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INTERPROFESSIONAL EDUCATION FOR
PREPROFESSIONAL SPEECH-LANGUAGE PATHOLOGISTS
AND GENERAL-EDUCATION TEACHERS

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Structured Abstract

Clinical Question: Do preprofessional speech-language pathology (SLP) and general-education students (P) who have interprofessional opportunities when providing language interventions to children with language impairments (I) compared to not having interprofessional opportunities (C) show improvement in their Interprofessional Education Collaborative core competencies (IPEC) (O)?

Method: Literature Review

Study Sources: Scopus, Cochrane Library, ERIC, PsycINFO, PubMed, ComDisDome, Education Research Complete, Academic Search Complete, Teacher Reference Center, OmniFile Full Text Select, Child Care & Early Education Research Connections

Search Terms: Combinations of the following: speech-language therapist OR speech-language pathologist OR speech-language therapy OR teachers OR educators, collaboration OR interprofessional OR multidisciplinary OR interdisciplinary OR transdisciplinary OR cross-disciplinary, interprofessional collaboration OR interprofessional relations, classroom-based collaboration OR consultation, primary school OR elementary school OR elementary education OR early childhood education OR schools, service delivery, teams OR teamwork, language disorders, attitudes OR perceptions

Number of Included Studies: 3

Primary Results: Related evidence to three of the four IPECs core competencies (i.e., roles/responsibilities, interprofessional communication, and teams and teamwork) suggests that preprofessional SLPs and general-education teachers can benefit from interprofessional education opportunities.

Conclusions: The four IPEC core competencies should be introduced and explicitly addressed during interprofessional education experiences. Clinical educators should provide interprofessional opportunities for preprofessionals to collaborate with a variety of different professionals in schools. Preprofessionals should observe collaboration by certified professionals, as well as plan and implement their own collaborative assessment and treatment sessions under clinical educators' guidance and supervision. After collaborating, preprofessionals can benefit from facilitated discussions and explicit instruction relating the experience to the IPEC competencies.

Interprofessional Education for Preprofessional Speech-Language Pathologists and General-Education Teachers

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Clinical Scenario

Jane has worked as a speech-language pathologist (SLP) for five years in an elementary school. The school has worked hard to create a culture of inclusive education; general-education teachers, special-education teachers, and other service providers routinely engage in interprofessional collaboration when assessing and providing intervention for students who are struggling and students with disabilities. Jane spends most of her time providing intervention in the general-education classrooms. Together, she and the general-education teachers incorporate various models of co-teaching such as station teaching, parallel teaching, and teaming to provide language interventions for children with language impairments.

A neighboring university asked Jane to serve as a clinical educator for Allie, a graduate speech-language pathology student. Allie is in her final semester of graduate school and will be placed with Jane five days per week. During this time, Allie will conduct assessments and provide treatment to the students on Jane's caseload under Jane's supervision and guidance. Allie's graduate program requires opportunities for interprofessional education (IPE) during clinical placements. At the end of the semester, Jane will evaluate Allie's clinical skills, including Allie's skills relative to interprofessional practice.

With Jane's supervision and guidance, Allie will provide collaborative treatment with a student teacher for students with language impairments in a general-education classroom. Jane is unsure how she can best foster Allie's collaborative skills during this experience and has many questions, such as, What collaborative skills should she explicitly teach Allie and how should she teach them? What kind of interprofessional opportunities will enhance Allie's interprofessional skills? Jane hopes she can find evidence of how interprofessional opportunities can help Allie develop the Interprofessional Education Collaborative (IPEC, 2016) core competencies because these competencies are needed to prepare Allie for the demands of interprofessional practice in her career as an SLP.

Background Information

The World Health Organization (WHO) defines interprofessional education (IPE) as a process that "occurs when two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes" (WHO, 2010). Teamwork training for interprofessional collaborative practice in health professions education has consistently lagged behind changes in practice and the gap between training and actual practice needs (Institute of Medicine [IOM], 1972) has widened. Because of this, the IPEC board established four core competency domains for interprofessional collaborative practice: (1) values/ethics, (2) roles/responsibilities, (3) interprofessional communication, and (4) teams and teamwork. These competencies guide both professional practice and curricular development of learning approaches and assessment strategies across professions at the preprofessional level. They encourage dialogue both within and between disciplines to develop opportunities to integrate essential interprofessional education content into training programs, consistent with each profession's accreditation requirements.

Although the concepts of IPE are rooted in the medical professions (IOM, 1972), researchers in the education professions have advocated for IPE among educational professionals because schools are staffed with a wide variety of professionals, such as general- and special-education teachers, speech-language pathologists (SLPs), occupational therapists, physical therapists, and other professionals who provide supports to students (Dobbs-Oates & Wachter Morris, 2016; Margison & Shore, 2009). Further, many education professionals are required to work collaboratively when providing supports to students with disabilities. Federal law requires collaboration among a group of qualified professionals and the child's parent to determine whether a child is eligible for special-education services (Individuals with Disabilities Education Act, 2004). Professionals with interprofessional teamwork

skills provide well-coordinated, individualized educational services (Dobbs-Oates & Wachter Morris, 2016). Students benefit from trained professionals who both specialize in their own disciplines and work effectively on teams with other professionals. Exposing preprofessionals to these well-coordinated educational teams early in their training establishes the importance of interprofessional collaboration for their future practice (Pollard, Miers, & Rickaby, 2012).

Research indicating that shared decision-making yielded better results for students and teachers prompted some professional organizations to acknowledge interprofessional collaboration as an essential component in preprofessional training at higher education institutions (Arredondo, Shealy, Neale, & Winfrey, 2004). The Council on Academic Accreditation in Audiology and Speech-Language Pathology (2017) requires graduate programs to provide content and opportunities for preprofessionals to understand the roles and importance of interprofessional assessment and intervention. Further, graduate SLP programs are required to prepare preprofessional students to interact and coordinate care effectively with other disciplines and community resources.

Although limited, research suggests that preprofessional SLPs and teachers would benefit from IPE opportunities (Brandel & Loeb, 2011; Wilson, McNeill, & Gillon, 2015). For example, Brandel and Loeb (2011) conducted a web-based survey of 1,897 certified SLPs employed in public schools. Results revealed that only 25% of SLPs reported an experience with classroom-based intervention at the elementary level during their graduate school training. Importantly, those who had experienced shared teaching with classroom teachers in their graduate clinical practica were more likely to provide collaborative intervention in a resource room instead of a separate therapy room. Similarly, Wilson et al. (2015) examined the perceptions of student teachers and SLPs regarding professional collaboration and service delivery relative to spoken and written language. Results of an online survey indicated that preprofessional SLPs ($n = 37$) and preprofessional teachers ($n = 58$) had limited knowledge of collaborative practices and a limited shared understanding across disciplines.

Taken together, the results of these surveys (Brandel & Loeb, 2011; Wilson et al., 2015) suggest that preprofessional SLPs would benefit from IPE experiences, particularly those offering opportunities to collaborate with preprofessional teachers in developing shared knowledge of effective language and literacy interventions and service

delivery models. These surveys are limited, however, in that little is known regarding the most effective ways to offer IPE experiences.

Clinical Question

The purpose of this literature review is to answer a clinical question important to clinical educators of SLP graduate students. Jane used the PICO framework to construct her question: Do preprofessional SLPs and general-education students (P) who have interprofessional opportunities when providing language interventions to children with language impairments (I) compared to not having interprofessional opportunities (C) show improvement in their IPEC core competencies (O)?

Search for the Evidence

Jane began the research process by identifying inclusionary criteria for her search. She included studies that: (1) had participants that were only SLPs and general-education teachers, (2) consisted of a collaborative experience consistent with the WHO's (2010) definition of interprofessional education, (3) focused on providing interprofessional language services in elementary schools, and (4) were published in peer-reviewed journals.

Because different terms such as *interdisciplinary*, *multidisciplinary*, and *transdisciplinary* have been used to describe interprofessional practice, Jane conducted a preliminary search of the Cochrane and ERIC databases to identify terminology used in the literature. The search resulted in a list of 26 keywords, which she used to conduct the search. Table 1 lists the search terms Jane used for 11 databases and the number of references identified by the search strategies. Figure 1 depicts a flowchart detailing the search and selection process.

Evaluating the Evidence

Quality of Evidence

Jane identified three studies (Suleman, McFarlane, Pollock, Schneider, & Leroy, 2013; Suleman et al., 2014; Wilson, McNeill, & Gillon, 2016) that met the inclusion criteria. Jane examined these articles for methodological quality using the Integrated Quality Criteria for the Review of Multiple Study designs (ICROMS) instrument

(Zingg et al., 2016). This instrument addresses seven dimensions of quality criteria, including:

1. clear aims and justification,
2. managing bias in sampling,
3. bias in outcome measurements and blinding,
4. bias in follow-up,
5. bias in other study aspects,
6. analytical rigor, and
7. bias in reporting/ethical considerations.

Each of the dimensions is rated using a three-point system: studies received two points if the answer was yes, one point if the answer was unclear, and zero points if the answer was no.

Two studies (Suleman et al., 2013, 2014) received lower quality scores than the ICROMS recommended score of 22 for inclusion in a review. Although these two studies did not meet the minimum recommended score for inclusion in a review, Jane chose to include them because of the limited number of studies available. One study (Wilson et al., 2016) received a score of 26/28 and is the only study that met the minimum score for inclusion in a review. These three studies addressed three of the four core competencies (i.e., roles/responsibilities, interprofessional communication, and teams and teamwork) outlined by the IPEC report (2016) and are addressed as they relate to each competency. Two studies addressed the roles/responsibilities competency (Suleman et al., 2014; Wilson et al., 2016), one study addressed the interprofessional communication competency (Suleman et al., 2013), and one study (Wilson et al., 2016) addressed the teams and teamwork competency. Table 2 provides an overview of all studies' findings.

IPEC Competency 2: Roles/Responsibilities

Two studies (Suleman et al., 2014; Wilson et al., 2016) addressed roles and responsibilities. Suleman et al. (2014) examined preprofessional SLPs' ($n = 55$) and student teachers' ($n = 52$) knowledge of service delivery models before and after a 90-minute interactive IPE seminar. Students participated in small mixed-discipline groups to design an intervention plan for a hypothetical classroom. The service delivery models used for coding survey responses and intervention plans included consultation, interdisciplinary, multidisciplinary, and transdisciplinary (ordered from least to most collaborative). Following the

IPE experience, all models were described in comparable percentages for both groups, with the exception of interdisciplinary models—preprofessional teachers reported interdisciplinary models at a much greater frequency (72%) when compared to preprofessional SLPs (42%).

Wilson et al. (2016) compared the efficacy of two IPE programs for preprofessional SLPs and teachers. Students in an intervention group ($n = 23$) and a control group ($n = 22$) created lesson plans for three case studies. The first case was completed individually and the other two were completed in mixed-discipline pairs or trios. Students' lesson plans were coded for five components (i.e., coworking, expressive phonology/articulation, phonological awareness, orthographic knowledge, and language comprehension). The coworking component of the lesson plans was scored based on whether the plan only included reference to the other professional or whether the plan indicated both professionals had a role in implementing the intervention goals. A two-factor ANOVA with repeated measures was used to examine changes in instructional planning between and within the two intervention groups across time. No statistically significant main or interaction effects were found for the coworking component, indicating that the participants did not demonstrate an increase in the ability to co-plan instruction.

IPEC Competency 3: Interprofessional Communication

One study (Suleman et al., 2013) examined student SLPs' ($n = 55$) and student teachers' ($n = 52$) use of jargon when explaining an intervention plan to parents. The IPE experience provided opportunities for the preprofessional students to become aware of, and reduce, their use of profession-specific terminology with individuals outside of their profession. The study included two individual online reflective surveys, attendance and participation in a 90-minute interactive seminar, and a collaborative case study. During the seminar, interprofessional pairs of students engaged in activities and developed an intervention plan in small groups for a hypothetical classroom.

Results of the pre- and post-surveys indicated a significant decrease in the amount of jargon used by the preprofessional SLP group following the IPE experience ($t(54) = 2.801, p = .007$). Student teachers showed no statistically significant changes in their use of jargon ($t(51) = 0.131, p = 0.896$); however, they used very little jargon both before ($M = .48, SD = .92$) and after ($M = .46,$

$SD = .78$) the IPE experience. Although the student SLPs showed a significant decrease in their use of jargon words, they continued to use more jargon ($M = 1.22$, $SD = 1.71$) than student teachers ($M = .46$, $SD = .78$) after the IPE experience. In examining the jointly-developed intervention plans, 87% of groups used zero or one jargon word.

IPEC Competency 4: Teams and Teamwork

One study (Wilson et al., 2016) explored teams and teamwork. Case-based instructional planning for the second and third cases required both groups of students to work in mixed-discipline pairs or trios to review reports and create lesson plans. Students in the intervention group had guided discussions of literacy curriculum and linguistic knowledge, whereas students in the control group had guided discussion of non-language/literacy content. Results of a knowledge questionnaire revealed that students in the control group did not demonstrate statistically significant gains on any measure of elementary English literacy curriculum or English linguistic concepts. Both student SLPs and student teachers in the intervention group showed significantly greater understanding of speech to print concepts ($t = 4.21$, $p = 0.000$; $t = 2.38$, $p = 0.03$, respectively). Student SLPs in the combined intervention group also demonstrated a significant increase in their ability to identify definitions of common literacy activities used in the classroom ($t = 3.19$, $p = 0.004$). All gains were consistent with medium to large effect sizes ($d > 0.6$ and $d > 0.8$, respectively).

One limitation of these studies is that none were conducted in the United States. Two studies (Suleman et al., 2013, 2014) were conducted in Canada and one study (Wilson et al., 2016) was conducted in New Zealand. Therefore, the results of these studies may have limited applicability for preparing preprofessionals in U.S. graduate programs to enter the workplace. Jane decided to examine her search results for additional studies conducted in the U.S. that could assist her in supporting Allie's development of the interprofessional competencies. She found two studies (Miolo & DeVore, 2016; Self, Mitchell, Hess, Marble, & Swails, 2017) that discussed preprofessional SLPs' collaboration with other disciplines.

Miolo and DeVore (2016) created an interprofessional education experience called the "consultation project" with first-year SLP graduate students and third-year undergraduate early childhood special-education students. The preprofessional students worked in mixed-discipline teams to develop classroom-based interventions

for preschoolers and they were taught active listening techniques and communication strategies to use during this experience. Results indicated that 86.4% ($n = 22$) of teams felt that the consultation process was an effective way of developing functional intervention plans for young children. The most common theme described in the preprofessionals' explanations was the benefit of having access to multiple perspectives during team-based problem-solving.

Additionally, Self et al. (2017) developed an Autism Interdisciplinary Diagnostic Team to provide preprofessionals (i.e., speech-language pathologists, audiologists, early childhood special educators, clinical psychologists, physical therapists, dental hygienists, and nurses) with opportunities to observe and participate in interprofessional evaluation experiences. A faculty coordinator led a reflective team meeting and instructional session immediately following each evaluation to provide explicit instruction relative to the learning experiences and IPEC competencies. Three themes emerged from the preprofessional students' comments regarding this experience: (1) it resulted in new knowledge, (2) it was exciting, and (3) it resulted in self-realization and role acceptance. Reflecting on the results of these collective studies, Jane decided she would both model and provide examples of active listening techniques for Allie to use when communicating with other professionals in the school. Additionally, she planned to include time in the day for Allie to debrief with both her and her collaborative teammates after she engaged in interprofessional collaboration. Jane also realized it would be important to include opportunities for Allie to both observe and engage in interprofessional collaboration during assessment and treatment with a variety of professionals in the school.

The Evidence-Based Decision

After reviewing the results, Jane returned to her research question: Do preprofessional SLPs and general-education students (P) who have interprofessional opportunities when providing language interventions to children with language impairments (I) compared to not having interprofessional opportunities (C) show improvement in their IPEC core competencies (O)?

Although limited, the research Jane was able to find helped in answering her questions and planning for Allie's clinical experience. First, Jane decided to explicitly teach components of the values/ethics competency. Although the

competency was not addressed in the research she located, Jane felt it was crucial for developing trusting relationships with parents and other team members. Jane decided to use the collaborative case study experience outlined in the Suleman et al. (2013, 2014) studies and the case-based instructional planning described in the Wilson et al. (2016) study as a framework for Allie's placement. First, Allie and the other student teacher would meet with Jane and the general-education teacher to discuss each other's roles and responsibilities. Next, Allie and the student teacher would collaboratively develop lesson plans, with support and guidance from Jane and the general-education teacher. During these collaborative planning sessions, they would be encouraged to use active listening techniques and reduce discipline-specific jargon. Third, Allie, Jane, the general-education teacher, and the student teacher would have regularly scheduled meetings to reflect on student progress and make changes to lesson plans, as needed. Finally, Jane would include opportunities for Allie to both observe and engage in interprofessional collaboration during both assessment and treatment, with a variety of professionals in the school. Jane felt this would help Allie better understand her multifaceted role as an SLP in the school setting.

Roles and Responsibilities

IPE experiences should teach mixed-discipline preprofessional students about shared service delivery models and provide opportunities to both practice and discuss these models. These experiences could both expose Allie to the idea of sharing roles and provide her with opportunities to practice this skill. Jane can guide understanding of Allie's multifaceted professional roles in schools and help explain how she can collaborate to support other professionals. Importantly, contextualizing the roles of each profession will allow Allie to develop an understanding of how the two professions can collaborate and share responsibilities.

Interprofessional Communication

While Allie is developing her professional identity, she may not realize others do not understand her discipline-specific terminology, resulting in possible confusion and communication breakdowns. Suleman et al. (2013) showed that the awareness of jargon is one area where student SLPs could benefit from collaborative training. Allie may benefit from examples of communication interactions and breakdowns between service providers. It could be beneficial for Jane to problem solve scenarios with Allie in instances

where communication could be clearer and promote learning of all involved in the interactions. In particular, Allie may benefit from IPE activities targeting her awareness of discipline-specific jargon, the potential communication barriers jargon creates, and how to avoid those barriers.

Further, the results of Miolo and DeVore (2016) suggested that explicitly teaching active listening skills would be beneficial for Allie. Therefore, Jane decided to both model and provide explicit examples of active listening techniques and communication strategies for Allie to use throughout the semester with other professionals in the school. Jane decided she would take time to discuss the communication between team members during Individualized Education Program (IEP) meetings with Allie after the meetings ended, providing explicit instruction on how active listening was used well and ways it could be improved in subsequent meetings.

Jane decided to facilitate meetings with Allie, the student teacher, and the general-education teacher at the start of the semester. In these meetings, the group will discuss the roles and responsibilities of the general-education teacher and the SLP. Additionally, Jane will develop activities designed to promote active listening skills, as well as activities to increase Allie's awareness of jargon and to problem solve with Allie ways to make communication clearer.

Teams and Teamwork

The results of Wilson et al. (2016) suggest the importance of timing as a consideration for IPE experiences. A portion of student SLPs in that study reported no formal practicum experience with school-age children, which likely limited their development of spoken language expertise. Because Allie is in her final semester of graduate training and had previous experience with school-age children, Jane decided that Allie would benefit from explicit emphasis on the teams and teamwork competency. Using the Wilson et al. (2016) and the Self et al. (2017) studies as a framework, Allie and the student teacher will collaboratively develop lesson plans that incorporated models of co-teaching; Jane and the general-education teacher will provide guidance and support. The team will have weekly meetings to reflect on student progress and plan for the upcoming week.

In addition to the results indicating that preprofessional students benefitted from debriefing sessions, the results of the Self et al. (2017) study also indicated that preprofessionals benefitted from opportunities to both observe and engage in interprofessional collaboration during

assessment with a variety of professionals. Therefore, Jane decided to expand Allie's collaborative experience beyond collaboration with the general-education teacher by having Allie observe and participate in interprofessional evaluations with other professionals, such as the school psychologist and special-education teacher. With opportunities to collaborate interprofessionally during both assessment and treatment, Allie will gain an understanding of how school-based SLPs work on teams with various education professionals in a variety of situations.

Authors' Note

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Table 1. Number of References Identified Across Databases by Search Strategies

Database	Search strategies	Number of references
Scopus	(DE speech-language therapist OR DE speech-language pathologist OR DE speech-language pathology) AND (DE teachers) AND (DE collaboration OR DE interprofessional OR DE interdisciplinary OR DE classroom-based collaboration OR DE consultation) AND (DE primary school OR DE elementary school OR DE early childhood education) AND DE service delivery	125
Cochrane Library	(DE speech-language pathologists) AND (DE teachers)	4
ERIC	(DE speech-language pathology OR DE speech therapy OR DE language therapy OR DE speech pathology) AND (DE teachers OR DE educators) AND (DE interprofessional OR DE collaboration OR DE interdisciplinary OR DE teams OR DE teamwork) AND (DE primary school OR DE elementary school OR DE elementary education) AND (DE service delivery)	91
PsycINFO	(DE speech-language pathologists OR speech-language therapists) AND (DE collaboration OR DE interprofessional OR DE teams OR DE interdisciplinary) AND (DE teachers OR DE educators) AND (DE elementary education OR DE schools OR DE elementary schools) AND (DE service delivery)	151
PubMed	(DE speech-language pathology OR DE speech-language therapists OR DE speech-language therapy) AND (DE educators OR DE teachers) AND (DE interprofessional OR DE service delivery OR DE primary school) AND (DE service delivery OR DE collaboration)	30
ComDisDome	(DE speech-language pathology OR DE speech-language therapy) AND (DE educators OR DE teachers) AND (DE collaboration OR DE interprofessional OR DE interdisciplinary OR DE transdisciplinary OR DE cross-disciplinary OR DE teamwork) AND (DE elementary school OR DE primary school OR DE service delivery) (DE speech-language pathology OR DE speech-language therapy) AND (DE educators OR DE teachers) AND (DE language disorders OR DE attitudes OR DE perceptions OR DE service delivery)	77
Education Research Complete	(DE speech-language therapy OR DE speech-language pathology) AND (DE educators OR DE teachers) AND (DE interprofessional collaboration OR DE interprofessional education OR DE interprofessional relations OR DE multidisciplinary OR DE classroom-based collaboration OR DE interdisciplinary) AND (DE language service delivery OR DE elementary OR DE primary school)	64
Academic Search Complete	(DE speech-language pathology OR DE speech-language therapy) AND (DE teachers OR DE educators) AND (DE collaboration OR DE interprofessional OR DE multidisciplinary OR DE interprofessional education) AND (DE elementary school OR DE primary school) (DE speech-language pathology OR DE speech-language therapy) AND (DE teachers OR DE educators) AND (DE collaboration OR DE interprofessional OR DE multidisciplinary OR DE interprofessional education) AND (DE elementary school OR DE primary school) AND (DE knowledge OR service delivery)	51
Teacher Reference Center	(DE speech-language pathology) AND (DE teachers OR DE educators) AND (DE interprofessional OR DE multidisciplinary)	5
OmniFile Full Text Select	(DE speech-language pathology) AND (DE teachers OR DE educators) AND (DE interprofessional OR DE interdisciplinary OR DE collaboration) AND (DE attitudes OR DE elementary school)	55
Child Care & Early Education Research Connections	(DE speech-language pathology OR DE speech-language therapy) AND (DE teachers) AND (DE interprofessional OR DE interprofessional collaboration)	14

Note. DE = descriptor; ERIC = Education Research Information Clearinghouse.

Table 2. Summary of Studies Meeting Inclusion Criteria

Citation	Research question(s)	IPEC competency	IPE experience	Relevant findings (summary)	Quality score
Suleman, McFarlane, Pollock, Schneider, & Leroy (2013)	What is the effect of participation in a 90-minute interactive IPE seminar on the amount of jargon used by student SLPs and student teachers?	Interprofessional Communication	90-minute interactive seminar	SLP students used significantly less jargon	17/30
Suleman, McFarlane, Pollock, Schneider, Leroy, & Skoczylas (2014)	What are the effects of a 3-hour IPE experience on student SLPs' and student teachers' awareness and understanding of models of specialized service delivery in schools?	Roles/ Responsibilities	90-minute interactive seminar	<p>Student SLPs able to describe service delivery beyond a general idea of collaboration and reported consultation with less frequency</p> <p>Student teachers regularly reported interdisciplinary model and described specific features of models</p> <p>83% of groups used some form of transdisciplinary collaboration in their intervention plan</p> <p>All groups designed a plan that included an SLP working in the classroom</p>	15/30
Wilson, McNeill, & Gillon (2016)	<p>To what extent does the combined IPE intervention for student teachers and student SLPs improve their knowledge of elementary English literacy curriculum and English linguistic concepts?</p> <p>To what extent does supplemental discussion of language and literacy content improve the instructional co-planning of student teachers and student SLPs?</p>	<p>Roles/ Responsibilities</p> <p>Teams and Teamwork</p>	<p>3-hour case-based instructional planning</p> <p>Intervention Group Guided discussion of literacy curriculum and linguistic knowledge</p> <p>Control Group Guided discussion on non-language/literacy content</p>	<p>Intervention group All students demonstrated significant gains in knowledge of speech-to-print concepts</p> <p>Student SLPs demonstrated significant gains in knowledge of literacy curriculum</p> <p>Control group No statistically significant gains</p> <p>No evidence of increased knowledge relative to roles and responsibilities</p>	28/30

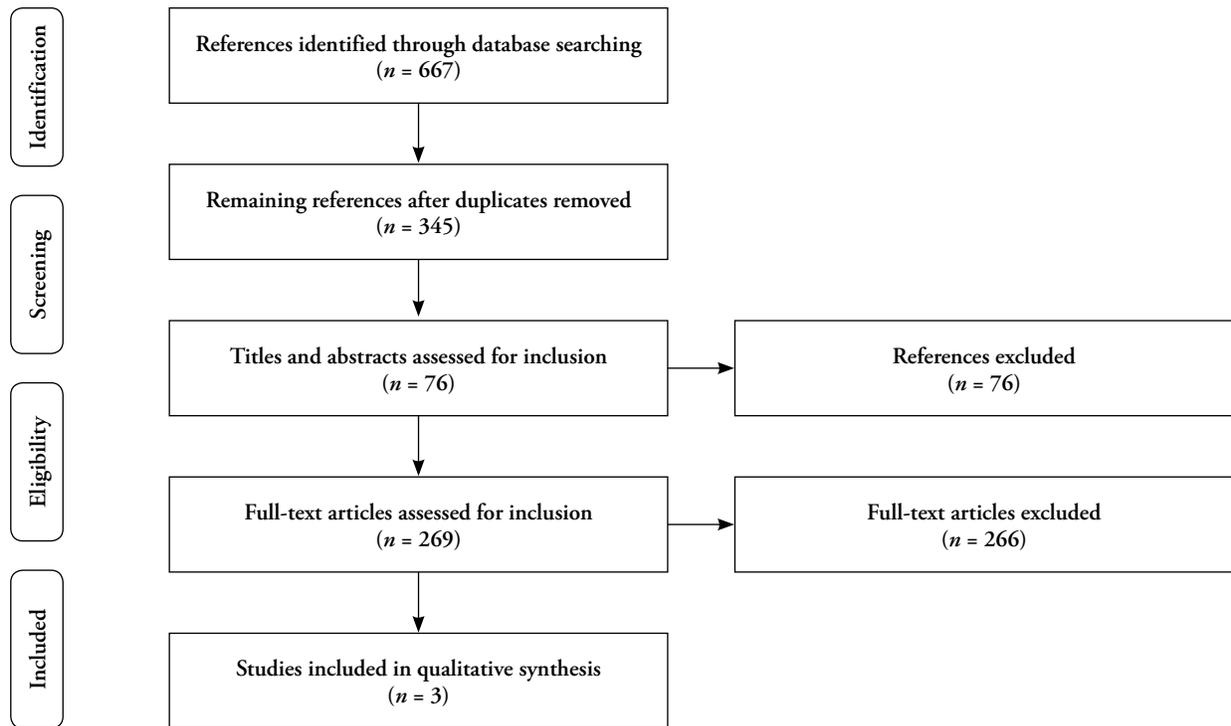


Figure 1. A flowchart of the systematic literature search.