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EMPIRICAL ARTICLE

Preservice Preparation Practices to Increase Family-Professional Collaboration: A Mixed-Methods Systematic Review

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Due to the important impact family-professional collaboration has on child outcomes for infants, toddlers, children, and students with disabilities, research in special education preservice personnel preparation has evaluated the impact of higher education programs and curricula geared towards improving preservice educators' knowledge and practices regarding family-professional collaboration in inclusive settings. The resulting literature has provided the field with insights as to instructional strategies faculty have implemented to better prepare preservice special educators to collaborate with families. The purpose of this mixed-methods systematic review was to identify and synthesize the current state of knowledge behind these instructional strategies intended to increase preservice educators' knowledge and practices to collaborate with families. A total of 14 peer-reviewed journal articles published between 1968-2024 were included in the study. Findings indicate that various instructional strategies and outcome measures were used to measure preservice educators' knowledge and practices. Implications for future research are described.

Keywords: family-professional collaboration, preservice teacher preparation, early intervention, early childhood special education, inclusion

Introduction

Inclusion refers to ensuring that all children, regardless of background and ability, have access to high-quality education programs and services that promote a sense of belonging and acceptance while helping to reach one's academic, social, and emotional potential (Odom et al., 2011). Research suggests that inclusion can lead to academic and social benefits for children with and without disabilities in early childhood settings (Beneke et al., 2019; Justice et al., 2014; Tsao et al., 2008). Including children with disabilities in early childhood education programs was mandated in 1986 with the passage of Public Law 99-457 and has received continued legislative support at the state and federal levels since that time (Guralnick & Bruder, 2016). Professional organizations, such as the National Association for the Education of Young Children (NAEYC) and the Division of Early Childhood (DEC) of the Council for Exceptional Children (CEC), have also voiced strong support for inclusive practices in early childhood education (Cross et al., 2009).

Ideally, inclusion in early childhood education programs transcends merely placing children with and without disabilities in the same setting by considering various factors pivotal to success, such as programmatic context and implementation of effective practices (Love & Horn, 2021). Guralnick (2001) outlined four goals for inclusion in early childhood education. These include having universal access to educational programs, ensuring accommodations and feasibility, ensuring social and cognitive developmental progress for all children, and promoting social integration between children with and without disabilities. More recently, researchers reviewed these goals and recommended additional considerations focusing on the competency of teachers and staff in early childhood education and an expansion of social integration through families and communities (Guralnick & Bruder, 2016).

Family-Professional Collaboration

Family-professional collaboration is an essential component of successful inclusive practice, particularly within early childhood education (Guralnick & Bruder, 2016). The term *collaboration* is defined as "joining, pooling, or coordinating resources and entities to meet goals, overcome problems, and improve service delivery" (Bricker et al., 2022, p. 2). For true collaboration to occur, back and forth communication, leadership, cooperation, and trust are just a few of the necessary components comprising collaboration as a construct (Bricker et al., 2022; Harry & Ocasio-Stoutenburg, 2018; Salas et al., 2005), and as others have noted, collaboration is a process, not an outcome (Bricker et al., 2022). Collaboration is complex, and within Parts C and B of the Individuals with Disabilities Education Act (IDEA, 2004), it is also a mandated component of special education service provision between families and professionals as a way to support child and student outcomes. For the purpose of this manuscript, the aforementioned description of collaboration applies to the term *family-professional collaboration*, wherein families and professionals work together to achieve goals, address issues, and improve service delivery for children with disabilities. In this manuscript, the term family-professional collaboration is also inclusive of family-centered practices (Dunst, 2002) and family-professional partnerships (Blue-Banning et al., 2004) both of which are specific types of family-professional collaboration in special education between families and professionals on Individualized Family Service Plan (IFSP) and Individualized Education Program (IEP) teams.

Since the start of the Handicapped Children's Early Education Program (HCEEP) in 1968 which preceded the inception of the Education for All Handicapped Children's Act (EHA) in 1975, research has documented the benefits that occur when families are included and provided opportunities to participate as members of their child's IEP team. For early childhood special educators (ECSE), family-professional collaboration is not merely beneficial; it is required. The EHA - now the IDEA (2004) – mandates that professionals provide families with meaningful opportunities to participate as members of their child's IFSP or IEP team (Sec. 300.322). As a result of this legal mandate, the ability to collaborate with families is a required competency that preservice early interventionists, early childhood special educators, and K-12 special educators must be able to demonstrate prior to entering the field (Council for Exceptional Children [CEC], 2020; Division for Early Childhood [DEC] Recommended Practices, 2014).

Research suggests that collaboration with families results in a higher rate of inclusive placements for children with disabilities (Krishnan, 2024). Under Part C of IDEA (2004), families are the recipients of services and are key figures who implement interventions in the child's natural environment, which are settings where an infant or toddler without a disability would spend time, such as home, community, or childcare settings (Sec. 303.26). The aim of early intervention services within the natural environment is for the child to be included in daily routines both at home and in early childhood education programs, as well as activities that the family enjoys doing together (Raver & Childress, 2015). Overall, effective family-professional collaboration is key to ensuring young children with disabilities are fully included across all environments and settings where they spend time.

Essential Collaboration Skills for ECSE Preservice Students

Within special education, family-professional collaboration has been recognized throughout history as essential to the provision of special education services, and equipping preservice teachers with the knowledge and skills necessary for collaborating with families is a critical component of inclusion in early childhood education (Bricker et al., 2022). The initial practice-based standards for Early Interventionist/Early Childhood Special Educators (EI/ECSE) are based on evidence from the research-base and were developed using an iterative process with input from experts in the field to inform high-quality educator preparation (Stayton et al., 2023; Stayton et al., 2024). The standards outline content areas and field experiences that support EI/ECSE preservice teachers' knowledge and practices. While all eight standards are meant to emphasize family partnerships and collaboration, standard two, "partnering with families," and standard three, "collaboration and teaming," have a specific focus on content necessary for preparation in this area (Stayton et al., 2023). In addition to using effective collaboration and communication skills, EI/ECSE preservice students should understand family-centered practices, systems theory, and capacity-building practices in an effort to support families with advocacy and build confidence in their abilities to support their children (CEC, 2020; DEC, 2014). Lastly, the "field and clinical experience" standard specifies that teacher candidates must participate in planned and developmentally sequenced field experiences in inclusive settings under the supervision of licensed professionals (CEC, 2020). These standards explicitly describe the knowledge and practices that EI/ECSE preservice students should know and be able to do upon completion of their personnel preparation program (Stayton et al., 2023).

While these standards provide important guidance for faculty on the requisite knowledge and skills necessary for high-quality EI/ECSE preparation, research suggests that special education preparation programs experience challenges when it comes to adequately preparing preservice teachers in family collaboration (Jones et al., 2020; Kyzar et al., 2019). Ultimately, this may impede the successful inclusion of children with disabilities in early childhood education contexts (Beneke & Cheatham, 2016). For example, variation in state-specific licensure standards can also pose a challenge, because if state standards do not prioritize collaboration with families, faculty are less likely to prioritize this in their instruction (Francis et al., 2021). Variation in national organization standards could also create a challenge. The need for interdisciplinary training in EI/ECSE preparation has been stated as an important need for EI/ECSE preservice preparation (Kilgo et al., 2019). Professional organizations' standards vary in the degree that they prioritize family-professional partnerships (Burke et al., 2024) which could make it a challenge for faculty who need to make decisions regarding how much family-professional collaboration content to incorporate into their instruction. In addition, addressing the disproportionate rate of young children being suspended or expelled from early childhood programs (Gilliam, 2005; Loomis et al., 2022) points to the urgent need for preservice teachers to be prepared to collaborate with families. This collaboration is crucial for developing strategies to reduce exclusionary discipline in high-quality early childhood settings. Therefore, the efficacy behind programs and curricula aimed at preparing preservice teachers with knowledge and practices regarding family-professional collaboration are necessary - and likely very helpful - to equip faculty in special education preparation programs to make decisions about instructional methods that have been shown to prepare preservice teachers in this area.

Inclusion in early childhood education has numerous benefits for all children, and effective family-professional collaboration is an essential component of high-quality inclusive practice in early childhood programs (U.S. Dept. of Health & Human Services and U.S. Dept. of Education, 2023). Preservice EI/ECSE teachers must be equipped with knowledge and practices in family-professional collaboration to support inclusion. To provide a holistic view of curriculum and instruction in the area of family-professional collaboration, a mixed-methods systematic review was conducted to answer the following research questions:

1. What are the characteristics of instructional strategies used in teacher preparation programs to increase preservice EI/ECSE teachers' knowledge and/or practices regarding family-professional collaboration?
2. Do the instructional strategies improve preservice EI/ECSE teacher knowledge and/or practices regarding family-professional collaboration?
3. What are the implications for faculty and researchers interested in instruction and curriculum development in this area?

This mixed methods systematic review focuses on EI/ECSE preparation, rather than general education, to specifically address the unique knowledge and practices required for preservice EI/ECSE students to collaborate with families.

Methods

The Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) (Page et al., 2021) and PRISMA for systematic review protocols (PRISMA-P) (Moher et al., 2015) were used to guide protocol development and report the methods for this systematic review. Studies were also included if they included elementary special educators, since ECSE spans PreK through Grade 3 (DEC, 2014). Studies that included interdisciplinary preservice preparation programs as well as dual preparation programs were also included as long as preservice special educators were included in the sample.

Inclusion and Exclusion Criteria

Eligibility criteria to determine inclusion/exclusion criteria were developed using Sample, Phenomenon of Interest, Design, Evaluation, Research type (SPIDER) guidelines as well as the literature in early intervention, early childhood special education, and special education. Inclusion criteria are as follows: year of publication (1968-2024, to align with the start of HCEEP); language (English); type of publication (peer-reviewed journal articles); location (conducted in the United States); research design (any empirical research design), participants (students enrolled in early intervention or special education teacher preparation programs), and outcomes (measures or explores practices and knowledge about family-professional collaboration). ProQuest was searched to identify dissertations. Dissertations are not considered peer reviewed and as such, were not included in the final list of included studies; however, the reference lists were checked as part of the hand search process. Results were excluded if: they were not a quantitative or qualitative study (e.g., book chapters, letters to the editor, conceptual papers, reports); the publication date was prior to 1968; the article was not published in a peer-reviewed journal; preservice teachers were not included in the sample; or if knowledge or practices were not explored or measured as outcomes.

Search Strategy

As this was a mixed-methods review that included both quantitative and qualitative research, the SPIDER tool was utilized to develop key components of the research question and search strategy. In addition, a standardized peer review assessment form known as the Peer Review of Electronic Search Strategies [PRESS] is recommended by the Cochrane Handbook version 5.1 to increase search strategy validity. At the time that this research was conducted, PRESS version 2015 was the most up-to-date version and was thus used for our study (McGowan et al., 2016). Consequently, a combination of the SPIDER tool and the PRESS assessment form were utilized to develop a search strategy that would: (a) be in alignment with the purpose of this review and (b) increase search sensitivity.

After developing initial search terms and search filters, the PRESS (2015) assessment form was used to obtain feedback on the search terms from a university librarian. A number of revisions were made to the search terms and filters as a result of this feedback, including: removing the English filter to avoid mistakenly excluding articles that did not tag language, including SCOPUS in the list of databases, including just “special educat*” rather than both “early childhood special educat* AND special educat*”, and revisions to Boolean operators.

The final search terms included the following: *preservice OR "pre-service" OR "student teach*" OR "teacher education" OR (prepar* AND teacher*) AND collaborat* OR partner* OR cooperat* OR involv* AND "early intervention" OR "special educat*" AND parent* OR famil* OR father* OR mother* OR grandparent**. This search was run in each of the following databases: Academic Search Complete, ERIC, APA PsychInfo, SCOPUS, and ProQuest. Journal article websites, dissertation reference lists, and included article reference lists were hand searched to identify any additional studies that were missed.

Data Collection and Analysis

Search results were compiled using Zotero software. This phase encompassed four steps: (1) title and abstract screening, (2) full article screening, (3) data extraction, and (4) risk of bias assessment. Percent agreement and weighted Cohen's kappa statistic (Cohen's *k*) (Cohen, 1960) were calculated to determine interrater reliability. Percent agreement was determined by dividing the number of agreements by the total number of titles, abstracts, or articles and multiplying by 100. Cohen's *k* was calculated according to Belur and colleagues (2018) and interpreted according to Landis and Koch (1977). Twenty percent of data entries were selected at random for inter-rater reliability during the title screening, abstract screening, full article screening, and data extraction steps.

The following information was extracted from the included studies: study design, study population, number and demographics of student and family participants, college/university type, class type (i.e., face-to-face, online, hybrid), and teacher preparation program type (i.e., licensure, non-licensure, alternative route to certification, dual certification, and interdisciplinary). Data on the following instructional strategy characteristics were also collected: Family as Faculty, simulated IFSP/IEP meetings, role play, vignette/case study, family as guest speaker, family as co-instructor, home visits, completing a project with a family, in-class activity with a family, virtual simulations, family interview, and service learning. There was an option to select "Other" and describe further if the instructional strategy was not included in the aforementioned categories. Data were also extracted on the dependent variable measured/phenomenon of interest (i.e., knowledge and/or practices), location where family-professional collaboration interactions occurred (i.e., family's home, in class, field placement, remote/virtual, IFSP/IEP meeting, family's choice), and the format of collaborative interactions (i.e., face-to-face, written, electronic/virtual, family's choice).

Results

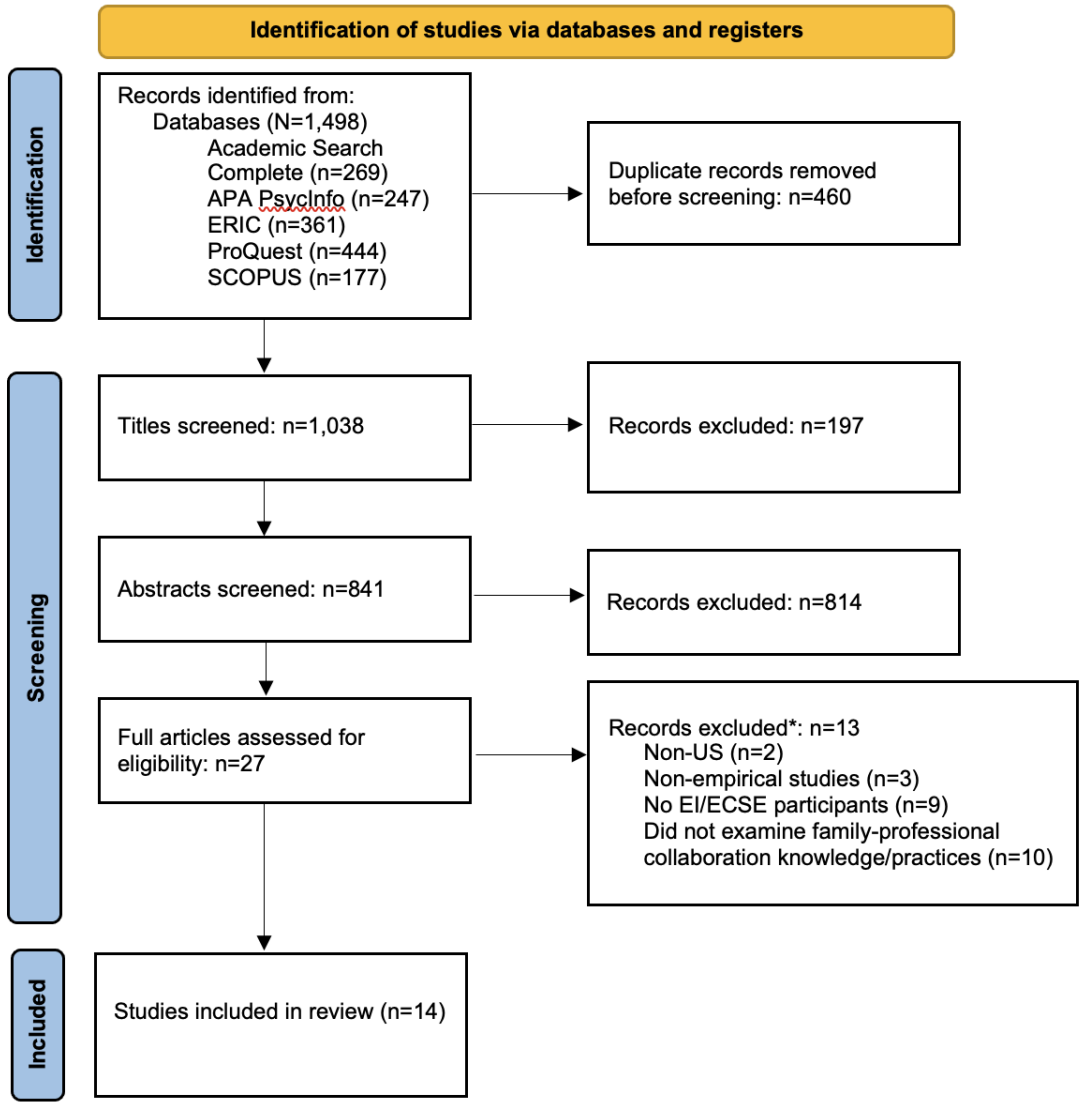
Title and Abstract Screening

After all results were compiled and duplicate records were removed (*n*=460), the first author screened N=1,038 titles and removed those that were conducted outside the US, were not written in English, were not empirical research studies (e.g., book reviews, letters to the editor), and/or examined topics outside the EI/ECSE or special education field. The second and third authors

conducted interrater reliability. The results suggested moderate reliability (90.8% agreement; *k*=0.52). Disagreements were discussed until consensus was reached.

Figure 1

PRISMA Flow Diagram



*Some records were excluded due to multiple reasons (e.g., were non-empirical and non-EI/ECSE).

The remaining N=841 abstracts were screened by the first author. Abstracts were coded as to whether it was evident from the abstract that the study: (a) was conducted in the US, (b) used an empirical research design, (c) included preservice special education teachers as participants, and

(d) examined knowledge and/or practices about family-professional collaboration. Twenty percent of abstracts were selected at random and screened by the second and third authors for reliability. Disagreements were discussed until consensus was reached. Interrater reliability calculations at this step suggested substantial reliability (92.2% agreement; *k*=0.67).

Full Article Screening

A total of N=27 abstracts were determined eligible for full article screening. The same steps were followed as described in the abstract screening step with the exception of adding a category to code whether the article was published in a peer-reviewed journal. At this step, dissertations were removed but set aside in an Excel spreadsheet to hand search (*n*=1 study was identified as a result of the hand search, see Pretti-Frontczak et al., 2002). The first author screened all the articles. Twenty percent were selected at random and screened by the second and third authors. Disagreements were discussed until consensus was reached. Reliability calculations suggested substantial agreement (91.3% agreement; *k*=0.795). After full article screening and the hand search of the dissertation reference lists were complete, a total of N=14 articles passed full article screening. See Tables 1 and 2 for the full list of included articles and their study characteristics.

Data Extraction

Study and University/Program Characteristics

A total of *n*=5 qualitative, *n*=1 pre/post, *n*=1 quasi-experimental, and *n*=7 mixed methods studies were reviewed. With regard to outcomes measured, *n*=4 examined knowledge, *n*=7 examined practices, and n=3 studies examined both knowledge and practices. Twelve studies were conducted at public universities, two at private universities, and none were conducted at a community college. Teacher preparation program type included *n*=9 licensure, *n*=1 dual certification, *n*=3 combination. Hindin and Mueller (2016) included a combination of students pursuing licensure and dual certification, Murray et al. (2013) included students pursuing teaching licensure and from interdisciplinary majors, and Carr (2000) included students on licensure, non-licensure, and alternative route to certification tracks. One study (Pretti-Frontczak et al., 2005) did not report teacher preparation program type. All included studies were conducted in face-to-face classes, with none reporting online or hybrid class formats.

Preservice Student Demographics

There was a total of N=466 preservice student participants across all included studies. Four studies reported the total number of students but did not report student gender identity (Able-Boone et al., 2002; Jenkins & Sheehey, 2009; Keilty & Kosaraju, 2018; Latunde & Louque, 2012). Studies that reported gender identity resulted in *n*=164 females, *n*=25 males. No other gender identities were reported. Four studies included students majoring in EI/ECSE, one included students pursuing PreK-Grade 12 special education licensure, four included students pursuing K-12 special education licensure, and five included a combination. Finally, out of the studies that reported

student undergraduate/graduate classification, *n*=90 were classified as undergraduate students and *n*=154 were classified as graduate students.

Family Demographics

Four studies reported including family member participants, totaling N=60 family members. Twenty-six identified as male and *n*=45 identified as female. No other gender identities were reported. Four studies that included family member participants reported family member demographics (Collier et al., 2015; Murray et al., 2013; Murray et al., 2008; McNaughton et al., 2007). Of these, *n*=46 were white, *n*=7 were Black or African American, *n*=5 were Asian, *n*=7 were Hispanic or Latino, *n*=1 were Native Hawaiian or Other Pacific Islander, and *n*=1 was other. One study reported family socioeconomic status (SES) (Collier et al., 2015). In this study, *n*=2 were from a low SES background, *n*=11 were from a mid-SES background, and *n*=1 was from a high SES background. With regard to family member role, *n*=20 were mothers, *n*=9 were fathers, *n*=2 were siblings, and one study included *n*=5 self-advocates who were adults with children. There were no grandparents, adoptive parents, foster parents, single-parents, or parents in same-sex relationships reported.

Instructional Strategy Characteristics

Data regarding the location of family-professional collaboration were extracted from studies that required students to interact directly with families. Five studies included a combination of locations; out of those four, three required interactions in class and at the family's home; one required interactions in field placements and the family's home; and one required interactions in class and in field placements. When extracting data regarding the location of student-family interactions, we counted each location individually; thus, some studies may have more than one location represented. In total, *n*=5 cited the family's home as the location where interactions between students and families took place, *n*=3 cited field placements (e.g., practicum, student teaching, service learning sites), *n*=10 cited interactions as occurring in class, and *n*=1 cited interactions as occurring virtually. None reported interactions as occurring during IFSP or IEP meetings.

The most frequent intervention characteristics were home visits (*n*=5), vignette/case study (*n*=5), and "Other" (*n*=4). The studies that used other instructional methods included the following: the Listen, empathize, and communicate respect, Ask questions and ask permission to take notes, Focus on the issues, and Find a first step (LAFF) active listening strategy (McNaughton et al., 2007); CaseQuest (Pretti-Frontczak et al., 2005), and sending reminders home to families for upcoming IEP meetings and impromptu conversations (Latunde & Louque, 2012; note that this was in addition to home visits). The remaining instructional strategies used were as follows: Family as Faculty (*n*=1), family as guest speaker (*n*=2), family as co-instructor (*n*=3), family as student (*n*=2), completing a project with a family (*n*=2), role play (*n*=2), completing an in-class activity with a family (*n*=1), family interview (*n*=2), and service learning (*n*=2). Most mixed methods studies measured intervention outcomes using thematic analysis (e.g., e-journals,

reflections, assignments submitted, questionnaire responses) and Likert-scale items. See Table 2 for specific measurements that were used in each quantitative and mixed methods study.

Risk of Bias Assessment

All included studies were subject to risk of bias assessment using the Mixed Methods Appraisal Tool (MMAT) version 2018 (Hong et al., 2018). The MMAT is designed to appraise the methodological quality and reporting of qualitative, quantitative, and mixed-methods studies. Items included in the MMAT have been shown to have content validity of .80 or greater (Hong et al., 2019). The MMAT includes appraisal questions for the following general types of study designs: qualitative, quantitative randomized controlled trials, quantitative non-randomized studies, quantitative descriptive studies, and mixed methods studies. Each type includes five questions to appraise study quality, with response options ranging from yes, no, and can't tell. Out of a possible score of 5/5 (100%), studies ranged from 20%-100%. Two studies published prior to 2006 did not include specific research questions. Due to this lack of specificity, we were unable to respond to the five quality appraisal items for those two studies. The percentage of quality indicators that were met in each included study are presented in the last column in Tables 1 and 2.

Table 1

Characteristics of Included Qualitative Studies

Author(s) (Year)	Study Design	Sample	Instructional Method(s)	Outcome of Interest	Key Findings	Quality Appraisal
Carr (2000)	Thematic analysis of open-ended pre/post questionnaires	N=92 students (undergraduate/graduate not specified	Video of family story, miniprojects (e.g., family agency visit), problem-solving activities, interviews, panels, role plays	Knowledge	Pre-questionnaire results found that over half of students reported being "closely involved" (p. 58) with families. Majority considered themselves responsible for students only. Value-laden terms used (e.g., "overbearing") and value conflicts with families were reported. Majority reported very little training. Post-questionnaire results found that participants' would listen more, seek parent input, and ask families questions. Some participants stated feeling better prepared to explain legal rights and the evaluation process, and that they planned to conduct home visits.	–

Hampshire et al. (2015)	Qualitative description using constant comparative method to analyze small group discussion transcriptions, reflections, and a final project	N=27 undergraduate students	Service learning projects with families (service learning sites varied)	Practices	Participants volunteered at a service learning site and participated in a forum to reflect on their experiences and make connections to class content. Students applied the Seven Principles of Partnership (Turnbull et al., 2011) at their sites and felt that they gained knowledge they would be able to apply when working with families from diverse backgrounds in their future career.	80%
Keilty & Kosaraju (2018)	Qualitative description using content analysis of text from student assignment	N=8 undergraduate and graduate students	Viewing a videotaped EI home visit	Practices	Participants developed competency in relational and participatory practices in the area of assessment and revealed a need for additional learning experiences in the area of intervention implementation.	100%

Latunde & Louque (2012)	Document collection process with topic coding of participants' activities completed during field placements to facilitate home-school collaboration	N=25 graduate students, comprised of student teachers and interns	Participants documented any activity they completed during field placement that directly aligned with state standards on home-school collaboration	Practices	Activities submitted were themed into the following categories: invitations to school programs, formal meetings (e.g., home visits, IEP meetings), informal discussions and unscheduled meetings, sharing information, and indirect collaboration (e.g., IEP writing).	60%
Murray et al. (2008)	Qualitative description using content analysis of focus group transcriptions	N=9 undergraduate students	Parents as co-instructors and project participants, virtual family scenarios	Practices	Meaningful interactions with families emerged as an impactful approach to enhance preservice students' parent/professional collaboration competencies.	100%

Table 2

Characteristics of Included Quantitative Studies

Author(s) (Year)	Study Design	Sample	Instructional Method	Outcome of Interest	Key Findings	Quality Appraisal
Able-Boone et al. (2002)	Mixed methods (Program evaluation, evaluated pre/post Likert scale items and questionnaires examining students' competencies to implement family-centered interventions)	N=45 students (graduate/undergraduate not specified		Practices	On a Likert scale from 1-3, participants' mean scores rose from 1.74, 1.57, and 1.73 to 2.86, 2.75, and 2.76 on interdisciplinary teaming, social inclusion practices, and family-centered interventions.	60%
Collier et al. (2015)	Mixed methods (Pre/post/ and follow up survey data was analyzed using descriptive statistics while qualitative description and comparative method were used in the analysis of reflection papers)	N=28 graduate students	Home visits, project-based and reflection assignments	Practices, knowledge	Increases in participants' confidence and understanding of home-school collaboration upon completion of the FAF program in a class.	60%

Hindin & Mueller (2016)	Mixed methods (Responses to closed and open-ended items were analyzed qualitatively and quantitatively in response to a case scenario)	N=37 undergraduate students	Case scenario	Knowledge	Participants suggested instructional strategies that could improve the problematic situation described in the scenario more often than describing strategies to enhance the family-professional partnership.	80%
Jenkins & Sheehey (2009)	Mixed methods (Data collected from syllabi, projects, grades, student evaluations, and guided notes)	N=113 graduate and undergraduate students	Service learning	Knowledge	Participants' course and project grades were measured as the learning outcome. Student performance in the *Collaboration* course taught across three years received an overall *acceptable* rating. In the *Families* course taught across two years, students received an overall *target* rating.	60%
Kerns (1992)	Pre-/post- and follow-up questionnaires including open- and closed-ended questions were used to examine changes in student's beliefs and practices	N=32 graduate students	Informal interviews, projects, and guest speakers	Practices	Participants' perceptions and comfort with working collaboratively with families were found to be more positive upon completion of the class. Positive collaboration practice experiences were reported by participants at follow-up.	20%

McNaughton et al. (2007)	Experimental study calculating and comparing pre/post scores of active listening strategy use	N=10 teacher candidates	Role-plays and reflective feedback	Practices	Increases in confidence and communication skills were measured among teacher candidates who participated in active listening training. Role-play lends itself as a favorable method to prepare early childhood professionals for working collaboratively with families.	80%
Murray et al. (2013)	Mixed methods (t-test analysis of the Family-Professional Partnership Survey and Learning Objectives and Activities survey, and content analysis of pre/post focus groups)	N=19 graduate students (*n*=12 school psychology, *n*=7 special education)	Parents as co-instructor, class participants	Knowledge	Participants reported gaining new skills and tools to collaborate with families. T-test results suggest significant differences in participants' ratings for eight out of 10 items on the Family-Professional Partnership Survey and over 90% reported questioning their initial ideas about social roles.	80%

Pretti-Frontczak et al. (2002)	Mixed methods (Self-reported responses to a self-assessment inventory [SAI] were analyzed using analysis of covariance [ANOVA] to measure competencies; reflections themed to supplement course evaluation data to measure satisfaction)	N=19 graduate students	Low (e.g., role play), moderate (e.g., observing IFSP/IEP meetings), and high (e.g., family co-instructors) family involvement activities across courses and practicum	Practices, knowledge	Repeated measures ANOVA results suggest statistically significant differences in self-reported responses to the SAI on family-centered practices items. Most students reported gaining family-centered practice knowledge through coursework and their work settings rather than practicum placements.	
Pretti-Frontczak et al. (2005)	Mixed methods (Pre/post competence scores were computed and a repeated measures ANOVA test was used to determine whether significant differences in scores existed	N=28 graduate students	Case study and e-journal	Practices, knowledge	Participants reported increases in knowledge and application of skills related to family-centered practices and technology practices within ECI.	–

Discussion

The purpose of this systematic review was to identify and synthesize studies that have evaluated specific instructional strategies intended to increase family-professional collaboration knowledge and practices, which is an essential component of successful inclusive practice in early childhood education. Studies that included participants in preservice EI, ECSE, and K-12 special education preparation programs were included to ensure we captured programs that prepare preservice students to teach children with disabilities from birth through Grade 3. A review of the available literature in this area has important teaching implications for faculty members' decisions regarding how to prioritize their instruction in the area of family-professional collaboration. Our review synthesized the findings from qualitative, mixed methods and quantitative studies to provide a comprehensive summary of available research in this area.

Our review included 14 articles, and within that small number, one was a program evaluation (Able-Boone et al., 2002) and n=5 were qualitative studies. Notably, one study utilized a quasi-experimental design, which provides insights into how to design this type of study within higher education programs (McNaughton et al., 2007). The studies examined a variety of different instructional strategies, which makes it challenging to draw a definitive conclusion regarding the efficacy of any single approach. The only instructional strategy included in the final list of studies that is considered an evidence-based practice is service learning. In addition to the diverse instructional strategies used, preservice students' knowledge and practices were also measured in a variety of ways. This likely resulted from various factors, including faculty's need to tailor assessment methods to the specific instructional strategies used, their preference for employing multiple evaluation methods, and the inherent challenge of assessing a complex construct like collaboration. Taken together, we feel it's important to point out that while the findings provide valuable information regarding the landscape of instructional practices for preservice EI/ECSE students to enhance their knowledge and practices to collaborate with families, they do not allow us to determine that any of the strategies are evidence-based. This points to a dire need for additional evidence-based teaching practices that faculty can choose from to teach family-professional collaboration to preservice EI/ECSE students. The lack of evidence-based practices for faculty to effectively teach family-professional collaboration has been noted in the literature (Kyzar et al., 2019; Strassfield, 2019). For example, Kyzar et al. (2019) state, "Yet, currently, the literature includes reports of isolated methods and strategies, and it is largely qualitative in nature" (2019, p. 322), and our findings further substantiate this; although the majority of studies identified in our review utilized mixed methods rather than qualitative-only methods.

Implications for Faculty Instruction

Despite the wide variation, our findings align with what several studies in the family-professional collaboration literature have found: that requiring students to directly interact with families is an effective way to increase preservice students' confidence and competence to collaborate with families. The quantitative and mixed methods studies in this review that seemed to show the strongest effects required preservice students to interact with families of children with disabilities across the entire semester. Although dated, Murray and Mandell (2004) interviewed early childhood intervention program graduates ranging from 6-30 months post-graduation to

understand the impact that a semester-long family-centered curriculum had on their current practice in the field. Participants reported that having multiple opportunities to interact with families of children with disabilities helped them understand and apply family-centered practices, and that 6-30 months later, they were still incorporating family-centered practices into their work. Some participants also reported increased confidence in interacting with families of young children with disabilities. In evaluating the description of family involvement in the courses in Murray and Mandell (2004) (e.g., father/sibling panels, identifying competencies, serving as instructors or co-instructors), these seem to align with moderate- to high-level family involvement activities outlined in Pretti-Frontczak et al.'s study (2002) (e.g., family panels, families as co-instructors who develop syllabi).

Even though the variety of instructional strategies studied makes it impossible to draw definitive conclusions as to the degree of evidence supporting their use, this variety can be viewed in a positive light. Incorporating instruction on partnering with families requires including this content across various aspects of teaching, including instruction, in-class activities, and projects. Faculty with limited resources to compensate for families' time as well as faculty without access to families may wish to know how other faculty have incorporated this content into their instruction. According to the studies in this review, instruction without families present (e.g., case studies, role playing) yielded positive outcomes, which suggests that these instructional strategies are better than no instruction at all. Many of these studies that utilized instructional strategies without families present may provide a helpful starting point for faculty to brainstorm ideas to include in their own instruction. In addition, some of the instructional strategies described in these studies can be applied to different types of classes (for example, family interviews could be assigned in both traditional and online courses).

In-Class Activities and Instruction

A variety of in-class activities and instructional strategies were used in the included studies. Examples of in-class activities and instructional strategies reported in these studies include case studies, role playing, reflective feedback, panels, and viewing videos. Some studies also included families directly and frequently. These methods invited families to serve as co-instructors, faculty members, and guest speakers. The key findings presented in Tables 1 and 2 suggest that all of these instructional strategies led to increased knowledge and practice application with regard to family-professional collaboration. It is important to note the variation in family participation with each of these methods. While we are unable to draw definitive conclusions based on the available evidence, we do hypothesize that the higher the family involvement (e.g., Family as Faculty), the more impactful and long-lasting the outcomes will be. By inviting families to collaborate to create the syllabus, provide students with feedback on assignments, and facilitate discussions, we can be certain that family voices are heard by our students and that families are placed in a position of having invaluable expertise to share.

However, since these findings suggest that activities with lower family participation also offer benefits (e.g., case studies, e-journals; see key findings in Tables 1 and 2), these should be considered for use in instruction as well. Of the studies that incorporated these strategies, students were required to submit written reflections and/or participate in whole group discussions. Questions and prompts specific to family-centered practice or family-professional collaboration were used to guide students in their reflections and to facilitate discussions.

Field Experiences

Direct interaction with families presents an invaluable opportunity for students to apply instruction and theory to practice. Latunde and Louque (2012) and Pretti-Frontczak et al. (2002) evaluated family-professional collaboration activities during field placements. Latunde and Louque required students to document any activities they completed during field placements that aligned with state standards on family-professional collaboration, the activities documented ranged from direct interactions with families (e.g., informal discussions, home visits, observing IEP meetings) to indirect interactions (e.g., invitations to school events, IEP writing). Many of these documented activities are important experiences for students to have, such as observing IEP meetings. However, research on family-professional collaboration across both general and special education, such as family-centered practices (Dunst, 2002), the Dual Capacity-Building Framework (Mapp & Bergman, 2019), family-professional partnerships in special education (Blue-Banning et al., 2004), and the overlapping spheres of influence (Epstein, 2019) all emphasize the need for bi-directional, diverse opportunities for family-school collaboration; as well as the need for schools to move past only viewing school-centric forms of family participation as valuable (e.g., inviting families to school events and sharing information, as documented by students in Latunde and Louque's study). This body of research suggests that schools should support and encourage family capacity to advocate, share their expertise on their child, participate as active members on IFSP and IEP teams, and empower them to support their child's development and learning. Latunde and Louque's study suggests that students may not realize they are only engaging in basic forms of family-professional collaboration, which makes it imperative for faculty to provide guidance to support students to engage in diverse forms of family-professional collaboration during field experience that are in alignment with the DEC Recommended Practices (DEC, 2014) and CEC EI/ECSE Initial Practice-Based Standards (CEC, 2020).

Pretti-Frontczak and colleagues (2002) found that students in their study reported gaining more knowledge about family-centered practices through coursework and work settings than through practicum experiences. This discrepancy may stem from the limited opportunities preservice teachers have to observe family-professional interactions during their field experiences (Accardo et al., 2020; Collier et al., 2015). Accardo et al. (2020) also note that many preservice students face restrictions at their field placement sites that limit their ability to interact with families. To address this, faculty could collaborate with mentor teachers to emphasize the importance of family-professional partnerships and create opportunities for students to engage with families more actively during their field placements.

Implications for Future Research

There are several areas that can be explored in future research. The ability of higher education programs to measure students' collaboration practices after graduation would be an informative and important outcome to measure (Bricker et al., 2022). A consideration for future research is to measure students' retention of family-professional collaboration knowledge as well as their use of practices taught in preservice preparation courses to understand the long-term effects of these instructional strategies. Strassfield (2019) shared several recommendations to enhance family-

professional collaboration curriculum content that could be considered in future research. For example, examining the effects of a standalone course on family-professional collaboration could be a potential study, or evaluating methods to teach instruction on advocacy and dispute resolution resources. None of the included studies published after 2004 examined specific characteristics of family-professional partnerships outlined in Blue-Banning et al. (2004), and only two measured specific aspects of family-centered practice (Keilty & Kosaraju, 2018; Pretti-Frontczak et al., 2002). Examining whether instructional strategies align with family-centered practices and/or family-professional partnerships is an important area to explore in future studies, as these two areas outline key skills and professional behaviors that preservice students will need to collaborate with families. Studies on curriculum and instruction used in community colleges are an important area of future research. Given their affordability and accessibility, community colleges can reach non-traditional students and offer certifications and transferable credits in a variety of early childhood fields. Research on instruction that faculty are implementing in community college coursework is an area that needs to be explored. Similarly, additional research is needed in hybrid and online class formats, as all of the studies in our review were conducted in traditional, face-to-face courses. An additional area to consider for future research would be curriculum and instruction focused on enhancing preservice student competence to collaborate with families to address challenging behaviors specifically. None of the included studies focused on this area in particular. Due to the rising number of suspensions and expulsions in early childhood, this is an area of great need for program graduates entering the field. Finally, since the focus of this review was on early childhood special education, future research could explore the role of instructional strategies aimed at enhancing early childhood educators' practices to collaborate with families.

Limitations

While the findings presented here are a valuable starting point, there are a few limitations. First, while we wanted to include studies that included preservice EI/ECSE and K-3 special educators, some of the descriptions of study participants were vague and only described as K-12 special education preservice students. This made it difficult to know for certain whether the participants were in fact intending to teach in the early grades or if they were aspiring to teach in later grades or high school. Another limitation was difficulty determining the quality appraisal for included studies. We found that the more recent studies were easier to appraise due to more specific and detailed reporting requirements, which provided clearer descriptions of participants, methodologies, and outcomes. Our decision to limit articles to those published in English and to exclude dissertations presented an additional limitation since studies could have been excluded that could have offered valuable insight. Lastly, we did not extract data on child disability type. It is possible that families' experiences and availability to participate in preservice preparation may be impacted depending on disability type and severity, so extracting this information may have provided helpful information for faculty.

Conclusion

Inclusion in early childhood education has numerous benefits for children with and without disabilities (Beneke et al., 2019; Justice et al., 2014; Tsao et al., 2008), and it has received legislative support at the federal and state levels (Guralnick & Bruder, 2016). One essential component of inclusion is family-professional collaboration (Guralnick & Bruder, 2016). Findings from this systematic review provide a clearer understanding about curriculum and instruction in teacher preparation programs regarding family-professional collaboration. Across 14 included studies, this review supports previous research regarding the importance of direct interaction with families for preservice teacher development in family-professional collaboration. The results of this systematic review also revealed a significant gap in our understanding of effective strategies in teacher training aimed at bolstering preservice teachers' grasp and implementation of family-professional collaboration. Given the importance of family-professional collaboration when it comes to successful inclusion in early childhood education, this points to an urgent need for further research on this topic.

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