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BUILDING BRIDGES

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A Note from the Conference Chair and Proceedings Editor

The annual TED Conference in Richmond, Virginia was an overwhelming success! There were so many exceptional presentations, posters, roundtables, and more. We hope you were able to carry that energy home to your colleagues and students. Now that the spring semester is upon us, it is time to read about what your colleagues are doing. We are happy to present the TED 2022 Conference Proceedings!

Ninety-five single paper sessions were invited to submit. An invitation criteria was not set this year, hoping to open up the proceedings to more presenters. In total, 25 papers were submitted for the proceedings. Please note that individual authors are responsible for content accuracy.

We appreciate the time and effort submitting authors and the editorial team dedicated to these proceedings. Next year, we are planning on further opening the proceedings to roundtable, poster, and Kaleidoscope presenters. Our mission is to facilitate the sharing of research, best-practices, and innovative ideas. The TED Conference Proceedings is one small way to foster collaboration and communication among TED members and build community.

We hope you find the TED Conference Proceedings to be a valuable contribution to the publication of all the important work we are doing.

See you all in Long Beach, CA, October 30th – November 2nd for TED 2023!

Brannan Meyers	Andrew M. Markelz
Conference Chair	Conference Proceedings Editor

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Table of Contents

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PRACTICE MAKES PROGRESS: USING LESSON STUDY TO TEACH HIGH LEVERAGE PRACTICES TO PRESERVICE GENERAL EDUCATORS

Abstract

Teacher education has lagged in preparing general educators with the knowledge and skills necessary to support the learning of students with disabilities within inclusive classrooms. This study illustrates how small-scale action research can be used in higher education to analyze teacher preparation practices in a concerted effort toward improvement. Participants included (*n* = 35) preservice teachers in a graduate university teacher preparation program in the Pacific Northwest. Mixed methods were used to examine the impact of lesson study on preservice teacher self-efficacy to teach students with disabilities and implement High Leverage Practices. Outcomes from this study indicate the need to align coursework with practice learning opportunities to optimize the acquisition of knowledge and skills through deliberate practice. In addition, this study highlights how High Leverage Practices can serve as a pedagogical bridge between the perpetual division of special and general education teacher preparation tracks.

Background/Rationale

Evidence supports the Council for Exceptional Children's High Leverage Practices (HLPs) as having strong potential for improving academic and behavioral outcomes when implemented consistently (McLeskey et al., 2019). HLPs provide clear competencies for teacher candidates and have been widely taught in special education certification programs. However, HLPs have not been established as part of the core curriculum in general education preparation programs, despite data showing that 64% of students with disabilities are educated within inclusive settings for 80% or more of the school day (U.S. Department of Education, 2019). Due to minimal competency requirements at state and university levels, most programs do not offer subsequent field experiences or guided skill acquisition in HLP implementation for general education teachers (Kurth et al., 2021; McLeskey, et al., 2018). A central problem is that many teachers enter the field under-prepared to facilitate academic and social inclusion, resulting in negative outcomes for students with disabilities. General education teacher under-preparedness can be attributed to inauthentic learning opportunities that focus primarily on segmented disability categories, rather than effective instructional practices that can be implemented cross-categorically. In addition, many university teacher preparation programs rely heavily on text and lecture-based instruction with few opportunities to implement teaching strategies they read about within authentic clinical placements with K-12 students (Leko et al., 2015). As an alternative to traditional lecture-based professional development, the lesson study cycle has proven to be a powerful approach that enhances collaborative skills, pedagogical knowledge, content knowledge, and reflective practice (Brownell et al., 2019). Lesson study supports the teaching of evidence based practices and allows for extended opportunities for practice and feedback when aligned with university coursework (Roberts et al., 2018).

Purpose of the Study

The study was guided by a central problem of significance, that a teacher preparation program contained limited and out-of-context coursework on the topics of special and inclusive education. This resulted in graduates exiting the program with certifications, but lacking preparedness to effectively teach students with disabilities within inclusive classrooms. As a teacher educator, I developed an intervention entitled, *High Leverage Practice (HLP) Lesson Study,* and modified the scope and sequence of a required course on teaching exceptional learners. I embedded lesson study within this course and used mixed methods to determine the impact of HLP Lesson Study on the self-efficacy and capacity of preservice teachers to implement HLPs. The following two research questions guided the study:

1. How and to what extent did participation in the HLP Lesson Study impact general education preservice teacher self-efficacy in teaching students with disabilities?
2. How and to what extent did participation in the HLP Lesson Study impact general education preservice teacher capacity to effectively design and implement lessons that included HLPs?

Method

Participants included (n = 35) preservice teachers enrolled in a required graduate-level course on differentiated instruction. They held a variety of undergraduate degrees, ranging from accounting to psychology, with (n = 19) pursuing a secondary teaching certificate, and (n = 16) seeking an elementary certificate. Course material was presented in modular format and consisted of synchronous and asynchronous learning experiences. Assessments were aligned with learning activities that occurred in their practicum placements, where participants were required to spend two full days a week for the duration of the 15-week semester. Over a five-week cycle, they were placed into small groups called lesson study teams. In teams, they collaborated with peers to discuss student data (HLP#1) and developed a learning goal for an upcoming lesson based on that data (HLP#12). They planned a lesson where explicit instruction would be used to achieve the intended goal (HLP#12 and HLP#16). In the planning process, they adapted curriculum tasks and materials as needed to support specific students (HLP#13). Once they collaboratively planned their lesson, participants recorded themselves teaching an explicit instruction lesson on video. Following the lesson, candidates conducted a self-analysis of the video and debriefed the lesson with their lesson study team to assess the impact of instruction on student learning and recommend revisions (HLP#6).

I gathered quantitative data using the Teaching Students with Disabilities Efficacy Scale as a pre- and post-measure to determine growth in perceived self-efficacy as a result of the intervention (Solomon & Scott, 2013). Qualitative data sources included open-ended question responses, video recorded collaboration sessions, preservice teacher documents, and analytic memos. After using a constructivist grounded theory methodology to conceptualize the ways that preservice teachers developed over the course of the intervention, I analyzed each type of data separately and integrated the quantitative and qualitative results (Gelo et al., 2008; Charmaz, 2014).

Results

Survey data showed an increase of 21% in the average survey score across the five-week lesson study. The largest growth margins were evident in areas of instruction. 91% of preservice teachers agreed or strongly agreed with the statement regarding their ability to make curricular adjustments, compared to 43% in the pre-test. In addition, 99% of preservice teachers agreed or strongly agreed that they could break down a skill into its component parts in the post-survey, compared to 37% in the pre-test. Qualitative data from the survey supported these results. Preservice teachers attributed increased levels of self-efficacy to their newly acquired understanding of student data and how it can be used to determine student needs (HLP#12 and HLP#13). They also attributed higher levels of self-efficacy to an acquired understanding of teaching approaches, and that they had the opportunity to implement those approaches through practice. Qualitative findings showed that when preservice teachers collected K-12 student data across the HLP Lesson Study, they acquired knowledge of its value in individualizing instruction. Despite having limited to no prior experience teaching, participants acutely identified individual student needs and appropriately adapted curricular tasks and materials for students with disabilities because of the sequential activities in the HLP Lesson Study.

Implications

Results suggest that preservice teacher self-efficacy and capacity to teach students with disabilities can develop efficiently when there is a direct alignment between content and application in authentic contexts. Lesson study is a promising approach to support candidate acquisition of HLPs by closely aligning content with opportunities to practice and receive feedback within authentic clinical settings, focusing explicitly on the instruction of students with disabilities. This study also emphasizes the need to incorporate HLPs in general education methods coursework and suggests value in cross-departmental collaboration to conduct several iterations of the lesson study cycle. More research is needed in different settings to determine the effectiveness of the HLP Lesson Study in university teacher preparation programs, or in school district professional development. While it was outside the scope of this study to conduct an analysis of K-12 student data, findings from a future study could provide insight into how HLP Lesson Study can facilitate student access to and progress in the general education curriculum.

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A VIRTUAL COACHING MODEL TO SUPPORT DYSLEXIA INTERVENTIONISTS

Abstract

This presentation describes research exploring the use of a “practicum coach” model for supporting students enrolled in a university-based, non-degree granting, fully online graduate certificate program in dyslexia assessment and intervention.

Background/Rationale

Teaching students with dyslexia requires a deep understanding of the reading process as well as the characteristics of dyslexia (e.g., IDA, 2018). Opportunities to enact evidence-based practices (EBPs) are critical in supporting teachers’ implementation of strategies that are responsive to the needs of struggling students (Brownell et al., 2020). Though it is common practice for mentor teachers and/or university supervisors to provide support during pre-service field experiences, practicing teachers and other interventionists also benefit from practice-based experiences. Practice opportunities that include constructive feedback can be a driving force in the development of instructional expertise (Benedict et al., 2016). Effective instructional coaching practices are individualized, extended over time, context-specific, and focused on specific instructional skills (Kraft et al., 2018). According to the National Center for Systemic Improvement (NCSI, 2019), direct observation, modeling, and performance feedback are useful for improving practice. Effective instructional coaching models are also grounded in developing partnerships, working one-on-one, demonstrating empathy, and engaging in dialogue (Knight, 2007). The use of virtual teacher coaching has been more recently discussed in the literature as a way to address the need of providing high-quality coaching in distance settings (Zimmer & Matthews, 2022).

Gaining a deep understanding of how to improve the knowledge and skills of diverse practitioners working with dyslexic individuals is vitally important. One novel way institutions of higher education are attempting to make strides in this sphere is through the offering of short but targeted non-degree granting graduate programs in dyslexia assessment and intervention. Individuals who work with and advocate for students with dyslexia across varied contexts can participate in these types of programs. Though practicing teachers benefit, other types of practitioners, such as speech and language pathologists (SLPs), private tutors, school administrators, university faculty, and even parents, can benefit from the narrow focus, without the time and financial commitments of a full graduate degree program.

The case study described in these proceedings explored the features of one Graduate Certificate in Dyslexia (GCD), a university-based non-degree granting program with a five-course sequence of online courses. The GCD prepares participants to conduct assessments and provide evidence-based intervention for students with dyslexia. The developers of the program used conceptual frameworks for professional learning (Desimone, 2009) and the International Dyslexia Association's Knowledge and Practice Standards for Teachers (IDA, 2018) as anchors. The first four courses provide rich content with embedded practice opportunities. The practicum (course five) includes over forty hours of intensive reading assessment and intervention. Participants submit video of their teaching as well as other artifacts (literacy pre/post-assessment reports, session notes, online discussions and reflections, etc). In order to better support students completing this rigorous, immersive experience, each graduate student is assigned a "practicum coach", all highly skilled interventionists and graduates of the GCD.

Methods

Despite a sizable literature base in instructional coaching, less is known about the effects of applying these coaching models to graduate virtual practica. Though feasibility and efficacy research is needed, we designed this descriptive study as a means to first identify the features of one program attempting this model with preliminary signs of success. We adopted qualitative case study methodology (Merriam, 1998) to answer the following research questions: (1) Which distinctive features of the model do Dyslexia Practicum Coaches identify as significant to graduate student success? (2) How do Coaches perceive their role in supporting graduate students enrolled in the practicum experience?

We employed purposive sampling (Gentles, et al., 2015) to select participants for the study. With approval of our University's Institutional Review Board (IRB), all GCD coaches were invited to participate via email sent by the first author, who, as the Practicum Coordinator, serves in a supportive but not supervisory role. Eight of ten coaches agreed to participate in the study ($n= 8$). Participants ranged in age from 28 to 57, and worked in diverse reading-related professional roles (general and special education teachers, reading or instructional coach, and school- or clinic-based interventionists). Their years in the field ranged from five to 35 years. All held a minimum of a master's degree and were themselves completers of the GCD.

We collected four types of data: (1) transcripts of interviews; (2) field notes from video observations; (3) Coaches Logs; and (4) relevant course artifacts (e.g. transcripts of feedback within GoReact; assignment feedback on assessment reports and intervention plans; and graduate students' anonymous evaluations of coaches). Data collection and analysis phases ran concurrently. Participants were given the opportunity to complete interviews via email or Zoom. All participants, who have fulltime jobs in addition to their work with the GCD, chose to provide interviews through email. According to James (2016), email interviews allow research participants to choose the time and place to engage, and to create space in comfortable surroundings to reflect and think deeply about their experiences.

The first author used individual interview transcripts as the primary data source for initial formative analysis, returning to participants for member-checking (Lincoln & Guba, 1985). The other data sources were then used to triangulate (Merriam, 1998) this initial analysis. The first author also discussed these emerging analyses with a peer debriefer (Lincoln & Guba, 1985) – a colleague familiar with reading intervention, but unaffiliated with the GCD or researchers' university. Revisions to preliminary analysis were made as needed. Next, the full research team entered into a focused phase of collaborative analysis (Cornish et al., 2014), where we developed a thick description of the Practicum Coaches' context within the GCD, as well as a cohesive story-line of their experiences (Murray, 2003). During this final phase, we returned to our secondary data sources regularly to evaluate where our findings aligned across data sources and to identify spaces of disconfirming evidence. An outline of our finalized results was then sent back to participants for one last round of member checking. The credibility measures we employed included transparency of positionality and reflexivity of researchers; a clear theoretical perspective that drove the study design and implementation; triangulation of data sources; collaborative analysis; peer debriefing and member checking; and thick description of the bounded case targeted in the study (Leko et al., 2021; Merriam, 1989).

Results

Which distinctive features of the model do Dyslexia Practicum Coaches identify as significant to graduate student success? Coaches identified program, coach, and training characteristics as defining contributors to their success with graduate student mentees. Coaches placed a high value on the GCDs extensive practice opportunities alongside timely feedback. For example, content- and skill-developing experiences are intermingled in the first four courses, and video recorded practice experiences with timestamped feedback are systematically advanced in each. This incremental approach ensures that graduate students reach the immersive practicum phase better prepared. During the practicum, graduate students complete 40 or more hours of assessment and intervention, provide lesson plans/sessions notes for all sessions, and submit a minimum of six videos for feedback. Graduate students watch their submissions first and tag each step of the intervention, which promotes self-reflection prior to Coach feedback. Coaches review and provide timestamped feedback (within three days) on both planning and implementation of lessons. This asynchronous feedback is followed with one-on-one feedback via virtual conferences, which occurs within one week of the posted video. Graduate student self-reflection provides Coaches with an entry point for discussion.

Analysis also revealed that Coaches recognized the unique knowledge, skills, and dispositions they bring to the GCD work and shared a common concern for struggling readers, as well as a sense of responsibility to the profession and to peers. They reported disparate experiences in how they learned to read as young children, and made connections between these memories, their first experiences working with struggling readers, and their shared commitment to the work. They identified their colleagues' diverse backgrounds, professional contexts, and specializations as foundational to the group ethos. These diverse characteristics allowed Coaches to contribute multiple viewpoints as they collaborated and supported their mentees.

Finally, coaches identified their initial training and ongoing support as another defining characteristic of their success. All Coaches were completers of the GCD. They also participated in an intensive initial training that included feedback practice as well as an broad array of curated resources: a digital Feedback Manual, guidelines on how to systematically rollout feedback, with incrementally increasing expectations, and a Canvas shell with helpful links, exemplar videos and assessment reports. Ongoing support included bi-weekly “Coach Chats” (meetings attended by all Coaches, current practicum Instructors, and the Practicum Coordinator), periodic “Pop-up Workshops”, and tutor/student data discussions.

How do Practicum Coaches perceive their role in supporting graduate students enrolled in the practicum experience? Analysis revealed that Coaches attribute effective performance of their roles as Expert, Learner, Motivator, and Differentiator as critical to the success of their graduate student mentees. In the role of *Expert*, Coaches bring expertise in reading (a Master’s degree or higher, a GCD certificate, endorsements/ certifications, etc), as well as individual areas of expertise: data analysis, grade level/age groups, parents as tutors, and settings (home, clinic, school). One participant reflected, “I am exceptionally prepared to analyze reading difficulties and implement a solid plan of action,” while another stated, “ I have worked with older students and I can support tutors working at that level.” They also bring emerging expertise in the art and science of coaching, developed through ongoing training and support. One coach wrote, “I now have a toolbox of strategies to implement with my tutors when they need a different approach.”

Coaches see themselves as life-long *Learners* in the area of dyslexia. They perform this role through a commitment to formal learning - reading journals and books, attending conferences, and earning specialist and doctoral degrees in literacy related fields. One coach shared, “With encouragement from [the Practicum Coordinator], I am starting a [doctoral program] this fall with a focus on dyslexia and literacy. I feel that I am just getting started.” Coaches also engage in informal learning, through the social media pages of the university institute where the program is housed, and through day to day interactions with each other and with GCD faculty. One coach reflected, “I am truly passionate about learning all that I can to better support my students. Coaching was a way for me to continue to learn and to improve my practices…One of the things I take pride in about myself is that I am a life-long learner.”

In the role of *Motivator*, coaches leverage communication and trust to motivate students as they progress through the practicum. According to one coach, “I stay in constant communication whether that is through text or email, always ensuring a tone of support and encouragement.” Another reflected, “As a coach, one is a cheerleader, a mentor, and there to provide honest, specific feedback. There is a finesse to lifting someone up and shaping them without crushing their desire or spirit to learn more.” This tone of trust was a common theme in transcripts, bringing one coach to reflect, “I think once they hear your voice and know that they are not alone, it makes a significant impact on their success.”

Coaches also play the role of *Differentiator*, assuring graduate students receive the amount and type of support they need to be successful. One coach said, “I determine the level of support I need to provide on a case-by-case basis. There are several areas where tutors may need support: for example, scheduling/time management, analyzing assessment data, planning, and implementing intervention methods with fidelity. Some tutors need support in one area while others need support in multiple areas.” Though the intensive intervention graduate students implement is structured and coached for fidelity, Coaches know a one-size-fits-all approach will not produce the best results. GCD leadership supports this differentiation in myriad ways, including a very thoughtful process on matching Coaches/graduate students as well as the extensive training and ongoing Coach support described earlier.

Conclusions

This case study explored a “Practicum Coach” model for virtual dyslexia practicum feedback and support. Coaches identified program, coach, and training characteristics, as defining contributors to their success with graduate student tutors. They also identified the effective performance of their roles as Expert, Learner, Motivator, and Differentiator as critical to their success. Future feasibility and efficacy studies are needed to better understand how to effectively support students enrolled in virtual dyslexia practica. However, this deep dive into the experiences and perceptions of those already employed in this emerging space, provides an important preliminary step in improving the quality of intervention available to individuals with dyslexia.

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CONSIDERATIONS FOR USING VIRTUAL MANIPULATIVES IN AN EXPLICIT INSTRUCTION FORMAT IN A VIRTUAL LEARNING ENVIRONMENT

Abstract

Teaching mathematics to learners with disabilities can be challenging, even in a traditional classroom. The Concrete-Representational-Abstract framework is often used to provide context to the learners as they acquire the skills necessary to do most mathematics. Teachers have used concrete manipulatives, such as counting bears, with much success as the first step in this progression. However, the COVID-19 global pandemic forced many schools to provide instruction in a virtual environment. This presentation discusses many of the issues that teachers and students faced in making that transition and ways to overcome them by using virtual manipulatives, including the benefits and limitations of virtual meeting formats and guidance on adapting to barriers to student participation.

Background/Rationale

Mathematics instruction is an important component of the education of any student (Camera, 2015; Dueker & Desai, 2022). The National Council for Teachers of Mathematics (NCTM) has these skills broken into five different content areas (NCTM, 2000). Early numeracy skills like number identification and counting, often learned before school through play, are key components students require to move to more advanced skills. Learners with disabilities often enter school missing the prerequisite skills for even elementary mathematics instruction (Izuno-Garcia et al., 2021; Mackintosh & Rowe, 2021). However, these deficits can be addressed using an explicit format for teaching and the concrete-representational-abstract framework when presenting mathematics concepts. Explicit instruction follows a simple format: the teacher explains the rationale for the lesson and demonstrates the skill for the students; the teacher and students work through several problems together; and the students complete problems independently with teacher feedback (Archer & Hughes, 2010). One of the main components of explicit instruction is the feedback provided to learners. This can be easy to provide within a classroom environment. However, when students are forced to attend class remotely, this dynamic changes, but does not need to be absent. The concrete-representational-abstract framework, and its corollary, the virtual-representational-abstract framework, is an evidence-based way of teaching mathematical concepts by connecting the content to items the students can touch in connection to the problem (Bouck et al., 2018). Concrete manipulatives may include things like counting bears, Unifix Cubes, or Base 10 blocks. These manipulatives are also available in the virtual world as well. Students access them through computers, tablets, or other electronic devices. Research has shown them to be as effective as concrete manipulatives in prompting the students through the process (Agrawal & Morin, 2016; Bouck et al, 2018).

Common Barriers to Online Instruction

The COVID-19 pandemic forced many changes to education while communities tried to maintain safety for students and teachers. However, online instruction is not a new concept. As of 2019, there were over 500 schools nationwide that provided full-time instruction online (Molnar et al., 2019). Unfortunately, most of the teachers that were forced to transition to online teaching were unprepared for the challenges they would encounter.

In a traditional classroom, the teacher has much more control over how the students attend to the material. Using the explicit instruction format, the teacher is actively engaged with the student for each of the steps (Dueker & Desai, 2022). Concrete manipulatives allow students to see the mathematics concepts in action. This also taps into a Universal Design for Learning (UDL) framework by providing the students with multiple means of representation of the concepts and the potential for multiple means of expression of their understanding (CAST, 2018). Virtual manipulatives can provide the same experience for the learners and are often used in traditional classrooms in tandem with or as a replacement for concrete manipulatives (Bouck et al., 2018). In many cases, they appear on the screen exactly as they appear in the classroom as the students are typically manipulating them.

Students transitioning to an online learning environment may have had difficulty adjusting to the new setting. Many of the objects they were used to seeing and using were suddenly not available. However, that was just a small part of the barriers to instruction during this time. As of 2018, the Pew Research Center reported that around 15% of students did not have internet access at home (Anderson & Perrin, 2018). This number increases to over 40% of learners from minority status and lower-income households. Internet access is only one part of the picture. If a student does have capable internet, time may need to be shared with siblings or other household members (Dueker & Desai, 2022). With synchronous teaching, this issue presents difficulties when the number of devices does not equal the number of potential users. The type of devices used to access the content can also be an issue. Material can appear differently on a computer than on a cell phone.

Teachers, ideally, wanted to teach synchronously, as they had done in the classroom. This allows for immediate assessment of student learning. In the explicit instruction format, teachers are involved in all steps, providing feedback throughout. However, given the problem that some students might have had with technology and equipment, synchronous teaching was not always possible. Asynchronous learning does not provide the same type of immediate feedback that synchronous learning does. Asynchronous learning does require that learners are more self-directed. Distractions in the environment can be a large barrier to engagement with asynchronous learning (Amiti, 2020; Sadeghi, 2019). Distractions are easier to control in the traditional classroom. In an asynchronous environment, students need to rely on family members to help with focus as would be provided by the teacher or an instructional assistant in the classroom. This assistance may or may not be available either at all or at specifically designated times. Acknowledging these issues can help teachers decide the best way to address instruction to best meet student needs.

Professional Tips for Implementation

Once a decision has been made to provide online instruction, teachers need to make a few decisions. Using the decision-making tree in Figure 1, the teacher can easily move into creating the content required. Depending on the mathematics lesson, the teacher will need to choose the appropriate virtual manipulative that will be useful in teaching the skill. Having multiple options available for this allows for additional opportunities for the learner to connect with the concept being taught. For example, using Unifix Cubes for addition, paired with a number line, allows the learner multiple opportunities to engage with the problem. The delivery vehicle for the lessons (Zoom, Teams, etc.) will likely be chosen by the school or district. Once that has been identified, teachers can work with parents to identify any barriers to the learner accessing online instruction. This may mean the teacher develops multiple delivery options. Synchronous delivery of content most closely replicates the classroom environment. Given that not all learners can attend synchronously, the ability to provide effective feedback becomes critical.

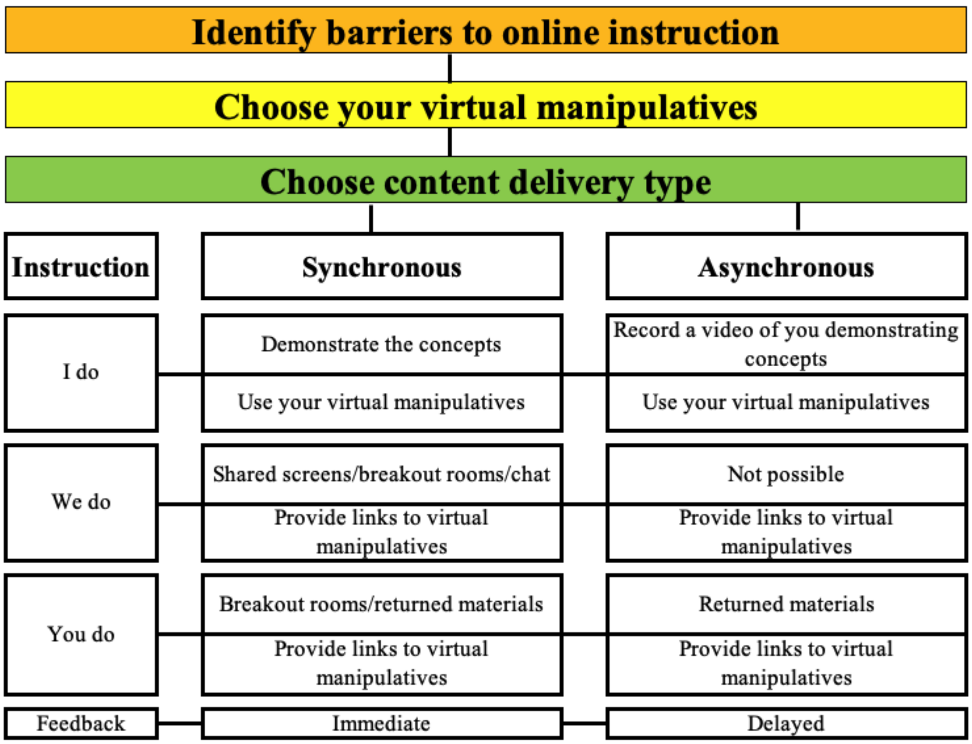
Looking at the problem through a UDL lens (Basham et al., 2020; CAST, 2018) by providing multiple opportunities for learners to access the material and demonstrate their learning is an appropriate way for lessons to be designed. Many teachers already do this in the classroom. Virtual learning does not have to be different in this respect. Providing different options to the learners through both the instruction part of the lesson as well as the practice part will fit within the UDL experience. The teacher does need to know that students are able to click on links and work within outside web pages as well as return to the synchronous classroom when needed. If the students cannot navigate links successfully, the teacher should consider whether the learner can use representational methods of completing the work instead of the virtual manipulatives from the websites. Many learners can use these instead with appropriate prompting. Designing the lesson using the needs and abilities of the learners can be a little more time-consuming because it may require more individualized programming. However, the majority of the lesson will likely remain the same for the majority of students.

Feedback is the most important component of the explicit instruction teaching methodology. In a traditional classroom, feedback can be immediate. In an online teaching environment, there may not be the possibility of immediate feedback. Asynchronous instruction, by definition, means that the instructor and student are not together as the student engages with the lesson. This means that the student may make errors without any feedback or error correction. This can lead to practicing errors. The faster the teacher can review the work of the student and provide feedback, the less likely the student is to practice those errors and the faster the student may acquire the skills being taught. Synchronous online instruction does allow for more immediate feedback, but there may be some slight delay as screens are shared between the teacher and student. Breakout rooms in the online environment can be the best way to provide feedback and error correction. They allow the teacher to be one-on-one with the student and personalize the corrective instruction. The general online environment can work as well if the conversation is specifically targeted.

Once all the barriers are identified and addressed, online instruction can be rewarding for both the students and the teachers. It should not be considered less demanding or rigorous than traditional classroom instruction. The key is the preparation of the lesson and a fast pivot to online instruction can make that more challenging, but not impossible.

Figure 1

Decision-making tree for online instruction delivery



Conclusion

Mathematics instruction can be effectively delivered to learners with or without disabilities regardless of the format used. Explicit instruction and the CRA framework, when implemented with fidelity in an online environment, allow teachers to develop and structure their lessons for effective instruction. Using virtual manipulatives in the online environment mirrors the use of concrete manipulatives in the classroom and allows learners to make connections with the material. In both environments, feedback is critical to student learning and this can be included with both synchronous and asynchronous formats. The use of virtual manipulatives helps create procedural knowledge the students need to progress to more complex mathematical concepts. They may also provide opportunities for the generalization of skills. By assessing and understanding the assets and limitations their students may have regarding online instruction, teachers can create engaging mathematics instruction that meets the needs of the students and achieve learning objectives as if delivered in a traditional classroom. Online learning should not be scary for either the teacher or the student. Thoughtful planning can make the transition much easier for both parties.

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FOSTERING BELONGING AND INCLUSIVE PEDAGOGY IN METHODS COURSES WITH PRE-SERVICE SPECIAL EDUCATORS

Abstract

A teacher educator self-study curriculum project to decolonize syllabi, center inclusive pedagogy, intersectionality, and belonging included surveys, course evaluations, and analysis of course readings and assignments. I share pre-service special educators' feedback and data to identify their perceptions of these efforts and perceived connection to their own future teaching and steps to engage in similar course redesign.

Rationale

In teacher preparation programs, multicultural teacher education courses are often singular and focus on appreciating diversity or cultural competence (Gorski & Parekh, 2020). We sought to extend criticality and attention to culturally sustaining and equitable practice into classroom practice and teacher education in our special education teacher and other educator preparation programs across multiple courses to foster belonging and model equitable practice. A sense of belonging, community, and agency are key elements in androgynous learning and an understanding of inclusive pedagogy is essential for pre-service teachers' work with students (Cochran-Smith, et al., 2015). Fostering a sense of belonging within the educational community while guiding the development of inclusive pedagogy in special education teacher preparation methods courses adheres to our school of education mission. It promotes a culturally responsive and sustaining classroom for future educators representing a range of identities. In our examination to consider a range of identities, work and processes for decolonizing or mitigating the impact of systemic inequities from our course materials and practices, provided a concrete starting point for our collective work centered on the following question. How could a sense of belonging and an understanding and experience of inclusive practices be centered in all aspects of the program?

Project Processes

As an educator centered on equity and representing my own intersections of racialized and educator identity, this effort proceeded the project, however a formalized and collaborative effort to center equity and belonging across courses and in collective connection with other teacher educators in our school of education undergirded this transformative outcome. I examined and revised a mathematics strategy for students with disabilities course and a course including literacy instruction in content areas for students with disabilities in classroom contexts. Through a multistage and iterative process, we first defined our terms and engaged in conversations to examine our practice, using a measurement tool/ rubric for examining syllabi (CCTC (Council of

Chairs of Training Councils), 2020). The process led to adjustments and intentional transformation of classroom experiences. Criticality became a central organizing value and learning goal for preservice teachers. At the heart of this effort, we defined decolonization of syllabi as a space to uplift voice and critical perspectives (Tuck & Yang, 2012). Such attention supports the coherence of attention to equity across the program and provides more opportunities for concrete equity practice, a value that informs my passion as an educator.

We recognized most of our teachers were white, middle-class women, and needed a definitive place to engage in anti-bias and inclusive andragogy. Collectively, we infused diverse perspectives and amplified unheard voices less often included in schooling contexts. Inherent in that effort and in line with Gorski's (2020) equity literacy restorative practices re-centering perspectives served to redress injustices both systemically and individually. There were four factors that characterized our cohesive attention to critical consciousness around equity perspectives; commitment, ongoing self-work, appreciative inquiry (Cooperider et al., 2008), and collaborative revision work.

Commitment

To foster clarity of classroom values and a call to action within the course work I added a descriptive and prominent component to each syllabus entitled Classroom Community which was read and discussed in class one, revisited at class seven and at each of several in-class discussions.

> *In our class meetings, discussions, collaborative assignment building, and throughout course communications we will respect open dialogue and a focus on understanding perspectives. We will prioritize the development of critical consciousness. Critical consciousness means developing deep understanding while recognizing perception and social and political contradictions. Taking action against oppressive elements is implied. All members of our class community bring valuable perspectives and can contribute new knowledge for analysis. Each one of you is invited to question, suggest, and take an active part in our academic inquiry. Reflexive practice and practical applications of knowledge to improve educational outcomes are two important values in our course which will be highlighted throughout our work together. Together we will build community, establish our community agreements, and encourage one another. Including reading, sharing and centering this as the first and most central element of class practice invited students to engage in critical inquiry across the course.*

Ongoing Self-Work

To establish community agreements. Including students in the process of building our ways of being for the course. These incorporate rules as necessary but also ways of being with one another. For my courses community agreements were discussed at the first course meeting with opportunities to add and ask questions on a dedicated interactive virtual platform housing the agreements. Agreements included: (1) be curious open and respectful (2) be conscious of intent vs. impact (3) challenge assumptions, (4) be aware of time (5) avoid jargon, (6) take space and make space (7) we take care of ourselves, (8) we can't be articulate all the time and (8) no one knows everything, but together we know a lot. Later, at the halfway point, students were asked to comment on the efficacy of these agreements.

Appreciative Inquiry

Initial examination of a sense of belonging meant looking explicitly for data sharing that perspective and making sense of it. This included examining past course assignments and ideas related to the course as well as including students in the awareness that this change to course practice as the course began. It also meant infusing reflection on course content and processes in discussions with course participants and continuous gathering with workgroup colleagues during the semester.

Examining Data for Collaborative Revision Work

Finally, I used explicit and culturally responsive assignments that include substantial commitment to voice and criticality to address both content, ways of learning, and ways of being.

In the literacy course I assigned a course-long discussion focused on exploring Mirrors Windows and Doors in literature (Sims Bishop, 1990) and in how they will enrich our lives through representations of self and others. In this revisit and conversation with students we included student voice and therefore the stage of revision and attention to our goal is embedded in the discussion writing and execution of these assignments. In the math course we added in a simulated lesson plan using Kea & Trent (2013)'s lesson planning template both for planning and for comparison with the standard lesson plan provided. Pre-service teachers reflected on expanded consideration for culture, identity and experience and appreciation of knowledge evident when appreciation and inclusion of the cultural and social capital of parents (Trainor, 2010) and students from marginalized communities.

An essential component of the evaluation and revision process included a midpoint reflection and survey to gather students' experience. The majority (75-100%) agreed or strongly agreed that the course afforded them the opportunity to examine their own intersectionality, build community, share their perspective and explore their own critical consciousness. One preservice teacher stated, "I think that this has helped me understand the relationship between the cultural[ly] relevant pedagogy and vocabulary instruction." Findings suggest that the goals of the decolonizing project made a difference in how students were experiencing courses and the ways they were integrating. An analysis of the qualitative data revealed a greater self-efficacy to infuse equity pedagogy across content area learning. In the math course one pre-service teacher said, "I plan to implement these practices, especially explicitly being culturally responsive in lesson planning, in my own work now a when I continue as a teacher in the future. I want to ultimately work with ELL's one day, and these practices will be especially important in this context." again showing a connection to planned practice

Conclusion

Adjusting courses to foster equity and belonging for our preservice special educators was met with positive feedback and revealed in depth discussions not previously infused with methods instruction. Even more questions like: how to best engage in self-advocacy practices? How do we agitate for change when we see bias in the field? How do I sustain my values and passion to stay in the field? These too, belong in the discussion and consideration of course topics. The revision and adjustment to student input is ongoing and I will expand the infusion of the values and practices with colleagues recognizing that responsive critical praxis for teacher educators requires critical consciousness in course design and for cohesive program effectiveness.

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CO-TEACHING PROFESSIONAL DEVELOPMENT: DID IT WORK? YES, NO, MAYBE SO!

Abstract

General and special education co-teachers often identify the lack of professional development to effectively implement co-teaching. An overview and discussion of the following will be presented: the partnership development with a local elementary school, co-teaching professional development overview, and the results of implementation of the professional development.

Background/Rationale

Co-teaching requires general and special education teachers to co-plan, co-instruct, and co-assess a single group of general and special education students (Cook & Friend, 1995; Friend & Bursuck, 2012). Typically, general and special education teacher candidates lack the preparation to effectively implement co-teaching in their future classrooms. While special education teachers are typically prepared to teach diverse learners, their general education counterparts do not receive the same training and feel underprepared to teach students with disabilities (Leko & Brownell, 2009). This leads to the need for co-teaching professional development for general and special education, and support from administration.

There is an increased number of students with disabilities placed in the general education classroom (Brownell, Griffin, Leko, & Stephans, 2011). Co-Teaching has quickly become the preferred model to meet the needs of students with disabilities in the general education classrooms. Typically, general and special education teacher candidates lack the preparation to effectively implement co-teaching in their future classrooms. One way to address the lack of preparation is to provide professional development for both general and special education teachers (Shaffer & Thomas-Brown, 2015).

Purpose of Study

There is a need to effectively train and support co-teachers. One way to do this is through professional development with follow-up support. The purpose of this research is to investigate the ways in which participation in co-teaching professional development impacts the effective implementation of co-teaching strategies in the P-5 classroom.

Method

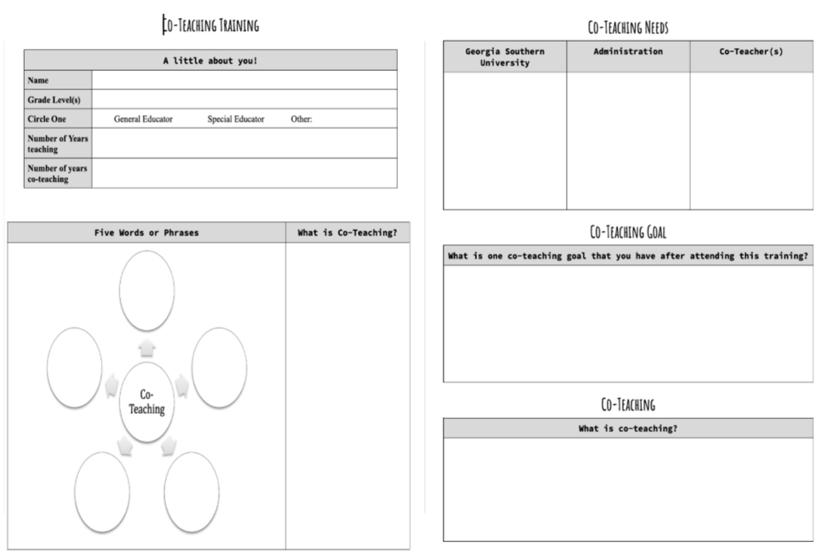
This co-teaching professional development was implemented in an elementary school in rural South Georgia. This elementary school is also a professional development school that has partnered with the university. The authors met with teachers and administrators to develop the focus of the session. The co-teaching professional development occurred afterschool for about an hour in the media center. There were a total of eight teachers (four special education teachers, three general education, and one paraprofessional) in attendance, with a range of one to eleven years of teaching.

The co-teaching professional development agenda included the following: introductions, discussion (experiences with co-teaching), definition of co-teaching (what and why), needs and wants of co-teachers, and next steps. The session was interactive with time for discussion with the authors and co-teachers. Co-teachers were asked to provide feedback on the co-teaching training sheet (Figure 1) and take notes on a provided note sheet (Figure 2). Throughout the session the co-teachers were asked to respond to various prompts: (a) write down five words or phrases that you connect to co-teaching, (b) individually identify support (needs and wants) from Georgia Southern, school administration, and your co-teacher to assist in your successful implementation of co-teaching to benefit your learners, and (c) what is one co-teaching goal that you have after attending this training?

After the session the data collection tool (Figure 1) was collected and anonymized by the third author; the co-teaching note sheet was not collected (Figure 2). All members of the research team reviewed the product and compiled the results, looking for patterns among co-teachers.

Figure 1

Co-Teaching Training Data Collection Tool


Co-Teaching Training

A little about you!	
Name	
Grade Level(s)	
Circle One	General Educator Special Educator Other:
Number of Years teaching	
Number of years co-teaching	

Five Words or Phrases	What is Co-Teaching?
Co-Teaching	

Co-Teaching Needs

Georgia Southern University	Administration	Co-Teacher(s)

Co-Teaching Goal

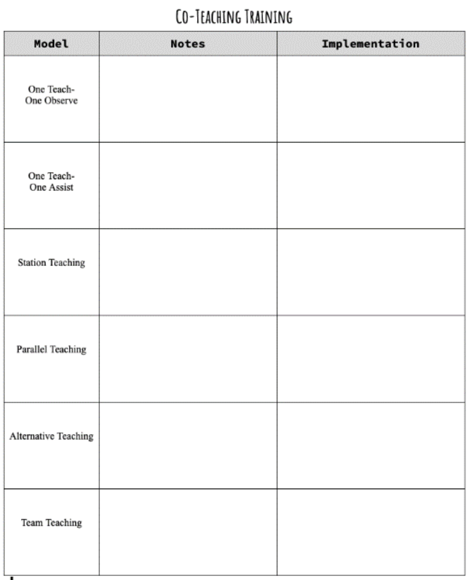
What is one co-teaching goal that you have after attending this training?

Co-Teaching

What is co-teaching?

Figure 2

Co-Teaching Note Sheet


CO-TEACHING TRAINING

Model	Notes	Implementation
One Teach- One Observe		
One Teach- One Assist		
Station Teaching		
Parallel Teaching		
Alternative Teaching		
Team Teaching		

Results

Co-teachers were asked to define co-teaching using five words or phrases prior to the start of the session. The most common words that co-teachers identified with co-teaching were: differentiation, collaboration, support, small group, partner, and inclusive. At the end of the session co-teachers were asked to identify their co-teaching needs (Table 1) and at least one co-teaching goal (Table 2). Co-teachers indicated that they would like university faculty to model co-teaching and observe and provide feedback to co-teaching pairs. They would also like to see different co-teaching models in different classrooms and set aside time to plan with their co-teachers. Both general and special education teachers set goals to plan together and try different co-teaching models.

Table 1

Co-Teaching Needs

University	Administration	Co-Teacher(s)
n=4	*n*=1	*n*=1
-Modeling -Observe and provide feedback	-Different models in different rooms	-Set a time to plan

Table 2

Co-Teaching Goals

General Educators	Special Educators	Unknown
-Better plan as a team -Implement station teaching in math/continue in guided reading	-Try station teaching -Co-teach again -Try different models	-Implement each model

Limitations

After the co-teaching professional development there were several events that occurred. There was a change in administration after professional development. One teacher changed from a co-teaching classroom into a traditional single teacher classroom. The co-teachers requested observations but did not respond to email or survey outreach.

There seemed to be a breakdown in communication with co-teachers and administration after the professional development, this likely could have been due to the change in administration and change in teaching assignments. It should be noted that the administration asked for professional development and indicated they would attend to support teachers, but they did not attend the session. Additionally, this training occurred during the fall of 2020, which was also the height of the Covid Virus, which has been a large strain on education and co-teachers. It is likely that additional training was not something that teachers could take on at the time.

Conclusion

While it is hard to conclude if this co-teaching professional development was successful or not due to the limitations of the study. During informal conversations, co-teachers indicated the need for support, therefore, it is still likely co-teaching support is needed. Berry (2021) surveyed co-teachers in rural school districts that identified the need for support using professional development. Additionally, the authors were unable to implement support beyond the first session. Dove and Honigsfeld (2020) indicated that faculty revealed the need for administration support to effectively implement co-teaching. This study does show the need for administration support in or to effective research and implement co-teaching.

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GROW YOUR OWN EDUCATOR STAFFING THROUGH SCHOOL – UNIVERSITY APPRENTICESHIP

Abstract

Our school-university partnerships began to address staffing needs in 2005 using a grow your own approach to blend school employment with an online university Master's degree and initial teacher certification program. The presentation outlines using the Registered Apprenticeship model has prompted us to rethink how to integrate paraeducator or conditionally certified teaching employment with requirements for professional certification.

Background/Rationale

The special educator supply shortage has been an issue for decades. One variable in the shortage is the severe decrease in the number of completers of university educator preparation programs. School districts are forced to hire teachers with temporary conditional certification. We began 17 years ago providing a pathway to combine program completion with full time employment to enable paraeducators and conditionally certified a state approved program pathway to professional certification while working as special educators. Our full time grow your own Master's degree and teacher certification program began in 2005 to enable paraeducators and conditionally certified teachers a state approved program pathway to professional certification and a Master's degree while working as special educators. The program is fully online and any synchronous course sessions are scheduled for 4 PM or after. The special education department works in partnership with the employing school district to develop an Individualized Internship Plan (IIP) incorporating job responsibilities and teacher certification requirements. For many years, almost all of our students have been employed while matriculated in the program. However, the paraeducator and teacher staffing crisis is still urgent. We had been starting to think of how undergraduates interested in education could become part of the solution.

In the spring of 2022, special education faculty attended a CEEDAR Center webinar on strategies for addressing staffing shortages. Most of the webinar content was already in place in our program at the graduate post-bac level. However, there was a reference to the Department of Labor Registered Apprenticeship program (Department of Labor, 2022)

As part of the discussion, Austin Peay University discussed how they are working in partnership with Clarksville-Montgomery County School System offering a Registered Apprenticeship program.

This was new information for us, particularly the prospect of a partnership with the Department of Labor. It was immediately apparent that the Registered Apprenticeship program had potential for providing a pathway combining employment, undergraduate degree completion, and teacher certification. We contacted the national Department who responded immediately and directed us to the Maine Department of Labor. The state of Maine has an established Apprenticeship program with no participants in the education sector. We also found out that one of our long-standing school partners had also been working with the Department of Labor on an apprenticeship program proposal. We joined together in a proposal for Registered Apprenticeship sponsorship to recruit, prepare, and retain special educators.

Apprenticeship Structure

One distinction of Apprenticeship from traditional student teaching or internship is that an apprentice is a formal employee staffing position in the sponsoring company or agency, e.g., school district. Apprentices advance through a progressive sequence of staffing levels from novice to fully qualified educator. This approach fits nicely with Maine as there is an established state certification paraeducator system that does not require a Bachelor's degree: Educational Technician I, Educational Technician II, Educational Technician III. Educational Technician III is close to or already holding a Bachelor's degree. Part of the urgency is that for a long time the pool of candidates for Educational Technician positions already had Bachelor's degrees. The great majority of hires were at the Educational Technician III level. It is very recent that school districts have needed to look at Educational Technician I and II hires.

The Registered Apprenticeship program consists of On-the-Job-Training (OJT) and Related Training and Instruction (RTI). On the Job Training is commensurate with job responsibilities on the employer side and student teaching on the university teacher certification program side. Relate Training and instruction is commensurate with staff training and development on the employer side and coursework on the university side. Our discussions with partner districts about apprenticeship have led us to consider how these two sides could be brought closer together.

Another shift in strengthening employer and university collaboration is that the apprentice job description includes clear definition of the job duties that will be evaluated, called the Schedule of Work (SOW). We have been using the CEC standards as one basis for the schedule of work, along with the Maine Teaching Standards. This is testing whether educator preparation standards could also become part of defining employee job responsibilities. Here is a portion of a draft Schedule of Work Based on CEC Standards (Berlinghoff & McLaughlin, 2022).

- CEC Standard 1 Engaging in Professional Learning and Practice within Ethical Guidelines
- Follow employing district policies and procedures
- Use lesson plan reflections, guidance from the journey worker, and feedback from observations to adjust instruction.
- Read and reflect on the Council for Exceptional Children Code of Ethics

- Define two professional learning goals based on national and state teaching standards, the Code of Ethics, self-reflection on instruction, and guidance from the journey worker.
- Assess progress on the two professional goals at the end of each semester.
- Update the professional goals at the start of each semester.

On the Job Support and Evaluation

School district and university professionals have long worked together in providing the clinical experiences in teacher certification programs. For example, when school district teachers host teacher certification candidates as part of student teaching. The Registered Apprentice approach is pushing us to explore even closer connections between school and university faculty in mentoring, supervising, and evaluating candidates. District professionals such as teachers, called Journey Workers in the apprenticeship model, are directly involved in supporting apprentices as district employees using the Schedule of Work. University faculty work with Journey Workers in that support of On the Job Training, particularly as relates to degree completion and the recommendation for teacher certification.

The Next Generation of Grow Your Own

Apprenticeship flips the script, or partnership as it were, in providing the critical clinical experiences for initial teacher certification candidates. Rather than school districts hosting student teachers based on what the university program requires and fitting that into what they do, apprenticeship starts with what do school districts need to serve their communities and students and how can the university support the school district. All while providing full time employment working with students, undergraduate degree completion, and advancement in professional credentials. Apprenticeship also allows a school district to use their employment system to grow and retain their teaching force from within: apprentice to teacher.

In Maine, one of the most significant aspects of apprenticeship is addressing concurrently two staffing needs- paraeducator and teacher. We are testing whether apprentices will be better prepared to fulfill the paraeducator role as well as progress to teacher certification. Apprentices as paraeducators will immediately make use of their preparation for teaching as they work with students, becoming more qualified to educate their students from the outset. Another aspect of serving paraeducator and teacher staffing needs concurrently is when apprentices might move into teaching positions. Filling teaching positions with candidates on temporary emergency certification is a reality. This is not ideal, but it could help if a district already has an apprenticeship program preparing for teacher certification when a teaching position is needed.

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FOCUSED BOOK STUDY IN STUDENT TEACHING SEMINAR TO ENHANCE ACTIVE ENGAGEMENT STRATEGIES IN PRE-SERVICE TEACHERS

Abstract

This qualitative study explored the effectiveness of a book study during student teaching. Data collection methods included use of surveys, critical reflections, and semi-structured focus groups. Results indicated a significant increase in students' confidence, knowledge of skills, and an increase in reflection to change instructional practices to engage all learners.

Background/Rationale

A common culminating experience in teacher preparation programs is student teaching. During the student teaching experience, students are in classrooms working to apply and refine the teaching skills they have learned through a teacher preparation program. A common accompaniment to this experience is the student teaching seminar. Currently, there is a lack of research in the area of pre-service teacher support through the use of student teacher seminars (Councill & Baumgartner, 2017). Within the confines of a student teacher seminar, the use of professional book clubs can be a useful resource. One of the benefits of the professional book club cited by Councill and Baumgartner (2017) is the experience allows students sharing different experiences to relate a common text to their diverse situations.

Methods

The research question that guided this study was: How does the use of critical reflection, through a concentrated book study, impact student teacher perception of lesson reflection, use of active engagement strategies, and confidence in strategy use? Qualitative research methods were utilized throughout this study. The data collection tools used were surveys, critical reflections, and semi-structured focus groups. The use of qualitative methods helped to identify themes among participant responses. Content analysis methods were used to confirm similar findings across all sources of data. The study was conducted over the course of one semester as participants were currently participating in their student teaching placement. During this student teaching placement, students were required to participate in a student teaching seminar. This book study was a volunteer experience in addition to the required seminar.

Participants

The study was conducted at a rural college located in central Pennsylvania. All participants were seniors enrolled in an education program and majored in either early childhood education or the dual major early childhood education and special education. All participants volunteered to participate in the book study during their student teaching semester.

Data Collection and Analysis

Data were collected through a series of two surveys (Appendix A and B), two critical reflections (Appendix C), and semi-structured focus groups. The surveys were designed to gather information as to the pre-service teachers current practices and beliefs revolving around the following topics: perception of lesson reflection, use of active engagement strategies, and confidence in strategy use. The survey included both close and open-ended questions to encourage full and elaborate responses. The critical reflections were used twice throughout the research study, once during the first book study session and one at the conclusion of the book study. The critical reflections were used so participants could reflect on their use of active learning strategies and student engagement after teaching a lesson in their placement. Lastly, semi-structured focus groups were used to develop a deeper understanding of the implementation of active engagement strategies in the classroom and the use of critical reflection to improve student engagement.

Results

The results of this study indicated that participating in a book study during student teaching had a positive impact on the pre-service teachers' ability to plan engaging lessons and reflect on their instruction. The results below address the research question examining perception of lesson reflection, active engagement strategy use, and confidence in strategy use.

Perception of Lesson Reflection

Table 1 presents the results of the survey questions related to lesson reflection. As shown below, the book study was successful in increasing pre-service teachers' perceptions of reflection as well as their overall use of reflection to guide their teaching.

Table 1

Survey Question	Initial Survey	Final Survey
The use of reflection to guide teaching	57.14% of students rated the use of reflection to guide teaching as **important**. 42.86% of students rated the use of reflection to guide teaching as **very important**.	36.36% of students rated the use of reflection to guide teaching as **important**. 63.64% of students rated the use of reflection to guide teaching as **very important.**

The extent to which students currently reflect on their teaching practices after a lesson	28.57% of students responded that they **sometimes** reflect. 50.00% of students responded that they **often** reflect. 21.43% of students responded that they **always** reflect.	54.55% of students responded that they **often** reflect. 45.45% of students responded that they **always** reflect.
The extent to which students implement changes to their instructional practices as a result of their reflections	21.43% of students indicated they **sometimes** change their instructional practices. 71.43% of students indicated they **often** change their instructional practices. 7.14% of students indicated they **always** change their instructional practices.	9.09% of students indicated they **sometimes** change their instructional practices. 54.55% of students indicated they **often** change their instructional practices. 36.36% of students indicated they **always** change their instructional practices.

Data collected through the semi-structured focus groups supports that students were able to reflect on their use of active engagement strategies and identify key points during a lesson where there was a decline of student engagement. During these focus groups common themes emerged regarding times during a lesson when students lost engagement as well as the value of incorporating engagement strategies at specific points during a lesson. For example, in one semi-structured focus group made up of five pre-service teachers, all indicated that students were fairly engaged during the anticipatory set of the lesson but there was an overall decline in engagement during the direct instruction. During this discussion, the pre-service teachers recognized how the use of engagement strategies during direct instruction would have improved their lesson and how they will incorporate changes moving forward.

Active Engagement Strategy Use

Table 2 presents the results of the survey questions related to active engagement strategy use. This data shows that the book study was successful in not only familiarizing students with active learning strategies but increased their use of a variety of active engagement techniques in their student teaching placement. In addition to the survey, participants completed a critical reflection at the beginning of the book study and at the end of the book study (Appendix C). Three of the critical reflection questions asked participants to rate their identification of active engagement strategies, their implementation of active engagement strategies in their lesson preparation, and the overall engagement of students during the lesson. On the initial critical reflection, the average rating for preparation and research of active engagement strategies was a 2.78 (between below average and average). The average on the critical reflection was a 3.67 (between average and above average). There was also an increase in the implementation of active engagement strategies. On the initial critical reflection, the average rating for implementation of strategies was 3.11 (between average and above average) and on the final reflection the average rating was 4.22 (between above average and excellent). Lastly, there was an increase in perception of student engagement during the lesson with the initial rating being 3.33 (below average and above average) and the final rating being 4.56 (between above average and excellent).

Table 2

Survey Question	Initial Survey	Final Survey
The use of active learning techniques	14.29% of students indicated they prefer using only 1-2 active participation techniques 85.71% of students indicated they prefer a variety of active participation techniques	100% of students indicated they prefer a variety of active participation techniques
Familiarity with active learning strategies	28.57% of students rated their familiarity with active learning strategies a 2/5 (between not familiar and familiar). 64.29% of students rated their familiarity with active learning strategies a 3/5 (familiar). 7.14% of students rated their familiarity with active learning strategies a 4/5 (between familiar and very familiar).	36.36% of students rated their familiarity with active learning strategies a 4/5 (between familiar and very familiar). 63.64% of students rated their familiarity with active learning strategies a 5/5 (very familiar).

Confidence in strategy use

Survey data revealed that there was a significant increase in students' confidence when choosing and implementing active engagement strategies in the classroom. The initial survey revealed that 7.24% of students rated their confidence in their ability to actively engage students a 2/5 (between not confident and confident), 57.14% of students rated their confidence in their ability to actively engage students a 3/5 (confident), and 35.71% of students rated their confidence in their ability to actively engage students a 4/5 (between confident and very confident). The final survey revealed that 63.64% of students rated their confidence in their ability to actively engage students a 4/5 (between confident and very confident) and 36.36% of students rated their confidence in their ability to actively engage students a 5/5 (very confident).

Discussion and Implications

Several themes emerged in the surveys and critical reflections provided by the respondents. The first theme that emerged from this research study was the connection between seminar and classroom. As indicated by the responses from the study's participants, each participant believed that participating in a book study group during student teaching was a beneficial experience for them and provided a practical and positive connection to their teaching. Since all participants in this study were completing their student teaching semester, students had constant access to plan, implement, and reflect on lessons incorporating topics covered throughout the book study. When participating in semi-structured focus groups, students had real and recent experiences to reflect on and were able to implement practical strategies immediately into their teaching and see immediate results regarding student engagement.

Another notable theme that emerged from this study was the benefits of cooperative learning. The cooperative nature of the book study sessions lended itself to numerous opportunities for participants to connect their learning and understanding to the classroom, deepen their awareness of best practices, and reflect on their teaching with their peers. Since participants were able to spend time reflecting on their teaching practices with peers who were in the same experience as them, there were many opportunities for reflection and professional dialogue in a non-threatening way. In concord with current research, Burbank and Kauchak (2010) identified these characteristics as a critical component to pre-service teachers and practicing teachers' use of professional book clubs.

The collaboration between our pre-service teachers and faculty was a unique opportunity to explore active engagement and reflective teaching. The timing of the study, done during the college students' student teaching semester, allowed them to use examples from their everyday teaching and apply the activating strategies immediately in their classroom. The study took content from our sessions and allowed for direct use, where previous coursework was more difficult to make those immediate connections. Through our discussions students were able to have a time and space to consider how lessons were taught and then how they could be improved. Since this study, we have begun to use the same text in our current student teaching seminars.

This study is significant because it highlights the importance for teacher preparatory programs to provide opportunities during student teaching for pre-service teachers to not only practice a variety of engagement techniques but also reflect on those experiences to enhance their practice. Since this book study group was voluntary, all students who participated chose to attend each session and were active participants. The voluntary nature of the experience may have influenced student participation as all students were highly motivated to improve their teaching skills. Future implications for this research include how to engage reluctant students if book study groups are not voluntary.

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PRE-SERVICE TEACHERS & SPECIAL EDUCATION PAPERWORK: PROJECT BASED LEARNING

Abstract

Paperwork is undoubtably one of the more stressful aspects of special education. Having a strong understanding of the special education process from referral to implementation is imperative to completing paperwork that meets the needs of each student while maintaining compliance and adhering to federal guidelines. The use of project-based learning can be an excellent tool in preparing pre-service teachers for the rigor and demands of the special education process. Implementing mock IEP meetings can provide pre-service and newly certified teachers the hands-on experience to create reports, produce IEPs, effectively lead meetings, and experience the entirety of the special education process including referral, evaluation, qualification, determination and implementation of services. The recommended protocol is provided for higher education professors and school administrators to arrange mock IEP meetings in their own courses/districts to ensure that pre-service and newly certified teachers are confident and competent to lead meetings and prepare special education documents.

Background

Special education and paperwork go hand in hand. Completing paperwork and leading IEP meetings can be very daunting and stressful for pre-service teachers and newly certified teachers. As students receiving special education services are a historically marginalized group, recruiting and retaining competent special education teachers is of great importance to help students with special needs reach their greatest potential. Ensuring that pre-service and newly certified teachers feel confident and competent to produce accurate documentation and communicate with families will help provide students with disabilities with the best services possible. Furthermore, when pre-service and newly certified teachers feel confident in their abilities it could possibly help with retention of special education teachers.

College professors and district administrators are responsible for producing competent teachers that can prepare special education paperwork and communicate clearly with families and other professionals. Participating in mock meetings allows pre-service and newly certified teachers to gain real-world, applicable experience in this area. Mock IEP meetings allow pre-service and newly certified teachers to go experience the process of taking a mock student through the processes of evaluation, qualification, determination, and implementation of services. Pre-service and newly certified teachers can experience the entire ER/RR and IEP process by preparing special education documents and leading their own IEP meeting with peers, area administrators and current teachers. Furthermore, engaging community stakeholders in mock meetings provides pre-service and newly certified teachers with feedback regarding their own written and verbal communication skills while further enhancing the real-world experience.

Literature Review

Research proves the effectiveness of project-based learning. Project-based learning refers to an "inquiry-based instructional method that engages learners in knowledge construction by having them accomplish meaningful projects and develop real-world products" (Brundiers & Wiek, 2013, p.1728). Engaging pre-service and newly certified teachers in project-based learning activities such as constructing their own special education paperwork and leading a mock meeting for feedback could enable teachers to feel more comfortable and competent in the special education process. They can actively engage in the special education process while producing a product.

According to a meta-analysis conducted in higher education, project-based learning and the creation of products is "of importance because it helps learners to integrate and reconstruct their [students'] knowledge, discover and improve their professional skills, and increase their interest in the discipline and the ability to work with others" (Guo, Saab, Post, Admiraal, 2020, p.2). Special educators must have the ability to collaborate with other professionals such as regular education teachers, administrators, related service providers, and most importantly, family members. They must also be able to use the knowledge they have learned about disabilities, goal writing, and IEP's and apply it to a real-world situation. Furthermore, engaging in a mock IEP process allows pre-service and newly certified teachers to work on their professional communication skills by verbally reviewing written documentation with current administrators and practicing teachers.

Project-based learning provides pre-service and newly certified teachers with the ability to solve problems that will be applicable to them in the field of education while actively engaging in the process. Upon investigating the implications of project-based learning in higher education, Ngereja et al. (2020, p.1) noted that project-based learning assignments "enables the creation of real-life experiences, which further stimulates the creation and development of real-life competencies" which are skills that all special education teachers need to possess. Engaging in a project-based learning activity such as mock IEP meetings can have a "positive impact on student learning, motivation, and performance both in the short and long term" (Ngereja et al., 2020, p.1). Assigning pre-service and newly certified teachers their own mock student to produce paperwork for can increase their learning motivation as they must take what they have learned in all of their coursework and apply it to a real-world situation. Furthermore, increasing pre-service and newly certified teachers' motivation could help to increase retention rates among special education teachers.

Steps for Implementation

To successfully implement mock IEPs in their programming, higher education professionals and administrators should engage in the following:

1. Assign an individual mock student with an evaluation report to each pre-service and/or newly certified teacher.

2. Systematically teach each step of the process:
    - Explain how to interpret the evaluation data
    - Issue invitation
    - Prepare IEP and Re-evaluation Report
    - Model meeting
3. Have pre-service and/or newly certified teachers practice leading meetings with peers
4. Engage community stakeholders in mock meetings by reaching out to administrators and/or current classroom teachers.
5. Plan and host IEP meetings
    - Have pre-service and/or newly certified teachers sign up for a meeting time
    - Construct Feedback Form for participants to provide critique of IEP meeting for pre-service and/or newly certified teacher.

Considerations

Higher education professionals and administrators may wish to consider the following:

- Collaboration between multiple professors/courses.
- For larger courses, may wish to consider assigning multiple pre-service and/or newly certified teachers to the same mock student or assigning pre-service and/or newly certified teachers to pairs/groups.
- For evaluation reports, consider collaborating with a local school district to gain access to actual evaluation reports. Redact any identifiable information and provide reports to pre-service and/or newly certified teachers.
- To engage community stakeholders in mock meetings, consider recruiting students in graduate level programming who are current teachers and/or administrators.
- When leading an IEP meeting to model the process for pre-service and/or newly certified teachers, consider recording the meeting so that it can be accessed and referenced.
- Consider constructing Peer Feedback Forms and Participant Feedback Forms for peers and participants to utilize during mock meetings.
- When hosting meetings, consider using an online platform, such as Zoom, to accommodate community participants.
- Also consider using breakout rooms in Zoom to host multiple IEP meetings at a time.
- Explore obtaining access for the IEP documentation platform used in your area.
- In Pennsylvania, IEPWriter is used (https://www.iepwriter.com/info/). College and universities are able to access a college account where they are able to assign usernames to pre-service and/or newly certified teachers for training purposes.

Figure 1

Redacted Evaluation Report

[redacted] **SD**

EVALUATION REPORT (ER)

School Age

Student Name: [redacted]

Date of Report(mm/dd/yyyy): 4/29/2019 Date Report Provided to Parent/Guardian/Surrogate: 4/29/2019

Student Birth Date: 5/21/2013 Age: 5 Grade: K (Full)

Local Education Agency (LEA): [redacted] SD

School Student is Attending: [redacted]

Current Educational Program: Regular Education

County of Residence: [redacted]

Name and Address of Parent/Guardian/Surrogate: Phone(Home): [redacted]

Phone(Work):

Phone(Cell):

[redacted]

Email(Home):

Email(Work):

[redacted]

Other Information: None.

Complete Sections 1 through 6 for all students.
If determining eligibility for Specific Learning Disability (SLD), the SLD component near the end of this document must be completed and used to complete Sections 5 and 6.

1. REASON(S) FOR REFERRAL:

[redacted] has been referred for an evaluation by parent request in order to determine if he is a student with a disability and if he is in need of specially designed instruction.

2. SOURCES OF EVALUATION DATA - In interpreting evaluation data, the school must draw upon a variety of data sources, including those listed below, and carefully consider the information obtained. Document the information obtained from the sources below.

A. Evaluations and information provided by the parent of the student (or documentation of LEA's attempts to obtain parental input):

A review of the parent/guardian questionnaire completed by [redacted] follows:

[redacted] is kind and compassionate. He loves counting and reciting the alphabet. [redacted] draws well for a five-year-old. He is friendly and plays well with others. [redacted] hates to share, but will if he is asked.

[redacted] doesn't seem to retain any information. He learns things, but very slowly. Reading and

Figure 2

Mock IEP Planning Document

Thursday, March 31
https://sru.zoom.us/j/96361639139
Meeting ID: 963 6163 9139

10:00 – 10:50 am

Breakout Room #	Host	Mock Student	Peers	Administrators/Current Teachers
1	Garrett [redacted]	Riley Smith (1st gr) ID Speech	Cassandr[redacted] Office Online Frame d[redacted] Danny R[redacted]	Gina [redacted] High School Life Skills – Plum Borough SD A[redacted], Dir. Student Svs - Sharpsville Kelsey [redacted](121)
2	Olivia[redacted]	Addison Jones (8yo, 3rd gr) SLD – Math Comp.	Sarah Heavner Makenzie Burr Courtney Wilson	Megan [redacted]Program Dir. - ISST (640) Colleen [redacted]8-10 Sp.Ed Philly Charter School (640) Jennife[redacted], Dir. Of Sp. Ed. - Karns City
3	Koryn [redacted]	Eric Richards (Kindergarten) Emotional Dist.	Victoria [redacted] Madison [redacted] Carly [redacted]	Alicia [redacted]Kindergarten Tchr – Norwin SD (640) James J[redacted] Dir. Sp. Svcs – Shenango SD

11:00 am – 12:00 pm

Breakout Room #	Host	Mock Student	Peers	Administrators/Current Teachers
1	Cassandra [redacted]	Riley Smith (7yo, 2nd gr) OHI – ADHD Speech	Garrett [redacted] Sarah [redacted] Courtney [redacted]	Gina[redacted] High School Life Skills – Plum Borough SD Staci [redacted] Dir. Sp. Ed. - Neshannock SD

Figure 3

Peer Editing Checklist

✓	Section	What to look for	Recommendations
	1	**Legal Core Team Members** __ Parents/Guardians __ Student (must be invited when transition needs are being considered) __ General Education Teacher __ Special Education Teacher __ Administrator / LEA __ Team member licensed in the area of the student's disability __ When appropriate, other individuals with knowledge or expertise regarding the learner. __Outside agency members when applicable	
	2	3__ Disability listed	
	2	Present Levels of Academic Achievement & Functional Performance The IEP includes an update of the **student's present levels of academic achievement**	
	2	Present Levels of Academic Achievement & Functional Performance The IEP includes an update of the **student's present levels of functional performance**	
	2	Present Levels of Academic Achievement & Functional Performance	

Conclusion

Project-based learning allows students to apply knowledge to real-world situations and settings. Engaging in project-based learning to instruct pre-service and/or newly certified teachers in best practices for writing special education documents and leading meetings can lead to pre-service and/or newly certified teachers that feel more confident in their abilities. Providing pre-service and/or newly certified teachers with the opportunity to engage in special education paperwork and documents based off actual students with special needs can help to create more meaningful learning experiences for students. Encouraging participation from community stakeholders such as school administrators and current classroom teachers provides pre-service and/or newly certified teachers the opportunity to elicit feedback while developing and increasing their professionalism. According to a pre-service teacher who went through the mock IEP process, "I think the IEP process can be tedious and intimidating, but once we went through it, I felt like it was not as hard as I [had] thought. I feel a lot more confident after going through the process and hosting my own meeting."

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BREAKING DOWN THE SILOS: RE-ENVISIONING TEACHER EDUCATION BY BUILDING BRIDGES ACROSS DISCIPLINES

Abstract

Collaboration among educational professionals with diverse expertise holds potential to improve outcomes for students with disabilities (Leko et al., 2015) and plays a positive role in inducting and retaining educators within a supportive, vibrant professional school culture (McLeskey & Brownell, 2015). Therefore, there is a critical need to recruit, develop, and sustain a diverse cadre of knowledgeable and skilled teachers, both general and special education, and related service providers who can collaboratively implement evidence-based instructional practices to meet the diverse, intensive learning needs of students from various ability, cultural, linguistic, and racial backgrounds. Developing educators and related service providers who collaboratively implement evidence-based practices to meet the needs of students from various backgrounds requires re-envisioned, co-constructed interdisciplinary preparation including shared knowledge, skills, and experiences. Personnel preparation programs can address interdisciplinary development to ensure educators enter the field prepared to collaboratively implement interventions to support students with high intensity needs.

Background/Rationale

Current classrooms are more inclusive and diverse than ever before, with the majority of students with disabilities spending 80% or more of their day in general education setting (USDOE, 2022). This change in setting for students with disabilities has increased the knowledge base of all educators – special and general educators as well as related service personnel. Specifically, special and general education teachers are responsible for assuring every student achieves mastery of increasingly challenging and rigorous grade-level standards while concomitantly meeting the varied and diverse learning characteristics of students (ESSA, 2015). The necessary knowledge and skills of educators not only includes evidence-based instructional practices and interventions, but also, data-based planning and individualization, technology, and pre-referral services for students with and without disabilities within classrooms and schools (Slanda & Little, 2022). Further, students with disabilities may present high intensity needs and experience significant academic, behavioral, and social challenges which require intensive, individualized interventions. Often, the expertise and collaboration by additional educational service providers, such as speech-language pathologists, school psychologists, and behavior analysts, are necessary to further address the intensive challenges faced by students.

Therefore, to address the number of students who require prevention, intervention, and specialized instruction in the least restrictive environment, cadres of general and special educators, school psychologists, speech language pathologists, and related service providers must be prepared with the knowledge, skills, and dispositions necessary to collaboratively develop, evaluate, and implement targeted interventions to improve students' academic, behavior, and social emotional outcomes. This can be a difficult task when faced alone, especially when educators have expressed concerns about their preparedness to work with diverse learners (Brownell et al., 2010) and their ability to provide instruction or intervention to students who may be struggling and in need of additional intensive supports (Rinaldi et al., 2010). However, we know that educators are not alone when supporting students as they have the support of teams of professionals (ESSA, 2015).

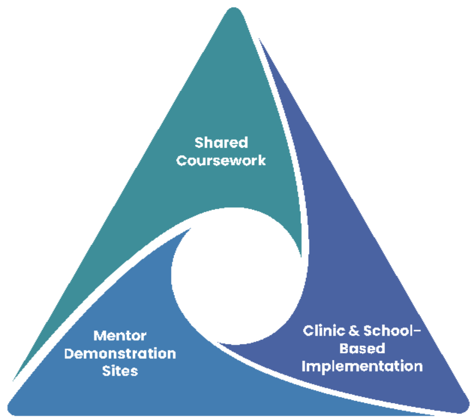
Interdisciplinary Programming

To maximize the collaboration of teams, intentional preparation in collaboration can and should begin in interdisciplinary preparation programming (Slanda & Pike, In Press; Xu et al., In Press). As asserted by Slanda and Pike (In Press), this approach of *intentional collaboration* within interdisciplinary preparation ensures educators enter the field ready to support all students. To address these gaps in personnel preparation, innovative, interdisciplinary programs must be re-envisioned and co-constructed.

This innovative, collaborative process incorporates interdisciplinary, shared coursework and coordinated, applied experiences in both clinical and school settings. Each faculty member shares expertise, resources, and learning opportunities on a variety of critical components to collaboratively prepare special educators and related service personnel to address the academic and behavioral needs of students with disabilities, including students with high intensity needs. The re-imagined, collaborative program includes the following components: (a) a structured cohort model that pairs scholars from each program to complete shared coursework; (b) school and clinic implementation of evidence-based practices and intensive interventions; and (c) Mentor Demonstration Sites which provide immediate and ongoing support through induction and continued professional learning and support in a virtual environment (See Figure 1).

Figure 1

Interdisciplinary Personnel Preparation Program Components of Learning



Conceptual Model

The conceptual framework for preparing personnel within a collaborative, interdisciplinary program to design, develop, and implement tiered supports and interventions using a collaborative model includes three specific components: shared coursework, collaborative implementation; and Mentor Demonstration Sites. Throughout the interdisciplinary program, data-based individualization that results in targeted instruction, specially designed services/supports, and individualized interventions, serve as critical factors to assure mastery of rigorous student outcomes. Specialized knowledge, skills, and dispositions are acquired and enhanced through the components of the program of study by intentional, coordinated efforts of national, state, and local partnerships (e.g., CEEDAR, NCII).

Initially, ***shared coursework with practical application*** address professional competencies of each discipline. Interdisciplinary teams of diverse faculty identify specific courses that address the overall instructional, assessment, and intervention goals. Shared competencies, research, and resources are shared to develop and co-construct the pool of knowledge and skills to be mastered by personnel. In addition, skills are not only mastered but demonstrated by interdisciplinary teams within the courses. For example, the development of an Individual Education Plan is a performance task that could be completed by the interdisciplinary team from a case study and/or authentic school-based experiences.

Once initial knowledge and skills for critical performance tasks are mastered by interdisciplinary teams of educators, ***school and clinic implementation of evidence-based practices and intensive interventions*** are completed *within* ***field-based/clinic/practicum experiences***. Instructional and assistive technology facilitates in person and remote learning by participants, while expanding implementation of technology to meet diverse needs of students with disabilities. Observations and feedback sessions develop contextual expertise of high-quality implementation of high-leveraged practices within the developing cadre of personnel with diverse expertise as common language, knowledge, and experiences continue to be developed.

The last component addresses the continued mentorship and learning during ***classroom implementation through mentor demonstration sites (MDS)*** through induction. These competency-based components are integrated across disciplines to ensure teachers and related service providers acquire and demonstrate knowledge and skills to address students' academic, behavioral, and social-emotional needs using data-based, problem-solving approaches within MTSS frameworks (ESSA, 2015). The conceptual framework considers the complexity of the collaborative and interprofessional development of professionals through a comprehensive cross-disciplinary model which spans a ***three-phased approach through shared coursework, field-experiences, and continued mentorship***.

Personnel development to address the educational needs of students with high intensity needs requires knowledge and demonstration of high leverage practices (McLeskey & Brownell, 2015) and evidence-based practices in data-based individualization, interventions, and assessments (Sailor et al., 2020). The use of MDS contributes to best practice research and educator preparation (Fox et al., 2021). By providing a site for authentic trials and application of evidence-based practices, policies, and technologies, MDS sites support the advancement of education for all students, including students with high-intensity needs and disabilities.

Summary

Implementation of interdisciplinary preparation models advances equitable and inclusive education for all students; and, improves the delivery of supports and services to all students. Multiple educational professionals are involved in interdisciplinary teams to develop and implement individualized education programs for students with disabilities. In this way, multiple stakeholders are connected to enhancing outcomes for students with disabilities. Researchers and scholars dedicated to inclusive and equitable education continue to advocate for the need for interdisciplinary models of collaboration within preparation.

All educators and related service providers are in unique positions to provide knowledge, expertise, and supports to students with disabilities, especially high intensity needs, within an MTSS framework. Designing preparation programs to include *intentional collaboration* is one way that the field can advance towards equitable special education (Slanda & Pike, In Press). Personnel preparation programs can be enhanced and re-imagined providing the required knowledge, skills, and competencies within a context of interdisciplinary preparation to collaboratively meet the needs of students with diverse learning needs.

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BUILDING PRE-SERVICE TEACHER CONFIDENCE IN VIRTUAL INCLUSIVE TEACHING ENVIRONMENTS

Abstract

Few academic programs offer opportunities to engage in inclusive virtual teaching environments and bridge 21st-century demands. This session explores insights through an experiential learning opportunity as part of a teacher preparation program. Upon completion of teaching a Language Arts lesson in a virtual inclusive environment, pre-service teachers provide feedback on their experience. The information presented in this session provides considerations for teacher preparation programs when preparing the field to support inclusive virtual environments. Participants are provided with example opportunities and embedded hands-on technology features to better support inclusive virtual teaching within teacher preparation program implementation.

Background

The Covid-19 pandemic impacted educators at all levels while exposing the continued disparities in teacher preparation. As a part of pandemic protective measures, immediate school closures occurred. The pandemic created an abrupt change in teacher preparation program modality and forced the involuntary choice to participate in virtual learning for all parties involved. School districts were legally required to provide appropriate educational services through virtual learning environments with little to no prior experience (Koenig, 2020). IDEA (2004) ensures equal access to educational opportunities for all students with disabilities, despite a pandemic. Abrupt closures and forced online teaching environments magnified disparities already present in the preparation of educators charged with serving students with disabilities.

Under typical face-to-face circumstances, educators provide modifications and accommodations outlined in a student's IEP to meet IDEA (2004) obligations. Consequently, finding effective teaching pedagogy in virtual settings for students with disabilities is sparse (Vasquez & Straub, 2012). Greer et al. (2015) recognized the critical considerations to the effective instruction needed when teaching students with disabilities in online environments. Kearsley and Blomeyer (2004) cite education's consistent lag concerning recommendations for online teaching proficiency. Still, Rice and Dykman (2018) note that virtual online teaching requires new kinds of teacher support. However, current research indicates very few academic programs afford pre-service teachers opportunities to prepare and develop the essential competencies to teach in online settings (Lockee et al., 2021).

Purpose

The session provides insight into pre-service teachers' experiences (PSTs) when given the opportunity to teach in a virtual inclusive teaching environment. In conjunction with teaching in an unfamiliar modality, participants made accommodation decisions to continue providing appropriate educational services to students with disabilities. Greer et al., (2014) states that teachers cannot forget accommodations, interventions, and effective instructional strategies when providing online education to students with disabilities. As PSTs become more exposed to teaching in a virtual inclusive learning environment, the prevalence of continued disparities in teacher preparation are exposed. This session provides consideration and an opportunity to implement simulation technology as a solution tool to provide pre-service teachers better understanding and appreciation of virtual learning options when supporting students with disabilities.

Solutions and Opportunities

Experiential learning, such as simulation, is used widely in numerous fields of study (Duke, 2019; Majumdar, 2018). Simulation provides an effective and practical avenue to consider when implementing a meaningful approach to bridge active learning from theory to practice (Dexter et al., 2020). Simulations afford the opportunity to change training dynamics and provide rich real-time learning opportunities to better develop pedagogical practice (DeJong & Grundmeyer, 2018). For pre-service teachers to make connections, as seen in experiential learning, the learner should be engrossed within authentic problem-solving contexts that entail cognitive demands relevant to coping in real-life situations (Campbell et al., 2013; Sepp et al., 2019).

Through exposure to the use of the TeachLivE simulation, conference participants developed insight into the pre-service educators' opportunity to develop essential competencies to teach in an online setting. The TeachLivE laboratory (TLE) is a remarkably sophisticated classroom simulation providing a fully immersive experiential teaching experience representing many of the complexities that exist in inclusive classrooms (Dieker et al., 2014). Greer et al. (2014) shows that pre-service teachers report a shift in their pedagogical practice when provided the opportunity to develop and practice the use of required technological tools.

Implementation

The session details the activities presented over two days to pre-service teachers enrolled in exceptional education courses located at a university in the southern United States. First, participants completed a brief survey about their experience with special education, inclusion, and virtual teaching. Next, a 2-minute TeachLivE demo observation session took place to reduce the novelty effect of the environment. In the second session, participants were asked to present their 10-minute elementary-level lesson composed of the academic content of their choice within the virtual simulated classroom, delivered and recorded using Zoom (See Figure 1). After completion of the teaching session, participants identified appropriate student accommodations from a short online survey (See Figure 1). Participants then engaged in an interview session to briefly discuss their accommodation choices, justification, and confidence in choice selection.

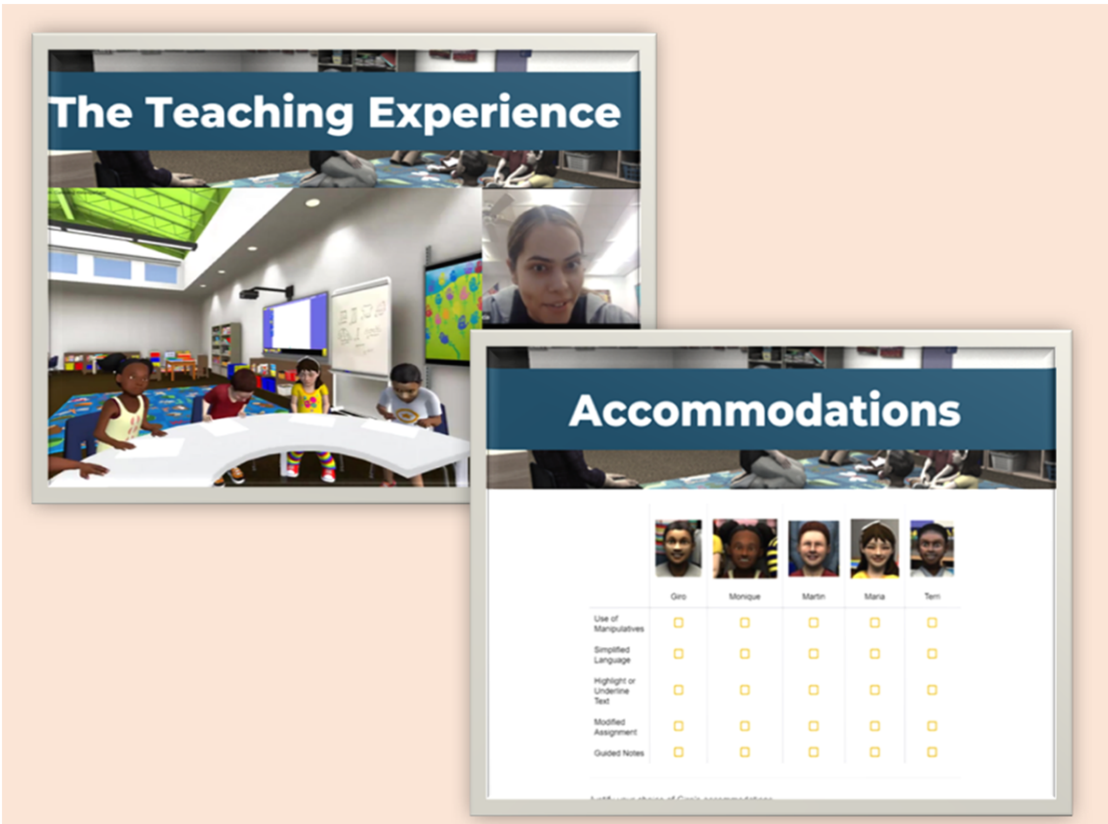

Figure 1 Screen Capture of TeachLivE Virtual Classroom Teaching Session and Student Accommodation Checklist.

Pre-Service Teacher Insights

After engaging in the TeachLivE Virtual Classroom Session PSTs provided their thoughts. Participants shared about their confidence level, considerations of evidence, favorable student outcomes, self-reflection, and the impact of the experience as seen below.

Confidence Level:

- *"In the middle."*
- *"I feel good about my choices."*
- *"I wasn't sure at first but I think it helps for the future"*

Considerations to Evidence:

- *"I feel like my experience with certain students and having worked with students that have disabilities...and seeing their accommodations".*

- *"You could really tell the differences between each student."*

Favorable Student Outcomes:

- *"In the middle, I'm never fully confident..but I feel at least it's something. By giving them some sort of accommodation, at least it can help, and if it doesn't then of course we... can try something else."*
- *"I think I made good choices in order for the students to have favorable outcomes but I'm not really sure. You never know for sure until you try something."*

Self-Reflection:

- *"Not highly likely but there's always the possibility that I might have made an error."*
- *"I feel like I made good decisions based on the time and information I had."*

Impact of the Experience:

- *"Being able to watch them helped."*
- *"I wish I had more time to interact with the avatars."*
- *"It was interesting. and realistic."*

Putting It All Together

Conference participants were interactively probed via the use of Nearpod to discuss the following: How confident do you feel in preparing PSTs to teach in online environments? What would increase your confidence level? Or the confidence of your PSTs? Do you feel increasing confidence levels would result in more favorable student outcomes in online environments? How would interacting with online teaching environments impact your PSTs response to providing student accommodations? Participants indicated they share very similar reflection experiences as their PSTs when it comes to confidence levels to preparation and ensuring favorable student outcomes. Primary results from the interactive discussion indicate further implementation is needed by the field in order to better prepare PSTs for the shift in pedagogical practice within virtual technologies.

Conclusion

Virtual, inclusive learning environments are becoming increasingly crucial for teacher preparation programs. With the ever-changing world, new technologies, and various student needs, virtual and inclusive learning environments provide an opportunity for teacher preparation programs to more effectively train and prepare educators for success to work with students of all exceptionalities. At the forefront of these new technologically advanced teaching environments should be considerations to the support of favorable outcomes for students receiving special education services.

With access to more individualized and tailored learning experiences, PSTs can receive the support and guidance they need to become successful educators in the classroom. In addition, PSTs experiences can inform the education field on strategies to help increase their confidence levels when teaching in virtual inclusive learning environments. Virtual and inclusive learning environments can create a more comprehensive and practical experience for teacher preparation programs and the students they serve to meet 21st-century demands.

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WHY IS THAT BRIDGE BURNING? HIGH-STAKES ASSESSMENTS AS BARRIERS TO TEACHING

Abstract

To become a special educator, candidates must pass a number of standardized tests to demonstrate competency. Subject matter competency, basic skills, reading assessment, and performance assessments are common across credential programs and states. Yet we know that diverse people, such as those from lower SES or BIPOC communities perform worse on these tests than people from the dominant culture. With universities dropping tests like the SAT from their admissions requirements because they are recognized to discriminate against diversity in the student body, what should decisions should teacher education programs be making? A review of the science around the technical adequacy, fairness, and predictive validity of standardized assessments used in teacher preparation will be presented as a foundation for future steps.

Background/Rationale

Bridges are built to help people cross difficult waters, deep ravines, or other hazards to arrive at their destinations. In special education, this analogy can be used to describe the development of Universal Design for Learning, the cultivation of self-determination for people with disabilities, and the rationale for the use of evidence-based practices, each of which assists students and teachers in crossing bridging to reach their goals. Similarly, teacher educators build bridges between research and practice so that fledgling professionals arrive in classrooms well prepared to effectively teach children with disabilities. Special educators build bridges for their students with disabilities to enable them to overcome numerous obstacles to create and live fulfilling lives.

With critical shortages of special educators all across the United States, we teacher educators strive to recruit promising individuals who want to devote themselves to teaching children with disabilities. We especially want to support diverse candidates who are too often underrepresented among professional teachers. We need teachers who represent the diverse population of the United States. Bringing teachers of color and from diverse cultural backgrounds into special education classrooms also provides children with disabilities with representation that reflects their unique communities. Research indicates that teachers of color have cultural understanding of their students, leading to higher expectations and fewer punitive measures as they serve as role models to underrepresented youth (Goldhaber et al., 2019). Indeed, many studies demonstrate that when students of color learn from teachers who share their backgrounds, their academic achievement is greater than when they learn with other teachers.

Yet all of our hard work building bridges for these desperately needed and diverse teacher candidates is inhibited when poorly conceived laws around assessment and teacher preparation set those bridges aflame before our candidates can begin to cross them. Legislators have instantiated standardized entry exams and teacher performance assessments into law and potential teachers must pass them to enter the profession. The theory is that these measures insure the public that teachers are highly qualified to instruct children. Research indicates that these exams are a barrier to cultivating the diverse teacher workforce that legislators claim to value. What impact are the gate-keeping subject matter competency and basic skills assessments, purported to ensure that teachers are highly-qualified for the job, having on the teacher-education to career pipeline?

Examine the psychometric properties of teacher examinations, with particular attention to inequities in opportunity they create. The literature makes it clear that people of color, those from lower socio-economic status households, and women perform poorly in ways disproportionate to more privileged, White test-takers. For diverse teacher candidates, the bridge is on fire. What can we do to extinguish those flames and make the bridge passable?

Fairness in Testing

Psychometricians have long recognized validity, or the idea that tests assess what they purport to measure, and reliability, or the extent to which tests consistently measure a construct, as hallmarks of technical adequacy of assessments. With increased scrutiny about how high-stakes assessments are used, fairness has emerged as an important element of assessment construction and use. The 2014 *Standards for Educational and Psychological Testing* (AERA et al., 2014) elevate fairness to its own foundational chapter, with as much importance as those describing test validity and reliability. These standards emphasize that fair tests keep individuals of different races, genders, ages, backgrounds and other characteristics on an even playing field so that valid conclusions may be reached about their performance on the assessment that are not confounded by personal characteristics.

Still, these fairness standards do not seem to be adhered to by recent assessments. One study concluded that increasing fairness in testing will require that test developers better address their efforts to ensure fairness within their technical manuals, while also emphasizing the importance of broad representation of diverse people in norming samples that will support fair interpretation and use of the measures (Jonson et al., 2019). Universal design for learning (UDL), a set of guidelines to increase access to materials through engagement, representation, and actions/expression (CAST, 2018) is an integral part of fairness in assessment. Providing assessments with multiple ways to access the questions, as in through reading, video, or listening, as well as multiple ways of expressing responses, as through short-answers, circling, orally, and so on, remove barriers to performance experienced by many test takers (Mislevy et al., 2013). Unfortunately, many of the high-stakes assessments in use today do not offer robust accommodations for people with differing abilities; UDL is largely absent.

Standardized Assessments in Teacher Preparation: Fairness and Pass Rates

The No Child Left Behind Act (NCLB, 2002) introduced the idea of a “highly-qualified teacher;” such teachers must demonstrate subject matter competence in the content area they teach (e.g. mathematics, history, or the many subjects of elementary school) through either a state test or a college major. No doubt most people agree that individuals who are going to teach children must have a solid foundation of basic academic skills in reading, writing, and mathematics, as well as within the field of study that they will be working. Children deserve to learn from teachers who model best academic practices.

Assessments to demonstrate subject matter competency in subjects like life sciences or mathematics include many created by Educational Testing Service (ETS) and offered under the Praxis umbrella and others created by Pearson for individual states. Further, basic skills in reading, writing, and mathematics are also a prerequisite to entering the teaching profession. Demonstration of basic skills may entail achieving an adequate score on a standardized assessment like the Washington Educator Skills Test-Basic (WEST-B) or the California Basic Educational Skills Test (CBEST). Basic skills tests include Praxis, mandated in 28 states, and tests developed by Pearson for an additional 13 states (Petchauer, 2016). Other options for meeting the basic skills requirement include adequate scores on the SAT or ACT, which are demonstrated to disadvantage students from diverse backgrounds (Hiss & Franks, 2015). Passing grades in lower-division English and math classes may also be acceptable evidence of basic academic competence.

There is clear evidence that people of color underperform White ones on many of the prerequisite tests for teaching programs. One study demonstrated that while 81% White people passed the CBEST the first time and nearly 93% cumulatively; Black people had a first-time pass rate of 42% (Le & Buddin, 2005). Another study confirms this conclusion, showing that Black Praxis/basic skills examinees passed the test the first time at half the rate of White examinees (Nettles et al., 2011). Further, a definite racial difference was found between White CSET subject-matter test takers and others, with Black candidates 2.5-4.7 times more likely to fail than White ones (depending on the subject of the test) and Latinx candidates 1.7- 2.5 times more likely to fail (Ayers et al., 2022). Research shows that only about 45% of candidates pass elementary subject-matter exams on the first attempt (Putman & Walsh, 2021).

Worse, research shows that prospective teachers who fail these exams are unlikely to persist to retake them. Only 67% of all prospective Black teachers in one study were able to eventually pass the CBEST (Le & Buddin, 2005). A national study of elementary subject-matter test pass rates indicated that 22% of the candidates who fail do not reattempt the exam and 30% of students with color do not (Putman & Walsh, 2021). That is a shocking proportion of people weeded out of the teaching profession for reasons unrelated to their ability to effectively teach children.

Predictive Validity of Teacher Assessments

A correlation between a basic skills test scores and a culminating teacher performance assessment led researchers to conclude that basic skills are a relevant predictor of completing licensure (Maddox & Reglin, 2019). This did not establish that demonstrating basic academic skills on a test predicted effective teaching in practice.

Subject-matter competency means that teachers are well-versed in the disciplines they teach. Intuitively, it makes sense that an algebra or calculus teacher would have a strong grasp of mathematics, or that a biology teacher has broad and deep knowledge of life sciences. One method of establishing subject-matter competency is through standardized, criterion-referenced tests such as the California Subject Examinations for Teachers (CSET) and the Praxis. However, one study found a near zero correlation between the basic skills tests scores that teacher candidates achieved in writing and the teacher performance assessment they passed to complete their licensure program (Koetje, 2022). That is, candidate's basic ability to write did not predict or appear to be related to their ability to meet performance expectations when on a high-stakes assessment of their pedagogy. A review of the literature posited that teachers who had earned a degree in mathematics or science showed a small positive effect on their students, but such relationships were not so clear for elementary teachers laying the foundations for literacy (Le & Buddin, 2005).

Discussion and Recommendations

Perhaps the assessments are not designed to be biased, but are instead revealing the inequities in the educational system that did not properly serve people of color (Le & Buddin, 2005). Black teacher candidates in one study who were well regarded by their professors reported crises of confidence when their academic preparation did not enable them to pass basic skills measures (Petchauer, 2016). Given research that indicates that children of color learn best from teachers who reflect their culture and experiences, but that these potential teachers are unable to pass the tests to enter the profession, these systemic inequities will be difficult to resolve.

This paper represents a preliminary examination of a complex topic. A further A review of the literature around teacher assessments will empower teacher educators to knowledgably advocate for change with their local, state, and federal elected officials. We must inform lawmakers about the impact and validity of these mandated measures and the ways they improperly narrow who is able to become a teacher. Changes in the laws about the ways in which future teachers authentically demonstrate their academic preparation to take over classrooms could alleviate the teacher shortage while diversifying the workforce.

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FROM A STUDENT MINDSET TO A TEACHER MINDSET: VIEWS ON COLLABORATION

Abstract

Using reflection, the impact of preservice teacher identity on collaboration and strategy-development was investigated. Analysis of reflection, peer feedback, and implementation through the lens of diverse preservice special education and content-area teachers who collaborated on teacher action research (TAR) projects was used to view the impact of teacher identity on project outcomes. Specific focus will be on the change in mindset from a preservice student completing a project to a teacher using data to adapt curriculum. Preservice teachers were asked to find commonalities in uncommon spaces and to see the similarities in teaching and learning in diverse classrooms. Forty-three preservice teachers representing thirty-seven different schools were able to see the similarities in their classrooms, their students, and their teaching to develop strategy-based instructional models to benefit all learners. The preservice teachers added their lens to the project, where individual differences and diversity were embedded in the collaborative experience.

Background/Rationale

The supporting literature categorized into two distinct topics that include preservice preparation to decrease new teacher attrition and strategy-based instruction for all learners through interdisciplinary collaboration. An affirmative school culture, where teachers have a sense of community, positive relationships with colleagues, and structures are in place to promote collaboration are viewed as practices to decrease teacher burnout (Richards, Hemphill & Templin, 2018). Opportunities to connect with colleagues, more specifically "collaboration gets me through the day", was reported by teachers as essential for longevity in special education (Richards, Hemphill & Templin, 2018). Special education teachers report feeling isolated. For special education teachers who teach in self-contained settings, being a part of a larger professional community is associated with reduced stress (Jones, Youngs & Frank, 2013) when they find support from their colleagues. Special education teachers who report high levels of stress have difficulty with professional relationships, they do not collaborate with colleagues, and they do not socialize with colleagues in or outside work (Cancio et al., 2018).

The second area of research that provided guidance for this project was strategy-based instruction for all learners through interdisciplinary collaboration. The needs of students with disabilities are not being met in science classrooms (Knight et al., 2019). The most recent ARISE analysis of STEM preservice teacher preparation revealed a significant lack of programs for preparing science teachers to teach students with disabilities (Bell, Gitomer, Savage & Mckenna , 2019; Fuller & Pendola, 2019; Youngs, Bieda & Kim, 2019). This research focused on the collaboration between preservice science and special education teachers to better prepare science teachers to teach all learners using research-based practices, and to prepare special education teachers in content-area literacy. Together, the preservice teachers engaged in collaborative planning and strategy implementation across diverse placements, focusing on instruction to engage all learners. Strategies addressed the diverse learning needs of students with and without disabilities, while providing research-based instructional strategies and supports for students with disabilities (NYS Blueprint for Improved Results for Students with Disabilities, 2019). The nested model of co-planning and reflection used in this project can be used in preservice and inservice teaching to increase collaboration. Introducing preservice teachers to a collaborative model during teacher preparation provides a context in which preservice teachers learn that they will be expected to work with others, and minimizes the fear of co-teaching placements (Kamens, 2007).

Method

This collaborative project focused on challenging preservice teachers to find commonalities in uncommon spaces and to see the similarities in teaching and learning in diverse classrooms. Forty-three preservice teachers representing thirty-seven different schools were able to see the similarities in their classrooms, their students, and their teaching to develop strategy-based instructional models to benefit all learners. The project followed a nested model of diversity, where each level of the nest includes representation from a variety of backgrounds. For this study, two groups of preservice teachers were included. These groups were chosen for analysis after an initial overview of data. Group 1 represented a student mindset with a focus on assignment completion and Group 2 represented a teacher mindset with a focus on the impact on their intervention on the students they served.

The preparation model included thoughtful, collaborative grouping where preservice special education teachers collaborated with preservice science teachers. The preservice teachers added their lens to the project, where individual differences and diversity were embedded in the collaborative experience. Using reflection, preservice teachers evaluated the impact of their own background on collaboration and strategy-development. The thirty-seven schools represent urban public and independent schools servicing the city's most diverse learners.

Preservice teachers utilized communication, group facilitation, and problem–solving strategies in a culturally responsive manner to lead effective meetings and share expertise and knowledge to build team capacity and jointly address students' instructional and behavioral needs. Preservice teachers collaborated, communicated, and coordinated with other professionals to assess, plan, and implement effective programs and services that promote progress toward measurable outcomes for individuals with and without exceptionalities. In addition to instructor evaluations using the rubric, each preservice teacher was evaluated by group members at two points in the project. The first evaluation was when each member submitted a draft version of the project, and the second evaluation was at the completion of the project. The preservice special education teacher project description can be found in Figure 1.

Figure 1

Teacher Action Research (TAR) Project Description

TAR Collaborative Strategies Presentation with Science Education This will be a large, teacher action research (TAR) project in collaboration with Science Education. The project will involve the planning and development of a teaching/learning strategy to be implemented in all teaching sites. In groups, use the information provided and any additional sources to collaborate on a teaching strategy. The strategy should be agreed upon by all student teachers and easily implemented in all classrooms. Collaborative efforts to determine the strategy should be recorded. You can use Google Hangout, Zoom, Facetime or a Google document to work out the details of your strategy.	Develop a plan to pre-assess, implement, and evaluate student use of the learning strategy. All ST should plan to use the same three step process, but modifications should be made for each individual classroom and curriculum. The pre-assessment and evaluation can be informal and/or based on observation. The teaching and implementation of the learning strategy should include a lesson plan. In your group, prepare a very brief presentation to be shared online. The presentation should include: 1. Student teaching biographical information 2. Classroom demographic information 3. Rationale for choosing the strategy 4. Development of teaching/implementation lesson plan 5. Results 6. Surprises, pitfalls, and areas of concern 7. Development and presentation of strategy

Preliminary Findings

There were significant differences in the collaborative effort and understanding of the assignment. Broadly, Group 1 identified the TAR project as a graduate school assignment. Inquiries were focused on grades, following the assignment steps, and the impact of group members' behavior on grades. Conversely, Group 2 used the TAR project as a method of adapting instructional decisions for the learners in their classrooms. Specific behaviors illustrating the connection between the group members and the final project were evident. Initial analysis of three data points: TAR Working Session Survey; TAR Collaboration Check-In, and TAR Group Collaborative Survey produced two broad themes. The first theme stemmed from questions about the TAR project and ways for instructors to help in developing ideas for strategy instruction (TAR Working Session Survey). The second theme stemmed from the collaborative check-in, where preservice student teachers were asked broadly about their experiences (TAR Collaborative Check-In). These two themes are summarized in Figure 3.

Figure 3

Preliminary Findings: Broad Themes and Subthemes

Theme: Questions about the TAR (from a survey completed by the group after the first working session) *Prompt:* What assistance can we provide you to initiate the process: how can we help you develop the project?	*Theme*: Impact of collaboration (collaborative check in) *Prompt:* Is there anything about your collaborative efforts and contributions you would like to share?
Sub Theme: Group 1: *"Is this too broad? Will we be able to select a strategy that can be used in all classrooms? How broad can our question be?"* Group 2: *"we could use help in connecting our research, not only with our individual classrooms, but to all of our teaching experiences"*	*Sub Theme*: Group 1: Impact on grade, impact on finished product (presentation), members not contributing "fair share", members choosing a different strategy, focus on "i" , *Peer feedback indicated a need for additional collaboration.* Group 2: Collaborative benefits, ability to bounce ideas off one another

Discussion and Implications

The findings of this partial analysis are very preliminary. The influence of teacher identity, more specifically the development of a teacher mindset has implications for both research and practice. The project sought to address the issues associated with teacher attrition by creating collaborative spaces and providing opportunities for preservice teachers to work together toward a common classroom goal. Essential to generalizable collaborative skill development is the change in mindset from a student to a teacher. This study aligns with current research The skills associated with collaboration, especially in uncommon spaces, need to be taught and practiced. This project provided the opportunity for special education and science teachers to develop collaborative skills that can be directly applied to school settings. By learning effective collaborative skills at the preservice level, novice teachers will be better equipped to engage in collaborative teaching experiences. The findings of this study have implications for research and practice related to impact of collaboration, more specifically, collaboration with a teacher mindset. This collaborative effort includes faculty involvement, shared values, and stakeholder reflection. Focus was placed on addressing the needs of students with disabilities in urban classrooms. Providing access to the curriculum extended to examining the contextual factors of lack of technology and lack of appropriate materials to teach diverse learners academic curriculum using strategy-based instruction. When preservice teachers were able to focus on the outcomes of the students they serve, instead of the grades they could obtain, the strategy intervention results had a greater impact.

Results of this project inform teacher education. The use of a collaborative project prepared special education and content-area teachers to work together, to use student data, and to support one another. The focus on developing a teacher identity while in preservice allows for more attention to the collaborative teaching process and can reduce early teacher burnout (Cancio et al., 2018). The Council for Exceptional Children highlights the importance of collaboration in Standard 7, stating that beginning special education professionals collaborate in culturally responsive ways to address the needs of individuals with exceptionalities across a range of learning experiences. This standard was the foundation for the project.

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WORKING TOGETHER TO SUPPORT PRESERVICE EXPERIENCES WITH FAMILIES: UNIVERSITY AND EARLY INTERVENTION PROGRAM PARTNERSHIPS

Abstract

Partnerships between universities and community-based programs/school systems are essential to the development of pre-service professionals. This paper describes a partnership between a university program and an early intervention (EI) program that supports the needs of young children who are at-risk for or diagnosed with developmental disabilities and their families. This paper also includes an overview of a clinical experience, developed through the partnership, that was designed to support Birth-Kindergarten pre-service educators. Finally, a former student and an EI professional who participated in this practicum share their perspectives on this experience.

Background/Rationale

The fields of early intervention (EI) and early childhood special education (ECSE) require preparation that differs from that in special education due to the (a) emphasis on partnerships with families, (b) provision of services in a range of natural environments, and (c) development of teams to support young children with or at-risk for developmental delays/disabilities and their families (Division for Early Childhood [DEC]; National Association for the Education of Young Children [NAEYC]). This preparation necessitates opportunities for students in EI and ECSE programs to progress through a range of field experiences, including those for children birth to age three (EI/ECSE Standards, 2020). Thus, the development of partnerships with community organizations who provide EI services and focus on the needs of young children and their families is critical to the preparation of highly qualified EI and ECSE professionals (McCorkle et al., 2022)

In developing partnerships with community programs and school systems, universities need to identify organizations in which pre-service professionals may observe the implementation of recommended and evidence-based practices (DEC, 2014; Saclarides & Munson, 2021). Ideally, in the development of an academic program, an alignment exists between these practices and the student learning outcomes (SLOs) designed to prepare individuals for future careers in EI/ECSE (Nasrallah, 2014). Thus, as programs are developed, SLOs are embedded into each course with the goal of providing a framework for faculty as they develop specific learning opportunities and make decisions about content to include in a course (Maher, 2004; Sadler, 2016).

The Partnership

As the preparation of EI/ECSE professionals differs from that of other education pre-professionals, a focus on family-professional partnerships (FPPs) is needed (Kyzar et al., 2019). Within our program, a partnership between the University of North Carolina at Charlotte's Child and Family Development (CHFD) program and the Part C program in Charlotte (Children's Developmental Services Agency; CDSA) has been formed to provide experiences pre-service professionals need to translate their knowledge into implementation when they enter the workforce.

This partnership includes a faculty member and two administrative leaders of CDSA in Charlotte, North Carolina. Both of the administrators are graduates of the CHFD program at this university and have prioritized maintaining a relationship with the university in various capacities (e.g., guest speakers, adjunct faculty, review panelists for personnel preparation grants). Additionally, they have provided mentorship and support to pre-service educators in completing internships with CDSA. The faculty member, due to her prior experience as a Part C provider and service coordinator, initially met the second author, by serving on her master's thesis committee. Since that time, the authors learned more about each other's work, areas of expertise, and recognized the potential for collaboration to support the development of pre-service educators.

The Assignment

In developing assignments, we reviewed how courses and practicum experiences fit within the broad scope of the program. In this instance, we observed undergraduate students (a) had minimal opportunities to learn about the assessment process for infants and toddlers, (b) did not have the opportunity to observe Individualized Family Service Plans (IFSPs), or (c) observe an intervention/coaching session working with a family in a natural environment. We also focused on adult learning strategies and how EI professionals prepare for meetings. Therefore, we developed prompts for the students to ask the EI professionals about the ways they prepared for the meetings and used checklists from the Early Childhood Technical Assistance Center (ECTA, n.d.) to provide objective skills for the undergraduate students to look for during the observations. For example, the "Engaging Families as Partners in Their Child's Assessment" checklist aligned with the assessment observation, the "Informed Family Decision Making Practices Checklist" and "Family Engagement Practices" checklist aligned with the IFSP observation, and the "Family Capacity Building" and "Family Centered Practices" checklists aligned with the intervention/ coaching observation. After each observation, undergraduate students were asked to provide a short reflection about their observations and takeaways from the experience. Additionally, at the end of the semester, students are asked to provide an overall summary of their perspectives and insights gained through the practicum experience.

The Practicum

For the practicum experience, pre-service educators are paired with an Early Intervention Service Coordinator (EISC) to observe three home visits with a family. The home visit observations include (a) an initial evaluation to determine eligibility, (b) a routines-based assessment and initial IFSP development, and (c) an early intervention session (e.g., speech therapy, physical therapy, occupational therapy, special instruction; IDEA, 2004). The experience of observation in a family's homes offers a different experience than observing in a school setting. When joining EISCs in a family's home, an opportunity exists to deepen learning and understanding about diverse cultures in a natural setting rather than one created by a school environment. During these visits, the students are also observing the EISC as part of a multidisciplinary team working with a variety of professionals using family-centered practices.

Service coordinators volunteer to support students and one EISC is paired with one student for the semester. The EISCs are provided with an overview of the class assignment and practicum expectations, along with copies of the checklists that students will be completing. To maximize the support of students, EISCs are asked to meet with their assigned students before and after each observation for a pre-staff and debrief. To prepare students for the practicum experience, the second author meets the class early in the semester to share information about CDSA, home visiting expectations, and tips for partnering with EISCs. Typically, students and EISCs are independent with communication and scheduling the observations. Scheduling visits that coincide with the needs of college students can be challenging due to the multiple obligations of both groups (e.g., other courses, part-time jobs, personal commitments). For EISCs, challenges can occur due to family cancellations or limitations based upon the number of new referrals (i.e., varying caseload size). When scheduling challenges occur, guidance and support are provided from the faculty member and EI administrator.

Student Perspective

One student who participated in this experience shared her thoughts about her overall experience. She expressed her initial interest in learning more about speech therapy services, developing IFSPs, and working together with families using coaching methods. She stated, "One thing that's really important at the CDSA is that they're able to help the whole family and understand the whole family's needs and what they want for their child (…) I learned how important it is to work with the family as a whole because they ultimately have the biggest impact on their child (…) teaching them and giving them strategies to help their child is such an important piece to help." This student also learned more about the importance of building relationships not just with students, but also with the families and building that trust. She shared some advice for students who participate in this program. She suggested that students, "Keep an open mind because you never know where a child or family is coming from. We all want to help children and to help them grow, and, in order to do that, we have to understand the needs of the families and their specific experiences that they have been through so that we can help their child up the family as a whole."

EI Professional Perspective

Similarly, one EI Service Coordinator (EISC) was interviewed about her experiences supporting students in their practicum. She felt having a student helped her reflect on how she was using her skills, specifically, coaching elements, during visits with families. She gave the student information about the field of early intervention in the hopes that exposure to this type of work might encourage new graduates to consider this type of role. The EISC also noted, “An advantage for me was that it was really fun to share. I don’t know that I expected that so much, but I get a real kick out of what I do. I’m proud of what I do and it’s really rewarding to be able to share that with somebody else.” Another important factor she highlighted was that mentoring a student did not require a substantial time commitment. She completed some preparation by gaining consent from the family, collected her information about family factors the student would need to know, and was willing to answer any questions after the visit. The EISC also encouraged other professionals to participate in the next opportunity with this advice, “She (the student) was really, really busy (…) It was good to give her a little taste of what we do. (…) Hopefully, professionals can try to be really understanding with students and all their demands.”

Program Benefits

CDSA administration and staff look for ways to continue learning, both benefiting from and contributing to the field. Although participating in partnerships takes additional staff time and administrative planning, the benefits long outweigh the time invested. These activities continue to show students the field of EI as they consider future career options; furthermore, it breathes energy and enthusiasm to CDSA staff who may appreciate interest, questions, and positive feedback about the impact they make with the families they serve. Having the opportunity to show students the field of early intervention has yielded new professionals. Across CDSA, approximately 25% of our existing staff have some previous tie to the university.

EISCs who volunteer to support pre-service educators benefit in several ways as a result of their participation. Having an observer allows the service coordinator the opportunity to articulate the work they do with families and self-reflect about EI visits where students have observed. EISCs are exposed to best practice self-assessment tools and are able to answer questions they are asked, as well as receive feedback from the pre-service educator on impressions of the impact of their work on families. EISCs benefit from the enthusiasm and inquiry through these interactions, and it often reminds them why they want to do work in the field. Moreover, EISCs frequently receive positive feedback from the pre-service educators which encourages staff and positively reinforces the effort it takes to include them in their already challenging work.

Ongoing partnerships between university and community organizations offer many benefits. Pre-service educators, as well as graduate students who choose to complete research with the CDSA, offer new perspectives on the field. Dissemination of this research may include students, CDSA staff and/or university faculty; these partnerships strengthen work across the community. Strong relationships with the university can generate future research collaborations, as faculty areas of interest often align with agency needs and strategic plans. These relationships forged over time improve success on other community projects and model collaboration instead of the siloed approach that often occurs when programs attempt to work separately.

Next Steps

The creation of partnerships to support pre-service educator preparation is a key part of teacher educator programs and assists in making connections between research and practice (Dunst et al., 2019; Odom, 2009). At the conclusion of each fall semester when the practicum has ended, we meet to discuss successes and challenges, and ways to address these points. As we continue with this partnership, we strive to make this an optimal learning experience for future colleagues and professionals in our field through our research on this practicum experience.

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TELE-TRAINING SUCCESS: LITERACY INSTRUCTIONAL SUPPORTS TRAINING IN PHONICS-ALIGNED, INTEGRATED PHONEMIC AWARENESS INSTRUCTION

Abstract

This study examined the effectiveness of a distance-mediated professional development with follow-up coaching on teacher-implementation of Phonics-Aligned Intensive Phonemic Awareness Instruction (PAIPAI) during a distance-mediated summer program. Professional development consisted of six four-hour synchronous sessions and approximately one hour of asynchronous preparation each week for a total of 30 hours. Follow-up coaching was provided for participants who taught in the summer program. Coaching sessions were combined with a Professional Learning Community model (C-PLC) to maximize feedback and problem-solving time. Three teachers delivered two hours of reading intervention to small groups of elementary-aged students with low literacy skills using PAIPAI each day. Each group consisted of 3 – 5 students. C-PLC meetings were held daily for one hour following intervention. Observations occurred two times per week. All three teachers implemented core intervention components with 70-85% fidelity in week 1 following initial training and 90-100% fidelity in week 4 after receiving follow-up coaching.

Background/Rationale

The COVID-19 pandemic illuminated several vulnerabilities in U.S. and global educational systems. For the first time, barriers to accessing high-quality intervention services experienced by rural and low-income families of students with disabilities were shared by families of all backgrounds (Betebenner & Wenning, 2021; Bonk, 2020). Difficulties accessing well-trained staff and reliable high-speed internet for vital educational services were experienced broadly, but resulted in a disproportionate impact on students with disabilities (Moscoviz & Evans, 2022). Compounding the challenges of meeting the needs of our most educationally-vulnerable students were the new technological demands placed on teachers' delivery of instruction and the additional planning time required to develop new materials and methods for delivery and assessment. Teachers' existing technical skills obsolesced more rapidly than at any point in history (Li & Yu, 2022).

In response to these unprecedented challenges, the American Rescue Plan (2021) provided a similarly unprecedented infusion of funding to local school systems for *the acceleration of student learning*. Overcoming the challenges of remote delivery of intensive instruction is a formidable task in itself. In the area of literacy intervention focused on students with reading disabilities however, the challenges of accelerating student learning are compounded by widespread practice that is inconsistent with the evidence-base. While this certainly complicates issues of adapting instruction to the online environment, it also provides an opportunity for accelerating teachers' acquisition of proficiency in delivery of evidence-based practices that are suitable for online settings. The importance of reading acquisition is difficult to overstate, as it impacts many areas of student performance over the course of their school career, including the occurrence of challenging behavior and its sequalae (McIntosh & Goodman, 2017). When well-supported however, effective instructional has the capacity to improve acquisition and reduce challenging behavior (Nese et al., 2020). A conjoint analysis of core elements of highly efficient reading intervention programs and the instructionally-relevant parameters of online spaces yields guidance for such efforts. Additionally, key elements of effective professional development promoting effective implementation and rapid acquisition of skills are critical in such efforts.

Science-based Reading Intervention

Key elements of effective reading intervention have been derived, with broad agreement, from the basic science of reading (SoR). Many of these elements are included within the Structured Literacy approach to reading and writing intervention (Spear-Swerling, 2022). Additional science-based elements consistent but not explicitly included within SL include: advanced phoneme manipulation training (Kilpatrick, 2015; Torgesen et al., 2001), and diagnostic-prescriptive intervention design (Torgesen et al., 2001).

Online Intervention Delivery

Key elements of the online space that can be used to enhance instruction include the ability to construct flexible groups to enable partner practice (Hattie, 2013; Nese et al., 2021) across grade levels due to the increased flexibility in scheduling, the ready integration of varied technological tools to enable precise timing of performance (Johnson, Street, Kieta, & Robbins, 2021) with low effort, and the opportunity to integrate varied evidence-based programs (Johnson et al., 2021; Spear-Swerling, 2022) seamlessly to leverage their best elements. Challenges with tele-intervention include difficulties with restricted response modalities and bandwidth issues impacting audio/video quality (Bonk, 2020). Additionally, the developmental appropriateness of extended learning via teleintervention has been subject to some debate, with data indicating that for younger children at least, engagement is lower in this modality (Ford, Kwon, & Tsotoros, 2021).

Practice-based Professional Development

Practice-Based Professional Development (PBPD), is focused on supporting teachers' development of knowledge, understanding, and skills regarding effective educational practices. Theory and research (D. L. Ball & Cohen, 1999; Liu & Phelps, 2020) indicate that the following seven elements are important within a PBPD model: (1) collective participation of teachers with similar needs, (2) basing professional development around the characteristics, strengths, and needs of the students in these teachers' current classrooms, (3) attention to content knowledge needs of teachers, (4) including pedagogical content knowledge, (5) opportunities for active learning and practice of the new methods being learned, including opportunities to see examples of these methods being used and analyze the work, (6) use of the materials and other artifacts during professional development that are identical to those to be used in the classroom, and (7) feedback on performance while learning and before using these methods in the classroom so that understandings and skills critical in implementation are developed. In addition to these elements, follow-up coaching has consistently been identified as a critical factor in the implementation of evidence-based practices across domains (Meng, 2019).

Purpose of Study

Although many of the core elements necessary for implementing effective reading intervention (Kilpatrick, 2015; Spear-Swerling, 2022; Torgesen et al., 2001) practices within an online environment have been studied, prior to the pandemic data on specific models integrating such information was lacking. Teachers seeking to implement intensive reading intervention tailored to the needs of their students would benefit from an online professional development package integrating diagnostic-prescriptive intervention and the science of reading. The purpose of this study was to examine the impact of participation in an online delivery of the Phonics-aligned, Intensive Phonemic Awareness Intervention (PAIPAI) on teachers' acquisition and implementation of critical science-based reading intervention components within a diagnostic-prescriptive framework. The following research questions guided the analyses:

1. What is the impact of initial PAIPAI training on teachers' implementation of core model elements within an online-delivery context?
2. What is the impact of follow-up coaching on teachers' implementation of core model elements within an online-delivery context?
3. What is the perceived acceptability of PAIPAI training?

Method

Due to the need to integrated application of literacy skills and the preponderance of evidence indicating that comprehensive interventions deliver the best results, PAIPAI was designed as a comprehensive reading intervention *accentuating* the integration of phonics and phonemic proficiency content (Kilpatrick, 2015; Spear-Swerling, 2022). Teachers were randomly assigned to participate in either a reading or writing intervention training. Those assigned to reading intervention training participated in 6 weekly 1-hour sessions and completed one hour of asynchronous preparation prior to implementing PAIPAI in the summer program. Each session was 4 hours long and involved a variety of instructional practices following the criteria of PBPL and the explicit sequence observed in behavioral skills training models. This sequence can be briefly summarized as didactic instruction prior to practice, practice with feedback prior to application, and application in training prior to application with students during sessions. Teachers received 30 hours of professional development prior to implementation and 20 hours of coaching during the program for a total of 50 hours of professional development.

Summer Intervention Program

The summer program included two hour sessions daily and lasted four weeks. Follow-up coaching was provided during the summer intervention program for one hour each day. The intervention program ran for four weeks, with the first three days used for assessment and rapport building with minimally-intensive instructional activities and the final two days used for assessment. In total, participating students were offered 30 hours of intervention support across the program. Twelve teachers participated in pre-intervention training, and three signed up for the summer program.

Outcomes

Teacher outcomes were results from a knowledge survey and implementation of core program elements. Student outcomes are not the focus of the analyses presented here, but these were measured using subtests from the WIAT-4. Implementation fidelity consisted of evaluation of 14 discrete elements of PAIPAI delivery. Acceptability and feasibility were evaluated using a modified version of the Primary Intervention Rating Scale (PIRS; Lane et al., 2017)

Results

Teacher implementation after participation in the initial 30 hours of instruction ranged from 71.4% to 85.7% during the 2 days of week 1. Teacher fidelity scores were calculated out of a total possible of 24 across the two days. Observed teacher-values for week 1 were: 20, 23, and 24). Following the interim weeks of coaching, teacher implementation of the core elements of PAIPAI increased to 90.5% to 100% in the three days of week 4. Teacher fidelity scores were calculated out of a total possible of 42 across the three days. Observed teacher-values for week 4 were: 38, 39, and 42. Teachers rated the program as acceptable, feasible, and well-suited to the needs of students in their school-year placements. The PIRS is a 17-item rating tool for acceptability and feasibility of school-based interventions. Teacher ratings average 4.96 on a scale from 1-6. Open-ended feedback was also overwhelmingly positive, indicating that participating teachers found the training helpful in understanding both the evidence-based practices that matched various student need profiles and *the why* of the match between profiles and interventions. Additionally, while not the focus of the analyses presented here, it is worth noting that students averaged 10.9 standard score points of growth per subtest across WIAT-4 subtests administered for the present investigation.

Discussion / Implications

Acceptability and effectiveness of PAIPAI training on implementing the core elements of the model in an online environment are encouraging. PAIPAI presents as a model of reading intervention worthy of further study, particularly in situations where either professional development or intervention services themselves must be delivered online. The degree of student growth demonstrated by participating students further supports the value of additional investigation into this model.

Based on the results presented here, the author asserts the following as reasonable implications for practice:

1. Effective professional development in complex areas of practice can be delivered online but must be given the due time it requires.

2. Achieving positive results in complex areas of practice is best achieved when professional development is practice-based, systematic, explicit, emphasizes cumulative fluency applying more complex repertoires, and incorporates sufficient follow-up coaching to ensure criterion implementation.

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BEYOND MURSION, BEYOND TEACHLIVE: PAUSE AND UNPACK WITH MIXED REALITY SIMULATION

Abstract

Immersive learning for the training of teachers and education professionals is not new. While the technology is used at dozens of colleges to rehearse vital social interactions, the "Pause and Unpack" methodology offers a different and unique application for how the technology is best utilized. The authors facilitate immersive learning sessions with students in a distinctive way with ample use of the technology's "pause" capabilities. This use is aimed at providing time to "unpack" the experience—building educators' reflective skills through collaboration, critical thinking, corrective feedback, and communication coaching. The specific use of the tool in this manner better prepares educators for their work in the classroom and makes the use of mixed reality simulation more than just a "fun activity".

Problem/Issue

Regardless of the strength of a preparation program, educators need to gain the vital soft skills needed to be successful in the profession during the first five years on the job (Darling-Hammond, 2003). These practical, reflective, and communicative skills are acquired through practice and experience in the classroom and reflection upon successes and failures. Although difficult, it is through this reflection process that great educators are made.

The act of reflection has been identified as a vital soft-skill for teachers for decades (Hart,1990; Short & Rinehart, 1993), yet little exists within educator preparation itself to teach this vital skill. Certainly, many teacher educators try to build these skills, asking pre-service teachers to write short reflections on activities, build portfolios that show reflection on experiences, and even dialogue with other pre-service teachers about their budding career. However, for the majority, reflective skills are often developed practically, over time while in the profession. What if we could push that practical learning into teacher preparation itself? Could we develop teachers' reflective skills before they enter the profession? And could we manufacture these difficult learning experiences in psychologically safer environments where real children, parents, or teachers are not harmed? That is the goal of mixed reality simulation.

Literature Review

Mixed Reality Simulation (MRS) has been shown to improve instructional skills through structured simulated practice (Dawson & Lignugaris/Kraft, 2016; Dieker et al., 2017; Kaufman

& Ireland 2016; Straub et al., 2014). Simulation has been found to significantly increase self-efficacy during teacher preparation (Gundal et al., 2019), as well as improve early-childhood education majors' self-efficacy beliefs for teaching science (Bautista & Boone, 2015). Spencer and colleagues (2019) also found simulation to be more effective in practicing teachers' skill development than traditional classroom role-play.

Despite the research demonstrating its effectiveness, over a decade after it was first used to train teachers as "TeachLive©", MRS can be found in only 5% of teacher preparation programs in the United States (Ireland, 2021). Those working with MRS have found the technology promising as a tool for providing meaningful opportunities for practice and rehearsal during teacher preparation. However, as noted by Ireland (2021), there is a tremendous amount of variability with how the tool is used with students. More research is needed on the effectiveness of the varying methods of this technology's use.

Description of Unique Application

After studying the myriad of ways the innovation is used with teachers, Murawski and Ireland, immersive learning experts from California universities, have co-crafted a deliberate way to incorporate simulation to train teachers, counselors, therapists, and school leaders. Over their years of simulation facilitation, Murawski and Ireland have collaboratively crafted a specific view and corresponding protocol on how the tool is best used with students: "The Pause and Unpack".

Within this model of MRS use, the technology's pause capabilities are heavily capitalized upon and the collaborative learning of the observing students is deliberately facilitated. Students taking part in this style of MRS publicly rehearse their profession specific soft-skills in front of their peers. These skills may include those needed to calm an angry parent during a conference, communicate effectively with an uncooperative co-teacher, manage an unruly classroom, or even facilitate a child abuse disclosure, discuss inclusive practices with a principal, or manage and conduct relationship building activities with students.

Typically, one volunteer student is in the simulation "action seat," conversing with the avatar(s) in front of their peers. The student in the action seat is prompted to "pause simulation" early and often, at any time when the simulation becomes difficult, the next move is unknown, or they are simple caught off guard. The "pauses" then become opportunities for all the students watching the simulation to "unpack" what was happening in simulation. In fact, Murawski and Ireland refer to the observing participants as "the Brain," encouraging the student in the action seat to frequently "use their Brain" to determine possible next steps, what to say, or how to respond. This involves observers providing feedback on the interaction, giving guidance to the student in the "action seat" as to what to say next, or even provide their opinions as to why the avatar reacted as they did. This is the part Dr. Sally Spencer always referred to as "the Gold" of the interaction – the period where students are supporting one another, applying learning from the coursework or readings, and building confidence as they try new things or support their peers as they do so. In the results from a research study supported by the Keck Foundation, Murawski (2022) found that participants who were in the action seat often experienced anxiety that their peers in the “Brain” did not; this anxiety tended to negatively impact their experiences with MRS unless there was a proactive example of MRS used in advance so they could see what they were going to experience. In addition, these results demonstrated that the participants in the “Brain” were more comfortable, thoughtful, and reflective on what was occurring during the simulation, allowing them to respond and discuss those interactions deeply.

Comparison to other applications

Currently, TeachLive© is used solely for research purposes, out of the University of Central Florida. Mursion© is a large for-profit software company that leases out its software to various organizations and universities for mixed reality simulation use. Ireland and Murawski use one such sub-lease from California State University Northridge (CSUN) called “SIMPACT Immersive Learning.” Because they are not contracting with Mursion directly, they are able to use MRS in unique ways, subject only to the ability of the system and willingness and ability of the interactors who are the “avatars” behind the scenes. Thus, while Mursion may require smaller groups, specific schedules, and certain protocols, SIMPACT allows facilitators to engage in different ways.

To use “Pause and Unpack,” facilitators need to recognize that not all students will participate in the action seat. Spencer’s (2019) research demonstrated that those who are part of the “Brain” (e.g., in the Fishbowl surrounding the individual in the action seat) benefit academically and skill-wise as much as, and on occasions more than, the peers who do participate in the action seat. When not pushed to keep students on a specific schedule, the focus of the interaction and use of MRS can be on the “Gold”, the in-depth discussion, debate, and reflection of the entire class. They can question one another, describe possible techniques, try new communication styles, and reflect together on the outcomes. While many faculty try to put students “through” the MRS system in order to give them experiences face-to-face with the avatars, the Pause and Unpack protocol does not prioritize time in the seat. This is akin to special educators prioritizing “uncovering content” with students, as opposed to general education pacing plans that require speedy instruction in order to “cover the content as much as possible.” The goal is to support deep learning and reflection, not as many scenarios as possible.

Conclusion

Special education is fraught with difficult situations. These range from IEP meetings, to frustrated parents, to confused colleagues, to students with unique social, behavioral and academic needs. Being able to build skills in a safe space is imperative. While Mixed Reality Simulation has offered that for years, many teacher education programs are still reluctant to fully engage. This might be because many programs in the past have encouraged each student to have the experience of sitting in the action seat, a time requirement that may result in numerous and costly sessions. Using “Pause and Unpack”, the authors offer a unique and impactful experience that allows all students in a class to engage, participate, question, experience and above all, reflect in ways that feel safe, supported, and life-changing.

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INCREASED SPECIAL EDUCATOR TEACHER RETENTION THROUGH MENTORING, INSTRUCTIONAL COACHING, AND PROFESSIONAL DEVELOPMENT

Abstract

The teacher shortage around the nation is well documented, especially in the field of special education. This project provides mentoring, instructional coaching, and professional development to a cohort of first year special education teachers as they transition into the field by the faculty from their undergraduate special education teacher training program. Support provided includes professional development sessions in the summer, fall, and spring, instructional coaching on a request basis, and instructional classroom materials chosen by the teachers during their first year of teaching. The purpose of the project is to provide focused support resulting in the participants renewing their contract for a second year of teaching. Preliminary findings and information regarding successes and struggles during the first year of teaching are presented below.

Background

Nearly half of all new teachers leave the profession within their first five years of teaching. In March 2021, Georgia State School Superintendent Dr. Richard Woods stated that teacher retention continued to be a serious problem that needed to be addressed in the state. According to Podolsky et al. (2016), new teachers who do not receive mentoring leave the profession at a rate that is twice as high as those who receive mentoring. Whitaker (2000) found that mentoring was enhanced when the mentor and mentee had a close personal and professional relationship. Faculty who have worked with students for many years are in a unique position to provide effective mentoring based on the close relationships that are forged during an undergraduate special education teacher training program.

Beginning special education teachers take on many new roles that they do not fully experience as student teachers: such as case manager, sole provider of intensive individualized instruction, and collaborator with other educators, support personnel, administrators, and parents (Struyven & Vanthournout, 2014). Special educators work with diverse groups of learners and those who have often been marginalized in the educational environment. The unique responsibilities of special educators can be addressed through new teacher induction programs and early career mentoring experiences tailored to specifically address the unique job responsibilities of special educators (GaDOE, 2020).

Instructional coaching is a proven approach that is driven by the professional goals of the teacher educator which focuses on the development of effective instructional practices. It is a partnership between the teacher and the instructional coach and as such, it must be built upon respectful relationships. In addition, the instructional coach must have a thorough knowledge of research-based instructional practices (Knight, 2007). The special education faculty are uniquely qualified to engage in these activities with recent graduates as they have spent years working with these students building positive supportive professional relationships.

The Western Interstate Commission for Higher Education (2020) projected that college enrollment rates in the South will peak in 2026 and then decline. Focusing on supporting current students, recruiting future students into the field of special education, providing an exceptional instructional program addressing the needs of students as they train in their chosen field, and supporting graduates as they transition into the work force is now and will be a critical need moving forward. This program is designed to meet the unique needs of special educators as they transition into the field by providing the necessary supports resulting in a successful first year, recruiting future students into the field of special education through dissemination of the support provided, and ultimately benefitting the students receiving special education services by increasing teacher retention and the quality of instruction that they receive.

Purpose of the Study

The program is designed to build the bridge between undergraduate student and professional educator by continuing to foster the relationships that were built during an undergraduate program, continuing to provide focused professional development based on the identified needs of the early career special educators, and the provision of instructional coaching provided in a non-evaluative special educator driven process.

The provision of mentoring, instructional coaching, and professional development provided by professionals with whom a new teacher has an established trusting relationship has the potential to positively impact the teaching profession particularly in the area of special education through increased job satisfaction, the continued development of additional teaching skills, and retention of highly qualified special educators.

This approach is optimal since the special education majors have participated in a two-year special education cohort program in which the students took all classes together with a strong cadre of professors within the special education program. The cohort and professors have developed trusting relationships based on the common goals of providing future educators with the skills and habits of mind to enable them to be effective teachers. The special education faculty is in a unique position to provide mentoring, instructional coaching, and professional development to the cohort of special educators during their first year of teaching in the field that is based in trusting relationships and common goals.

Method

The current project uses a mixed methods design and triangulation of data from multiple sources and approaches to provide a comprehensive understanding of the research questions. Data is coded individually by each researcher and then compared to reduce project results bias.

1. Will participants in the project report positive job satisfaction and remain in the profession beyond their first year of teaching?
2. Will participation in the project result in the implementation of high leverage and evidenced-based teaching practices in the participants?

Professional Development Sessions

Orientation – Classroom Routines, Organization, & Preliminary Planning – July
Fall Semester – Approximately monthly – August – November
Parent Communication
Behavior De-escalation Techniques
Trauma Informed Teaching
Spring Semester – Approximately monthly – January – March
Literacy Strategies supplemented with instructional materials
Transitions

Instructional Coaching and Mentoring

Instructional Coaching and Mentoring provided on an on-going basis throughout the first academic year of teaching.

Data Sources

1. Teachers' Sense of Efficacy Scale. Overall teacher efficacy and three sub-categories of teacher efficacy including Efficacy in Student Engagement, Efficacy in Instructional Practices, Efficacy in Classroom Management following each professional development session
2. Job satisfaction survey completed at the end of the first year of teaching measuring the level of satisfaction with their first teaching position.
3. Participant Logs documenting the implementation of evidence-based and high leverage practices
4. Open=ended surveys are completed following each professional development training session to measure the effectiveness of the provided training.
5. Self-reflections of the effectiveness of the provided instructional coaching following each coaching session
6. Continuation in the field as measured by a signed contract for the next school year.

Preliminary Results

The project participants are employed in districts that range from rural to urban and are socioeconomically and culturally diverse. A group of ten first year teachers consistently participate in all components of the program. Preliminary results from the self-efficacy scales demonstrate that prior to the beginning of the first year of teaching, the first-year teachers rated themselves highly in overall efficacy and the three subcategories of efficacy.

At the end of the fall semester, the overall efficacy score has dropped slightly with the Efficacy in Classroom Management dropping greater than any other area. The professional development session on behavioral de-escalation techniques allowed opportunities for the cohort members to share their management challenges in their classrooms. Participants shared that management concerns were greater than anticipated. One participant was physically struck by a student in the face and was involved in a difficult meeting with parents and an advocate. Others shared various management situations that they had not experienced as a student teacher. One teacher stated that the "training taught me how not to sabotage myself and my classroom management." Another shared that "I wish that as undergraduates we were told that these strategies only work some of the time for some of the students." Additionally, another shared that "making all of the decisions is very different from field placements" emphasizing the level of responsibility had now shifted from shared responsibility to individual responsibility and accountability. A minority shared positive classroom management outcomes with students.

Implications for Future Implementation

A critical issue in special education, is the retention of highly qualified special educators who are able to provide continuity to the children and families that they serve. The provision of effective mentoring, instructional coaching, and professional development during early career development can provide the necessary instructional and emotional support needed to meet the needs of the adults providing critical services to children and families resulting in productive outcomes for teachers, students with disabilities, families, and communities.

Participants in the project will be recruited to serve as mentors to the spring graduates of the special education teacher training program. One benefit of the project has been that teachers who developed a relationship with each other as a cohort of undergraduates felt comfortable sharing their successes and challenges. Recruiting these new teachers to mentor first year teachers provides an opportunity to share their experiences and expertise as a first-year teacher with the next first year teachers thus creating a continuous cycle of special education mentors and mentees who support each other and remain in the profession beyond their first five years of teaching.

Conclusions

It is impossible to positively impact outcomes for diverse groups of learners without addressing the needs of the adults providing those services. The mentoring, instructional coaching, and professional development provided to first-year special education teachers provides both instructional and emotional support which can translate directly into more effective instructional practices and classrooms better equipped to meet the emotional and instructional demands of a diverse group of learners. This project has the potential to positively impact the teaching profession particularly in the area of special education by retaining highly qualified teachers in the profession who demonstrate positive job satisfaction.

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PREPARING SECONDARY EDUCATORS FOR ADOLESCENT LITERACY INTERVENTION IN NORTH CAROLINA

Abstract

This paper both examines the potential of the University of Kansas Center for Research on Learning's Content Literacy Continuum as a response to the need for Multi-tiered Systems of Supports at the secondary level and presents preliminary findings from a multi-year study of one district's transition at two middle schools and two high schools regarding overall academic performance and literacy growth.

Problem/Issue

Recent NAEP data indicates that a substantial number of United States secondary schools fail to meet expectations in the area of literacy. Further, literacy challenges disproportionately affect students who receive free/reduced lunch (National Center for Education Statistics, 2015).
For some struggling students, school performance appears to plateau in middle school, while the demands of school continue to increase through their remaining years in school, often resulting in a notable and impactful performance gap (Hock et al., 2009). Many of these students are at significant risk for dropping out of school (Hammond et al., 2007). Students entering high school with low levels of literacy skills confront considerable obstacles in completing challenging academic coursework (Cantrell et al., 2015; Deshler & Hock, 2006; Lowder et al., 2022; Wise, 2009).

Literature Review

The University of Kansas Center for Research on Learning (KU-CRL) has developed a Content Literacy Continuum (CLC; Ehren, Lenz & Deshler, 2005) to provide a framework for organizing schoolwide literacy efforts in secondary schools and is often seen as the secondary school response to the era of response to intervention (RTI). The model builds from the assumption that students who struggle academically in middle and high schools exhibit a wide variety of academic profiles with some students requiring intensive help with grade appropriate skills and a lingering smaller group who continue to exhibit severe limitations in literacy.

Of course, the student population exists along a continuum of ability and performance suggesting a need for a continuum of responses from the school. The CLC involves five levels of literacy support that should be in place in every secondary school and correspond in a more meaningful way given that students are beyond the logical time frame for "preventing early school failure" proposed by the philosophy of RTI (O'Brien, 2018). Rather, the premise correlates with the emerging notion of Multi-tiered Systems of Support given the need to prevent the furthering of the "performance gap" so commonly noted between expected growth and students considered "struggling readers" (i.e., students in special education, at-risk students, etc.).

The five levels in this continuum offer a structure to conceptualize and implement a comprehensive initiative to make literacy a priority to meet the challenges of advanced content acquisition and even the rigorous Common Core Standards that adolescents confront in contemporary American schools. Current initiatives in North Carolina schools have sought to address the gap between research and practice taking the ideal model of CLC and employing it in real schools with the knowledge that school implementation presents some of the greatest challenges in education. A collection of state leaders, researchers, and district personnel have sought to actualize the model in middle schools and high schools in targeted school districts across the state.

There are five levels of the CLC to be considered in response to student needs. At Level 1 we see "Enhanced Content Instruction" intended to address the mastery of critical content in academic subjects. Emphasis is placed on literacy in the academic and disciplinary context. Tools such as content enhancement routines (Bulgren et al., 2007), graphic organizers, prompted outlines, structured reviews, guided discussions, and other instructional tactics are used at this level to organize and enhance the curriculum in a manner that is more explicit and scaffolded. At Level 2 we see "Embedded Strategy Instruction" focusing on student use of content literacy strategies to acquire, manipulate, and demonstrate knowledge in content-specific contexts. Teachers model on a regular basis the use of effective strategies for reading comprehension, organization, test-taking, study habits, etc. At Level 3 we see "Intensive Strategy Instruction" intended for students who need more intensive strategy instruction consistent with the more traditional approach to the Strategic Instruction Model (Deshler et al., 2001). Students with more signficant delays in literacy skills and academic performance require more intensive instruction with emphasis on acquisition of strategies to mastery.

Current data in the state evaluation of implementation has focused on programming at the intensive level—level 3. These programs are essentially coordinated efforts to build a repertoire of effective learning strategies among struggling adolescents to impact motivation, comprehension, vocabulary, etc. Middle schools have employed a program called *Xtreme Reading* (Boudah, 2018) developed as a coherent course built around strategy instruction and highly engaging literature. At the high school level, a course called *High School Success* (Lowder et al, 2022) used a more content-integrated approach blending strategy instruction and strategic tutoring with an emphasis on credit acquisition in English I and II due to the nature of high school requirements. Based on current data, improvements in academic performance were notable at both levels suggesting a substantial improvement from traditional approaches that either ignored struggling learners or used programs emphasizing pure tutoring or remedial programs too low in skill acquisition.

At Level 4 emphasis is on the smaller population of students who still require "Intensive Basic Skill Instruction" targeting foundational language and literacy skills that students must acquire to be successful learners. Typically, these students don't meet the threshold for strategy instruction that presumes students have mastered basic skills and can comprehend text at a 4th grade level or higher. Students receiving instruction at Level 4 learn fundamental content literacy skills through specialized, direct, and intensive instruction in listening, speaking, reading, and writing. Programs like *Corrective Reading* and *Great Leaps Fluency* are common at this level. Finally, at Level 5 we think of the students with the most significant needs who require "Therapeutic Intervention" involving intensive therapy in language underpinnings for students whose language impairment thwarts learning. This level could involve the services of a Speech-Language Pathologist.

Preliminary Evaluation of Program Impact

The focus of our current paper is highlighting the model of CLC; however, preliminary data allows us to determine impact of certain elements implemented thus far. Focusing on the impact of a highly intensive literacy program representative of Level 3 (Intensive), we can see the effects of targeting the very large population of students who both require intensive learning strategy instruction and experience delays within a range that can be realistically addressed to help students approximate grade level performance. Reading performance results for students who participated in *Xtreme Reading* classes have been measured over multiple years. Results are based on outcomes on performance on the Group Reading Assessment and Diagnostic Evaluation (GRADE) comprehension testing (which includes passage comprehension, vocabulary development, and sentence completion) and reading fluency tasks as measured by the Test of Silent Contextual Reading Fluency (TOSCRF). As measured by the GRADE and the TOSCRF, students participating in *Xtreme Reading* classes produced gains in reading performance. Given the difference in means and effect sizes, results suggest that after students participated in *Xtreme Reading* classes, scores improved in vocabulary knowledge and reading comprehension as measured by both the GRADE and TOSCRF. Further research is required to consider the importance of program fidelity, integration into less flexible secondary daily schedules, and implementation science factors associated with implementing across the broad scale of an entire state,

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MATHEMATICS INSTRUCTIONAL ACTIVITIES THAT SUPPORT CANDIDATES' DEVELOPMENT FOR WORKING WITH NEURODIVERSE STUDENTS

Abstract

These instructional activities aim to build on effective teacher education practices for special education mathematics methods courses across grade bands and programs to support teacher candidates'(TC) development of knowledge for working with neurodiverse students. The CEC's Practice-Based Professional Preparation Standards (2020) states, "Candidates use knowledge of individuals' development, learning needs, and assessment data to inform decisions about effective instruction. Candidates use explicit instructional strategies and employ strategies to promote active engagement and increase motivation to individualize instruction to support each individual. Candidates use whole group, flexible grouping, small group instruction, and individual instruction. Candidates teach individuals to use meta-/cognitive strategies to support and self-regulate learning" (Standard 5). I posit that these standards are challenging to learn in the context of a university classroom alone and are more authentically attained through collaborative efforts, specifically those developed through bridges built between TCs, PK-12 special and math educators, PK-12 students, and university professors.

Background/Rational

The education of teachers in the United States needs to be turned upside down. To prepare effective teachers for 21st century classrooms, teacher education must shift away from a norm that emphasizes academic preparation and coursework loosely linked to school-based experiences. Rather, it must move to programs that are fully grounded in clinical practice and interwoven with academic content and professional courses. (National Council for Accreditation of Teacher Education [NCATE], 2010, p. ii).

Teacher education programs across the United States have been challenged to make extensive changes to better prepare responsive teachers who can productively engage all learners in inclusive classrooms (AMTE, 2017; Council for Exceptional Children (CEC), 2020; McLeskey et al., 2017; National Council of Teachers of Mathematics (NCTM), 2014). To address this challenge some mathematics & special education teacher educators have implemented more Data Based Individualization focused case studies (Powell et al., 2022) and mediated field experiences (MFEs) into their teacher preparation coursework (Campbell, 2012; Horn & Campbell, 2015; Campbell & Dunleavy, 2016). These instructional activities provide teacher candidates (TCs) authentic classroom experiences working with PK-12 students' data and/or students to support TCs' development of productive teaching practices (Sharpe et al., 2022; Kwon & Griffin, 2021). Despite the continued calls (e.g., Karp, 2013) and the addition of standards that focus on neurodiverse learners (McLeskey et al., 2017), the challenge remains of what instructional activities can special education teacher educators use to support TCs' development of knowledge about intensive mathematics interventions for neurodiverse learners. To address this challenge a course was collaboratively co-created by a special education teacher educators and mathematics teacher educators to engage TCs in instructional activities that are collaborative, conceptually based, grounded in work with PK-12 students, and represent a departure from the deficit model that is far too often employed in special education coursework, especially in the context of mathematics.

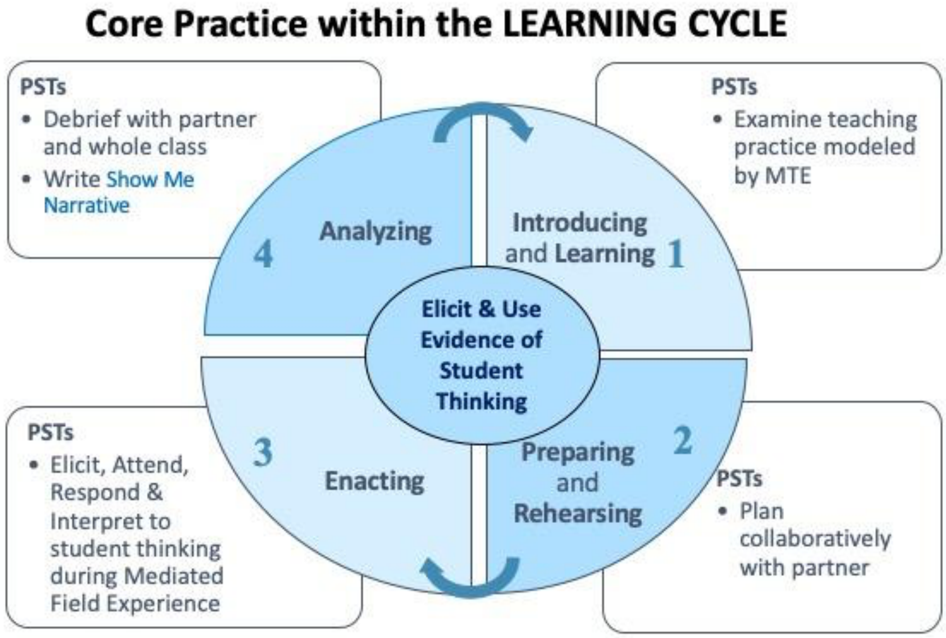
Course Context

In the spring semester of 2021, the initial offering of SPED 436 Intensive Mathematics Intervention for Neurodiverse Learners was offered at Slippery Rock University, a mid-size public university that is a leader in the number of initial teacher certifications in the state of Pennsylvania. The course is blocked with other MTSS Tier III focused methods courses, is offered every semester, and serves undergraduate students who are enrolled in a dual certification (Early Childhood Education PK-4th and Special Education PK-12th) or special education (PK-12th) program. The course includes three phases: (1) *Collaborative, "co-teaching, "partner-based instructional activities* that introduce TCs to conceptually- based mathematics interventions grounded in Data-Based Individualization (DBI), (2) *Case Studies* that include formative and summative assessment data from the case-student's teacher, a video of a clinical interview with the case-student conducted by a mathematics teacher educator, and any state-wide/diagnostic assessments that have been administered, and (3) *Mediated Field Experience* with "Math Buddies" from a partnering PK-12 school to work with students in a intervention setting over 4-5 visits. Figure 1 shares the 3 phases and key instructional activities at each phase.

Figure 1

Intensive Mathematics Interventions Course Phases with Instructional Activities (IAs)

Phase 1: Collaborative	Phase 2: Case Studies	Phase 3: Mediated Field Experience (MFE)
• Modified IAs from Intensive Intervention materials that focuses on DBI, EBP, Explicit Instruction, and Scope and Sequence • Introduction of HLP and NCTM's PtA • Problem of the Day • CRA focused readings from Teaching Exceptional Children and NCTM publications • Rules that Expire from NCTM Publications • Making Student Thinking Visible	• Focus on differential diagnosis • Strength-based approaches • CRA and conceptually-based interventions • Teacher Candidate Products/Assessments include: ○ Intervention lesson plan for the first day of the intervention ○ Draft scope and sequence ○ Partial IEP- Present Level, Goals, Instructional Strategies (SDI) and assessments	• *Mediated Field Experience* with "Math Buddies" from a partnering PK-12 school to work with students in an intervention setting over 4 visits. During MTSS TII time, but students work 1-on-1 to create TIII environment that includes diagnostic interviews and 2 intervention visits.



(Adapted from McDonald, Kazemi, & Kavanagh, 2013, p. 382 to demonstrate example with single core practice)

Each phase has specific foci and for phase 1 they are collaboratively planning DBI, anticipating student thinking, investigating CRA, and identifying student's strengths. These are addressed throughout a variety of activities and specific questioning that is used in the Problem of the Day and the modified tasks from Intensive Intervention website. The questions are:

1. How would you solve it?
2. How would a student solve it?
3. What mathematical tools might be used when engaging with this problem/task?
4. What are some potential error patterns, misconceptions, and barriers that a student might encounter when solving this problem?

In phase 2, students engage with two case studies that focus on differential diagnosis, strength-based approaches, CRA and conceptually-based interventions. These are applied to group created intervention lesson plan for the first day of the intervention, a draft of the student's scope and sequence for the year, and partial IEP (includes the Present Level, Math Goals, Instructional Strategies (SDI) and modes of assessment). The case studies include a high school student diagnosed with down syndrome and a 6th grade student identified with ADHD and MLD. Phase 3 includes a 2-week (4 visit) Mediated Field Experience that includes: 1) School check-in routine, observation of the classroom, and meet buddy, (2) Diagnostic Interview/Cognitive Interview, (3) On-campus class session to plan to further analyze the interview data, and (4) 2 visits to conduct interventions. Following both intervention sessions, the TCs complete a Show Me Narrative (SMN) assignment (found in Figure 2). This assignment is an analysis tool, to develop TCs' abilities to attend to and analyze their math buddy's mathematical thinking during the analyze phase of the MFE. Instead of reflecting over the entire experience, TCs chose one component on which to focus: a short interval of time or one component of the mathematical interaction. I am currently analyzing TC's responses on these assignments using priori codes (Miles et al., 2020), grounded in the HLPs and NCTMs PtA, to answer the research question, "In what ways did TCs' ability to elicit, attend to, respond to, and interpret students' mathematical thinking shift over the course of an MFE as they completed the SMN?"

Figure 2

Show Me Narrative

Please complete the below chart and the following questions to show what you learned during your intervention session.

Description of Student Thinking *(Please select at least one occurrence during the session that impacted you as a teacher of mathematics. You can use photos and words to describe their thinking)*	Analysis of Student's Thinking	Analyze Your Instructional Moves That Supported the Students Thinking As They Relate To The Goal for the Student, Progress Monitoring, CEC HLPs, and/or NCTM Effective Teaching Practices

Reflection:

1. During this intervention session, what specific things did you learn about your child's knowledge of mathematics, including their ability to make connections between mathematics topics/representations and/or executive functioning?

2. During this intervention session, in what ways were you successful or challenged in monitoring children's thinking to reveal their strengths and/or barriers to learning? How might this be different or change for you when working with the student next time or your future classroom?

3. During this intervention session, what have you learned about yourself as a teacher through reflecting on your experiences today?

Professional Tips for Implementation

Here are a few additional tips teacher educators should consider when implementing a math intervention focused course that helps TCs develop knowledge for working with neurodiverse students:

- Collaboration needs to be a foundation of the course, which can be obtained by including partner/small group "co-teaching" instructional activities and an MFE collaboration with a PK-12th grade collaborator.

- Weekly tasks/problems that develop mathematics content knowledge, while developing the pedagogical knowledge of anticipating student thinking
- There needs to be an explicit focus and connections made between standards such has CEC High Leverage Practices and NCTM Productive Teaching Practices from Principles to Actions (PtA).

Conclusion

Initial preliminary data from an analysis of TCs' "Show Me Narratives" across two semesters (n=50 students) reveals promising support for the use of the suggested instructional activities. TCs demonstrated that they were able to make neurodiverse students' thinking visible and leverage that thinking during planning, identify areas of students' strengths and areas in need of improvement, and develop a deeper understanding of precise language and tools used to support students' sense making during MTSS Tier III (intensive intervention) instruction. The initial findings of our research on the influence of the presented instructional activities and findings (and resources for teachers and teacher educators) from others in the field of special and mathematics education (Hunt, 2022; Karp, 2013; and Powell et al., 2022) indicate that TCs learn more about a variety of teacher education standards (e.g. CEC HLPs) when using case studies, resources modified from the National Center on Intensive Intervention, instructional activities focused on the pedagogical content knowledge of anticipating student thinking, and MFEs as compared to a traditional university classroom setting assignments.

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USING SIMULATIONS TO PRACTICE DIFFICULT CO-TEACHING CONVERSATIONS AND PROBLEM-SOLVING MEETINGS

Abstract

Simulations are a way for teacher candidates to practice and reflect on critical skills before they will have to implement these skills in their careers as special educators. Candidates practice in low-stakes environments while receiving feedback, reflection, and repeated rehearsal. This presentation describes an international collaborative simulation and how aspects of this simulation can be integrated into teacher preparation courses. In this case, simulations involve occupying a role in a school success team, working collaboratively to problem-solve through scenarios, and reflecting on the process. The university classroom application allows candidates to learn skills to resolve conflict in co-teaching partnerships. Suggestions and sample scenarios are presented to support implementation of simulations with teacher candidates.

Background

Simulations allow teacher candidates the opportunity to practice important collaboration skills before attempting these skills with colleagues and families. This type of experiential learning involves presenting participants with a "disorienting dilemma" and allowing them to play a role and collaborate to problem-solve various scenarios (Scorgie, 2010, p. 699). Simulations focus on critical behaviors and must include "(a) personalized learning, (b) suspension of disbelief, and (c) cyclical procedures to ensure impact" (Dieker et al., 2014, p. 22). So, participants need to be able to commit to their individual roles and go through a cyclical process of preparation and reflection.

The Valtance simulation includes various dilemmas for participants to discuss and resolve through team meetings. Participants are from Spain, Tunisia, the US, and other countries. Facilitators are education professors who co-develop the dilemmas and recruit their students to participate in four weekly sessions that culminate in a reflection and celebration. The team goes into these discussions occupying roles, such as head of school, English teacher, special educator, parent, service-learning teacher, or pedagogical advisor. They receive a description of their role and several dilemmas that they will discuss as a team over two two-hour virtual meetings. They also meet prior to these discussions and participate in an online learning platform to build rapport before stepping into their assigned roles.

Dilemmas discussed in the Valtance simulation

- Teaching methodologies in ESL- language teaching/skills/
- Classroom management
- Shared teaching through lesson study

- Literature, storytelling and drama in English
- Multiple modalities in teaching & assessing
- Crisis management: coping with crisis, online teaching, (COVID19, ...)
- Education for world peace
- Inclusive education (“Every child has the right to quality education and learning” UNICEF) for children with special needs, speakers of minority languages, those with different cultural backgrounds, etc.

Simulations should follow a cycle of briefing, action, and debriefing known as the Action Review cycle (Dieker et al., 2014). Angelini (n.d.), one of the facilitators of the Valtance simulation, describes this cycle. The briefing step includes learning the profiles, reading the dilemmas, and reading literature that will prepare participants to occupy their roles. The action step allows participants to discuss the scenarios while playing their assigned roles. They can share the perspectives of the role, debate, and collaborate to solve the problems. Finally, the participants reflect on their experiences in the debriefing step. This step allows them to encode their learning and build critical thinking skills that they can transfer to future conversations.

Literature Review

The simulation is based on ideas from puppetry simulations, in which one person is practicing skills they will use as a special educator while the other participants play different roles. Some simulations use TeachLivE^{tm}, or Mursion, in which the other role(s) is played by an avatar, a trained actor playing a projected character, using a standardized decision-tree to respond to the participant who could be a teacher in the classroom (e.g., Dawson & Lignugaris/Kraft, 2017), a parent (Luke & Vaughn, 2021), or a colleague (Driver et al., 2018). These simulations use a specialized lab in which the scenario is projected on a screen and participants can pause and reattempt different interactions based on the instructor’s goals.

These types of virtual puppetry programs can be expensive, so other researchers (e.g., Dotger & Ashby, 2010; Dotger & Coughlin, 2014) mirror a model used in medicine and prepare actors to be “standardized individuals.” Medical students interact with trained actors called “standardized patients” to practice their communication skills, so Dotger and colleagues build on this idea and prepare actors to be paraprofessionals (Dotger & Ashby, 2010) and parents (Dotger & Couglin, 2014). Both of these studies asked the standardized individual to gently challenge the participant so they could practice working through conflicts. Meetings with the standardized individual led to the practice of targeted skills and reflection and created transformative learning experiences (Dotger & Couglin, 2014).

Professional Tips for Implementation

Facilitating the Valtance simulation led me to an idea for how to transfer this type of simulation to a classroom implementation. Participating in discussions for which participants are prepared for their roles; conclusions are unknown at the start; and conversations are unstructured, but framed, resulted in powerful experiential learning. In the classroom, I followed a similar trajectory of briefing participants, allowing for the conversations, and facilitating time for reflection.

These simulations allow students to focus on issues arising from co-teaching partnerships. Conflicts arise during co-teaching (see Conderman, 2011; Murawski & Spencer, 2011) and resolving these issues is uncomfortable for teachers. They need to practice having challenging discussions so they will be able to address and resolve conflicts in the workplace.

Step 1: Conversation Guidelines

Prior to the simulation, facilitators must set conversation guidelines. Driver and colleagues (2018) suggest the following norms.

- Positive turn-taking
- Responsive listening
- Follow-up questioning
- Non-confrontational language
- Welcoming body language
- Building rapport
- Seeking to understand others' perspectives (p. 62).

Step 2: Prepare the Participants

I suggest that you conduct a classroom simulation after preparing students to occupy their roles. In this case, the simulation occurred at the end of the semester after students completed readings and assignments about effective communication, co-teaching, and expectations of each teacher in the co-planning process.

Step 3: Implement the Scenarios

Based on students' reflections about potentially difficult conversations in co-teaching, we used five scenarios: (a) teacher roles and pace of instruction, (b) inclusion of students with disabilities, (c) grades, (d) collaboration, and (e) classroom management (see below). The scenarios are written from the perspective of the general educator and teams of two students prepared a discussion between the special and general educator to perform for the rest of the class.

a. The general and special educator met to talk about the year back in August. They agreed to a common planning time after school and it started off very well. It is now mid-year and the general educator doesn't like the changes anymore. They want to take the classroom back and they feel like the pace is going too slow for the students. They are concerned that everyone will fall behind and that the special educator is dragging the pace. It was much better when they were teaching alone. They don't want to rock the boat, but they are feeling unhappy and resentful of the special educator.

b. The General Educator believes that students with disabilities should learn with their peers and has a positive attitude about inclusion. However, they do not feel prepared to fully include students with disabilities. If the students are disruptive in any way, they would prefer that the special educator pull out the students. They also aren't prepared to offer any adjustments to their teaching to allow the students with disabilities to access the general curriculum. The special educator is in charge of those students. The general educator may also feel a bit defensive and cornered because their ability is being questioned.

c. The general educator has a system for grades that works the same for all students. They don't feel that they should lower expectations for students with IEPs and grade them any differently. They have high expectations for all of the students and typically most students meet those high expectations. The general educator is not interested in collaborating on grading (but they are open to collaborating on other things).

d. The general educator is excited to be working with a special educator this year. They are very busy, so they don't have a lot of time to plan with the co-teacher, but they are the type of teacher who can just play it by ear. They want to just teach and have the special educator jump in to help with behaviors or stay off to the side so as not to distract the students. The general educator has been teaching alone for 10 years and it's worked so far! They are happy for the extra help, but they don't want to change the way they do things.

e. The general educator is proud of the way they run a classroom. They have the rules posted and use Classroom Dojo to give students points who are on-task. They have a system. When students don't behave, they send them out of the class and that works for the rest of the students. They are glad that the special educator will be working with them, but they do not want to change how they manage the classroom.

Step 4: Reflect

After each discussion, the participants and observers reflect about how the conversations went and how to improve upon these kinds of discussions in the future. Reflections follow a process of describing what happened, why it was important, and conclude with developing action steps (Kolb & Lewis, 1986). Each scenario segued into a reflective discussion with the facilitator asking probing questions to deepen engagement with the experience.

Conclusion

Simulations can help teacher candidates practice collaboration skills they will need when interacting with colleagues and families (Dieker et al., 2014). Practicing these skills with each other will allow candidates to make mistakes without damaging relationships with important stakeholders. Instructors and facilitators must carefully design these experiences so there is a cycle of preparation, participation, and reflection. Recording these discussions and asking students to individually reflect on their own participation would add an additional level of engagement to deepen the learning.

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MENTOR DEMONSTRATION SITES IN HIGH-NEED SCHOOLS: BUILDING BRIDGES TO EVIDENCE-BASED PRACTICE

Abstract

Preparation programs can develop educator capacity to implement frameworks to support students with high-intensity needs (HIN) through Virtual Mentor Demonstration Sites (MDS) which provide an opportunity to highlight High Leverage Practices within an multi-tiered system of supports (MTSS). Utilizing MDS can grow and sustain educator capacity by showcasing exemplar practices and highlighting student results in high-need schools. Focused on improving outcomes of students through collaboration of special educators and related service providers (e.g., school psychologists, speech-language pathologists), an innovative personnel preparation program developed a network of MDS designed to scale-up knowledge and skills gained through participation in an interdisciplinary graduate program. The MDS schools were intentionally selected to serve as exemplary models for academic, social-emotional, and behavioral interventions across collaboration, leadership, assessment, mathematics, and literacy. The MDS practices are highlighted on the program website, are anchored in research, and link research to practice for program scholars, school-based administrators and educators, and university faculty.

Background/Rationale

The tradition of developing partner schools as “models” for teacher preparation extends back centuries (Edwards, 1991; Grima-Farrell et al., 2019). Although teacher education moved from normal schools (Edwards, 1991) to teacher colleges at the start of the 20th century (Grimma-Farrell et al., 2019), demonstration schools continue to play an important role in teacher preparation. Contemporary leaders in teacher education point to model or mentor demonstration sites (MDS) as integral to the development and testing of evidence-based practices (Marston et al., 2016) and the development of educators through modeling and practice opportunities. The Office of Special Education Programs (OSEP) funds grant programs to support the development of model demonstration projects to conduct research and practice development to address critical issues and resources in special education (e.g., PBIS, dyslexia, early intervention, etc.) (Shaver et al., 2015). These projects include partnerships between local schools and colleges of teacher education to serve as sites for evidence-based practices research, trials, and implementation practice for preservice and in-service educators (Wagner & Shaver, 2015). In particular, OSEP provided funding for model demonstration projects to target the development and implementation of evidence-based practices through Response to Intervention (RtI) and Multi-tier Systems of Support (MTSS) frameworks (Wagner & Levine, 2010). These projects often develop MDS sites and leverage them as a resource to support not only evidence-based practices development, but teacher education and preparation (Cook & Cook, 2013). Research indicates that the use of MDS improves transfer of acquired skills, fidelity of implementation of evidence-based practices, and provides a process by which developers gain experience and knowledge necessary to define and refine model components necessary to replicate the model in their own setting (Gaylor et al., 2013; Shaver et al., 2015; Shaver & Wagner, 2013).

Model Demonstration Sites

The use of Mentor Demonstration Sites (MDS) contributes to best practice research and educator preparation (Fox et al., 2021). By providing a site for authentic trials and application of evidence-based practices, policies, and technologies, MDS sites support the advancement of education for all students, including students with high-intensity needs (HIN) and disabilities. An MDS initiative within personnel preparation provides several important outcomes to the MDS school site, its teachers, current program scholars, and educators within the graduate program and other school and district communities. School-based initiatives are vetted and intentionally selected as MDS sites. Once selected, faculty and administrators will highlight their programs, products, processes, and student results within a responsive multi-tiered system of supports (MTSS) framework.

Model Demonstration Sites in Interdisciplinary Settings

Although MDS sites are widely used in different capacities to support evidence-based practice development and teacher education, literature in the field does not reflect the use of MDS initiatives to enhance interdisciplinary preparation. In fact, traditional educator preparation programs are often siloed and disconnected (Slanda & Little, 2022). Educators from different disciplines (e.g., general education, special education, school psychology, speech-language pathology) do not engage in shared coursework that includes collaborative, interdisciplinary, and interprofessional training. Further, many educators are not provided with the necessary opportunities to practice or witness the implementation of well-designed evidence-based practices to meet the variety of learning needs experienced by students (Archibald, 2017). In this way, innovative, interdisciplinary programming that include MDS as part of their preparation and induction framework can ensure educators enter the field ready to support students with HIN through collaboration. The utilization of carefully curated MDS enhances collaboration by allowing interdisciplinary teams to collaboratively develop, implement, and evaluate specialized plans that are data-based and individualized to improve student outcomes (Slanda & Little, 2022).

The expansion of MDS initiatives within interdisciplinary preparation programs for personnel who serve students with HIN. Mentor Demonstration Sites can be used to not only increase interdisciplinary competencies and practices for special education teachers, school psychologists, and speech-language pathologists prepared within an interdisciplinary cohort to meet student needs, but can also be leveraged by surrounding school districts to enhance the skillset of educators currently employed within the schools. This program's use of MDS to enhance evidence-based practices in instruction and intervention within MTSS extended to include related service providers in collaboration with special educators. This innovative practice provided data and outcomes that contribute to the evidence base for MDS initiatives in special education preparation.

Integrating MDS sites into personnel preparation provides a model of evidence-based practices through MTSS and data-based individualization at the classroom and school level for educators and schools (Marston et al., 2016). This virtual professional learning community of educators within identified MDS sites provides sources of implementation exemplars and results based on evidence-based practices and school improvement frameworks (NCII, 2021). Neighboring schools and districts were provided with specific evidence, resources, and methods for creating similar initiatives within their classrooms and schools.

Utilizing MDS sites in interdisciplinary preparation programs specifically builds educator capacity for interprofessional collaboration to support students with HIN. This practice also extends professional learning communities, connects theoretical knowledge with practical application, and promotes a reciprocal relationship where evidence-based practices are learned and shared in authentic settings to improve educator self-efficacy, implementation fidelity, and student results. In this way, MDS sites support and enhance interdisciplinary preparation for personnel to teach students with HIN and disabilities and has significant implications for teacher education.

Project MDS

Mentor Demonstration Sites are developed using criteria identified by the National Center for Intensive Interventions (NCII, 2021). Once the MDS sites are developed, vetted, and shared, educators gain access to expert scholars with specialized knowledge and skills to provide consultation as educator leaders to enact systemic changes that directly improve student outcomes. To highlight and celebrate the work of each of the expert scholars and house state and nationally vetted resources a website was developed. This website, https://ProjectMDS.org, serves as a source of professional learning and educator resources for academic, social-emotional, and behavioral instruction and intervention across MTSS and PBIS frameworks. The site also includes information related to collaboration, leadership, assessment, mathematics, and literacy as they pertain to developing, implementing, and sustaining MTSS and PBIS. All information included on the website is research-based, evidence-based, and sources from state and national partners. Below, Table 1 provides a summary of the topics, content, and resources for teachers, providers, and administrators housed on the website.

Table 1

Project MDS Website Content Overview

Topic	Content
MTSS (Multi-Tiered System of Support) PBIS (Positive Behavioral Intervention System)	• Overview of key elements and functions of MTSS • Tier 1: Core Instruction & Prevention • Tier 2: Targeted Small Group Intervention • Tier 3: Individual Intensive Intervention • Resources from national centers and organizations
Literacy & Mathematics	• Key practices of Literacy Instruction and Intervention • Key practices within the MTSS 3-Tier framework • Resources from national centers and organizations
Assessment	• The role of assessment in an MTSS/across the tiers • Tier 1 Assessment: Universal Screening • Tier 2 & 3 Assessment: Progress Monitoring • Assessment resources from national centers and organizations
Collaboration	• The role of Collaboration in MTSS • Essential Components of Collaboration • Effective Collaboration Practices & Skills • Collaboration resources from national centers and organizations
Leadership	• The role of Leadership in MTSS • Essential Leadership Elements and Skills • Leadership resources from national centers and organizations

Conclusion

The complexity of educating students with high intensity needs in high-need settings necessitates dynamic and innovative programming that can increase the capacity of all educators. One way to address this need is through interdisciplinary collaboration within professional preparation and in schools. The continually evolving landscape of the K-12 educational system must be addressed within teacher education to ensure educators have the knowledge and skills necessary to enhance their practice in online settings. As K-12 students continue to choose to learn online, the field of teacher education needs to continue to build educator capacity to address challenges of implanting interventions through targeted and relevant professional learning opportunities. Utilizing digital applications, like the Project MDS website, provides extensions of scholar preparation to ensure they can observe exemplars through a virtual platform.

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TEACHER CANDIDATES' LEVELS OF CONCERN REGARDING THE IMPLEMENTATION OF POSITIVE BEHAVIOR INTERVENTION AND SUPPORTS

Abstract

General education teachers, and sometimes special educators, do not feel well prepared to teach students with disabilities and those at risk of failing due to behavior challenges. Pre-service teachers' concerns and dispositions are related to their lack of knowledge and preparation regarding the implementation of interventions and appropriate instruction, especially those associated with PBIS (Palmer, & Noltemeyer, 2019; Clemens et al., 2021). Presenters will share results of a study exploring teacher candidates' levels of concern about their future implementation of PBIS. Qualitative findings will be presented along with implications for teacher candidate preparation. Participants will share experiences in preparing general education and special education teacher candidates for PBIS.

Problem

Research studies have suggested that ongoing professional development for trained teachers and a greater emphasis on training for PBIS for pre-service teachers would improve competencies and attitudes towards implementation. Pre-service teachers face unique challenges in implementing PBIS, with a considerable emphasis placed on performance and standardized results during student teaching. The purpose of this study is to consider the development of PBIS as an evolving concept and to examine the impact of pre-service teachers' levels of concern in implementing PBIS in their field placements.

Literature Review

The reauthorization of the Individuals with Disabilities Education Improvement ACT (IDEIA: 2004) intensified the roles and responsibilities of educators. IDEIA presented challenges for states, school districts, and teachers by introducing revisions to the process of identifying students with behavioral needs. Researchers, practitioners, and policymakers identified this revision as Multi-tiered System of Supports (MTSS). Extensive research regarding the implementation and effectiveness of PBIS has been explored in the last 10 years (Horner & Sugai, 2015). One consistent finding is that teacher preparation is key to effective implementation and positive student outcomes related to PBIS (Bradshaw et al., 2008; Scott, 2020; Reinke & Herman, 2013; Duncan et al., 2019; Cook et al., 2015).

The growing body of literature focused on teachers' levels of concern provides support for the impact that teacher preparation programs have on the successful implementation of innovations. Knowledge, skills, and dispositions of teachers are often formed during their teacher preparation programs (Denton et al., 2003; Senne, 2005). Based on the Concerns Based Adoption Model (CBAM), the purpose of this study was to explore teacher candidates' concerns about their future implementation of PBIS utilizing a qualitative design (i.e., interviews, focus groups and observations).

The current study enhances the literature as it provides teacher education programs with evaluation results of teacher candidates' levels of concern toward the implementation of PBIS. As explained by Tyre and Feuerborn (2021), an important aspect of teacher preparation programs is understanding teacher candidates' levels of concern regarding the implementation of an innovation. The study's findings could potentially enhance curriculum development in teacher preparation programs to better prepare teacher candidates for future implementation of PBIS as well as other innovations.

Findings

The findings from observation, focus group and interview data, point toward the fact that PBIS increases engagement in learning for children with disabilities as well as their typically developing peers. It also suggests that PBIS could be effective in reducing future socialization risks. It can further be argued that the candidates believe that incorporating PBIS in the curriculum will enhance their teacher preparation. Pre-service teachers' dispositions regarding the implementation of PBIS as a preventative measure for students at risk for behavioral problems and students with diverse needs, have been found to be negative, impacting teacher preparation programs. Scheuermann and Nelson (2019) found that general education teachers' feelings regarding skills associated with key components of PBIS are negative. Following the Stages of Concern framework, findings suggest teacher candidates' levels of concerns to be in the Self category. These further explained teacher candidates' lower levels of knowledge had a negative relationship with the levels of concern, as these appeared to be higher due to teacher candidates' lack of knowledge.

Conclusion

The findings were supported by focus group participants' expression of concerns about their own ability to implement PBIS, their depth of knowledge regarding PBIS, and their preparation.

Implementation of PBIS often neglects to include the narratives of pre-service teachers who serve the needs of students during their field placements. The interview and observation helped to gain a true understanding of the lived experiences of preservice teachers that speak a lot to trustworthiness. Professionals, in no uncertain terms, need the knowledge in implementing PBIS which holds much promise for K-12 students.

Recommendations for practice:

- Recognize how level of teacher candidate preparedness to implement PBIS impacts teacher preparation programs and professional development.
- Identify potential growth areas within the teacher preparation program to enhance the understanding and readiness of teacher candidates to implement PBIS
- Leverage teacher candidate strengths to better prepare them to effectively implement PBIS
- Contextual factors should be considered when preservice and in-service teachers are selecting and designing PBIS.

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TAKING CARE OF CAREGIVERS: LEARNING ABOUT SECONDARY TRAUMA, COMPASSION FATIGUE, & BURNOUT

Abstract

While there has been a greater awareness that schools must implement trauma-informed practices for students, there is less awareness of the impacts of secondary (or vicarious) trauma, compassion fatigue, and how it contributes to burnout for educators. This paper presents information on secondary trauma, compassion fatigue, and techniques educators can use to minimize the phenomenon.

Background/Rationale

Since the COVID-19 pandemic began impacting the world in earnest in the spring of 2020, it became clear that this event would be a mass traumatic event unlike any the world has seen in generations. The Substance Abuse and Mental Health Services Administration (SAMHSA) defined trauma (2014) as resulting "from an event, a series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or life threatening and that has lasting adverse effects on the individual's function and mental, physical, social, emotional, or spiritual well-being," (p.7). Researchers have already indicated that it is likely that students will be demonstrating symptoms of trauma for some time due to the pandemic (Horesh & Brown, 2020; The Childhood Trust, 2020). While schools are implementing trauma-informed practices to manage the students in their care who may have experienced trauma, it will be important to remember that this has been a worldwide traumatic event that we all have experienced. Whenever there are professionals in caring professions working with individuals who have experienced trauma, there is always a concern about secondary trauma, also known as compassion fatigue or vicarious trauma (Hydon et al., 2015). This can be described as potentially harmful changes that professionals may experience in their views of themselves, their profession, and of the world, due to the exposure to the shared trauma of those whom they are helping (Baird & Kracen, 2006). This paper reviews background information on trauma, secondary trauma, compassion fatigue and the relation to burnout, as well as past and current suggestions for addressing secondary trauma in educators.

Trauma and Known Impacts

Much of what we know about trauma and its impacts on children has resulted from early work from SAMHSA. Early work on childhood trauma often referred to "adverse childhood events" or ACEs (Cavanaugh, 2016). ACEs would be things such as abuse, neglect, or household dysfunction (such as witnessing domestic violence or substance abuse or having a caregiver incarcerated). The definition of ACEs has expanded to also include systemic racism over time, school violence, terrorism, medical illness, and natural disasters, along with others (Goddard, 2021), so ACEs are essentially childhood trauma.

The impacts of trauma can be widespread and long-lasting. Students who have been exposed to trauma or have experienced extended exposure to stressful situations can demonstrate negative impacts in academic functioning (Morton & Berardi, 2018; Ridgard et al., 2015). Some other symptoms of trauma that teachers may notice include: irritability and angry outbursts, lack of positive emotions (also known as a flat affect), intense ongoing fears or sadness, or acting helpless or withdrawn (Fitzgerald et al., 2021). There are three criteria that have been identified as impacting a child's reaction to a traumatic event:

1. The extent of the child's exposure to the event,
2. The amount of support the child received during the event, and
3. The amount of parental (or caregiver) loss and social disruption the child experienced during the event (Stafford et al., 2008).

Trauma-Informed Practices

Being able to respond in a proactive manner to students with trauma is considered using *trauma-informed practices* (TIP). As defined by SAMHSA (2014), there are four key components to implementing the recommended practices of TIP. These are also known as the four R's of TIP (Chalfouleas et al., 2016):

1. *Realizing* the signs and symptoms of trauma on individuals, families, and communities,
2. *Recognizing* the signs and symptoms of trauma,
3. *Responding* to trauma and its effects by integrating knowledge about trauma into organizational policies, procedures, and practices, and
4. Working to *resist* re-traumatization, utilizing principles of safety, trustworthiness and transparency, peer support, collaboration, empowerment, voice, and being considerate of cultural, historical, and gender differences.

Beyond utilizing the four R's, educators can also begin implementing trauma-informed practices through the use of psychological first aid (PFA). The three steps of PFA were designed to be non-intrusive and to create feelings of safety, connection, and self-help for individuals who have recently experienced a traumatic event in order to help them begin early steps towards recovery (Stafford et al., 2008). The key principles were summarized as look, listen, and link: *look* and assess for needs and concerns, *listen* to individuals without pressuring them to talk about the event or their experiences, while also comforting them and helping them feel calm, and then *linking* them to other community supports as needed to ensure that basic needs are being met.

Secondary Trauma, Vicarious Trauma, and Compassion Fatigue

Readers may have seen the terms secondary trauma, vicarious trauma, and compassion fatigue used interchangeably in the past, but do all these terms actually refer to the same phenomenon? Baird and Kracen (2006) differentiated the terms, explaining that secondary traumatic stress

(STS) results from exposure to the trauma of others, and the symptoms of individuals experiencing STS are similar to post-traumatic stress. Vicarious trauma is similar in that it occurs as a result of exposure to the trauma of others, but it also results in changes of the professionals' views of themselves, their profession, others, and even the world at large. Another view described vicarious trauma as "empathetic engagement" (Pearlman, 1999, p. 52). Finally, compassion fatigue is best described as a combination of STS or vicarious trauma and professional burnout; the combination of handling the trauma of others and the bureaucratic details of work leads to emotional fatigue (Newell & MacNeil, 2010). This emotional fatigue is often what leads to the result we see in special education known as teacher burnout.

Secondary Trauma and Burnout

There are many signs teachers may notice that can indicate they are suffering from STS. Teachers may notice that their patience has grown shorter, the have become quicker to anger, and they may be responding to students more harshly than previously. STS may also make staying on schedule, focusing on tasks, completing organizational tasks, or record keeping more difficult, and all of these are tasks critical to special education teachers. There can also be physical symptoms associated with STS, such as headaches, stomach pain and/or nausea, joint pain, or overall malaise. Finally, teachers may notice that they have lost some of the creativity and joy they previously felt in teaching and in the classroom (Fowler, 2018; Sprang et al., 2018).

STS does not always lead to burnout, but the pandemic added additional emotional stressors to educators. Teachers who have left teaching during the pandemic years have cited the emotional stress of changing work environments and modalities, concerns about health, and general uncertainty as reasons for leaving the field (Noonoo, 2022). Teachers are often told to practice self-care and provided things such as a yoga session, but teachers state that these are not helpful and felt like just one more thing on a lengthy and growing to-do list (Cardoza, 2021).

Strategies to Address Secondary Trauma

Prior to the pandemic, researchers had already developed strategies to help educators avoid STS and burnout. Hydon et al. (2015) suggested the use of training materials from the U.S. Department of Education that informs educators on the concepts of STS and how it can lead to burnout, with facilitators leading the training, helping educators identify their own best self-care practices. However, in the current environment, this may be viewed by teachers as another task to complete (Cardoza, 2021). Another possibility developed pre-pandemic is the Professional Quality of Life (ProQOL) measure. It was developed in 2012 and has always been made free of charge to ensure resilience and avoid compassion fatigue for those in caring professions. In response to the pandemic, a pocket card was developed with tips and reminders to support professionals on a daily basis (https://proqol.org/helper-pocket-card).

Specifically in response to the pandemic, a study was conducted to examine the use of a technique called technical distancing to minimize burnout in teachers due to COVID (Chishima et al., 2021). Many teachers may be familiar with the concept of technical distancing; any teacher who has had students write a letter to their future selves has used a form of technical distancing.

The researchers had two groups of teachers, one writing a letter to their self one year in the future talking about current events, and the second group writing a letter from their future self to their current self, explaining how things became and how they managed through it. The researchers found that both groups showed an increase in positive affect and a decrease in negative thoughts, likely because the exercise got them to focus on life after the pandemic.

Finally, teachers need to make sure they avoid creating assignments or activities that bring up the pandemic. Not only does that risk re-traumatizing students, but it puts teachers at risk of re-traumatization. Current and preservice teachers need more preparation and education on trauma, STS, and compassion fatigue (Ernest et al., 2022). It is difficult to avoid STS and burnout when you are aware of the concepts. A promising new direction in special education teacher retention may also help aid in reducing STS and burnout. Research has been completed on teacher retention using conservation of resources theory (Bettini et al., 2020; Cancio, 2018). It has been used to identify what strategies teachers use to respond to stressful situations or to lower levels of stress. A recent study examined what strategies teachers with high caseloads who perceive them as manageable are using to succeed in the classroom (Hogue, 2022). These lines of research may provide us with more information on how special education teachers can successfully reduce STS and avoid burnout.

Conclusion

Being trauma-informed in special education overall means designing our lessons and teaching in our classrooms with a sensitivity to the mental health needs of our students and an awareness of what they may have experienced in their lives. It also means that we should stay aware of our own mental health needs as educators in order to preserve our own mental health and to preserve our careers.

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AUTONOMOUS VERSUS COLLABORATIVE ONLINE PROFESSIONAL DEVELOPMENT: DISCOVERING THE DIFFERENCES IN LEARNING

Abstract

Online, asynchronous professional development (PD) offers flexibility for learners, yet what is the most effective way to provide an online PD? While current research suggests online platforms can be effective for learning, there is a lack of studies examining differences between fully autonomous, asynchronous modules and those that are asynchronous but still collaborative. This mixed methods study examined the learning of two cohorts of special education teachers as they went through an asynchronous PD, either autonomously or collaboratively. The study found that the autonomous cohort scored higher on the final and case study and there was not a significant difference on the pre-post knowledge survey. Qualitatively, both groups talked about the knowledge they gained and additional ways their learning could have been supported.

Background/Rationale

Professional development (PD) is a cornerstone of ongoing teacher learning and has been studied throughout the years. Effective PD goes beyond giving teachers appropriate content. Darling-Hammond et al. (2017) reviewed 35 different peer-reviewed studies to create a list of seven features that should be included in any PD. These features focus on: content aligned with context, active learning, collaboration, models of good practice, expert support, time for feedback and reflection, and adequate duration to learn and practice the content.

Traditionally, PD has been implemented in a face-to-face manner; however, in recent years, the educational field has seen an abundance of online PD. Online platforms can be divided into two categories, synchronous and asynchronous. A synchronous platform expects the instructor and students to be online simultaneously, whereas an asynchronous platform allows students to engage in the course on their own schedule, though usually with a broad timeframe to complete activities. A recent survey found that teachers appreciated asynchronous PD because it allowed them to access the content at any time (Parsons et al., 2019). Additionally, one study found that an asynchronous PD improved teacher attitudes and self-efficacy (An, 2018).

Researchers have also found that, if crafted correctly, online PD can be as successful as face-to-face (Fishman et al., 2013, Kissau, 2015). A few studies have directly compared the performance of teachers in face-to-face PD to teachers taking the same PD through an online, asynchronous platform (Yoon et al., 2020; Russell et al., 2009; Fishman et al., 2013; Binmohsen & Abrahams, 2020). Yoon et al. (2020) found asynchronous PD can be as effective as face-to-face when it contains key elements. In their study, key elements consisted of quality content, access to expert instructor's knowledge, extended time to reflect on the information presented, and group collaboration. Russell et al. (2009) found test scores, knowledge of instructional strategies, and pedagogical beliefs were similar between face-to-face and asynchronous modes of learning. Fishman et al. (2013) also found similar results when comparing the two platforms, but the researchers also measured student outcomes when the teachers used their knowledge gained from the PD. Student outcomes were similar between the two groups.

Yet, what about the value of asynchronous platforms that are autonomous? Many states require additional PD in areas such as reading, and often these platforms are autonomous. A common thread in professional development research is the importance of group collaboration; however, self-paced autonomous modules do not provide this opportunity to learn from your colleagues. To date, we have not found studies comparing asynchronous modules that are autonomous to those that provide online collaboration. Thus, our study explored differences between two online asynchronous platforms for teachers learning about dyslexia: one platform was an autonomous platform, whereas the second was a guided interactive platform.

Purpose of Study

This mixed methods study explored the learning differences across two different cohorts of learners who took an eight-week PD focused on dyslexia. As aforementioned, one cohort received an autonomous platform where there was no interaction among the students or instructor. The other cohort received the same content, but the platform was supplemented by online group discussions and interactions. We sought to answer the following research questions:

1. Were there qualitative and quantitative knowledge gains amongst the participants?
2. What are the benefits and barriers to each platform?

Method

We created an eight-week dyslexia PD, a topic aligned with current district and state priorities, and offered the PD through two different asynchronous platforms. The content and activities in each platform were the same, except that activities within each module were either completed autonomously or were worked on in groups or discussed through discussion boards.

A total of 27 teachers took part in the study. Of these teachers, 14 were randomly assigned to the "autonomous" PD, while 13 took the "guided" PD that included collaboration. Twenty-one of the teachers had a master's degree or higher. All the participants were female.

Data analyzed quantitatively included a pre-post knowledge dyslexia survey adapted from Washburn (2009), a final multiple-choice exam, and a final case. An independent t-test using two samples assuming equal variances calculated whether a statistical difference existed between the two groups with scores from the final exam and case study. Pre and post-test data were examined using a t-test of two sample means. Cohen's d formula was used to calculate and interpret the effect size. Effect sizes were small (.1-.3), medium (.4 - .6), and large (.7-.9).

Focus group interviews were qualitatively analyzed to identify the perceptions of the teachers. Two researchers separately read through two interviews identifying an initial set of codes (Miles et al., 2013). Afterward, the two researchers individually coded two additional interviews where they reached inter-rater reliability of 91%. From there, the researchers separately coded the remaining focus group interviews, coming together to discuss items of confusion. Our initial codes merged into larger themes. We coded the different cohorts separately and then compared the data within the themes through cross-case analysis.

Results

When comparing case study scores, the autonomous group scored higher than the guided group. There was no statistically significant difference between the two groups; however, there was a moderate effect size of .4. When comparing scores in the final exam, the autonomous group scored higher, and there was a significant difference between the two scores. This resulted in a large effect size of 1.6. When analyzing the data from the pre-and post-test of dyslexia knowledge, there was no significant difference between the two groups. The autonomous group had significant growth in their pre and post-test dyslexia knowledge. The effect sizes for both groups were small.

Additionally, three qualitative themes informed our research questions. Theme one focused on the general perceptions of the course. While both cohorts complimented the clarity and depth of the content, they also both discussed wanting more time to complete the course. Some spoke about needing more time to complete specific units; others mentioned their busy lives and wanting more time to reflect on the material. We did find one qualitative difference in the cohort responses. The guided group often talked about the collaborative activities that needed to be completed; however, the autonomous group, who were given the exact same activities to complete independently, did not talk about these activities.

Theme number two focused on the perception of the course outcomes. Both cohorts discussed the knowledge that they gained and how they used or shared specific information from the course. Differences were also noted in the cohort responses. Some members of the autonomous group stated that while they did learn a lot, they felt they would have learned more in the collaborative group. Despite this, the only knowledge misconceptions that were coded came from a member of the collaborative cohort.

Theme number three focused on the pathway to success. This theme focused on the barriers, benefits, and desires they had within the module. Across the cohorts, the teachers loved the accessibility of the course materials and the convenience the asynchronous platform provided. There were many desires, including suggestions for enhancing collaboration or a desire to take the course with a school group or buddy. Qualitative differences between cohorts came when they discussed barriers. Some members of the autonomous group mentioned that not having collaboration was a barrier, while a few others noted that their own time management became a barrier. Some teachers in the guided cohort remarked that the type of collaboration within the units was often a barrier because it wasn't authentic.

Discussion

When we look back at our research questions, we did see knowledge gains among the participants. Despite members of the autonomous cohort feeling they could have learned more if they were in the guided group, the autonomous group scored higher on the final and case study and there was not a significant difference on the pre-post knowledge survey. Qualitatively, our groups shared how they gained knowledge, as well as how they used or shared information. Our second research question looked at the benefits and barriers to each platform. Both groups discussed the importance of the accessibility and convenience of the platform. It very much fit within their needs as a learner and the busy lives they lead. Teachers perceived a need for more collaboration and interaction regardless of the group. The idea of more access to the expert was prevalent as well as learning with familiar people. Yet, there were differences in cohort responses too. The guided group discussed the need for more authentic collaboration. Some teachers from the autonomous group perceived they probably would have learned more if in the guided group. Interestingly though, the only misconceptions came from the guided group.

Implications

The findings do support the use of autonomous modules. Even though our autonomous group had strong knowledge gains, many teachers suggested a desire for interaction and connection, which does not occur in asynchronous, autonomous PD. If schools take autonomous PDs as a learning cohort, this might help with that desire.

The findings were surprising, given that group collaboration has been noted as a key attribute of successful PDs (Darling Hammond et al., 2017; Yoon et al., 2020). We believe that the topic needs to be explored more. First, our study had a small number of participants. More research should be completed to corroborate these findings. Second, when we looked back at the qualitative data, we wondered if the length and duration of the course became a confounding variable. Even though both cohorts had the same eight-week period to complete the course, it is notable that only the guided group talked about the unit activities. We wondered if the autonomous group did not complete these tasks because they weren't held accountable. Additionally, teachers in the guided group suggested that the *type* of collaboration was not the most effective collaboration. We wondered: by adding in collaboration perceived as inauthentic to a class that some suggested needed to be longer, could we have inadvertently rushed students through the content materials?

Conclusion

The results of this study indicate that asynchronous, autonomous learning may be equally as effective (or slightly more effective) as asynchronous, guided platforms. To truly understand if there are differences between autonomous and guided platforms, research must continue to explore how different types of collaboration impacts learning.

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PREPARING INTERDISCIPLINARY PROFESSIONALS SERVING CHILDREN WITH DISABILITIES AND THEIR FAMILIES

Abstract

In the field of early intervention/early childhood special education (EI/ECSE), interdisciplinary personnel preparation is especially critical because programs and services for young children with disabilities almost always involve a team representing different disciplines in addition to the child's primary caregivers. Through this presentation, a group of professionals demonstrated an interdisciplinary collaboration model to prepare EI/ECSE professionals and social workers. The interdisciplinary model embeds the *Pyramid Early Intervention Model* in the *Learning to Teach in Community* framework within the bioecological context. Presenters discussed the conceptual framework and demonstrated the model components. Reflective discussion questions focused on working with families to build team capacity through shared expertise. The goal was to build and strengthen the path between high quality personnel preparation and optimal outcomes of young children with disabilities and their families.

Rationale

Interdisciplinary collaboration is a recommended practice for infants and young children with disabilities and ensuring special education services delivered in least restrictive environments requires effective teamwork to support desired outcomes for young children with disabilities, including those with high-intensity needs (Odom et al., 2004; Wolery et al., 1993). It is challenging to provide high-quality services to children with severe medical, behavioral, and emotional disabilities (Chen et al., 2009). There is no double COVID-19 will have long-term impact on young children, particularly children with disabilities and with emotional or behavioral difficulties and their families. It takes coordinated and collaborative efforts from all aspects of the society to provide positive and effective intervention services to mitigate the risk for mental health issues of these children (Hoagwood & Kelleher, 2020).

The goal of the interdisciplinary personnel preparation model is to build and strengthen the path between high quality personnel preparation and optimal outcomes of young children with disabilities and their families, particularly children with high-intensity needs and children from high-need communities. The *Learning to Teach in Community* framework (Hammerness et al., 2005) builds on research about cognitive science and effective teacher education (NRC, 2000; Darling-Hammond & Bransford, 2005). The bioecological model emphasizes the relationship of children and their families and how this relationship impacts the child development. The bioecological model values the multi-layered interrelationship between and among individuals, communities, and the society (Center for Child and Family Well-being, 2021).

Through interdisciplinary cohort and community-based learning, EI/ECSE professionals and social workers are supported to develop adaptive dispositions, cognitive and metacognitive skills that address the fundamental problems of learning to teach, contribute to lifelong learning, and promote sustained professional commitment (De Arment et al., 2013). Further, this interdisciplinary model intends to transfer the knowledge, skills, and dispositions of EI personnel to optimal child outcomes in learning and development through the *Pyramid Early Intervention Model* (Fox et al., 2003; Hemmeter et al., 2006; Hemmeter et al., 2021) with systematic and focused instruction across developmental, educational, and social aspects.

Related Literature

Effective team collaboration is an essential feature of IDEA that is well described in educational literature (Dettmer et al., 2009; Friend & Cook, 2010; Snell & Janney, 2005). Several studies established empirical support for the role of collaboration in promoting exemplary schools, increased parent involvement, increased student inclusion and mental health support, and improved child outcomes (Frauenholtz et al., 2017; Giangreco et al., 1998; Hunt et al., 2004; McLaughlin, 2002; Sandall et al., 2009; Shannon & Bylsma, 2004).

Longitudinal research paints a grim picture of the outcomes and performance of school-age children with disabilities in U.S. schools (Lipscomb et al., 2017; Schiller et al., 2008; Wagner et al., 2003). Intensive intervention is needed to address the complex needs of students with disabilities who are poorly served through Response to Intervention (Fuchs et al., 2014). Applying intensive intervention approaches within EI services further optimizes opportunities to achieve the greatest impact on developmental outcomes for young children with high-intensity needs. However, research and practice indicate that EI personnel are not fully prepared to meet the needs of young children such as those with autism, motor development challenges, and significant emotional and behavioral or mental health difficulties (Hemmeter, et al., 2016; Lerman et al., 2004; Osofsky & Liebrmam, 2011). We intend to address this need by emphasizing interdisciplinary preparation to identify and implement intensive interventions for young children with significant disabilities and their families within the *Pyramid Early Intervention Model* (Fox et al., 2003; Hemmeter et al., 2006).

Furthermore, individuals working in early childhood must understand social and emotional development for young children, attachment, adverse childhood experiences, toxic stress, resilience, trauma, the impact of social-emotional difficulties, and strategies to support mental health (Hemmeter et al., 2021; Klawetter & Frankel, 2018; Sciaraffa et al., 2018; Shonkoff & Gardner, 2012; Williams & Mulrooney, 2021). There is also a growing body of research exploring the role of personnel preparation in bias and exclusionary discipline practices in early childhood (Davis et al., 2020; Neitzel, 2018), home visiting (Roggman et al., 2016), and supporting young children who have experienced trauma (Bartlett & Smith, 2019).

Well-prepared personnel are needed to work with young children with disabilities in high need communities and in diverse least restrictive environments. Consistent data suggest the need for personnel who understand effects of poverty on young children's development, work effectively with families and other agencies, and address resources access and improved services to ensure developmental progress and academic success of children (Magnuson & Waldfogel, 2005; Reed, 2012; Coleman et al., 2020).

Interdisciplinary Collaboration in Practice

In our interdisciplinary model we apply evidence-based adult learning principles focused on addressing student preconceptions to learning, acquisition of knowledge for deep understanding, and the development of lifelong learning towards the development of adaptive expertise (De Arment et al., 2013; NRC, 2000). The adult learning principles align well with the *Learning to Teach in Community* framework because we emphasize competencies of adult learners in developing a vision of serving young children with disabilities and their families as well as empowering them with knowledge and skills in culturally relevant contexts, which further strengthen their dispositions in their practices. Adults come into higher education with many life experiences, different forms or levels of education, and varied cultural backgrounds that have influence in their perception and motivation (Conner et al., 2018; Shaw et al., 2012). The accumulation of experiences and the variation in the quality of those experiences can increase the heterogeneity of adult learners. Different from children or adolescents, adult learners come to higher education with a well-developed sense of their identity (Knowles et al., 2005).

Adults as learners usually have a strong sense of responsibility for what, why, and how they learn (McDaniel, 2020). Brookfield (1986) explained that adults learn best when they feel the need to learn and when they have a sense of responsibility for what, why, and how they learn. He also pointed out the value of past experience for adult learners because they "use experience as a resource in learning so the learning content and process must bear a perceived and meaningful relationship to past experience" (p.31). Similarly, Knowles' theory of andragogy is a constructivist approach to learning that involves facilitating adults to draw their experience and to create new learning based on previous understandings (Cox, 2015). To summarize, adult learners with strong knowledge, skills, and dispositions will have a better vision and deeper understanding of the diverse communities and people they serve.

To support adult learners as they bring an expanding pool of experience that can be used as a resource for that learning, we incorporate the following adult learning principles into the program: extended team membership, reflective practices, case-based learning, hybrid course format, and cohort model. These principles are interactive and interrelated with one informing another as a dynamic system instead of a static linear relationship, with the collaborative team as the essential gear. Extended team membership provides both inter- and intra-personal information of team members which informs the functioning of other factors such as reflective practices, case-based learning, hybrid course format, and cohort model. On the other hand, the interaction between and among the other factors will further strengthen team membership through deeper understanding of the community they serve and adaptive expertise they develop.

Conclusion

This session aligns with the conference theme: Building Bridges through interdisciplinary partnerships and collaborations between and among professionals and family members. The interdisciplinary team includes professionals in special education, social work, pediatrics, family engagement, and evaluation research. The team identifies families as partners to mentor candidates who will be EI/ECSE educators or social workers, particularly families from culturally and linguistically diverse backgrounds. The program prepares providers with necessary competencies to apply evidence-based practices leading to improved outcomes of children and their families. The complex needs of young children and families with multiple challenges require high quality personnel who are committed to providing research-based and interdisciplinary services. The program promotes family and early childhood mental health of infants, toddlers, and preschool-aged children from high-need communities.

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BRIDGES TO INCLUSIVE EDUCATION: ANALYZING STATES' SPECIAL EDUCATION COMPETENCIES FOR GENERAL EDUCATORS

Abstract

As inclusion advances across the nation's schools, special education teachers and general education teachers must work more closely than ever to support all students, including students with disabilities (SWD), in inclusive settings. As such, it is important for general education teacher standards for certification to reflect competencies for knowledge, skills, and dispositions specifically related to serving SWD. The researchers analyzed Professional Educator Standards related to serving students with disabilities for elementary general education teacher initial certification across the United States. The Council for Exceptional Children Standards for Initial Special Education Teacher Certification (CEC, 2015) were used for comparison in evaluating requirements. Results show competencies for diversity in learner development, language, and culture, but there are critical omissions of evidence-based practices, explicit instruction, progress-monitoring, assistive technology, and transition competencies across states. Research results are presented and discussions and implications for the field are also included.

Background/Rationale

The 43rd Annual Report to Congress on the Implementation of Individual with Disabilities Education Act (IDEA) reports approximately 13% of students in public schools are served under IDEA for a qualifying disability and about 64% of these students spend 80% or more of their school day in the general education environment (USDOE, 2022). As such, most students with disabilities (SWD) receive the majority of their instruction from general education teachers. Due to structures, shortages, and practices in many schools, SWD are often only provided collaborative or consultative support from special educators in lieu of evidence-based, specially designed instruction (SDI) delivered by qualified personnel (Friend, Cook,Hurley-Chamberlain, & Shamberger, 2010; Wexler et al., 2018). Researchers also report a gap in the knowledge, skills, dispositions, and self-efficacy of general education teachers to serve SWD (e.g., Alfaro, C., Durán, R., Hunt, A., & Aragón, M. J. (2014); Leko, Brownell, Sindelar, & Kiely, 2015;

Stites, Rakes, Noggle, & Shah, 2018). Comprehensive preparation of general education teachers to serve SWD and meet the demands of the current teaching climate is essential (Flower, McKenna, & Haring, 2017; Friend, Embury, & Clarke, 2015; Leko et al., 2015). General educators must be prepared to support Individualized Education Program (IEP) development and delivery, provide academic and behavioral support to all students, collaborate with other professionals, and engage with families to ensure SWD receive an inclusive, equitable education which supports improved outcomes (DaFonte & Barton-Arwood, 2017).

To advance inclusive education and improve outcomes for SWD, a bridge between general education practitioners and special education is essential. As more SWD are served in inclusive settings, general education teachers become responsible for the education of students with ever-diversifying backgrounds, abilities, and needs. In addition to instruction, general education teachers are responsible for referring students for evaluation, communicating educational decisions and student programming to families, and collaborating with special educators and related service providers in the delivery of IEPs. Researchers continue to express concern over limited special education competency requirements for general educators and emphasize the need to increase special education preparation and integrate related competencies throughout preparation and professional learning (Flower et al., 2017; Leko et al., 2015; Obiakor, 2012; Stites et al., 2018). In order to strengthen and improve the competency requirements for general educators, it is important to understand state requirements for initial teacher preparation and state-developed professional educator standards. Information provided in this study can aid in targeted state development to increase the preparation requirements and expectations for general educators to effectively and equitably work with SWD.

Methods

This descriptive study utilized five phases of data collection and analysis. In Phase 1, we collected licensure requirements for general education elementary level teachers from all 50 US states' Department of Education websites. We first looked for the state certification and/or licensure written standards using search terms including "teacher certification standards," "state licensure standards for teachers," "initial elementary educator standards," as well as a visual search of each website. We did not include standards for evaluation of in-service teachers; we were only interested in initial teacher certification standards. For those states that did not publish state standards on the website, researchers emailed and/or called the state department of education to request the information. Next, we examined the educational requirements related to special education for general elementary teacher certification, including special education credit hours, courses and fieldwork. Additionally, we selected one flagship public university from each state. We searched the website of the general educator preparation program at each university and recorded the number of special education credits and field hours in special education settings required for elementary education majors. We also collected the titles of required special education courses. These data were entered onto a spreadsheet.

In Phase 2, the 2013 Council for Exceptional Children (CEC) Standards for Initial Special Education Teacher Certification (CEC, 2015) were entered into the spreadsheet. We compared the general education teacher certification standards for each state with the special education competencies by taking each CEC standard and substandard, identifying key words and searching the state standards for general educators to determine whether the competency is reflected in the state standards. We coded each state's standards as 'met' or 'not met.' Additionally, standards were analyzed for references to the following special education terms: explicit instruction, differentiated instruction, frequent progress monitoring, and data-based decision-making. These data were entered into the spreadsheet.

In Phase 3, all four researchers independently reviewed the data to check for errors and ensure consistency. We met as a group to discuss and make final decisions about the data represented on the spreadsheet. During this phase, we created decision rules to guide our acceptance/rejection of specific items in the data. For example, we looked for the general education standards to include language specific to individuals with disabilities (e.g., disability, special needs, exceptionality) if that language was contained in the corresponding CEC standard.

In Phase 4, researchers tabulated the results into descriptive tables. In Phase 5, researchers analyzed the tables to look for themes and patterns. We used this and the descriptive statistics to interpret results and to inform implications.

Procedural Reliability

In Phases 1 and 2, teams compared independent results and resolved differences through consensus. In Phase 3, all four researchers reviewed the spreadsheet for errors and made notes about inconsistencies or questionable items. Each item was reviewed by the group and disagreements were resolved by consensus according to the decision rules. In Phase 4, two researchers created the tables, and two others independently reviewed them for errors. All disagreements were resolved by consensus to reach 100% agreement.

Results

Descriptive data analysis was accomplished by coding the tables created in Phase 4. To produce data for frequency counts and to calculate percentage matches between states, cells were coded with 1 for a match between state standards and CEC standard subcategories, and 0 where there was not a match. The same coding was used for matches between state standards and the seven CEC standards categories. Teacher preparation requirements from state universities were coded with the number of credit hours in special education required for elementary education degrees and whether the four instructional competencies featured in the CEC standards were similarly included in their requirements.

Fourteen states either did not have teacher standards or had standards that did not align in any way with CEC standards. Where percentage matches were calculated across states, we subtracted those 14 states from the total 50 US states and used 36 as the denominator. Analysis of the percent match of state standards and CEC standards found that 14 states either did not have teacher standards or had standards that did not align in any way with the CEC standards. No states reached or exceeded a 25% state standards match, and only Illinois had a percent match above 20%.

Teacher preparation programs in 32 states required three credit hours in special education for elementary education teacher candidates. Michigan State University required 21 credit hours of special education coursework. State universities in Indiana, Louisiana, New Jersey, and Wyoming listed no required credit hours in special education (SE), while the remaining 13 state university requirements varied from 2-7 required credit hours. Percent matches in the CEC standards categories across those 36 states that had state teacher competency standards showed that in no category was there greater than a 34 percent match. Significantly, percent matches were below 10% in the categories of collaboration with general educators, families and related service providers; individualization and evidence-based practices; content and curricular modification, and behavior management.

Reviewing credit hours and competencies per state found no obvious relationship between credit hour and competency requirements. Two states required SE credits and all competencies. Twenty-three states required SE credits and did not specify competencies. Iowa did not require SE credits, but specified 3 competencies. The remaining 21 states required SE credits and specified a range of 1-3 competencies. So, state teacher preparation programs with higher credit hour requirements did not emphasize special education competencies more than those programs with fewer required special education credits.

Analyzing only special education competencies revealed that few state university programs required them. It is most notable that explicit instruction and competencies associated with individualizing and monitoring the success of intervention and instruction were required rarely among state university teacher preparation programs.

Discussion and Implications

An analysis of data was conducted on the match between the CEC's identified special education competencies and state teacher competencies. Findings indicate a gap between expectations for general education teachers and their increasing responsibility to provide instruction and classroom management strategies that will work for all students, including those identified with disabilities.

Analyzing representative state university teacher preparation program data indicates that special education competencies have not been prioritized in coursework for general educators. The concern is that states and university programs are not preparing teacher candidates to successfully work with students with a range of strengths and needs.

As classrooms across the country become more inclusive, all teachers need to become proficient in evidence-based practices that have traditionally been expected of special educators. These proficiencies include planning and delivering explicit instruction for intensive core instruction and tiered intervention, frequent progress-monitoring to inform instructional adjustments for mastery learning and skill generalization, and data-based decision-making for differentiating instruction. Additional competencies that remain underemphasized in teacher education are: timely adaptations to curriculum and instruction, managing situations where students need significant behavior supports, collaborating with other educators and related service providers, and making informed referrals for evaluation for special and gifted education.

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