain policies for curriculum and instruction in place enabled SLPs and CTs to effectively work together (Bland, 1995). Despite this, in some cases, the SLPs’ employer had different working conditions and organizational goals to the schools, which made it difficult for SLPs to work with CTs on the same goals (Jago & Radford, 2017; Reid et al., 1996). School systems also created challenges for collaboration, including logistic barriers for SLPs to deliver classroom instructions with CTs, a lack of set up in schools for implementing collaborative intervention, or certain laws and regulations in place (Bland, 1995; Shelton, 2018). For example, confidentiality practices sometimes made it difficult for professionals to share information and collaborate, and collaborative decisions were challenging to implement due to financial considerations across different agencies and budgets (Reid et al., 1996). One SLP in Wallace et al. (2022) identified a

desire that “school set-up was more conducive to interprofessional collaboration. It’s beneficial for the other educators, teachers, parents and especially for the student” (p. 806).

A supportive workplace that was receptive to the central role of the SLP was seen as a facilitator (Serry, 2013), with SLPs needing to engage with school management in order to address organizational barriers to collaboration (Jago & Radford, 2017). Given the variability in organizational functioning for SLPs and CTs, both professions “expressed a need and a desire for increased support that would help strengthen and support what is required at an individual and interprofessional level” (Glover et al., 2015, p. 372). Furthermore, CTs reported that it was not feasible to collaborate with all visiting specialists (Reid et al., 1996). Baxter et al. (2009) reported that participants perceived “...there should be one SLT working with all the children who have been referred in each school as it was reported that several SLTs coming into a school was confusing” (p. 225), and “reports of working with SLTs being made difficult by staff rotation in the SLT service” (Baxter et al., 2009, p. 225).

Administrative Support Helps Collaboration

SLPs and CTs recognized the need to establish administrative relationships with school leadership teams to support collaboration (Bland, 1995; Elksnin & Capilouto, 1994; Jago & Radford, 2017; Reid et al., 1996). Administration support to assist with scheduling challenges was deemed helpful, including approved time for planning meetings (Elksnin & Capilouto, 1994; Reid et al., 1996), and administrative support in organizing staff to provide backfill to allow CTs to meet with SLPs (Reid et al., 1996). Administration support for resource allocation was also important (Elksnin & Capilouto, 1994). CTs acknowledged that collaborative intervention was effective when administrative support was provided: “support from the school administration when issues arise (plan time, schedule conflicts, etc.), consistent communication between all parties involved with the students being served” (Bland, 1995, p. 113).

Role of Parents in Facilitating Collaboration

The degree of parental involvement in their child’s speech therapy at school influenced the nature of collaboration between SLPs and CTs (Glover et al., 2015; Reid et al., 1996). Limited parental involvement meant that SLPs and CTs needed to collaborate more and develop better working relationships (Glover et al., 2015). In other situations, SLPs needed to rely on parent collaborations when collaboration with CTs was problematic and/or unproductive (Reid et al., 1996). As a result, SLPs and CTs expressed the desire for “home-school-speech-contact. Interactions between all parties” or a three-way collaboration

with parents to further support collaborative outcomes across multiple environments in the child's life (Glover et al., 2015, p. 375). Finally, SLPs believed that providing activities for both CTs and parents to use contributed to CT satisfaction (Pershey & Rapking, 2003).

Quality Appraisal of Included Studies

Online Supplemental Material S2 outlines the quality assessment of the 18 included studies using the MMAT and outlines a detailed presentation of the individual ratings assigned for each criterion based on study design. As per the intended use of the MMAT, summative numerical scores are not provided (Hong et al., 2018). Studies were of mixed quality with few high-quality studies (Glover et al., 2015; Jago & Radford, 2017; Shaughnessy & Sanger, 2005), and most considered to be of medium (Bland, 1995; Dohan & Schulz, 1998; Fallon & Katz, 2011; Huffman, 2020; Pfeiffer et al., 2019; Reid et al., 1996; Serry, 2013; Wallace et al., 2022) to low quality (Baxter et al., 2009; Beck & Dennis, 1997; Elksnin & Capilouto, 1994; McKenna et al., 2021; Pershey & Rapking, 2003; Shelton, 2018; Wright & Graham, 1997) with the lower quality studies being due to a lack of methodological detail, nonreporting of recruitment processes, or potential for nonresponse bias, making it difficult to appraise the methodological rigor. For example, it was not always clear from a study's description how survey tools were developed to determine whether the design was rigorous for answering the research question (e.g., Shelton, 2018). Furthermore, survey studies with open-ended questions often rated poorly as authors did not describe how the open-ended questions were analyzed (e.g., Baxter et al., 2009; Beck & Dennis, 1997).

Discussion

The purpose of this systematic review was to systematically explore the current literature pertaining to the experiences of SLPs and CTs collaborating in the education context. In synthesizing and evaluating the evidence, six themes emerged, which described the nature of the collaborative experiences for both SLPs and CTs, including the need to consider how the educational context influences collaboration. Furthermore, many additional factors influenced collaboration between the two professionals, with these factors being multilayered and included consideration at an individual professional level, as well as joint contributors shared between SLPs and CTs, and thirdly was the influence of other professionals and individuals, with all three of these levels intertwining to impact the collaboration experiences between SLPs and CTs in schools.

Importantly, the results of the current systematic review show that the IPEC core competencies, while originally developed for health care professionals, have clear and relevant overlap for SLPs and CTs collaborating in schools. The adapted IPEC competencies for the school setting, as described by Ludwig and Kerins (2019), show parallels with many of the themes identified in the current systematic review, including a need for mutual respect and shared value between professionals, the need for understanding of each other's roles, the importance of communication in a responsive and responsible manner, and a need for applying relationship-building values and principles of team dynamics. This overlap highlights that using the IPEC core competencies as a framework for working together would be relevant for both SLPs and CTs in schools.

However, it must be acknowledged that while these core competencies may apply across both health and education sectors, there are differences that exist in the IPP experiences between health and education professionals that must also be considered. For example, the inconsistent presence of SLPs was identified as a barrier to collaboration in the current systematic review, but this has not been a factor identified in health IPP studies. This difference may reflect changes in models of service delivery whereby SLPs in education are often positioned across multiple schools whereas SLPs are more co-located with other health professionals in a health context, arguably enabling easier access for IPP as geographical location is reported to assist IPP in health (Seaton et al., 2021). Conversely, the presence of a hierarchy between professionals was identified as a barrier to IPP within health care contexts (Supper et al., 2015), but hierarchy was not a factor in the included studies in the present systematic review. Thus, the results of this systematic review demonstrate that, while overlap exists, there are situations unique to professionals working in school or health settings, which would need to be considered when designing or implementing IPP/IPE for each context.

Although six themes emerged, a core underpinning concept was the importance of establishing and maintaining collaborative relationships to enhance the IPP experience, which aligns with the fourth IPEC competency of relationship building. Relationships were important to foster between SLPs and CTs, as well as between SLPs and administrative (or leadership) staff and also parents. Furthermore, facilitating these relationships was characterized by SLPs having a physical presence in schools, as well as regular and ongoing contact with school teams (e.g., Reid et al., 1996). Additionally, a shared value for collaboration and willingness to work as part of a team, having a shared understanding of roles, and taking time to communicate with each other were essential to build positive, working relationships (e.g., Glover et al., 2015;

Serry, 2013). Although the importance of therapeutic relationships between professionals and clients is often emphasized in the provision of services (Kornhaber et al., 2016), the relationships between professionals are often less prioritized. Relationship-centered care is a model of care, which extends the notion of patient-centered care to emphasize how the quality of relationships can impact client outcomes and experiences, including both relationships with the client, and relationships between professionals (Beach & Inui, 2006). The development of team-based relationships helps to establish a collaborative approach by nurturing teamwork and decision making between all stakeholders, thereby fostering improved quality of care (Dobie, 2007). The results of the current review echo many of the principles emphasized in relationship-centered care and highlight the need to establish quality and genuine collaborative relationships between SLPs and CTs, as well as administrative staff and parents, to foster successful IPP in the education context.

The current review focused on collaborative experiences between SLPs and CTs; however, parallels can be seen with the factors described in a recent scoping review investigating how OTs and CTs collaborate in the education context (Wintle et al., 2017). The results of Wintle et al.'s (2017) scoping review identified that CTs and OTs shared a lack of understanding of roles, poor communication and relationship building, lack of investment in collaboration, lack of time to collaborate, limited presence of OTs in schools, large caseloads for OTs, and poor working relationships. These factors share similarities with the findings of our systematic review, highlighting that the challenges facing IPP in schools is present across multiple professions and the barriers for collaborating are not profession specific. This raises the need for key considerations in improving collaborative practices between CTs and allied health professionals, including SLPs and OTs, within the education context.

Despite different service contexts, legislation requirements, and professional practice standards for SLPs worldwide, the findings of this systematic review show that participants across different geographical regions and countries share similar experiences in IPP in schools. At an international level, this shows that the experiences and challenges in IPP for SLPs and CTs are not specific to one country. Furthermore, this review highlights that some historic challenges in IPP exist whereby some factors (such as time constraints, caseload size, and lack of understanding of each other's roles) were described by participants in the earliest studies and continued to be issues raised in the most recent studies. Taken together, this shows an important need at an international level for ongoing changes and improvement to enhance IPP in schools for SLPs and CTs.

Postqualification training in collaboration was identified as an area of need across multiple studies (Bland, 1995; Huffman, 2020; Reid et al., 1996) with the suggestion that this training needed to occur with the two professionals together (Bland, 1995). Such professional development or training events would allow opportunities for professionals to work together and explore issues impacting their IPP success in each context. A recent study by Quigley and Smith (2022) demonstrates one way in which SLPs and CTs worked together to implement IPP in their day-to-day practice. Three CTs and one SLP participated in this research, which aimed to understand how classroom practices could be changed to support effective language enrichment with a particular focus on IPP as the vehicle for creating this change. The duration of the study was one school year with the SLP and CT collaborating on a regular basis to reflect on current performance, set goals, and monitor change. The central tenets of effective IPP between SLPs and CTs that were identified by Quigley and Smith (2022) included (a) a need for a participatory space and secure time for IPP to occur, (b) ensuring power is shared between professionals when participating in IPP discussions, (c) balancing the theories and empirical assertions with practical skills and knowledge from each discipline, and (d) anchoring IPP in practical activities that integrate ways of knowing and are collaboratively designed and implemented. Importantly, most of these factors that drove effective IPP were also identified in the results of this systematic review and thus show this model as one possible avenue for translating IPP into practice.

To enhance IPP, university-level training and collaborative opportunities remain important, given that IPE experiences within tertiary education has been reported to help both CTs and SLPs develop attitudes, knowledge, and skills for collaboration prior to entering the workforce (Wilson et al., 2015), and has been identified as a key approach to improving IPP (Olenick et al., 2010). Pfeiffer et al. (2022) has shown evidence of this potential by completing IPE with OT and SLP graduate students. After participating in a 2-hr workshop and implementing a 5-week interprofessional intervention with preschoolers, SLP students who had been paired with an OT student reported greater growth in their self-reported interprofessional competence. Thus, continuing to strengthen our IPE experiences for undergraduate SLP students and pre-service teachers remains an important area for ongoing work.

Methodological Limitations and Future Directions

This systematic review addressed an important gap in the literature by systematically exploring existing research

pertaining to IPP between SLPs and CTs internationally. Some limitations of the review and fruitful areas for future studies must be acknowledged. First, it is acknowledged that the current review included studies across many different countries where various frameworks for inclusive education may be in place. These differing frameworks may lead to different experiences and expectations surrounding collaboration between SLPs and CTs, and this distinction was not drawn in this study. The current review focused solely on collaboration experiences between SLPs and CTs. Of note, most of the included studies predominantly had SLPs as participants in comparison with CTs. Thus, further research is needed to understand more from the perspectives of CTs around collaboration and to ensure equal representation of both professionals is heard.

The current review focused solely on SLPs and CTs, and it is acknowledged that collaboration with other professionals, such as leadership staff, occurs in educational contexts and thus understanding the experiences of collaboration with other professionals will be informative for driving change. The current review focused on IPP experiences between SLPs and CTs but excluded studies that examined the outcomes of collaboration (e.g., Wilson et al., 2010). Therefore, an important area for further investigation is to understand the outcomes of collaboration at the professional and student (or client) level. Finally, we excluded studies investigating collaboration with tertiary students. Thus, further research is needed to explore IPE at the tertiary level and to understand whether IPE experiences for university students translate to better IPP practices upon graduation between SLPs and CTs.

Conclusions

This review systematically evaluated the literature to determine the experiences of SLPs and CTs participating in IPP in schools. Based on the results of this review, IPP between SLPs and CTs is complex, where SLPs and CTs experience various facilitators and barriers to collaborating in the education context at an individual level, a shared professional level, and a school/administrative level. Importantly, however, IPP was valued by both SLPs and CTs and seen as an integral part of their roles. From this review, it is evident that SLPs and CTs must strive to carry out a relationship-centered care approach in IPP to support and optimize student outcomes. In doing so, collaboration experiences can be enhanced when SLPs and CTs work toward developing a shared understanding of each other's roles, strive for open and ongoing communication, value the contribution of each profession to the collaboration, and build positive, working relationships.

Data Availability Statement

The datasets generated and/or analyzed during the current study are available from the corresponding author on reasonable request.

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