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Abstract

Young children often present with challenging behaviors such as tantrums, aggression, and noncompliance. Rates of expulsion for behavior concerns in early childhood are alarming and can have long-term negative implications for children and their families (Early Childhood Learning and Knowledge Center, 2022). Implementation of a systematic multi-tiered system of supports framework can improve behavioral outcomes of young children. To effectively meet child and family needs within these frameworks, it is integral for members of the team to collaborate. Interdisciplinary teams within early childhood might include families, teachers, school psychologists, behavior analysts, speech language pathologists, physical therapists, occupational therapists and other related mental health and medical providers. The Interprofessional Education Collaborative outlined competencies for interdisciplinary collaborative practice that are organized within four domains: values and ethics, roles/responsibilities, interdisciplinary communication, and teams/teamwork. To facilitate interdisciplinary collaboration (IC) in practice, it is important to provide opportunities for collaboration across disciplines within coursework and field experiences. In this paper, we provide an example of an interdisciplinary training program to support behavioral and mental health needs of children. The training includes graduate students in applied behavior analysis, school psychology, and special education. Scholars participating in the program complete coursework for their specific programs in addition to joint coursework, seminars, and practicum activities in school settings. Throughout the program, scholars gain knowledge

and skills in eight competencies identified for the program. Based on the literature and our training experience, we also outline insights and actions for training at the university-level and practitioner-level to implement interdisciplinary teaming.

Keywords: *Interdisciplinary, collaboration, challenging behavior, pre-service training, early childhood*

Interdisciplinary Collaborative Practice in Early Childhood

The use of effective multi-tiered interventions in schools can have profound positive effects on child and teacher success. A Multi-Tiered Systems of Support (MTSS) framework can be defined as “an educational framework for continuous improvement, problem-solving, and decision-making” (Nebraska Department of Education, 2022). The successful implementation of an MTSS framework should include universal screening, differentiation of goals and objectives, tiered social and academic interventions, and ongoing progress monitoring. MTSS within an early childhood framework addresses the mental health and behavioral needs of every child, regardless of their ability, eligibility, or cultural background, and can be addressed by integrating assessment and intervention (Council for Exceptional Children Division for Early Childhood [CEC], 2021). When implementing an MTSS framework, the goal is to identify the needs of the children and to match them with appropriate supports across the tiers (i.e., universal, targeted, intensive). The supports are often provided by interdisciplinary teams of professionals with expertise in child development and behavior which can be integrated in inclusive settings to meet the diverse needs of all children (Grisham-Brown & Hemmeter, 2017). The key to effectively implementing an MTSS framework is to make certain that it is a data driven decision-making process (CEC, 2021). This approach emphasizes preventative and responsive approaches to children’s behavioral needs (Marsh & Mathur, 2020).

The Pyramid Model has been promoted as an early childhood MTSS framework which augments the three tiers mentioned above with the foundation of an effective workforce (National Center for Pyramid Model Innovations, n.d.). This foundation includes training, policies, and systems to ensure that early childhood professionals are skilled in delivering evidence-based practices to the children they serve. Previous research on the application of the Pyramid Model in early childhood settings has demonstrated that when teachers receive proper training and coaching on the implementation of tiered supports, children with or at-risk of disabilities can improve their social skills and reduce problem behavior (Hemmeter et al., 2014).

Despite calls for use of a more positive, preventative approach to respond to common behavior challenges (e.g., aggression, tantrums, and noncompliance), negative discipline strategies such as expulsion continue to be used in early childhood. In fact, within state-funded programs, each year approximately 8,710 three- and four-year old children are expelled or excluded from attending a school for disciplinary reasons (National Association for the Education of Young Child, 2017). These rates are 3.2 times higher than those found in kindergarten through twelfth grade and discrepancies exist between student enrollment demographics and expulsions (Gilliam, 2005). Boys are more likely to be expelled than girls and students who are Black and those with disabilities are expelled at rates that are more than twice their enrollment (Black students account for 18.2% of enrollment, but 38.2% of expulsions; students with disabilities account for 22.7% of enrollment, but 56.9% of expulsions) (U.S. Education Department, Office of Civil Rights, 2021). Overall, rates of expulsion in early childhood are alarming and can have long-term negative repercussions for children and their families. For example, children who are expelled have fewer opportunities for learning and socializing, may develop negative views of themselves and school, and continue to show behavior concerns that impact their functioning and future school success

(Early Childhood Learning and Knowledge Center [ECLKC], 2022). Behavior concerns are also linked to high student dropout rates, later unemployment, incarceration, and homelessness (Kataoka et al., 2002). Expulsion also places a burden on families and is associated with increased stress, job loss, and harsher parenting practices (ECLKC, 2022). Furthermore, without effective services delivered within school systems, children are unlikely to receive necessary intervention (Whitney & Peterson, 2019). Unfortunately, limited coordination across disciplines can result in fragmented and less effective intervention (Holmes et al., 2021). Coordinating efforts across disciplines is important to enhancing outcomes and decreasing stress placed on families to be case managers between school, medical, and community providers (Kervick et al., 2021).

A systems approach to meet children's needs will often involve several individuals including families, early childhood special education teachers, school psychologists, behavior analysts, developmental pediatricians, and mental health providers (see Table 1 for an overview of individuals commonly involved in early childhood). For example, special education teachers provide instruction, accommodations, and modifications to curriculum to meet the unique needs of the child. They are part of the multi-disciplinary team for determining eligibility for special education services and will often serve on school teams for implementing school-wide supports for learning and behavior. They are also responsible for individualized education programs (IEP) or individualized family service plans (IFSP) that detail the services, accommodations, and modifications necessary to support the child's development and inclusion in the general education setting. Furthermore, they collaborate with families and professionals across disciplines to coordinate services to ensure children have access to a free appropriate education in the least restrictive environment (Individuals with Disabilities Education Improvement Act, 2004, 2012). School psychologists provide comprehensive services to children with disabilities, supporting their academic, social-

emotional, and behavioral success. This is accomplished both through direct educational and mental health services to children, as well as by indirect and consultative service to parents, teachers, and other educational professionals. For children with severe and high-intensity needs, school psychologists are instrumental in the identification and evaluation of disability, and the development and progress monitoring of services and supports. Board Certified Behavior Analysts (BCBA) have extensive understanding of behavior within the environmental context. In school settings, applied behavior analysts are well positioned to assess the function or reasons for challenging behaviors and develop focused behavior intervention plans in coordination with other providers to prevent, intervene, and teach more adaptive skills.

Although each of these individuals aim to support children and families, coordination of their efforts may be limited as most school mental health professionals indicate that they do not receive training in how to engage in interdisciplinary collaboration (IC) (Arora et al., 2016). When individuals receive training related to IC in coursework and field experiences, they report feeling more prepared and are more likely to engage in IC in their work (Arora et al., 2019). To facilitate training and supports for children, families, and teachers, there is a need within pre-service programs to develop interdisciplinary leaders that are able to effectively team and collaborate with professionals across disciplines (Bradley-Klug et al., 2013). The purpose of this paper is to describe: (a) the value of IC and teaming within these frameworks, (b) an example of an interdisciplinary graduate training program focused on developing leaders to support behavioral needs of children, and (c) insights and actionable steps for training at the university and practitioner level to encourage IC.

Value of Interprofessional Teaming and Education

In clinical settings, interprofessional teaming is defined as “The levels of cooperation, coordination and collaboration characterizing

the relationships between professions in delivering patient-centered care” (Interprofessional Education Collaborative, 2016). In educational settings, this same type of teaming among professionals and families is imperative for creating successful educational environments for all children but especially for those with severe emotional or behavioral health needs. For children whose needs represent an educational disability, the Individuals with Disabilities Education Improvement Act requires that special education services be planned and provided through an interdisciplinary team (IDEA 2004, 2012).

The principles of interprofessional teaming apply to IC in school settings. Common barriers also exist, such as differences in policies/standards, lack of understanding roles and responsibilities, lack of common language, and logistical barriers (Manor-Binyamini, 2007; O’Keeffe & McDowell, 2004). These challenges have likely been exacerbated in interdisciplinary educational teams because team members often received their pre-service training from separate programs with little overlap in coursework and little exposure to the roles, competencies, and strengths of other education professionals (Dobbes-Oates & Morris, 2016).

Interprofessional education (IPE) is a means of addressing the siloed approach in pre-service training environments to promote the development of interdisciplinary teaming skills. IPE occurs when two or more professionals learn with each other and are equipped to develop a collaborative relationship across their professions that improves the quality of care provided (World Health Organization (WHO), 2010). IPE was first implemented within healthcare in the 1960s to help create a collaborative-ready workforce equipped with the understanding of various professionals and the skills to team with them to address health care needs. The WHO conducted a survey with 396 respondents from 42 countries to better understand the impact of IPE programs. Respondents reported benefits in educational experiences for trainees (e.g., real world experiences, guidance from different professionals, learning about other professions) and in

benefits to the healthcare systems (e.g., improved outcomes, staff morale; WHO, 2010). There is significant potential for positive effects on educational systems, educational policy, and child outcomes when IPE is adopted in pre-service educational programs.

Education professionals are well-suited for IPE given the various fields and backgrounds that come together to support children. There have been numerous demonstrations of IPE training experiences for disciplines within education including programs for school psychologists and speech and language pathologists (DeVeney & McKeivitt, 2021); special educators and school counselors (Dobbs-Oates & Morris, 2016); early childhood educators and social workers (Anderson, 2013); and special educators and physical therapists (George & Oriel, 2009). Engaging pre-service trainees from different disciplines in IPE has resulted in positive benefits that should result in stronger interdisciplinary teams when they enter the workforce. Trainees reported an improvement in their perceptions of their own profession and training and their perceptions of the other professionals included in the interprofessional program (DeVeney & McKeivitt, 2021). Trainees also reported being better able to understand the roles and responsibilities that each discipline contributes to a collaborative, teaming relationship (Anderson, 2013). Trainees' perceptions of the importance of collaboration and teaming is higher after participating in IPE (Dobbs-Oates & Morris, 2016; DeVeney & McKeivitt, 2021). Finally, language barriers based in professional jargon decreased as pre-services trainees worked together on projects and spent time questioning each other's jargon (Anderson, 2013).

The Interprofessional Education Collaborative (2016) developed specific competencies for best practices across disciplines to provide a foundation for interprofessional development. The competencies are organized into four domains: (a) values and ethics, (b) roles/responsibilities, (c) interdisciplinary communication, (d) and teams/teamwork. Direct training in these competencies across special education and specialty service may address deficits in interdisciplinary training and practice. These competencies served as a basis for interdisciplinary training for our personnel preparation program.

Table 1
Individuals Commonly Involved in Early Childhood Programs and Related Care

Profession/Field	Description	Professional Association
Applied Behavior Analysts	Conduct behavioral assessments, design interventions to improve adaptive behaviors and decrease maladaptive behaviors, provide training and coaching support	Behavior Analyst Certification Board https://www.bacb.com/about-behavior-analysis/
Developmental-Behavioral Pediatricians	Pediatricians that have specialized training and expertise to evaluate and provide treatment for developmental, learning and behavioral difficulties	American Pediatric Association https://www.academicpediatrics.org/sig/developmental-behavioral-pediatrics/ https://www.aap.org/en/community/aap-sections/developmental-and-behavioral-pediatrics/
Families	Provide insight into their children and are critical when making decisions about intervention	Center for Parent Information and Resources https://www.parentcenterhub.org/
Mental Health Professional (Psychologist, Licensed Mental Health Practitioners, Clinical Social Worker, or Counselor)	Psychologists conduct evaluations and provide evidence-based treatment for mental health concerns Licensed mental health practitioners, clinical social workers, and counselors provide treatment to address identified mental health concerns.	American Psychological Association https://www.apa.org/ American Board of Clinical Social Work https://www.abcsww.org/what-is-clinical-social-work American Counseling Association https://www.counseling.org/
Occupational Therapists	Use therapeutic techniques to rehabilitate, improve, or maintain a persons' ability to perform everyday activities	American Occupational Therapy Association https://www.aota.org
Paraeducators	Provide daily behavioral and instructional support to students with disabilities	National Resource Center for Paraeducators https://nrcpara.org/
Physical Therapists	Provide intervention and strategies to improve movement, reduce or manage pain, and prevent disability	American Physical Therapy Association https://www.apta.org/
School Administrator	Manages the organization and climate (safety, well-being) of the school, serves as an instructional leader, supports program accountability	The School Superintendents Association https://www.aasa.org/home/
School Counselor	Provide social-emotional classroom lessons, short-term counseling to individual students, and referrals for long-term supports	American School Counselor Association https://www.schoolcounselor.org
School Psychologists	Consult with teachers, families, and other support staff; conduct assessments to inform programs; provide direct support and interventions for mental health, learning and behavior	National Association of School Psychologists https://www.nasponline.org
Special Education Teacher	Ensure students with disabilities' needs are being met and that accommodations are being implemented	Council for Exceptional Children https://exceptionalchildren.org/

Table 1 continued*Individuals Commonly Involved in Early Childhood Programs and Related Care*

Profession/Field	Description	Professional Association
Speech-Language Pathologists	Provide intervention and strategies to improve students' speech sounds, language, literacy, social communication, voice, fluency, cognitive-communication, and feeding and swallowing	American Speech-Language-Hearing Association https://www.asha.org

Interdisciplinary Program Development and Evaluation

Prior to developing our interdisciplinary training program, faculty from Applied Behavior Analysis (ABA), Special Education, and School Psychology had an extensive history of collaboration. These collaborations included development of a specialized ABA program track in school psychology and special education. In addition, faculty in all three programs had a history of partnering in student and faculty research. Each of these experiences reinforced a shared interest among faculty in supporting our students' professional growth in the knowledge and skills of their respective fields, but also in the ability to successfully collaborate across disciplines. Because effective school teams are so critical to the success of young children who demonstrate behavioral challenges, we determined that IC was a necessary skill for students in our programs. We realized that students who are not provided with experiences and coaching in collaboration across disciplines may struggle to effectively team with these professionals after graduation.

Moreover, without sufficient exposure to the role and function of each profession, graduates may not be aware of the training and expertise that other professionals have and may even see other team members as competition rather than as partners (see Table 1). For these reasons, the Interdisciplinary Behavioral Consultation (IBC) Scholars project was developed. We received grant funding through the personnel development program through the Office of Special Education and Rehabilitative Services, Department of Education.

Table 2**Actionable Steps for Preservice Programs and Individuals in Practice**

Pre-Service Education Program Actions	
Values/Ethics	<ol style="list-style-type: none"> 1. Identify programs working with similar population group/who have shared goals for children and families 2. Keep focus on the needs and goals of children and families 3. Show respect for diversity and individual differences 4. Develop trusting relationships
Roles/Responsibilities	<ol style="list-style-type: none"> 1. Share roles and responsibilities of your discipline with faculty and staff in other programs 2. Explore complementary roles across professions
Interprofessional Communication	<ol style="list-style-type: none"> 1. Establish effective and reciprocal methods of communication across program faculty and students 2. Avoid use of discipline-specific terminology in conversations with other disciplines 3. Listen and encourage ideas and provide instructive feedback in a respectful manner
Teams and Teamwork	<ol style="list-style-type: none"> 1. Examine each discipline's program of study to determine potential for joint course work 2. Establish joint seminars and professional learning opportunities 3. Create simulations/group experiences across programs (e.g., case-based scenario discussions, mock Individualized Family Service Plan meeting) 4. Establish partnerships with local schools and organizations for field experience opportunities
Practitioner/Educator Actions	
Values/Ethics	<ol style="list-style-type: none"> 1. Establish administrative support for interdisciplinary communication and teaming 2. Demonstrate respect for other disciplines and team members 3. Collaborate with team to identify shared goals 4. Show respect for diversity and individual differences and recognize the need for culturally and linguistically appropriate services
Roles/Responsibilities	<ol style="list-style-type: none"> 1. Explore the roles and responsibilities of other providers within and outside of the early childhood education setting 2. Meet with individuals from other disciplines to learn more about their role and responsibilities on the team
Interprofessional Communication	<ol style="list-style-type: none"> 1. Include administrators in establishing routine team meetings and communication related to care coordination 2. Actively participate in routine team meetings 3. Determine who needs to be on the team
Teams and Teamwork	<ol style="list-style-type: none"> 1. Build rapport and trust 2. Use effective and efficient meeting procedures 3. Examine how each team member can facilitate goals

Note. Action based on IPEC (2026) Core Domains for Interprofessional Collaborative Practice

Within the program, scholars from the three disciplines participate in the following training activities: (a) unique coursework for their individual program; (b) joint coursework; (c) weekly professional seminars that include clinical topics, leadership and

skill-building opportunities, speakers from the community, and case discussions; and (d) interdisciplinary practicum in high-needs schools (e.g., early childhood, elementary, middle, high school and transition programs) providing behavioral consultation and supporting systems change efforts. Scholars receive supervision and mentoring from on-site supervisors and university faculty teams. Across these activities, scholars develop knowledge and skills in competencies we outlined as essential to all disciplines in meeting the needs of children with and at-risk for challenging behavior.

Identified Competencies

In addition to IC as described above, we selected core competencies for participating scholars to achieve within the program. The competencies were selected based on a review of overlapping content for each field aimed at meeting the needs of children with or at-risk for emotional and behavior disorders (e.g., National Association of School Psychologists Blueprint for Training and Practice, Council for Exceptional Children Professional Preparation Standards, Behavior Analyst Certification Board Task List) and based on review of the knowledge and skills related to MTSS/Pyramid. The eight competencies identified included: (1) child and adolescent development, (2) applied behavior analysis, (3) family-centered services, (4) intensive instruction, (5) identification of behavioral health needs, (6) functional behavioral assessment, (7) data-based decision making, and (8) systems-change and leadership. Each is seen as foundational to effective leadership in collaborative and coordinated interdisciplinary services to children receiving behavioral intervention services.

Child and Adolescent Development

An understanding of typical childhood development is essential to the design and delivery of effective early childhood education and intervention practices. This is particularly

important when determining whether a child's challenging behaviors (e.g., tantrums or defiance) represent age-appropriate behavior or a more serious concern (Tzuo, 2007). This is also a necessary consideration when conducting developmental and behavioral screeners and diagnostic or needs-based assessments. Knowledge of developmental milestones, including typical and atypical development, is promoted in our project through coursework and supervised experiences in school settings. For example, during case discussions, we prompt scholars to describe developmental considerations that contributed to selection of assessments and interventions.

Applied Behavior Analysis

ABA involves assessing behavior in relation to environmental contexts (e.g., setting events, antecedents, consequences) and using principles of learning to develop, implement, and evaluate socially significant behavior change procedures. ABA is an evidence-based practice (Slocum et al., 2014) that is applicable to all children in special and general educational contexts and applicable across a range of presenting problems (i.e., behavior, academic, social, cognitive, emotional). An understanding of learning, function, motivation, and reinforcement is foundational to understanding a child's behavior in the context of environmental variables, and this understanding is essential to the development of effective interventions (Kazdin, 2013). In addition to providing a framework for case conceptualization, ABA is the foundational science for specific evidence-based practices such as: behavioral consultation (Bergen & Kratochwill, 1990); Pyramid model (National Center for Pyramid Model Innovations, n.d.); classroom management strategies such as use of behavior-specific praise (LaBrot et al., 2022) the Good Behavior Game (Donaldson et al., 2018), and Preschool Life Skills program (Fahmie & Luczynski, 2018); and individualized behavior and educational interventions for children

across the continuum of developmental and functional capabilities (e.g., Moran & Malott, 2004; Walker, et al., 2004).

IBC Scholars develop knowledge and skills in ABA that permeate assessment techniques and the design of appropriate behavioral interventions. For example, in practicum, scholars receive guidance from site supervisors in using data (e.g., function, present levels of the target and desired behavior), literature, and ABA principles to develop interventions and evaluate the effectiveness of the interventions for individual children.

Family-Centered Services

Because of the specific focus in early childhood of meeting both the child's needs and those of the family (e.g., supports, training, resources), effective teaming must include strategies to engage and partner with families. While some families may take initiative in collaborating with school teams to support their children, often it is necessary for school personnel to actively invite, encourage, and reinforce participation (Epstein, 2011). School personnel should be skilled in communicating the importance of families in the problem-solving process (Christenson & Sheridan, 2001). This will frequently require school personnel to examine their own beliefs, experiences, and culture, so that potential bias or structural obstacles can be addressed (Beaulieu & Gomez, 2022; Goldenberg 2014). Within the seminar, we integrate several activities for scholars to deepen their understanding and the value of including parents as equal partners in the special education process. Specifically, scholars attend a panel discussion with parents of children with disabilities, complete paired in-depth discussions with a parent of a child with a disability, and engage in conversation around problem-based scenarios that aim to challenge implicit biases and encourage proactive strategies to engage diverse families in all aspects of the special education process (e.g., assessment, selection of goals, decision-making, etc.). Following these activities, the scholars complete brief reflections about the highlights of the experience and actions they can use in

their future work. For example, in the past, scholars have described increased appreciation of families, ways to better engage families, consideration of additional challenges families may be facing that might impact feasibility of interventions, actions to help the families know they are an important part of the team, ways to connect families to community resources, and methods to establish open communication.

Intensive Instruction

Children with behavioral and learning challenges often require intensive direct skills instruction (Blewitt et al., 2021). Direct instructional methods might include discrete trial training (Rabideau et al., 2018), pivotal response training (Brock et al., 2018), and errorless learning (Mueller et al., 2007) to teach pre-academic or social skills. School personnel need the ability to assess when such methods are needed, the understanding of how such techniques work, and skill in implementing various instructional procedures with integrity. All of the scholars in our program obtain experience in delivering intensive skill-acquisition programs for academic, developmental, or behavioral skills. For example, scholars have implemented functional communication training and taught social skills included in the Preschool Life Skills curriculum. Scholars in the special education program receive additional training in intensive instruction within unique coursework for their program.

Identification of Behavioral Health Needs

School professionals supporting behavioral health needs should be familiar with best practices in assessment. This requires knowledge of both Diagnostic and Statistical Manual of Mental Disorders (DSM) and IDEA diagnostic frameworks and eligibility criteria for special education services (Mattison, 2014). A thorough understanding of assessment within an MTSS framework is also important so that the child's needs can be identified early, and appropriate supports can be implemented. This competency

includes assessment practices in screening for developmental concerns, behavioral health needs, diagnostic and eligibility evaluations, and progress monitoring of social-emotional-behavioral goals (Martens & Ardoin, 2010). Within the disciplines represented in the IBC Scholars project, it is common for special educators and school psychologists to be trained in IDEA eligibility criteria and MTSS models, whereas behavior analysts are often less familiar with this content because it is not included within the Task List that informs coursework for university programs. Because all content is relevant for educational professionals serving children with and at-risk for behavioral concerns, we have supplemented the coursework found in IBC Scholars' respective programs with additional experiences and seminars in behavioral assessment (e.g., applied case scenario discussions, records review to inform questions, family interviews, use of behavior rating scales, common mental health disorders during childhood and adolescence, criteria for IDEA disability categories).

Functional Behavioral Assessment

The functional behavioral assessment (FBA) and behavior intervention plans (BIP) mandated in IDEA were largely derived from the science and practice of ABA (Gresham et al., 2001). In conducting an FBA, direct measures, including systematic direct observation and antecedent, behavior, and consequence (A-B-C) data, as well as indirect measures such as interviews and questionnaires, are used to examine potential functional relationships between child behavior and environmental variables (Steege et al., 2019). A determination of the function of problem behavior is then used to develop an appropriate function-based BIP. A great deal of research exists to support the use of FBAs to develop BIPs in early childhood and school-age populations (e.g., Cumming & O'Neill, 2019; Wood et al., 2014); however, there is also evidence that school teams frequently struggle to implement best practices in this area (Benazzi et al., 2006; Van Acker et al., 2005).

This may be due in part to the fact that while IDEA mandates FBAs in certain situations, the procedures involved are not defined explicitly (Zirkel, 2011). This gives the school professional a great deal of flexibility in choosing the methods best matched to the presenting concerns and environment of the child. If the school professional lacks training and experience in conducting FBAs, the quality of their work will suffer and ineffective BIPs may be prescribed.

The responsibility for conducting and interpreting FBAs often varies from school to school, so scholars from each field are given opportunities to conduct FBAs, use the information to develop BIPs, and evaluate the effectiveness of BIPs. Scholars' practicum placements vary from preschool to high school settings, and they complete at least one FBA per semester that include indirect assessment (e.g., record reviews, interviews) and direct assessment measures (e.g., ABC observations, antecedent and functional analyses). Scholars gradually increase their independence with the evaluations as they progress through the program. They also learn how to select appropriate methods for progress monitoring (e.g., definition, dimension of behavior, type of data collection, frequency of data collection, specification of data collector). Feedback is provided by the site supervisor and through discussions in supervision with university faculty. Scholars present one case study each semester in seminar so that similarities and differences in FBA and intervention practices across the various school placements can be discussed.

Data-Based Decision Making

To adequately and efficiently meet the behavioral needs of children, school teams need to be fluent in assessment practices and in the use of data to make educational decisions. These skills are foundational to an effective MTSS approach (Stoiber, 2014). Within an MTSS framework, school personnel should be fluent in assessment methods for identifying children's strengths and needs,

measuring the success of core instruction, and progress monitoring to determine when additional supports and interventions are necessary (Gresham, 2014). In addition to appropriate assessment practices, it is also essential that the data they yield are used to make decisions that benefit children. This requires school teams to understand how to interpret data and use single case designs for decision-making (Gould et al., 2018). For example, within practicum, scholars have provided training and coaching support to staff on how to implement and use data from the Behavior Incident Reporting System (National Center for Pyramid Model Innovations, 2020) to inform intervention selection.

Systems-Change and Leadership

Finally, effective leadership in the schools requires an understanding of implementation science. School personnel must understand how to facilitate the scale-up processes, build capacity, and address barriers to implementation. Effective leaders involved in educational change need skill in developing a shared vision among stakeholders, building relational trust with staff, using multiple sources to solve problems, and maintaining focus on teaching and learning (Holmes et al., 2013). School administrators are often the identified leaders in school systems, but all professionals interested in systemic change and supports for evidence-based practices should have some understanding of the leadership skills required to make change come about and to sustain effective practices. Within the professional seminar, we incorporate trainings from the National Implementation Research Network (NIRN) that focus on systems change process in school settings. To enhance skills in practice, we gave scholars opportunities to participate in teams at the school-level and state-level. For example, third-year scholars in school psychology helped develop and refine training materials for MTSS teams throughout the state focused on social-emotional-behavioral learning.

Program Evaluation

In coordination with an external evaluator, we outlined methods to evaluate the effectiveness of our interdisciplinary program. The evaluation involves a multi-method approach that includes quantitative and qualitative data to inform progress toward program goals, modifications needed, and summative program outcomes. For example, to assess scholar progress toward competencies several methods are used including (a) pre- and post-surveys of scholar's perception of skills and knowledge across the competencies, (b) focus group and individualized interviews, (c) site supervisor's ratings of independence, and (d) faculty review of scholar portfolio of works related to the competencies. To determine the effectiveness of the professional seminar and coursework, an external evaluator reviewed and provided feedback for improvements. In addition, the scholars complete course evaluations each semester. Complete data from the program are not yet available.

Actions for Improving Interdisciplinary Teaming in Practice

Through our experiences developing and implementing interdisciplinary training, we can share insights and recommendations for enhancing collaborative practices. Table 2 provides an outline of actions that can be taken at the university and individual practitioner-level based on four domains of IC: values, roles and responsibilities, interprofessional communication, and teamwork.

University Program/Pre-Service Training Actions

In the area of values, faculty and instructors can begin by identifying other programs on campus or across campuses that have similar goals to promote children's behavioral outcomes. For example, in early childhood settings, it is common for professionals from early childhood special education, school psychology, speech-language pathology, social work, developmental pediatrics, and behavior analysis to collaborate to assess and intervene to meet

child and family needs (see Table 1). In our case, we identified three programs that had a common goal and similar conceptual approach to meeting behavioral needs. When contacting personnel in the identified programs, it is important to communicate respect for the disciplines' contributions in addressing the needs and goals of children and families. As partners are invited to collaborate, time should be dedicated to establishing trusting relationships.

Each discipline can share common roles and responsibilities for practitioners/educators in the field. We found roles that overlapped across the disciplines such as FBA, intervention development, and data-based decision-making that allowed for a strong foundation. We also outlined the unique contributions of each discipline for meeting children's needs. For example, special educators have unique knowledge and skills related to academic instruction and curriculum, school psychologists have skills in evaluation and consultation, and behavior analysts have extensive training in behavioral assessment and intervention.

Effective communication is essential to collaborative teams. Establishing regular meetings and a framework for communication is critical to making progress toward goals. Active listening and related communication skills should be outlined and applied. Within meetings, we encourage individuals (e.g., faculty, scholars, professionals) to avoid using discipline-specific terminology. When these terms are needed, team members should provide definitions and examples that are accessible and understandable to others on the team. At times, jargon might unintentionally be used and team members can respectfully notice and ask for clarification.

Specific goals for the interdisciplinary team might include: (a) examining each discipline's program of study to determine potential for joint coursework, (b) establishing joint seminars and professional learning opportunities, (c) creating simulations/group experiences across programs (e.g., case-based scenario discussions, mock Individualized Family Service Plan meetings), and (d) establishing partnerships with local schools and organizations

for field experience opportunities. Interdisciplinary activities, such as simulations, are associated with increased relationship building, open communication, positive attitudes toward other professions, and enhanced learning experiences that are more similar to those encountered in practice (Bullard et al., 2019).

Practitioner-Level Actions

Similarly, practitioners and educators in the field can also strive to establish ICs by taking actions within each domain. Administrative support is key to prioritizing time and resources needed for effective teaming (Sista & Robledo, 2021). Strong leadership is critical for teams to be able to engage in collaborative processes and can also be supported through interdisciplinary coaching (Page & Eadie, 2019). It is important to recognize the family as an essential member of the team as families bring valuable background and information about behavior to the team. In addition, they often serve as a case manager between home, school, and community providers (Kervick et al., 2021) and are most likely to be the constant across time and teams for their child. When learning about the family, a care map can be created to visualize the web of services that a child and family receive (Antonelli & Lind, 2012). A practitioner can then gather information about the roles and responsibilities of each person or group listed and the goals they are supporting. Although it may not be possible for all parties across disciplines or agencies to meet on a routine basis, establishing methods for periodic communication is beneficial to best accomplish goals and support the family. Within early childhood team meetings, updates from other service providers can be shared.

Although teams often collaborate at the beginning of services (i.e., assessment and goal development), they are less likely to continue to collaborate in the provision of services (Sista & Robledo, 2021). A collaborative team-approach to working on goals means that strategies to facilitate goals are embedded in instruction/intervention by each person on the team when possible.

For example, a goal might be developed to improve expressive language skills that might also be associated with frustration and tantrum behavior. Across the child's day, naturalistic teaching strategies can be embedded to provide opportunities to support language development. Similarly, the strategies outlined on a behavior intervention plan (e.g., how to prevent tantrums, how to respond when the behavior happens, how to teach more adaptive skills) can be used across team members to increase consistency and predictability.

Overall, IC is integral to providing high quality early intervention programs, reducing the rate of expulsion, and improving behavioral outcomes of young children. To increase use of IC in practice, universities can provide coordinated and collaborative interdisciplinary coursework and experiences to pre-service educators and related practitioners that serve young children. It is also important to continue to address system barriers (e.g., time and resources) to encourage IC and thereby enhance child and family outcomes.

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