

# TED 2019 Conference Proceedings

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*Unmask Your Potential*

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## A Note from the Editor and Conference Chairs

Part of TED's core mission is to promote research and collaboration among TED members and the greater teacher education community. In an effort to advance these initiatives, TED is delighted to launch our inaugural annual conference proceedings!

Given this is the first year publishing conference proceedings, we took a conservative approach to test our process and procedures. Out of 195 single paper proposals to present at TED 2019, 176 presenters checked a box indicating that they would be interested in receiving an invitation to submit a proposal to the TED conference proceedings. Based on that number, we set an invitation criterion of 54/60 (or above) on the TED proposal rubric to qualify and receive an invitation. Thirty-five percent qualified ( $n=61$ ) and received an invitation to submit a proposal. Out of those invitations, 38% ( $n=23$ ) submitted a proposal and were included in this year's conference proceedings. Looking forward to TED 2020, we will evaluate the criterion for invitation to possibly provide more TED presenters the opportunity for publication.

We would like to extend a big thank you and congratulations to our invited TED 2019 conference proceedings' contributors! We appreciate the time and effort from everyone who helped get the inaugural edition published. Please note that individual authors are responsible for content accuracy. We hope TED conference proceedings continue to be a valuable contribution to the field for years to come. Stay tuned for updates and we will see you all at Long Beach, CA for TED 2020.

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## TO THE BRAIN AND BEYOND: CREATING A TRAUMA RESILIENT CLASSROOM

### **Abstract**

Nearly two out of three students experience trauma and it often affects their focus, behavior, and success in the classroom. Professionals in education must have the knowledge to respond to trauma in the educational setting. Universities need to respond to current trends in trauma and resilience within the educational environment. This paper will describe the process our university has followed to create an 18-hour Trauma Certificate program.

### **Background/Rationale**

“The effects of trauma during childhood and adolescence have impacts on adolescent health and educational status, including a greater likelihood of repeating a grade in school, lower resilience, increased risk for learning and behavioral issues, suicidal ideation, and early initiation of sexual activity and pregnancy” (Lee, 2017). Adverse Childhood Experiences (ACEs) are traumatic events that occur in childhood revolving around abuse, neglect, mental illness, and family members who are absent. Research has shown that when there is a higher number of ACEs scored by an individual there is a correlated increase in student’s health and their social/emotional well-being (Ziv, Sofri, Umphlet, Olarte & Venza, 2018).

During the last decade, there has been an increase in the awareness of the impact of trauma on students. According to Statman-Weil (2015), before the age of four, approximately 26% of students experience trauma with almost 80% of the trauma occurring in the home by their parents. Jimenez, et. al.’s (2016) research indicates that there is a “link between ACEs scores and lower levels of school engagement in middle childhood and adolescence.” Students who have experienced trauma can find it difficult to interact with their teachers as well as other students. This is creating increasing challenges for classroom teachers as well as the administration. Research is showing that the traditional approach to education is not meeting the needs of students who have experienced trauma and as a result, there is a movement to create trauma-responsive classrooms and schools that have been created across the nation.

The Department of Children and Families in 2012 defined three specific types of trauma. They include acute trauma, chronic trauma, and complex trauma. All three types of trauma can create negative effects on students creating a need for resilience within the students. However, research shows that students who experience prolonged, severe, unpredictable stress often are not

concerned with learning as they are focused on survival and self-preservation (Plumb, Bush, & Kersevich, 2016). Students with trauma histories will often have difficulty with learning, creating healthy attachments, form supportive relationships, or follow classroom expectations (Ryan, Lane, & Powers, 2017; Statman-Weil, 2015).

### **Trauma-Informed versus Trauma Resilient**

Due to the inability of self-regulation for a student who has experienced trauma in their lifetime, the schools have seen a significant increase in verbal and physical aggression and suicide rates have increased in Kansas. The role of the family has changed significantly over time with the lack of personal connection, the increased demands on families within society and consistent dual parenting families, no longer exist. As a society, we are no longer focused on building relationships but are instead focusing on the need for immediate gratification. The development of verbal communication skills is being replaced with communicating through email, text, or IM which loses non-verbal and verbal cues and often leads to misunderstandings. Too many parents are putting children in front of electronic devices and conversations are not happening at the home. Parents are also always on their devices neglecting conversation that allows children to grow and understand their emotions. Children are not developing coping skills so when something arises in school the child does not know how to handle it.

There is a current trend in Kansas schools is a shift to trauma-responsive education in classrooms and schools especially in larger, urban areas where resources are more readily available. As an example, Principal James Moffett at Derby Hills Elementary initiated the trauma-responsive initiative school-wide four years ago. The impact of becoming a trauma-responsive school is being seen across the board. The year trauma-responsive strategies were initiated there were just over 600 office referrals for behavior. This academic year, the school is on track to see fewer than 100 office referrals (Moffett, 2019). This year, the overall scores for state assessments in reading and math have increased by approximately 20% from scores four years ago (Moffett, 2019). Moffett attributes the improvements to the building of relationships school-wide through the use of trauma-responsive education strategies.

McConnico, Boynton-Jarrett, Bailey, and Nandi (2016) researched the need for teachers to support social-emotional learning through the use of classroom-specific strategies and activities. These include interventions such as positive classroom climate, teacher sensitivity to trauma, respect for student perspective, building resiliency, preventative strategies, and ways to work with challenging behaviors. Their research indicates a positive impact on decreasing challenging behaviors while increasing academic performance (McConnico, et. al., 2016).

Resilience is defined as “the process of adapting well in the face of adversity, trauma, tragedy, threats or even significant sources of threat” (American Psychological Association, 2014). Resilience is not something that students are born with but is an interactive process between the student and caring relationships such as teachers, administrators, and staff members of schools. Resilience is not an attribute that once a student has achieved it they will always have it but rather it is fluid and may change over time. For example, during critical developmental points, a student may be less resilient than they previously had been (Meichenbaum, 2008).

Research in the area of resilience and trauma histories indicates that the more resilience a student has the higher the likelihood of him/her overcoming the trauma history.

It is critical that providing trauma-responsive education begins early as research shows that behaviors due to trauma histories intensify as students get older including the use of alcohol, drugs, and other risky behaviors (Worth, 2015). A traumatized child does not necessarily look or behave within a fixed and narrow range of parameters. The child can be anybody and it actually is not necessary for the teacher to truly know which child in the class has experienced trauma (other than for acquiring data to test the plan). Fortunately, the successful way for a teacher to interact with a traumatized child will be a successful way of interacting with any child.

### **Creation of an 18-hour Trauma Certificate**

The creation of the Social-Emotional Learning and Psychological Well-Being Certificate was created collaboratively through multiple disciplines in The Teacher's College at Emporia State University. The certificate is broken into five categories so that a balanced area of study can be provided to multiple professionals in the educational setting. Through collaboration and research, we felt these five areas would benefit all educational professionals: (1) Crisis Management, (2) Diversity and Cultural Awareness, (3) Counseling and Behavioral Interventions, (4) Social-Emotional Development and Learning and (5) Systems Change and Research. This certificate provides the professionals in education with the attitudes, skills, and strategies to support children that live in toxic stress and/or experiencing trauma.

The courses will provide a comprehensive overview of critical information about trauma within the educational setting. The certificate will prepare professionals to collaborate and support individuals with a history of trauma using research-based practices, looking at the individual as a "whole" assessing strengths and areas of concern.

### **Conclusion**

When school systems use the trauma lens approach, they are better prepared to provide social-emotional support necessary to help students reach their educational potential (Souers & Hall, 2016). Universities have a responsibility to train education professionals in best practices in trauma resilient practices that should be supported and implemented school-wide. ALL students, including individuals who have experienced trauma or living in toxic stress, should be provided a safe space for learning.

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## A FOCUS ON COLLABORATION: IMPLEMENTATION OF HLPs FOR PRE-SERVICE TEACHERS

### **Abstract**

High-leverage practices (HLPs) identify the critical practices for special educators to best support students with disabilities. Collaboration HLPs identify skills necessary to effectively communicate with families and professionals to support student needs. Preparing pre-service teachers to utilize collaboration HLPs in classrooms is essential. This paper focuses on the Collaboration HLPs with specific examples for implementation of practices, activities used with pre-service teachers, and data to inform practice.

### **Background/Rationale**

Establishing HLPs as a foundation of special education practices improves outcomes in training for pre-service teachers and students with disabilities. Described as “the most essential dimensions of effective practice” (McLesky et al., 2017, p. 9), HLPs provide clarification and delineation of the practices and expertise that characterize effective special educators (Riccomini, Morano, & Hughes, 2017). The HLPs focused on collaboration guide teachers to understand the complexities of the collaborative process to foster student success, organize and facilitate meetings, and advocate to support needs (CEC & CEEDAR, 2019). While HLPs offer guidelines, there is limited information on the translation into practice. Sayeski (2018) stated, “The task of teacher educators and professional development providers is to take these practices and create meaningful opportunities for learning how to master these skills within the context of teaching students with exceptionalities” (p. 171).

Specifically, for the Collaboration HLPs, there is an emphasis on inclusive practice in communication between general and special educators, culturally responsive communication strategies, organization and communication as a part of the IEP process, and advocacy for resources towards self-determination (CEC & CEEDAR, 2019). It is critical that pre-service teachers acquire, practice, generalize, and transfer skills towards long-term use including self-assessment toward further skill development (Sayeski, 2018). Collaboration does not occur by just putting individuals together but requires training and support (Robinson & Buly, 2007). Teachers may not have the skills or realize the disconnect that can occur between educators and families and other professionals that break down the collaborative process. Collaboration is based on trust, respect, equality, commitment, and communication (Rosetti et al., 2017). While pre-service teachers can learn about these foundational elements in theory, it is crucial that instruction for collaborative practice focus on application and generalization. Instruction on

collaboration HLPs must not only enable pre-service teachers to acquire skills in meaningful contexts, but also encourage the evaluation of strengths/needs to improve practice (Sayeski, 2018).

### **Collaboration HLPs Overview and Resources**

The Council for Exceptional Children (CEC) and The Collaboration for Effective Educator Development, Accountability, and Reform Center (CEEDAR) developed a comprehensive list of HLPs for Special Education (McLeskey et al., 2017). These guidelines support the fundamental practices towards positive student outcomes in twenty-two major areas (Sayeski, 2018). Of the twenty-two major areas, three practices focus specifically on collaboration:

- Collaborate with professionals to increase student success.
- Organize and facilitate effective meetings with professionals and families.
- Collaborate with families to support students learning and secure needed services.

### **Course Embedded Collaboration Activities**

Activities and content focused on collaboration HLPs are ideally embedded at various levels throughout preparation programs. The three activities highlighted are examples that exist within a broader preparation context. Each activity description includes a general framework for the activity and pre-service teacher data associated with the experience.

### **Panel Presentation for Perspective**

All educators will interact with a variety of individuals and families throughout their careers. These interactions will likely impact the educational outcomes for students and require the educator to possess skills to ensure that the outcomes are positive. A first step to a positive interaction is an acknowledgement of various perspectives. New educators have often had limited experiences with individuals with diverse abilities and their families, and therefore, have limited understanding of the various perspectives. To address this need, a panel presentation is organized each semester in conjunction with a collaboration unit in a special education methods course required of all education majors. The panelists consist of individuals with diverse abilities or family members (e.g., parents) of individuals with diverse abilities. Typically, four individuals/families are on the panel and the abilities represented are representative of the IDEA categories of Autism, Specific Learning Disabilities, Other Health Impairments, Intellectual Disabilities, and/or Orthopedic Impairment. Panelists are selected so the group offers the most diverse representation possible of ages, IDEA categories, culture, socio-economic status, etc. A set of five questions/prompts focused on identity and communication are asked of all panelists.

- Tell us a little bit about yourself and the impact that diverse abilities have had on your life.
- What advice would you give regarding communicating with someone with diverse abilities or regarding diverse abilities?
- For teacher/parent or teacher/student communication, what communication methods were the most effective for you?

- During IEP/504 plan meetings, what was done to make you feel like part of the team? How did you contribute to the meeting?
- How have the communication strategies and methods evolved over time/circumstance?

Following the questions, the audience asks questions of the panelists. Perspectives from the pre-service teachers are gathered both formally through a pre/post questionnaire focused on perceptions of diverse abilities and communication skills, and informally through discussion in class. Formal data consistently reveal that future educators feel that they have a greater understanding of diverse abilities (from 34% to 76% in the strongly agree category) and are more confident with their abilities to effectively communicate with parents (from 55% to 95% in the agree and strongly agree categories).

### **Collaborative Scheduling Activity**

It is necessary for students and staff to understand the expectations within the classroom in order to support collaboration and learning. This activity presents a classroom scenario to the pre-service teachers (undergraduate and graduate special education majors) and charges them with the creation of an individual schedule for each student and staff member. The scenarios are built using actual information that has been shared by administrators, teachers (general education schedules, lunch/recess schedules, and expressive arts schedules), and related service providers. The pre-service teachers are charged with the creation of a grid-type schedule, shown in Figure 1, including each student that shows the subject or task they will be doing, and who will support them within the time increment. After the activity, pre-service teachers are asked the following questions: (a) What skills did you gain? (b) How will this inform your practice? (c) How can you use self-reflection within collaboration to improve outcomes?

Responses from the pre-service teachers fall under several broad themes: (a) collaboration among staff members, (b) creation of consistent and effective learning systems towards improved student outcomes, and (c) enhancements to staff ability to meet students' needs. First, and more specifically, pre-service teachers identified that the scheduling activity helped them to understand the perspectives of other staff and providers. The presented scheduling process provided a way to obtain information from the critical stakeholders (administrators, general educators, and related service providers) in order to understand their needs regarding time and services. In particular, students identified that the planning of time in general education was necessary to effectively provide inclusive practices or co-teaching models. Second, this process supported the pre-service teachers' identification of student strengths and needs. During this activity, pre-service teachers made decisions as to what content would be covered or what was important to teach during each time interval in the schedule. This brought forth the importance of prioritization of skills within the day. Pre-service teachers had to consider what to teach (skills/priorities), how to teach them (e.g., curricula, intensive supports), and to gain the priorities of important stakeholders. The scheduling process required the pre-service teachers to create appropriate expectations for their students related to learning and to understand needs related to efficiency and best use of staff. Pre-service teachers reported that the activity helped them to consider staff wants and needs towards the creation of a supportive classroom culture. Lastly, related to efficiency, the process focuses on the respect for learning by viewing each minute of the day as instructional to support the whole child.

	8:15 – 8:35	8:35 – 8:55	8:55 – 9:15	9:15 – 9:35	9:35-9:55	9:55-10:15	10:15–10:35	10:35-10:55
Harry	Literacy Block OT	Literacy Block OT	Literacy Block OT	Literacy Block	Literacy Block	Literacy Block	Literacy Block	Lunch/ Recess
Izzy	Math Small Group	Math Small Group	Math Small Group	Reading	Reading	Reading	Reading	Lunch/ Recess
Jacob	Math Small Group	Math Small Group	Math Small Group	OT	OT	OT	OT	Lunch/ Recess
Kylie	Sensory Handwriting	Sensory Handwriting	Sensory Handwriting	Computer	Computer	Computer	Computer	Classroom Jobs
Lenny	Sensory Handwriting	Sensory Handwriting	Sensory Handwriting	Computer	Computer	Computer	Computer	Classroom Jobs
Gabriel	Specials	Specials	Specials	Sensory Handwriting	Sensory Handwriting	Sensory Handwriting	Sensory Handwriting	OT
<b>Color Key:</b> OT Teacher Paraprofessional 1 Paraprofessional 2 Paraprofessional 3								

Figure 1. Class Schedule for Students with Color-coded Professional Assignments

## Services and Supports Improvement Plan (SSIP)

Graduate students in an administrative track program complete a problem-solving activity. Through this activity, the preservice-teachers learn to use the following collaboration skills: (a) identification of a problem, (b) active listening and extracting information from a team, (c) identification of additional information needed, (d) finding sources of information and collecting information, and (e) reporting information back to support a solution. A local Director of Special Education presents a school-based issue to the administrative candidates. During the presentation of the issue, candidates utilize active listening and extract important information. Following the presentation, candidates research possible solutions, collect information from various stakeholders, and present the best option to the team.

Candidates reported that the SSIP collaborations allowed for practice in obtaining data from multiple sources and considering data from the perspectives of multiple team members in order to propose a sustainable plan for the district.

## Generalization of Collaboration HLPs

Ultimately, the intention of the collaboration activities linked to HLPs is to serve as a first step toward generalization of skills to future work with students. Within this course embedded structure, purposeful generalization of skills is considered. The activities are designed to include the most realistic circumstances (e.g., actual parents, current administrators, and classroom materials) to act as common stimuli when pre-service teachers are working in the field. During field experiences, supervisors explicitly make connections between the activities and the schedules, interactions, and problem resolution that pre-service teachers witness in their placements. Additionally, recent program graduates return to talk to pre-service teachers regarding their implementation of the skills they learned through the course activities in their classrooms. Perhaps most important, transparency regarding the purpose of each of the activities and pre-service teacher self-evaluation provide a framework for future growth in the area of collaboration.

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## PROJECT FOR THE ADVANCEMENT OF GIFTED AND EXCEPTIONAL STUDENTS

### **Abstract**

Due to challenges identifying gifted and twice exceptional students with autism spectrum disorder (ASD), we have collaborated with a large urban school district to create PAGES: **Project for Advancement of Gifted and Exceptional Students** to increase identification and development of skills for gifted and talented students, including twice-exceptional students with ASD. The PAGES team drew upon recommendations to create a comprehensive protocol in order to provide a more holistic representation for identification (Assouline et al., 2012). Further, the instructional coaching model (Kretlow & Bartholomew, 2010) was used to train and coach teachers in the implementation of SEL and executive functioning instruction (Ohio Employment First, 2017). This session highlighted the first year of implementation including an examination of available data.

### **Background**

The challenge with educating the gifted and twice-exceptional (2e) student population is two-fold. First, identifying gifted and 2e students is difficult as these students often experience asynchronous development (Peterson, 2009). While cognitive skills outpace that of their peers, these students undergo delays in nonacademic skills such as social and emotional learning (SEL) and self-advocacy (Blaas, 2014; Peterson, 2009). Such delays may result in anxiety, depression, and social isolation, causing academic performance to lag behind academic capability (Blaas, 2014; Peterson, 2009). Teachers may not recognize giftedness when students display such characteristics, creating an entire sub-group of students missing chances to be identified. Students with disabilities compound identification challenges. A sub-category of gifted and talented, 2e students simultaneously experience both giftedness and a diagnosed disability (Assouline & Whiteman, 2011). 2e students with autism spectrum disorder (ASD) inherently exhibit challenges related to SEL (American Psychiatric Association [APA], 2013) creating real educational challenges that can conceal the giftedness of these students (e.g., prosocial difficulties affecting collaboration) (Anderson, Stephenson, & Carter, 2017; Assouline, Nicpon, & Dockery, 2012).

The second challenge is instructional. In college, both gifted and 2e populations experience higher degrees of anxiety, depression, social isolation/marginalization, and struggle with becoming independent learners advocating for their unique instructional needs (Shmulsky, Gobbo, & Donahue, 2015; Yager, 2016). A lack of explicit SEL instruction to combat social isolation, anxiety, and depression negatively impacts post-secondary success. In addition to social needs, these students struggle with cognitive processes such as executive functioning: the ability to plan and execute (Yermish, 2012). Challenges with executive functioning is particularly evident in the area of English Language Arts (ELA) where gifted students show a decline in scores from elementary to high school (Xiang, Dahlin, Cronin, Theaker, & Durant, 2011). This decline is not due to a lack of content knowledge, but rather difficulty in knowing how to engage effectively in the “output” of knowledge (Yermish, 2012).

## Current Study

The current study is the result of a multi-year Department of Education grant: the Project for Advancement of Gifted and Exceptional Students (PAGES). Over the next five years, we aim to address the needs of a large, urban school district in increasing appropriate identification and development of skills for gifted and talented students, including 2e students with ASD. For year one, PAGES aimed to increase the number of students that are identified as gifted and talented, including 2e students and strengthen the capability of teachers to employ effective SEL and ELA instructional strategies for those students.

There are two main participant populations. First, elementary school teachers are participating in an eight-hour, in-person training focusing on increasing gifted and 2e identification. Due to the challenges of identifying this population, the project team drew upon recommendations to create a comprehensive protocol, inclusive of both academic and nonacademic measures, in order to provide a more holistic representation of each student (Assouline et al., 2012; Nicpon, Allmon, Sieck, & Stinson, 2011). The second participant population involves secondary teachers from the district’s gifted academy. The Academy of Integrated Arts and Technology (Academy) is a unique program with a student population of only gifted and 2e students with ASD. Academy teachers are receiving direct training and on-site coaching in SEL and executive functioning, for a total of 32 hours each academic year.

## Review of Data

**Elementary data.** Elementary participants completed a gifted identification survey. Participants included 72 elementary teachers (87.5% Female; 57% White; *M* teaching years=3.8 years). The results show that, in the past two years, elementary teachers in our sample have, on average, recommended three students for gifted identification. We examined a few factors that were associated with elementary teachers making recommendations for gifted identification. Experienced teachers (teaching two or more years, *N*=49), compared to the novice teachers (*N*=23), are more likely to recommend students for assessment for gifted identification ( $t(61)=2.23, p=.029$ ), and they are more likely to include underrepresented students in the recommendation ( $t(56)=1.67, p=.043$ ). Experienced teachers are also more likely to have received training about underrepresented students ( $chi-square(1)=9.248, p=.001$ ). The training they have received in the past five years is shown in Figure 1. Interestingly, teachers with a

special education degree are less likely to recommend students for assessment for gifted identification ( $t(70)=-3.849, p<.001$ ), and are less likely to include minority students in the recommendation ( $t(56)=-3.91, p<.001$ ). The open-ended survey questions indicate that teachers perceive the following challenges in identification: student behaviors overshadow giftedness, student behaviors that interfere with the testing process, cost of administration, and a potential mismatch between teacher observation and parent and administrative biases (e.g., the idea that students in a Special Day Program are not gifted).

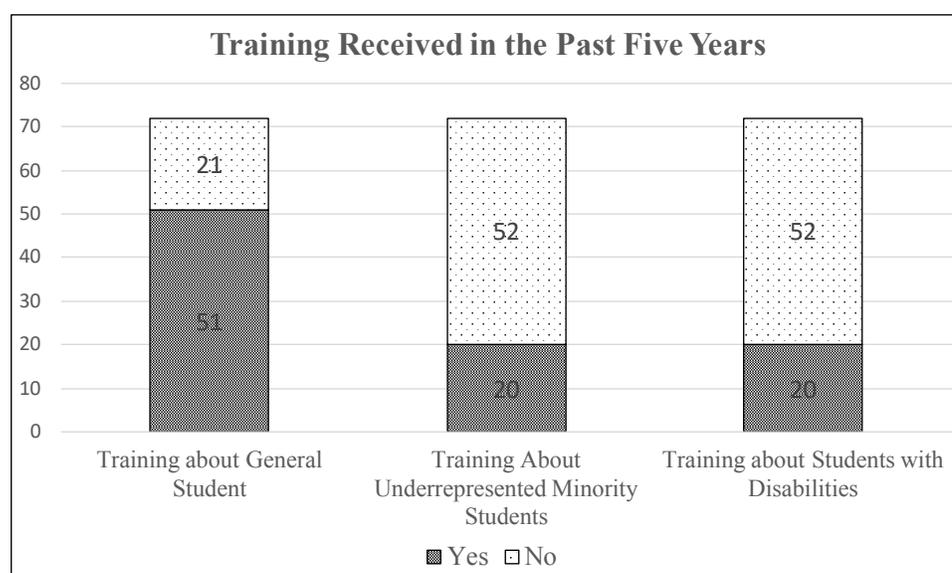


Figure 1. Training received by elementary teachers in the past five years about general students, underrepresented minority students, and students with disabilities.

**Academy data.** Participants included 18 teachers (67% female; 70% White; average year of teaching = 2.8 years) from the northwest region of the district. During the first year, these teachers took both a pretest and posttest survey that included the SEL scale for teachers (12 items) assessing the perceived school climate for implementing SEL instruction, self-efficacy in instruction of SEL (12 items,  $\alpha=.96$ ), and self-efficacy in integrating SEL concepts during ELA instruction (6 items,  $\alpha=.89$ ). These teachers also participated in a focus group to reflect upon their experiences participating in the PAGES project. Teachers who had higher self-efficacy in SEL instruction were more likely to integrate SEL concepts during ELA instruction ( $r=.58, p=.01$ ). Older teachers were less likely to report a high self-efficacy for SEL instruction ( $r=-.49, p=.04$ ). The pre-and post- test statistics showed no significant differences in teachers' perceived self-efficacy in delivering the SEL instruction ( $t(8)=.77, p=.46$ ) and integrating SEL concepts during ELA instruction ( $t(8)=-.12, p=.91$ ). However, these insignificant results were likely due to the small sample size in our posttest group ( $n=8$ ) and, therefore, the insufficient statistical power to reject the null hypothesis. We also analyzed the focus group data using thematic analysis (Braun & Clarke, 2012).

A common theme extracted showed that teachers' ideas about SEL have evolved since their participation in the project. Quite a few teachers mentioned that participation in the

program has prompted their instruction to focus more on the students' emotional status and not just the behaviors. These teachers indicated that they: "shifted away from [a] behavioral focus," had "more focus on emotional status," and experienced a "raised sensitivity to students' emotional need[s]." Further, involvement in PAGES allowed Academy teachers to be more flexible in teaching SEL competencies, with several teachers stating they had increased flexibility in their evaluation of students' abilities, changed their instruction to increase opportunities for students to demonstrate their abilities, and were more reflective of their instructional practice.

## **Summary**

PAGES aims to increase identification and development of skills for gifted and talented students, including 2e students with ASD. It was interesting to note that special education teachers are less likely to recommend students for assessment. This is something to explore further to determine if the tacit implication that giftedness and special education cannot co-exist is stronger in certain teacher groups and/or if it is related to past training opportunities. While, it is still too early to determine the effectiveness of our interventions with elementary teachers, we will be examining enrollment data to conclude if gifted identification is increasing for varying student populations. PAGES seems to be making an impact on Academy teachers in terms of their instructional design and instructional self-efficacy of gifted and 2e students with ASD. Changes in delivery of instruction and student evaluation are most prominent, especially in terms of teacher flexibility and integration of SEL into core curricular content. The continuous coaching model (Ohio Employment First, 2017) seems to be a key component in helping Academy teachers seamlessly bridge their new knowledge into their instructional practice.

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## VIRTUAL REALITY CLASSROOM PRACTICE: EXAMINING OUTCOMES AND OPINIONS ACROSS PRESERVICE TEACHERS' EXPERIENCES

### **Abstract**

Teacher preparation programs are tasked with preparing highly effective teachers who will “hit the ground running” as they begin their teaching careers. As such, teacher training programs need to promote mastery and generalization of teaching techniques. Virtual classrooms may provide opportunities for preservice teachers to develop their K-12 classroom skills. This presentation discusses the benefits and deficits related to using virtual classrooms in a pre-service teaching program for future special educators. Opinions and outcome interpretations from the perspectives of university professors and implementors are discussed.

### **Problem/Issue**

Imagine a teacher walking into a virtual reality simulator, quickly suspending disbelief, and engaging in instruction with five student avatars who interact with her in real time. She can practice the same skill until she gets it correct. The teacher wears a “bug” in her ear to receive immediate feedback from the instructor to maximize effectiveness. This is how virtual classroom environments provide preservice teachers with multiple opportunities to practice specific skills in a controlled setting before teaching real students. It is modeled after use of simulators in other professions e.g., medicine, business, and law enforcement. Greenhill (2010) identified the need for university teacher preparation programs to improve their program design, in the form of instructional models, and learning environments to ensure an effective teaching force in the future. The use of virtual classrooms provides students with opportunities practice specific teaching skills in the simulator to attain mastery and fluency of the skills to aid in generalization to the real world.

Special education teachers have reported feeling unprepared in their first few years of teaching (Keefe, 2017). In preparing preservice special educators, teacher prep programs place

them in practicum experiences in real classrooms. This is and has been the practice for university training programs for decades; yet still seems insufficient for some. Even with these experiences at the preservice level, new special educators still report being unprepared. Recently, the use of virtual reality classroom technology has been used to enhance preservice teaching experiences. In fact, Taylor and Moohr (2018) support the use of virtual classroom as a means of demonstrating the incorporation of new and effective educational technology and providing preservice teachers with scaffolded teaching supports. Furthermore, by preservice teacher preparation programs providing increased virtual classroom experiences, these programs can (a) ensure they have the most dedicated and effective teachers entering the classroom and (b) better prepare future teachers for classroom longevity and limit burnout (Taylor & Moohr, 2018). While virtual classrooms are gaining traction in university training programs, more research is needed to examine their efficacy.

## **Literature Review**

The few studies that exist that examine efficacy of virtual classrooms cover a number of different outcomes and populations of educators in various stages of their careers (e.g., preservice teachers; alternate certificate candidates). Bautista and Boone (2015) used a mixed methods approach with preservice teachers and found that their self-efficacy and outcome beliefs improved from pre- to post-tests after using virtual classrooms. In another example, Dawson and Lignugaris/Kraft (2017) used virtual classrooms with alternative certification students in a multiple baseline design and found mixed results on using praise, praise around, error correction, and generalization.

The scant research that exist suggests that virtual classrooms may serve a great purpose in teacher preparation programs for preservice special educators. Virtual classroom experiences have shown to have positive effects on skill practice in classroom management (Dawson & Lignugaris/Kraft, 2017), instructional teaching behaviors (Garland, Vasquez, & Pearl, 2012; Vince Garland, Holden, & Garland, 2016), and teacher confidence (Bautista & Boone, 2015). In real classrooms only one teacher can practice an instructional or management routine with a group of students in a traditional practicum setting. In the virtual classroom, several preservice teachers can practice teaching over the course of one hour. Virtual classrooms are promoted as an enhancement, not replacement, of practicum and/or student teaching. With virtual classrooms preservice teachers can gain valuable experience before entering a real classroom or during student teaching to develop proficiency of evidence-based teaching behaviors.

## **Professional Tips for Implementation**

In providing professional tips for using virtual classrooms in preservice teaching programs, we attempted to answer the following questions related to our experiences:

1. How do Penn State Special Education pre-service teachers perceive virtual classroom experiences?
2. How do Penn State Special Education faculty perceive the use and efficacy of virtual classroom experiences?

The following information provides suggestions and considerations for using virtual classroom experiences with preservice teachers in teacher preparations programs.

## TECHNOLOGY SUPPORTS

- Be sure to have the appropriate technology available to use the virtual classroom system

## READY RESPONSES

- Have responses prepared for students regarding privacy, technology, and personal data sharing

## SUSPENSION OF BELIEF

- Help students suspend belief with dedicated virtual classroom time and if possible dedicated virtual classroom space

## PLAN EFFICIENTLY

- Due to cost and price structure, planning ahead of time effectively is essential due to calendar and instructional restrictions

*Figure 1.* Suggestions for implementing the use of virtual reality classrooms into preservice teacher preparation programs.

Aside from suggestions, other instructional considerations include: (a) student comfort, (b) instructional outcomes, and (c) generalization. Based on our experiences of using virtual classrooms with our preservice teachers, a few students initially expressed hesitation to participate in the simulation with some students expressing discomfort because the avatars did not feel realistic. This emphasizes the importance of helping students suspend belief as much as possible. Thoroughly consider the instructional outcomes that are desired for the students to display. Do you want students to display instructional or management practices or both? Having clear outcomes increases the effectiveness of the virtual classroom. Maximize the virtual classroom experience with planning for generalization. Preservice teachers should learn the skills in their academic setting, practice and refine the skill in the virtual classroom, and finally, demonstrate the skill in an actual classroom with “real students”. If preservice teachers are struggling with a teaching skill, the virtual classroom allows for multiple opportunities to practice and improve.

## Conclusion

If the goal of a teacher preparation program is to prepare highly effective teachers who will “hit the ground running” as they begin their teaching careers, we need to promote mastery, fluency, and generalization of teaching techniques in our university classrooms. The more opportunities to practice that a preservice teacher has, the more fluent he/she can be with newly acquired teaching skills. Fluency in turn, increases the likelihood for generalization of these skills to the K-12 setting. The use of virtual classrooms hold promise as an efficient as well as effective tool for special education preparation programs where time, particularly time to practice skills, is at a premium.

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## UNMASKING THE POTENTIAL FOR ADOLESCENT TRANSITION THROUGH EVIDENCE-BASED ACADEMIC SKILLS

### **Abstract**

Practitioners' use of evidence-based strategies to provide academic instruction for adolescent students with disabilities can support their transition to post-secondary education and employment opportunities. Teaching academics to secondary students with disabilities provides the foundational skills necessary for them to be successful in life after high school. Practitioners are held to higher expectations to provide students with disabilities the skills needed to be successful in completing post-secondary education. This paper serves to share evidence-based instructional strategies for academics with practitioners that can be implemented in their classrooms to enhance students' achievement and transition skills.

### **Problem/Issue**

Academic content knowledge and transition skills are key to access to postsecondary education and opportunities for employment. Educators expressed that teaching both academics and transition skills are important for students with disabilities (Wehmeyer, Agran, & Hughes, 2000). However, educators may struggle with time to teach both academics and transition related skills. Students with intellectual and developmental disabilities can learn both academic and transition skills simultaneously through interventions that deliver instruction using evidence-based strategies. This presentation shares how to identify and select academic standards based on state requirements, prioritization of aligning standards with transition skills, and effective progress monitoring.

There is growing need for educators to select practices known to have evidence supporting their effectiveness to teach students skills necessary for success both in-school and out (Newman, Madaus, & Javitz, 2016). Research indicates when teachers use instructional practices supported by research in the classroom, student achievement increases (Cook, Smith, & Tankersley, 2012). To provide practitioners and the field of secondary transition with research-based interventions, first the National Secondary Transition Technical Assistance Center (NSTTAC) and now the National Technical Assistance Center on Transition (NTACT) conducted comprehensive literature reviews of correlational research to identify predictors associated with improved post-school success for students with disabilities. Test et al. (2009) and Mazzotti et al. (2016) together identified 20 in-school predictors of post-school success for individuals with disabilities, three of those are (a) exit exam requirements and high school diploma, (b) inclusion in general education; and program of study. These predictors include a

focus on access to the general curriculum and the need for the attainment of academic skills in order to be successful after high school. In addition, Conley (2012) suggested there are four areas linked to being college and career ready after high school including: (a) cognitive strategies, such as interpretation; (b) content knowledge; (c) learning skills and techniques, including persistence and self-awareness; and (d) transition knowledge and skills, including planning for postsecondary education and careers.

This indicates academic content knowledge and transition skills are needed for access to postsecondary education, as well as future opportunities for employment. Educators have expressed they feel teaching both academics and transition skills are important for students with disabilities (Wehmeyer et al., 2000). However, educators may struggle with how to have time to teach both academics and transition related skills. The following will share the research base for academic interventions with embedded transition skills for students with autism, intellectual disability, and other developmental disabilities across multiple content areas such as literacy, mathematics, science, and social studies and information to access resources so practitioners can implement them in their classrooms.

### **Brief Literature Review**

Both the Every Student Succeeds Act (ESSA, 2015) and the Individuals with Disabilities Education Act (IDEA, 2004) require the use of educational methods based on peer-reviewed research, with ESSA specifically requiring the use of “evidence-based” interventions. Although federal mandates require teacher to use practice with research to support effectiveness, many teachers use practices that have little to no effect on outcomes of students with disabilities, compared to using evidence-based practices where student achievement increases (Cook et al., 2012). This presentation will share academic interventions with embedded transition skills for students with disabilities across multiple content areas including literacy, mathematics, science, and social studies. Within this presentation, presenters will share the research base supporting specific academic interventions, procedures for implementation of that practice and data collection, and how to access resources to assist them with implementation in their classrooms. Research indicates students with intellectual and other developmental disabilities are able to learn both academic and transition skills simultaneously through interventions that teach: (a) goal setting, IEP development, and paragraph writing skills through GO 4 IT...NOW strategy instruction (e.g., Konrad, Clark, & Test, 2017); (b) mathematic problem-solving and personal finance skills through modified schema-based instruction (e.g., Root et al., 2017; Root et al., 2018); (c) science content through a combination of time-delay with peer mediated instruction (Jimenez et al., 2012); and (d) reading comprehension of social studies text through the use of modified graphic organizers (e.g., Wood, Browder, & Flynn, 2015).

### **Evidence-based Interventions for Implementation**

Here are a select set of specific academic interventions, and instructional practices that practitioners should consider in their classrooms:

<b>Literacy</b>	<b>Mathematics</b>	<b>Science</b>
GO 4 IT...NOW! (Konrad, Clark, & Test, 2017; Konrad & Test, 2007; Konrad, Trela, & Test, 2006)	National Council of Teachers of Mathematics (NCTM, 2000)	Next Generation Science Standards; For states, by states (NGSS, 2013)
<i>REWARDS</i> (Vaughn et al., 2011; Vaughn et al., 2015)	<i>Concrete-Representation-Abstract</i> (CRA) sequence, and its variation <i>Virtual-Representation-Abstract</i> (VRA) (Agrawal & Morin, 2016; Bouck, Satsangi, & Park, 2018)	<i>Structured Inquiry</i> (Knight et al., 2019; Rizzo & Taylor, 2016; Therrien, Taylor, Hosp, Kaldenberg, & Gorsh, 2011)
<i>Corrective Reading</i> (Przychodzin-Havis et al., 2005)	<i>Schema-based instruction including FOPS or DISC</i> (Van De Walle et al., 2010; Jitendra & Hoff, 1996)	<i>Technology-Aided Instruction (TAI)</i> (McKissick, Ley Davis, Spooner, Fisher, & Graves, 2018; Knight et al., 2019; Smith, Spooner, & Wood, 2013)
<i>PHAST</i> (Lovett et al., 2012)	<i>Modified Schema-based Instruction</i> (MSBI; Spooner, Saunders, Root, & Brosh, 2017)	<i>Peer-Tutoring</i> (Jimenez et al., 2012; Ley Davis, 2016; Mastropieri et al., 2006; McDuffie, Mastropieri, & Scruggs, 2009)
<i>Early Literacy Skills Builder for Older Students</i> (ELSB; Browder, Gibbs, Ahlgrim-Delzell, Courtade, & Lee, 2017)	<i>SOLVE-IT</i> (Coughlin & Montague, 2011; Freeman et al., 2015; Krawec et al., 2013)	<i>Mnemonics</i> (King-Sears et al., 1992, Mastropieri et al., 1985; Scruggs et al., 1985; Scruggs & Mastropieri, 1991)
<i>Early Reading Skills Builder</i> (ERSB; Browder, Ahlgrim-Delzell, & Wood, 2015)	<i>Technology Aided Instruction</i> (Calhoon et al., 2000; Kellems et al., 2016; Saunders et al., 2017; Yakubova et al., 2015)	<i>Time Delay</i> (Collins & Stinson, 1994; Gast et al., 1992; Jimenez et al., 2012; Riesen et al., 2002; Riesen et al., 2003)

Figure 1. Sampling of evidence-based curriculum with supporting research base supporting specific academic interventions.

<b>Practice</b>	<b>Description</b>	<b>Instructional Strategies</b>
Systematic Instruction	Use of prompting, fading, and reinforcement to promote acquisition of a new response (Browder & Spooner, 2011)	Most to Least Prompts Simultaneous Prompting System of Least Prompts Task Analysis Time Delay
Explicit Instruction	Series of supports and scaffolds where students are guided through the learning process in logical chunks of information with clear explanations and demonstrations of the target skill and provided opportunities for practice with feedback until mastery is achieved (Archer & Hughes, 2011)	Model-lead-test (direct instruction) Multiple exemplar training
Technology-Aided Instruction	Use of any electronic item or equipment to intentionally increase/maintain and/or improve capabilities (Odom, Thompson, et al., 2014)	Calculators Computer-assisted instruction Virtual manipulatives
Visual Supports	Visual display that supports the learner engaging in desired behaviors or skills (Wong et al., 2014)	Video Modeling Video Prompting Graphic Organizers Diagrams Number Lines
Self-management	Instruction on discriminating between appropriate and inappropriate behaviors, accurately monitoring and recording behaviors, and self-reinforcement (Wong et al., 2014)	Self-monitoring Goal setting
Peer Supports	Interaction or help from typically developing peers to acquire new skills by increasing social and learning opportunities in natural environment (Ley Davis, 2016; Wong et al., 2014)	Peer-mediated instruction Peer-networks

*Figure 2.* Select evidence-based instructional strategies with supporting research base for academic interventions.

## **Conclusion**

Practitioners can implement a variety of effective evidence-based instruction strategies using standard-based, grade-aligned curriculum to increase engagement and participation by adolescent students with disabilities. Academic and transition skills are often overshadowed by the lack of time to teach both. This paper provides recommendations to teach literacy, mathematics, science, and social studies instruction for learners with disabilities, along with research-based strategies to support acquisition of these meaningful academic skills. Evidence-based interventions and supports that embed academic skills within transition programming can give individuals the foundational skills necessary for postschool success.

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## SPEAKING A COMMON LANGUAGE: USING HIGH LEVERAGE PRACTICES TO STRENGTHEN CLINICAL PARTNERSHIPS

### **Abstract**

Strong partnerships are critical in developing sustainable clinical models. One key in strengthening these partnerships is a common language and shared vision. High-leverage practices (HLPs) provide the foundation. This presentation explores how clinical practice can be enhanced through an intensive focus on HLPs resulting in a shared language and common vision for all involved (i.e., the schools/community partners, educator preparation programs, and teacher candidates). The discussion concludes with an example of how a collaborative, day-long professional development retreat promotes buy-in and results in the initial development of a shared vision and common language among clinical partners.

### **Background/Rationale**

As diversity in classrooms continues to increase and the shortage of special educators grows, it becomes even more imperative that educator preparation programs (EPPs) prepare teacher candidates ready to meet the needs of all learners. This not only improves student outcomes, but also aids teacher retention as better prepared teachers are more likely to remain in the classroom (National Coalition on Personnel Shortages in Special Education and Related Services, 2014).

Solving the theoretical question of how best to prepare teacher candidates becomes easier through the development of HLPs (McLeskey et al., 2017). These 22 skills that beginning teachers should know and be able to do provide the research-based foundation for EPPs. The most effective way for teacher candidates to become versed in HLPs is through authentic teaching experiences with continual feedback and scaffolded practice in the clinical model (AACTE, 2018; NCATE, 2010). Although proven to provide the best teacher outcomes, clinical practice brings its own set of challenges (e.g., cost, limited university faculty, viable placement options) and therefore requires strong partnerships between the EPPs and school partners to maximize learning. Thus, the more practical question becomes how can HLPs be incorporated into a sustainable clinical model that prepares strong teacher candidates capable of improving learning outcomes for all students?

### **Literature Review**

The past several decades spawned increased support for the need of clinical practice to better prepare teachers for the ever-changing landscape. The National Council for Accreditation

of Teacher Education (NCATE) Report of the Blue Ribbon Panel on Clinical Preparation and Partnerships for Improved Learning (2010) called for clinical “practice at the center of teacher preparation” (p. 3). This theme was re-emphasized as the central proclamation of the Report of the American Association of Colleges for Teacher Education (AACTE) Clinical Practice Commission (2018). Clinical practice was named as one of three key components necessary to develop teacher candidates capable of impacting student outcomes, along with content knowledge and quality candidates (National Research Council, 2010). The recommended direction for teacher training is clear; EPPs are charged to develop quality teachers by turning traditional teacher education “upside-down” (NCATE, 2010, p. 2) by integrating pedagogy and coursework into an applied clinical setting.

Embracing this new model of educator preparation requires close collaboration and a shared vision with community partners (AACTE, 2018; NCATE, 2010). Although this requires a great deal of planning, it also creates the opportunity for simultaneous renewal (Goodlad, 1994) where the EPPs and community partners both gain through improved learning outcomes for teacher candidates as well as the P-12 learners. Clinical practice also provides the opportunity to lessen the gap between how teachers are prepared and what schools need (NCATE, 2010). This is because the clinical model most closely emulates the actual teaching that teacher candidates will experience in their first job (Council of Chief State School Officers, 2012). The continued practice and opportunities for “hands-on” experiences with actual students not only increases teacher candidates’ skills but also raises their level of confidence (Grossman, 2010).

### **Incorporating HLPs as Best Practice in the Clinical Setting**

As a means to improve teacher preparation and create more consistent competencies among graduating special educators, a panel of experts developed the 22 HLPs deemed critical for all new special education teachers (McLeskey et al., 2017). These skills are divided into four categories (i.e., collaboration, assessment, social/emotional/behavioral, and instruction) and EPPs are charged with the delivery of these meaningful practices (Sayeski, 2018). The clinical model, when delivered effectively, provides teacher candidates the opportunity to observe HLPs in the classroom and then, through scaffolded and continual practice under the supervision of experienced professionals, work toward proficiency of these skills prior to entering their own classrooms.

For this model of effective clinical practice to occur, partnering with strong mentor teachers is critical. Not only must they have knowledge of and effectively implement HLPs, mentor teachers also need the skills to carefully coach and mentor the teacher candidates. Due to the newness of the clinical model, it is likely these mentor teachers were trained in a more traditional educational model and may lack experience and/or expertise in clinical mentoring. Kraft, Blazar, and Hogan (2018) suggest an effective educational coaching model should be (a) individualized; (b) intensive; (c) sustained; (d) content specific; and (e) focused. These five components fit neatly into the clinical framework; however, intentional training in coaching practices for mentor teachers is imperative to reach the desired outcomes.

In addition to strong coaching skills, mentor teachers must understand the language of HLPs and their purpose in the classroom. Strong mentor teachers inherently implement these

evidence-based practices but may not understand the packaging of HLPs. Sharing the common language of HLPs provides a foundation where the EPP, teacher candidates, and mentor teachers all have similar points of reference. This is especially critical for the teacher candidates that may not always understand what they are observing and/or are expected to do.

It is also highly likely, given the serious teacher shortage, that EPPs may be forced to include mentor teachers that do not possess strong teaching skills in some of the HLPs. Because teacher candidates and mentor teachers spend so much time together in the clinical setting, and teacher candidates tend to replicate practices they observe in the classroom, mentor teachers must be well-trained in effectively implementing HLPs so the teacher candidates can observe and successfully practice these evidence-based practices. Otherwise, this may lead to perpetuation of teaching practices that do not effectively improve student outcomes (Gelfuso, Dennis, & Parker, 2015). To address this potential concern, the remainder of this presentation provides an example of how a collaborative professional development retreat helped promote a common language and shared vision between an EPP and their clinical partners.

### **An Example of a Collaborative Professional Development in HLPs**

Understanding the importance of incorporating HLPs in the clinical model as a means to develop strong teacher candidates and develop a shared vision, the university clinical faculty hosted a day-long professional development (PD) retreat for the 52 teacher candidates and 24 mentor teachers currently working in three elementary schools in the clinical model. The three partner schools are in the southeastern United States, have 100% free and reduced lunch status, and have over 24 languages represented among the students.

Prior to the PD, clinical faculty met with the principals of the partner schools and together chose specific HLPs beneficial for both the mentor teachers and the teacher candidates. This resulted in four sessions over the course of the day—overview of HLPs, literacy, classroom behavior, and providing quality feedback—with HLPs infused into each area. During the PD, teaching teams (i.e., the mentor teacher and one or two teacher candidates) moved together through four rotations focusing on high-leverage practices. Each session was led by one of the clinical faculty. The goal of the day was to begin conversation around a common language and shared vision to improve the clinical experience for all involved.

The overview of HLPs session highlighted the four HLP categories with discussion on how several of the 22 critical skills could be incorporated. Although many of the HLPs are already present in the partner classrooms, each teaching team worked together to determine specific HLPs they wanted to focus on for the semester. Two additional rotations demonstrated HLPs in practice. The literacy session focused on incorporating HLPs by providing scaffolded supports (HLP15), using explicit instruction (HLP16), incorporating strategies to promote active student engagement (HLP18), and systematically designing instruction towards a specific learning goal (HLP12). The classroom behavior session focused on establishing a consistent, organized, and respectful learning environment (HLP7) and providing positive and constructive feedback to guide students' learning and behavior (HLP8). The fourth session discussed effective feedback (HLP22). This discussion was dual-purpose, focusing on providing feedback for the K-12 students as well as mentoring feedback to support the teacher candidates.

Social validity data were collected at the end of the PD using a likert-type questionnaire with questions on a scale from 1 (strongly disagree) to 6 (strongly agree). Results suggest teacher participants found the day beneficial with an overall mean of 5.7 with particularly positive results when asked whether they will use HLPs in the school setting ( $M = 5.9$ ).

<b>Social Validity Questionnaire for Teachers</b>	
This professional development was effective in meeting the purposes of training teachers and students on High Leverage Practices	5.7
I will use High Leverage Practices in the school setting.	5.9
Overall, this professional development was beneficial for elementary school students.	5.7

Similarly, positive results were seen with the teacher candidates who participated in the PD. Additionally, the teacher candidates were asked to record what they found most beneficial. Getting to spend time with mentor teachers was the most common response followed by strategies and HLPs to take back to the classroom.

<b>Social Validity Questionnaire for Teacher Candidates</b>	
This professional development was effective in meeting the purposes of training preservice teachers on High Leverage Practices	5.7
This professional development was effective in meeting the purposes of training preservice teachers on High Leverage Practices	5.7
Overall, this professional development was beneficial for preservice students.	5.8

Research clearly supports the need for stronger clinical partnerships between EPPs and their community partners. Results from this PD suggest learning occurred for both the teacher candidates and their mentor teachers. Perhaps more importantly, relationships were strengthened and clarified among those in attendance. This suggests similar events should continue, and possibly be expanded to include administrators (e.g., principals, curriculum coordinators) to create an even stronger bond. Further research is needed to explore ways to best strengthen clinical partnerships through a common language and shared vision.

## **Conclusion**

Clinical practice holds great promise for developing new teachers ready to meet the challenges in today's classrooms. Unlike no other model currently available, clinical practice provides the rich environment for the implementation of HLPs. Through a collaborative partnership with a shared vision, the clinical model benefits all stakeholders. This happens only through extensive planning and collaboration between the EPPs and their community partners. More research is needed to further delineate best practice in the clinical setting; however, the incorporating HLPs into the clinical setting provides a strong foundation from which to build.

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## USING THE FITZGERALD KEY FORMAT TO TEACH STUDENTS WITH COMPLEX COMMUNICATION NEEDS

### **Abstract**

Post-school outcomes in the areas of health, safety, and independent living are poor among students with low incidence disabilities who have complex communication needs. This study examined the comparative effects of print vs. digital technology instruction on participants' cumulative accuracy of answering WH (who, what, where) functional community knowledge comprehension questions as measured by the percentage of participants' on-task behavior during print and digital technology instructional sessions with four high school aged students with low incidence disabilities and autism. Using a single-case research, alternating treatments design, participants received instruction using a model-lead-test instructional procedure with color-coded vocabulary words, graphic organizers, and adapted stories following a Fitzgerald Key Format under both print and digital technology instructional conditions. Results indicated improvement in comprehension for all participants in response to the intervention package. Participants' percentage of time on-task was higher during print instruction compared to digital instructional conditions.

### **Background/Rationale**

Many students with low incidence disabilities, particularly those with complex communication needs who rely on augmentative and alternative communication (AAC) to express themselves or to be understood by others, face unique health and safety challenges (i.e., chronic medical conditions; elopement concerns) after high school ends. The National Longitudinal Transition Study-2 (NLTS2, 2012), reported 50-60% of students with autism, intellectual disabilities (ID), or multiple disabilities (MD) are likely to have poor health, difficulty communicating, and challenges completing functional skills of daily living (i.e., dressing, self-feeding, toileting). The NLTS2 (2012) also suggested 50-62% of students with autism, ID, or MD respectively have trouble communicating by any means and 61-70% additionally experience trouble comprehending what others say to them. Concomitantly, research has shown a correlation between a lack of reliable means of communication and increased rates of challenging behavior (Carr & Durand, 1985; Durand & Merges, 2001; Wilkinson & Henning, 2007). Challenging behaviors, previously termed maladaptive, (i.e., hitting self or others; property destruction) are defined as behaviors that can impede learning and skills of daily living (Dawson, Matson, & Cherry, 1998; Fee & Matson, 1992; Gardner & Cole, 1990). These mitigating factors create troubling implications for the lives of students with low incidence disabilities after high school.

In recent years, much of the research involving students with low incidence disabilities has focused on providing adapted, grade-aligned curriculum content in the areas of English language arts, mathematics, and science due to the mandates of No Child Left Behind Act

(NCLB 2001; 2006). Standards based curricula can be bridged with the support of evidence-based instructional practices (e.g., constant time delay, least intrusive prompting, task analysis) coupled with low tech, print-based picture symbol support or high-tech, digital AAC supports to teach students with low incidence disabilities. Students with low incidence disabilities require significant adaptations and substantial modifications to the curriculum to make the content material appropriate to meet their cognitive abilities.

One way to aid comprehension for students with low incidence disabilities is to minimize abstract information that require inference and higher order critical thinking to help students understand challenging text. To accomplish this, research supports the use of shared stories (Mims, Hudson, & Browder, 2012), adapted texts (Saunders, Spooner, Browder, Wakeman, & Lee, 2013), visual supports (Hudson, Browder, & Wakeman, 2013), and graphic organizers (Williamson, Carnahan, Birri, & Swoboda, 2014) to make challenging material easier to comprehend for students with disabilities. To heighten the impact of integrating visual supports, such as graphic organizers, into instruction for students with complex communication needs can involve the use of a consistent and predictable system for identifying vocabulary words by part of speech. The Fitzgerald Key Format (1954) is an example of a visual support that uses a color-coded organizational system for either low-tech print or high-tech digital instructional materials.

### **Purpose of the Study**

Promising results have been found (Bruno & Trembeth, 2006) using the Fitzgerald Key Format in both low-tech print and high-tech digital conditions during a week-long pilot study at a children's summer camp for students with a range of severe disabilities. Despite promising findings, there is a paucity of research specifically investigating the effects of the Fitzgerald Key Format on writing and understanding parts of speech to improve comprehension skills for students with low incidence disabilities. The primary purposes of this study were twofold: (a) to compare the differential effects of print vs. digital technology instruction on participants' accuracy rates of answering WH (who, what, where) functional community knowledge comprehension questions; and (b) to measure participants' on-task behavior during print and digital instructional sessions with four high school aged students with low incidence disabilities and complex communication needs.

### **Method**

A single-case alternating treatments design (Cooper, Heron, & Heward, 2007) was used to compare the effects of print vs. digital AAC technology instruction on comprehension and on-task behavior among the four participants. Demographics of the participants included: two males and two females; two African American, one Hispanic, and one Asian student; ages 17-19; IQs between 41-50; each with autism and all non-vocal to minimally vocal who used several manual signs, picture symbol supports, and gestures as their primary modes of communication.

Functional community knowledge stories were created and aligned directly to the North Carolina Extended Standards for high school students with disabilities in the areas of Health, Safety, and Independent Living to promote positive post-school outcomes. Materials included: (a) 20 non-fiction health and safety themed, teacher made adapted stories (e.g., functional

community knowledge stories about doctors, police, and fire fighters) ranging from 420-820L according to the Common Core State Standards Lexile® recommendations; (b) the 20 stories were created using print and digital technology formats with color-coded FKF adapted symbol supported text highlighting eight salient vocabulary words per story; (c) digital technology stories were displayed and taught using a Touch Accessible Platform Interactive Technology device (TAP-IT®), during small group instructional lessons; (d) a designated desktop computer was used to provide three WH question (who, what, where) check-out quizzes for each participant after each print and digital technology session; (e) 20 check-out quizzes were created by the experimenter using Boardmaker© Professional and included an array of three response options (i.e., one correct answer and two distractors); (f) behavioral data collection sheets were used for each participant to record the percentage of on-task behaviors observed during print and digital technology instructional conditions using a whole interval recording system; and (g) color-coded Fitzgerald Key Format (i.e., yellow=people, green=action/verb, orange=what, purple=where, blue=descriptors) writing template graphic organizers in both print and digital technology formats for participants to create two, three-word sentences per story using their vocabulary sheets prior to conducting their individual check-out quizzes to promote comprehension were used.

## Results

Results for Research Question 1: What are the comparative effects of using print vs. digital technology to teach functional community knowledge content on the accuracy of WH (who, what, where) comprehension questions for students with low incidence disabilities? Figure 1 depicts the individual cumulative recording data per participant during print and digital technology small group instruction. Results varied across participants. One participant demonstrated marginally higher performance accuracy answering WH comprehension questions during digital technology instruction; the second participant revealed higher accuracy during print technology instruction; the third participant displayed virtually no difference in answering WH comprehension questions across conditions; and the fourth participant showed higher accuracy initially during print technology instruction then leveled equally with digital technology instruction as the study progressed.

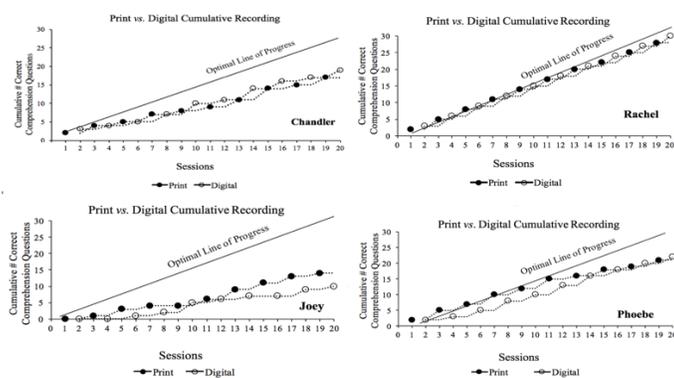


Figure 1. Cumulative Number Correct on Comprehension Across Print vs. Digital Instruction

Results for Question 2: What are the comparative effects of using print vs. digital technology instruction on the percentage of on-task behavior among students with low incidence disabilities? Figure 2 illustrates that all four participants demonstrated higher percentages of on-task behavior during print technology instructional sessions as opposed to digital technology. For students with low incidence disabilities including ASD and complex communication needs, the following percentages of time on-task are higher across print as compared to digital technology treatment conditions and are therefore, worthy of mention.

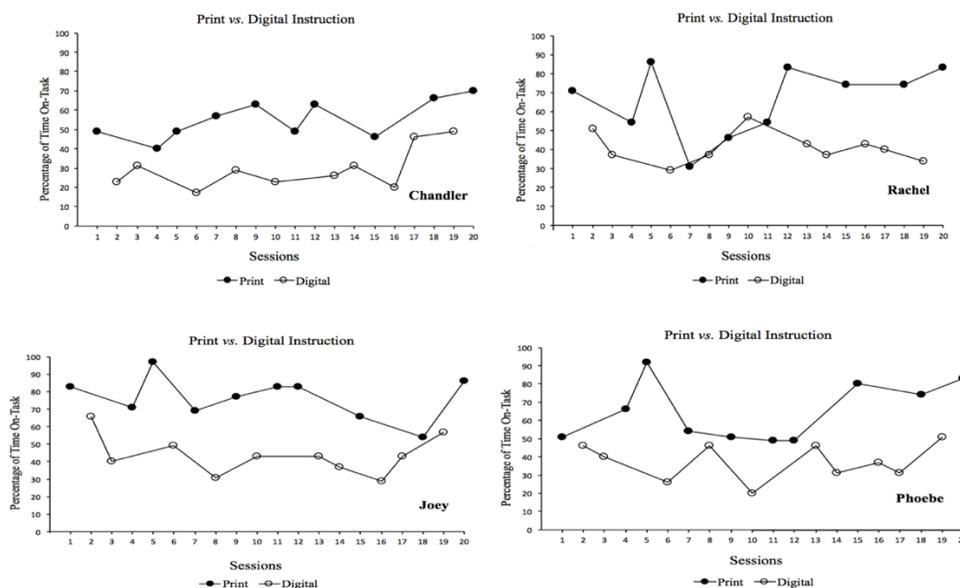


Figure 2. Percentage of Time On-task During Print vs. Digital Instruction

## Discussion

All participants made notable gains across instructional conditions using both print and digital instructional materials which is an encouraging finding for special education teachers. Alternately, print technology resulted in higher percentages of on-task behavior across the four participants. This finding is likely due to the more natural opportunities to perform and continual access to print material participants had during instruction as opposed to the digital conditions in which participants had to wait for a turn using the TAP-IT® device; these results coincide with research regarding opportunities to perform (Horner, Williams, & Knobbe, 1995).

## Implications

Evidence-based practices coupled with print and digital technology were also found to be effective for students with low incidence disabilities and complex communication needs. This study adds to the limited research using the Fitzgerald Key Format color code to promote comprehension and language development for students with low incidence disability.

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## PREPARING CULTURALLY RESPONSIVE EDUCATORS

### **Abstract**

Students with disabilities and culturally and linguistically diverse students continue to perform among the lowest of all students. Given the growing diverse student population and the lack of diversity among teachers, the authors recommend that educator preparation programs integrate culturally relevant teaching paired with high leverage practices. Examples of educator preparation programs doing this work are described. Resources for integrating CRT and HLPs are shared.

### **Background/Rationale**

Across the country the student population is rapidly changing to become more diverse. Researchers assert that the growing “minority” population will be at 55% by 2025 (US Department of Education, 2015). Despite this increase in student population and the decades of research on the academic achievement gap between students of color and white students, the teaching population remains mostly female and white. Though the student population is rapidly becoming more diverse, many teachers report limited interaction with students from different backgrounds than their own in preservice practicum experiences and perceive themselves to be ill-prepared to address the needs of diverse populations, including students with disabilities (Barrio, Lindo, Combes & Hovey, 2015). This lack of preparation is reflected in high turnover rates as well as teacher shortages in classrooms for diverse students in high poverty schools (Garcia & Weiss, 2019). Teachers in high need schools are not prepared for the cultural complexities of diverse communities in schools (Harry & Klingner, 2005).

This is of great concern given that this is the same population that, over the past four decades, have not been recipients of highly effective education that values and supports their full potential. Culturally and linguistically diverse (CLD) students have some of the lowest academic and social outcomes of all student subgroups (Cartledge & Kourea, 2008). Resulting in higher suspension and expulsion rates, higher rates of referral to special education and a long-standing and ever-increasing achievement gap, educators and leaders are not reaching and teaching our most vulnerable students – students with disabilities and culturally and linguistically diverse students. Klinger et al. (2005) report that the disproportionate representation of CLD students in special education has been a concern for over 3 decades and could be addressed through a more culturally responsive educational system.

Students with disabilities also have similarly dismal academic outcomes including low academic achievement and graduation rate and high rates of suspension and expulsion. Taken

together, this demonstrates that teachers are not well prepared to teach students with disabilities and CLD students. Culturally relevant teaching and high leverage practices present a starting place for faculty to integrate into teacher preparation programs.

### **High Leverage Practices**

The Council for Exceptional Children (CEC) and CEEDAR (Collaboration for Effective Educator Development, Accountability and Reform) High Leverage Practices (HLP's) (CEC/CEEDAR, 2017) are a set of practices designed to improve student learning across content areas, grade levels, and student abilities (McLeskey et al., 2017). The 22 HLPs for special educators are concentrated in four areas that teachers enact practices frequently and that are critical to effective teaching: Collaboration, Assessment, Social/Emotional/Behavioral Practices & Instruction. The 22 HLPs can be taught and practiced in classrooms and are (a) supported by evidence or strong legal foundation in both general and special education, and known to increase student learning, (b) focus directly on instructional practice, (c) occur with frequency in teaching, (d) can be used in any instructional context and across content areas, and (e) are fundamental to effective instruction (McLeskey et al., 2017). HLPs address many aspects of special education and are foundational for specially designed instruction (Riccomini et al., 2017).

Since learning depends on what teachers do each day in classrooms (Ball & Forzani, 2011; McDonald et al, 2013) high leverage practices focus directly and unambiguously on instruction that occurs in the classroom daily. Teaching is complex (Ball & Forzani, 2011) and requires a number of key elements: 1) teachers must have specialized knowledge that allows teachers to unpack knowledge in a way that is clear and accessible to all learners, 2) teachers must see content to be taught through the eyes of their students, who learn in many different ways, 3) teachers must analyze learning tasks and chunk them into manageable units of instruction. This complex task has to be done while teaching a number of different students and managing classroom environments that support a broad range of learners. Given this, teacher candidates need frequent opportunities to practice HLPs and evidence-based practices (EBPs) in context of diverse classrooms. However, HLPs and EBPs alone are not enough to reach the population of students that have repeatedly been underserved.

### **Culturally Responsive Teaching**

Culturally responsive teaching includes practices and pedagogy that centers the student's culture as a vehicle for learning. When delivered effectively in combination with EBPs and HLPs, CRT has the potential to improve instruction of culturally and linguistically diverse students and allow for a better understanding of individual student needs resulting in fewer CLD children inappropriately referred and placed in special education (Harry & Klinger, 2014). Supported by more than a decade of literature, culturally relevant pedagogy provides a set of practices that teachers and schools can integrate into their daily instructional programs to improve outcomes for CLD students (Gay, 2002; Ladson-Billings, 1995; Jackson & McCray, 2016). The embedded approaches require educators to be conscious of their own perspectives and biases, have deep knowledge of their students' cultural backgrounds, establish learning opportunities characterized by multicultural awareness and high expectations, and empower students to become informed citizens with critical thinking skills and informed perspectives

(Jackson & McCray, 2016). In addition to creating a more inclusive learning environment (Aceves & Orosco, 2014), CRT can help teachers and schools overcome the historic underachievement and underappreciation of culturally and linguistically diverse students and students with disabilities. While larger structural forces in education substantially inhibit student achievement, CRT provides teachers and schools with practices to better support CLD students with disabilities, despite current limitations of the sociopolitical, educational, and economic systems. CRT centers historically marginalized students. By intentionally teaching students in the margins we are strengthening instruction by reaching all students.

Teachers need to know how to deliver instruction that incorporates both HLPs and CRT to improve outcomes for the most underserved students. These practices can easily be integrated because they align in many areas such as explicit instruction (HLP) which aligns with the CRT practice of modeling, scaffolding (HLP) which is also mentioned as a research-based culturally responsive teaching practice (Aceves & Orosco, 2014). To develop teachers able to master this practice, it is essential for special education teacher preparation programs provide a foundation for pre-service teachers to effectively deliver instruction to learners from diverse backgrounds (Cartledge & Kourea, 2008). In their review of research on the incorporation of multicultural education into educator preparation programs from 1997 to 2006, Trent, Kea & Oh (2006) found that very little has changed in terms of quantity, topics addressed, gaps since the literature was last reviewed in from the years 1998 – 2004.

Among a number of universities engaging in program reform, we share the example of University of Mississippi (Ole Miss). Over the course of 3 years, they embarked on an in-depth review of their special education teacher preparation program. In the first year, they completed the Culturally Responsive Teaching Innovation Configuration which allowed them to identify gaps and areas of need in their program. In subsequent years they systematically added new courses to their preparation program for all teachers and revised existing courses to include additional content. Another example of a university engaging in this work is the University of South Dakota. Starting in 2016, the University of South Dakota School of Education held collaborative summer institutes on culturally responsive teaching. These institutes brought together faculty from across the university, teacher candidates and local teachers in a 3-day professional development experience led by a keynote speaker Geneva Gay. Subsequent years have included scholars in the field of culturally responsive teaching.

### **Additional resources**

To guide educator preparation programs in this work, CEEDAR has developed a number of resources available on the CEEDAR website. The Culturally Responsive Teaching Innovation Configuration (Aceves & Orosco, 2014) provides a recent review of the culturally responsive teaching literature and organizes the findings by level of evidence. To support this tool, the Culturally Responsive Education Course Enhancement Module (CEM) was released in 2019 and is available for use on the CEEDAR website. This CEM provides faculty with content around culturally responsive education and includes definitions, activities, handouts, slide presentations and notes as well as a facilitators guide. Faculty may use the CEM in its entirety or select sections to integrate in specific courses.

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## STRATEGIES FOR SUCCESS WITH ONLINE LEARNING: PREPARING PRE-SERVICE SPECIAL EDUCATION TEACHERS

### **Abstract**

Teacher education programs across the country are increasingly turning to online classes as part of their course programming, yet students report greater anxiety and withdraw from these courses at higher rates. This research identified how college students utilize resources and strategies to be successful in their online coursework. We will share how the use of different online and face-to-face resources and strategies were implemented in an online course, and how pre-service teachers utilized these resources to further their knowledge construction.

### **Background/Rationale**

Educational institutions across the country are adopting online coursework at increasing rates, yet research into online education remains divergent. On the one hand, researchers have found online courses to be cost effective (Graham, 2006), more accessible to non-traditional students (Vaughn, 2007), amenable to a variety of pedagogical approaches (Lin, 2009), and productive for student interaction and collaboration (Tomas et al., 2015). On the other hand, online education researchers remain uncertain about associated academic outcomes (Atmacasoy & Aksu, 2018) and concerned about heightened rates of anxiety and course withdrawal (Cavanagh, 2011; Means et al., 2010). Perhaps the most widely reported challenge has to do with the independence associated with online courses, as students regularly express concerns about their ability to keep up with the course material on their own (Ma'arop & Embi, 2016).

Researchers looking into online education have begun to zero in on strategies and resource supports that are effective for addressing the challenges of online education. Some of the most effective supports pertain to the course design, emphasizing simulated and problem-based learning and the incorporation of media sources and modalities (Davis et al., 2018; Keengue & Kang, 2013). Other effective strategies target students and include the setting of goals, self and peer evaluations, and organizational supports (Garcia et al., 2018; Philipsen et al., 2019). Yet it is equally important to understand how students make use of and experience online courses, which is what will help instructors better design strategies to support students.

### **Purpose of Study**

The purpose of this study was to identify how college students utilize resources and strategies to be successful in their online coursework. This study examines how student's perceived beliefs about their ability to be successful in an online course, as well as the resources

they used, impacted their perceived ability to be successful. The authors of this article were also the instructors of the course and wanted to identify ways that they could better support students and specific strategies that students perceived as beneficial in supporting their academic success.

## Method

Demographic data and student responses to survey questions prior to and at the end of an online course on social emotional development were examined to identify how their engagement with online and face-to-face resources correlated with their perceived success in the online course. Field notes were also completed during the weekly study sessions. The course was one of two 7.5-week online courses required for an early childhood special education degree program.

**Online strategies.** Researchers created a range of online resources to support students with accessing the content and utilizing strategies to promote improved outcomes for students with the online course. Teacher tips, visuals, email updates, former student reflections and tips, writing templates, exemplar models, online meetings, and example assignments were added to the online format. Teacher tips consisted of short (2 minutes or less) audio recorded pointers that connected the content of the course with weekly assignments and future work expectations as a classroom teacher. Visuals were included to organize the lesson objectives and to format a weekly email to identify the resources and tips, to do lists, and learning objectives for the weekly content. In addition, students received a weekly email reminder of the optional face-to-face study session opportunity and the objectives for the extra learning experience. Former students created videos and interactive PowerPoints explaining how they managed their time, utilized resources to complete a specific assignment, and suggestions for being successful in the online course were included. Sample APA writing templates were created for writing assignments, as well as examples of references and in-text citations for course resources. Exemplar models of previous assignments were also available online and during the study sessions. Online meetings and office hours were incorporated as another way for students to engage with their instructors about the course. Example assignments were created for some assignments that targeted an older grade level to model formatting, citing sources, appropriate content, as well as audio explaining how to create the assignment and utilize the course rubric to include all necessary components.

**Face-to-face strategies.** Face-to-face strategies consisted of office hours, teaching a course, and a study session. The instructors of the course were available for weekly office hours. To start the semester, the instructors co-taught one class face-to-face during an in-person course that the students were required to take. The authors previewed the course, identified online and face-to-face strategies and resources, and incorporated some icebreaker activities. The instructors held weekly study sessions that were optional and took place every Tuesday after their two in-person courses were completed. The authors reviewed the content and assignments for the current week and previewed the upcoming week. Students utilized this time to engage in discussions with instructors and peers, worked on assignments, and receive feedback.

## Results

Pre-survey data provided insight into how students approach online classes. Entering the class, students felt comfortable enough with their writing and technology skills to successfully

complete the online class. When asked how much time an online course requires in comparison to an in-person course, students expected it to be approximately the same. Additionally, students rated themselves as likely to contact the instructor with a question and attend the face-to-face study session for support, unlikely to procrastinate on individual assignments, and very unlikely to procrastinate on group assignments. Yet, when asked whether they would seek out writing support at the university writing center, most students rated themselves as unlikely to do so. The post-survey data, on the other hand, provided further insight into the challenges and the effects of the supports that the students experienced. Notably, when asked what the central challenge was in completing the course, most students identified the required independence and need for time management, stating: "It's online so it's harder to set time for the class" and "remembering to do the assignments since there is no in-person class." The following reports on how students used specific online and face-to-face strategies to support their learning.

**Online strategies.** Students identified that they used a plethora of online resources to support themselves throughout the course. The most popular resources used by students were: writing templates, interactive model PowerPoints, former student PowerPoints, visual aids, teacher tips, and emailing an instructor for support. When asked how the students organized their time for this online course, many students reported on their use of agendas and calendars, and weekly schedules to complete the course work. When asked what they would do differently, the primary response was to stay on top of their course work and procrastinate less. Many students underestimated the time assignments would take and neglected to ask for help when they needed it, stating that they needed to "Stay on top of all the assignments and deadlines," "Make sure to use the rubric and seek help when I need it," and "[Not] do all the work on Sundays." Others reported that they should have carefully read the assignment directions, the syllabus and the rubric to be more successful in the class, responding that they should "Be prepared more, go over syllabus one more time and give yourself A LOT of time."

**Face-to-face strategies.** The face-to-face study session was identified as the most important face-to-face resource for the course. Students also noted that they liked that the instructors came to their class so they could meet them and preview the course. On a weekly basis the study sessions drew about one third (15-20 students) of the class. Since the study session was a voluntary support, each student took part in the study session in a different manner. Some attended from start to finish, while others attended sporadically or simply to ask a question about an assignment before the week got under way. In the post survey data, students found the regular face-to-face interaction with the instructors, the ability to get feedback and ask questions about assignments to be the most valuable aspects of the study session, stating that they valued "Hearing what the professors had to say and other people's questions, [explaining that] it helped...to know what to expect from the assignment and where to begin," and that they liked "The way the instructors went over each week step by step. Went into details about each assignment [and] gave examples." Others reported highly on the scaffolding of activities, the reviewing of rubrics, and the incorporation of model assignments that instructors provided in the study sessions. Lastly, many students reported positively on the specific writing supports (i.e. organization of papers and APA feedback) that were provided in the face-to-face sessions.

## Discussion

Much of what was found in the pre and post survey data reflect findings within the research literature. For instance, as mentioned above, researchers have noted that students tend to report heightened anxiety in online classes (Atmacasoy & Aksu, 2018) and tend to struggle with the level of independence required in these courses (Ma'arop & Embi, 2016). Both of these findings were evident in the present study. Students reported anxiety in the post survey data but also the weekly study sessions, which is part of the reason for the self-care supports built into the class. The challenge of the independence required in the course was evident in how students managed and struggled to manage their time. When the students were asked what they would do differently the next time around in the course, they emphasized the importance of managing their time better and often added they would do this with the specific supports that were layered into the class, such as the interactive model assignments or the multi-modality of the course platform. This affirmed the value of the supports designed into the class. However, our challenge going forward is finding ways to reach and support the students that struggled in the class. The weekly goal writing, self-reports, and check-ins were reported as effective, which also reflects research literature (Garcia et al., 2018), but the struggling students typically neglected these face-to-face supports. They often did not communicate in-person or online which made it challenging to direct supports their way. What all this suggests is that more research is needed to determine how to most effectively support students at the margins of the class.

## Implications

The following are implications for promoting improved practices in online learning:

1. Instructors and researchers need to examine ways to get feedback and support students who continue to struggle with coursework and are hesitant to utilize strategies available.
2. Researchers should conduct research in their own courses to identify strategies used by students to promote improved academic outcomes for students and course tools that meet the needs of today's students.
3. Instructors need to continue to identify and provide organizational and time management support for online coursework.
4. Additional research needs to be done on the integration of wellness strategies to address student uncertainty and anxiety in online courses.

## Conclusion

Online courses are quickly becoming a popular format to reach large populations of students studying to become future educators with important educational content. The findings of this study suggest that online students need a variety of online and face-to-face strategies to be successful in their online coursework. In following online education research literature, this study suggests that researchers and instructors should consider incorporating a variety of strategies in their online courses, including multi-modal representations, collaborative project designs, goal setting and self-evaluations, and organizational and planning supports (Davis et al., 2018; Garcia et al., 2018; Philipson et al., 2019). It is in adding these layers of support that online courses might better meet the needs and academic outcomes of their students.

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## 400 YEARS LATER: NOTHING “GREAT” ABOUT ENGAGING IN CULTURALLY RESPONSIVE SURVIVAL TO COMBAT INSTITUTIONAL MARGINALIZATION

### **Abstract**

Four hundred years later in the “brave new world” where have all the purports of anti-bias practices gone in the educational arena? Spotlights are crucial elements of culturally responsive survival that have to be navigated by students from diverse populations of color at all levels of education to combat institutional marginalization. Also, disseminated for use in reformed teacher education programs are resources to build/enhance professional libraries to fulfill gaps in required knowledge about culturally sustaining practices and pedagogy to transition theory to practice; and, to advance learning opportunities, ongoing growth, discoveries, and milestones for preservice special- and general education teachers and other practitioners, who in turn will advance learning opportunities, ongoing growth, discoveries, and milestones for students from diverse populations of color.

### **The Problem**

In lieu of fair practices, bigotry and systems of privilege at all levels of education are geared towards widening achievement gaps between European American students and students from diverse populations of color. Namely, almost exclusively Eurocentric curricula is utilized across preschool, elementary-, middle-, and high schools, as well as colleges/universities. Also, far too often, teachers reject the interactional styles of students from diverse groups of color, label them “a problem,” and have lower academic expectations of them than European American peers. Additionally, students of color are erroneously over-represented in educational programs for students with behavior challenges, and pointedly under-represented in educational programs for students who are gifted.

Until there are educational reforms and holistic challenges to the status quo, it is important to spotlight crucial elements of culturally responsive survival that exceed “the talk,” and must be constantly navigated by students from diverse populations of color from preschools to colleges/universities to combat institutional marginalization. Culturally responsive survival is the requisite double duty navigation system that diverse populations of color are required to engage in to exist in the dominate culture. Crucial elements include profound mental strength, exceptional thinking skills (e.g., critical-, creative-, divergent-, reflective-, and forward thinking), and relentless code switching by adapting to the dominant culture. For example, to avoid being labeled “a problem,” due to their interactional styles, some preschoolers have to learn how to code switch while learning how to color. Likewise, while concentrating on coursework, some college/university students have to exercise mental strength to combat racial slurs railed at them by some of their peers, as well as by some of their instructors. As a result, the call is loud and pressing for special- and general education teachers to graduate from reformed teacher education programs with the knowledge, experiences, and competencies required for service as highly

functional teachers who are capable of actively engaging students from diverse populations color in the learning process (e.g., African American students); identifying their respective strengths in addition to any issues of concern; and, advancing all students' overall development (e.g., cognitive, social, and emotional).

## **Literature Review**

Equity traps (e.g., the deficit view and racial erasure) reveal the conscious and unconscious thinking patterns and behaviors that snare teachers/administrators and others, prohibiting them from creating schools that are equitable, especially for students of color (McKenzie and Scheurich, 2004). Damaging effects of equity traps negatively label, restrict, and marginalize African American students to secondary positions. Research on effective teachers of African American students emphasizes the teachers' collective belief that African American students' potential will not be realized in classrooms where teachers view said students from a deficit perspective (Ladson-Billings, 1994; Quiocho & Rios, 2000). Reformed teacher education programs for special- and general education teachers crucial. Colleges/universities have not fulfilled promises of diversity. The history of cultural bias in the United States continues to influence the dynamics in education. Most schools influence their students' perceptions of who is entitled, and who have special privileges in society through curricula and instructional practices. Focusing primarily on one cultural group to the exclusion of others represented in the student or national population, there can be a harmful impact of the educational outcomes of students whose groups are left out. It is a common condition in many school communities regardless of their demographic makeup (Browne, 2012).

## **Professional Tips for Implementation**

Reformed teacher education programs should be designed to effectively prepare preservice special- and general education teachers. A primary goal is to model functional action steps to eradicate negative effects of marginalization on the holistic development (e.g., cognitive, social, and emotional) of students from diverse populations of color. First, cultural considerations like ethnic identity and intracultural behavior should be examined for insight to guide apropos culturally responsive practices. Second, critical consciousness should be discussed in-depth to foster amiable interactions across different groups. Third, culturally sustaining practices and pedagogy should be facilitated to heighten students' meaningful connections to curricula. Fourth, culturally responsive survival case studies should be analyzed for further comprehension (e.g., *Why Does Joshua "Hate" School?...but Love Sunday School?* McMillon & Edwards, 2000). Fifth, transformative social-justice education strategies should be implemented to ameliorate biases towards students from diverse populations of color; to replace the status quo with a socially just and equitable education system that provides all students the freedom to become their best authentic selves; and, to foster anti-bias practices that actively engage all students in rigorous learning with added benefits. As a result, there should be opportunities for students to own and connect to curricula through their own discoveries, while also challenging them to strive for higher level developmental milestones (e.g., critical thinking and learning applications). To illustrate, discovery of a slave (Milly Sawyers) who sued for her freedom and won it prompted a high school class in the same county to research the case and fill in a historical omission, while simultaneously bringing her fascinating story to life via a play,

“*The Milly Project*.” Follow up Q & A sessions with the student actors gave them additional opportunities to share their perspectives about bigotry and oppression.

### Recommended Resources

Professional resources include guiding tools and germane organizations for reformed teacher education programs to build and maintain functional libraries for preservice special- and general education teachers to transition theory into practice for use as champions for change. Likewise, resources are designed to train-the-trainers to veer off the path of underwhelming expectations, and instead power a trail of inclusion, equity, and multifaceted advancements for all students.

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## Germane Organizations

- Black, Brown, and College Bound Summit: Summit address national problem of a lack of student success via retention and graduation, with an emphasis on African-, and Latino American males. [www.hccfl.edu/bccb.aspx](http://www.hccfl.edu/bccb.aspx)
- National Association for Multicultural Education is a non-profit organization that advances and advocates for equity and social justice through multicultural education; and it provides the preeminent digital clearinghouse of resources about educational equity and social justice. [www.name.org](http://www.name.org)
- National Association of Special Education Teachers: National membership organization dedicated to rendering all possible support and assistance to those preparing for or teaching in the field of special education. Mission is to promote the profession of special education teachers and to provide a national forum for their ideas. [www.naset.org](http://www.naset.org)
- Student Affairs Administrators in Higher Education: Student affairs dedicated to centering students in evolution of higher education. Guiding principles of Integrity, Innovation, Inclusion, and Inquiry shape work of fulfilling the promise of higher education for every student via research and advocacy for inclusive and equitable practices. [www.naspa.org](http://www.naspa.org)
- The Project for the Advancement of Our Common Humanity: Emerging think tank to engage researchers, policymakers, practitioners, activists, educators, artists, and journalists in a series focused on what we have learned from science and practice regarding what lies at the root of our crisis of connection and what we can do to create a more just and humane world. [Steinhardt.nyu.edu/pach](http://Steinhardt.nyu.edu/pach)

## Conclusion

Reformed teacher education programs for special- and general education teachers are at the forefront of power to eradicate the institutional marginalization that requires students from diverse populations of color to be in culturally responsive survival mode at all levels of education. Critical tenants of said programs call for all individuals involved (e.g., administrators, faculty, staff, and students) to be genuine consumers of anti-bias practices (e.g., moving past rhetoric), and implement action steps of equity, inclusion, and multifaceted advancements for all students. Namely, actively demonstrate a sound understanding of the overall negative impact of institutional marginalization on individuals from diverse populations of color; and, equally important, actively demonstrate a sound understanding that institutional marginalization of individuals from diverse groups of color has a greater negative impact on individuals from the mainstream who are lured into a false sense of superiority. Moreover, actively challenge bigotry and systems of privilege that require students of color to engage in culturally responsive survival to combat pervasive stereotypes and profiling (e.g., ableism, classism, and racism) that left unaddressed will continue to perpetuate themselves. Equally important, actively challenge “the wall” of white fragility, willful ignorance, and systems of privilege that are barring a new world order of anti-bias practices, equity privileges for all students, and the freedom for all students to be their best authentic selves.

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## THE ROLE OF TEACHER PREPARATION PROGRAMS IN FOSTERING PRESERVICE TEACHERS' ABILITY TO EFFECTIVELY ENGAGE WITH FAMILIES AND COMMUNITIES

### **Abstract**

Standards published by both the National Association for the Education of Young Children (NAEYC) and the Division for Early Childhood of the Council for Exceptional Children (DEC) include a focus on the importance of the relationship with the family. However, teacher preparation programs that require coursework and specific clinical experiences which require interactions with families are fairly limited, and as a result, many new teachers may feel unprepared and unsure how to foster relationships with parents. This presentation outlines a college-family partnership (CFP) included as required content in a teacher certification program and intended to assist pre-service teachers in the development of those skills necessary to build and sustain beneficial family relationships.

### **Background/Rationale**

Both the National Association for the Education of Young Children (NAEYC) and the Division for Early Childhood of the Council for Exceptional Children (DEC) include in their professional practice standards a focus on the importance of the relationship with the family. NAEYC notes that “successful early childhood education depends on partnerships with children’s families” in order to “support and engage diverse families through respectful, reciprocal relationships” (National Association for the Education of Young Children, 2009, p. 12). DEC recommends similar “family-centered practices,” described by Trivette and Dunst (2005, p. 119) as “a way of thinking in which families or parents are considered central and the most important decision maker in the child’s life.”

These statements reflect long-standing research documenting that strong partnerships between school professionals and families result in a remarkable number of benefits, including higher academic achievement, increased student sense of well-being, better school attendance, higher educational aspirations, and positive student attitudes and behaviors (Pomerantz, Moorman, & Litwack, 2007; Berger, 2008; Henderson, Mapp, Johnson, & Davies, 2007; Grant & Roy, 2010; Jeynes, 2007).

In spite of widespread acknowledgement regarding the value of such partnerships, emphasis on their development and sustainment is lacking in teacher education programs. While coursework focusing on family-school partnerships has the potential to “positively influence preservice teacher candidates’ attitudes and perceived self-efficacy toward engaging families” (Patte, 2011, p. 154), it is unusual to have a course dedicated solely to partnering with families. The vast majority of teacher education programs address issues related to school-family relationships through instruction on how to create “Meet the Teacher” letters and class newsletters or through competencies embedded within another course (Evans, 2013; Miller, Lines, Sullivan, & Hermanutz, 2013; Patte, 2011; Denessen, Bakker, Kloopenburg, & Kerkhoff, 2009).

Additionally, preservice teachers have little contact with parents until their student teaching semester. Required clinical field experiences do not typically include either a focus on family relationship-building or a requirement for family interaction. As a result of neither focused instruction nor field-based requirements, most preservice teachers report feeling wholly unprepared to create and sustain the necessary partnership relationships with families long determined to be essential for student success (Patte, 2011, p.154; deBruine, Wilmmemse, D’Haem, Griswold, Vloeberghs, & van Eynde, 2014).

### **The College- Family Partnership (CFP)**

Because there is inherent value in beginning teachers knowing how to build relationships with families, we developed the course “Professionalism and Partnerships” following competencies set by the state Department of Education, the National Association for Early Childhood Education (NAEYC), and the Division for Early Childhood of the Council for Exceptional Children (DEC). All teacher candidates working toward certification in Early Elementary Education, Middle Level Education, and/or Special Education are required to take the course.

A major challenge, however, was how to provide enrolled students with consistent and applicable experiences working directly with families. Because such an outcome was likely not feasible within the paradigm of current clinical field experiences, we followed the recommendation of Miller et al. (2013) that effective partnerships “might be best addressed within the community” and partnered instead with a local non-profit organization for families of children with special needs.

This nonprofit organization, which had previously expressed an interest in collaborating with our department, was both willing and interested to explore possible ways to address the competencies included in the associated “Professionalism and Partnerships” course. Working together, we designed a college-family partnership (CFP) whereby participating families visit campus twice a semester, and students enrolled in several courses within the department participate. Students enrolled in the “Professionalism and Partnerships” course and an advanced special education course are assigned directly to attending families, while students enrolled in an advanced literacy course create and execute the evening’s read alouds, centers, and creative movement and music activities. As students are not typically enrolled in these courses at the

same time, students participate more than once—often three times—and develop relationships with the participating families that span several semesters.

The schedule for these events includes an informal dinner and social hour, followed by enrichment activities for the children while the parents conduct a business meeting in a separate space, and closes with the parents and preservice teachers debriefing about the evening. Table 1 provides a specific outline of the event.

Table 1  
*CFP Event Schedule*

Time	Scheduled Event
5:45- 6:00 p.m.	Family Arrival and Check-in
6:00- 7:00 p.m.	Dinner and Social Hour
7:00- 7:10 p.m.	Read Aloud #1
7:10- 7:40 p.m.	Activity Centers
7:40- 7:50 p.m.	Read Aloud #2
7:50- 8:00 p.m.	Creative Movement and Music
8:00- 8:10 p.m.	Read Aloud #3
8:10- 8:30 p.m.	De-brief and Families Depart

All participating preservice teachers prepare for the event with the assistance of their course professors. Students enrolled in the “Professionalism and Partnerships” course, typically sophomores, view photos and video taken of past events and receive specific instruction on effective communication and interaction with parents: conversation starters, verbal and nonverbal communication cues, question prompts regarding personal experiences, goals and concerns for their children, and etiquette for dinner. Students role-play in class, practice asking and answering questions and debriefing about the evening. This conversational cycle: engaging with the same parents at the beginning and at the end of the event, is practice of an essential skill that all teachers need to work effectively with families.

Juniors and seniors who are enrolled in the advanced special education course or the advanced literacy course require significantly less scaffolding, as they would have already completed the “Professionalism and Partnerships” course during their sophomore year. The advanced special education students are also assigned directly with the families and participate during dinner and the social time, but they complete separate assignments. For instance, because some of the children attending may be too young for the centers, these students create sensory bins that can be used during center time. Each sensory bin is tied to a children’s book, so depending on the needs of the child, they might play with the bin materials, listen to a book, or both. The advanced literacy students work alongside their course professor to identify a theme for each event and choose children’s books to read aloud as well as activities to complete which align with the theme. They also decide which movement activities and songs to use.

### **Examining Effectiveness**

One measure of whether the CFP is addressing desired competencies for developing the skills necessary for parent relationships is by examining student feedback. After each event,

students in the “Professionalism and Partnerships” class complete reflection assignments, and frequently comment on their growing confidence in their ability to interact with parents and express a sense of relief that, although it is learned skill, communicating effectively with parents is not as daunting as it appeared initially. This skill development only grows as students are assigned again to the same family for the second semester event:

The idea of returning to a CFP event with the same family again left me somewhat flustered. The first event was a lot harder than I imagined and I underestimated exactly how difficult the task would be. I made sure to better prepare myself and make sure I was ready for what I was facing... I would say I was way too quick to judge everything last time. I was unsure how to handle the situation and lacked confidence in my abilities to handle it.

I think these events should continue if possible. I think that the first event is nerve-racking for some, but by the second event, I think we are even more equipped with knowledge and skills to make the night even better. I am excited to see that I will be a part of another class that will be included in this event.

Another important consideration is how well this partnership has been able to meet the needs of the participating families. Attendance data over the past four years demonstrates strong and consistent support from the nonprofit organization. Thirty-six families have attended at least one event over the past four years, while eleven families within the organization have attended ten or more events. One family has attended all fifteen events held.

## **Conclusion**

The value of strong relationships between schools and families is reported in current research and included in the standards of many professional organizations, yet many teacher education programs do little either through coursework or field experience to emphasize their importance. Without direct instruction coupled with authentic learning experiences, new teachers will likely struggle in their ability to develop and sustain positive family-centered practices. This college-family partnership, which aligns with specific required teacher certification courses, creates a consistent and practical field experience and allows preservice teachers multiple opportunities to engage with families, a key component in fostering self-efficacy in developing these essential relationships.

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## USING TECHNOLOGY TO FOSTER POSITIVE CLASSROOM ENVIRONMENTS

### **Abstract**

Classroom management is often identified as an area of weakness by teachers in special education classrooms. As teachers continue to struggle managing the behavior of their students, many have looked to technological solutions to assist in promoting positive classroom environments, such as electronic behavior management programs (eBMPs). eBMPs integrate strategies based in research that are shown to reduce challenging behavior and encourage positive behavior, for example reinforcement strategies and the Premack principle. This presentation explains the theoretical efficacies of eBMPs, describes three commonly used eBMPs, and provides procedures on how educators can get started implementing eBMPs with additional tips to consider.

### **Problem/Issue**

Students with behavior challenges have internalizing and externalizing behaviors that impede social, behavioral, and academic progress, demand teacher attention, and interfere with instruction (Lane, 2007). Behaviors that demand teacher attention can become barriers to effective instruction and social development (Horner et al., 2002). For students who engage in challenging academic and social behaviors the data are disheartening (Butler & Monda-Amaya, 2016). Problem behaviors exhibited by students can threaten their continued placement in educational settings, interfere with skill acquisition, generalize to other classrooms or settings, create toxic teacher-student relationships, and may follow them into adulthood (Pas et al., 2015).

Challenging and disruptive classroom behaviors can have far reaching consequences for teachers as well as students. Reports from the field indicate that teachers feel poorly prepared to effectively manage student behavior in classrooms (e.g., Coggshall, Bivona, & Reschly, 2012). Teachers frequently identify student behavior and classroom discipline as areas of concern and need. Of particular concern to teachers are student behaviors such as talking out, work completion, and following classroom rules. Many teachers have described that the classroom management content during their preparation programs focused on ideal classroom environments where students engage in low rates of problem behavior as opposed to reflecting the realities of actual classroom. These expressions from teachers emphasize the importance of preparing teachers to manage classroom behavior presented by their students.

As technology has advanced, so has the use of technology in the classroom. There is a long history of academic learning adapting to and adopting the technology of the age including the use of records and record players; audiotapes and players; and computers and compact disc read-only memory (CD-ROM) programs. For behavioral/classroom management in schools, most of the strides in technology use have occurred in past 20-25 years. Research that examines technology and behavior management has included the use of pager/vibratory monitors and bug-in-ear technology. More recent technological advances have allowed for the development of the TeachLive (TLE) program which is a mixed-reality, avatar-based simulation environment to prepare teacher candidates or improve the effectiveness of in-service teachers in a lab that provides participants the opportunity to learn teaching skills and craft their practice without placing “real” students at risk during the learning process; as well as, the development of mobile device application (app) or web-based behavior/classroom management systems (e.g., ClassDojo). As such we decided to review the literature pertaining to eBMPs.

## Literature Review

When searching eBMPs there is no shortage of instructional how-to’s (e.g., Robacker, Rivera, & Warren, 2016). Along similar lines there are articles that describe the plethora of eBMPs and other technologies teachers can choose from. We found one article that provides a list of 50 possible mobile devices/application that can be used to implement evidence-based practices (EBP) including eBMPs that can be used with students that display disruptive and challenging behaviors (Cumming, 2013). This information is only a few results out of thousands of search results connected to eBMPs. Yet, empirical evidence of their effectiveness is incredibly limited (Krach, McCreery, & Rimmel, 2017). Only ten studies in the research literature have actually examined eBMPs and the impact on student outcomes. Further, no studies have looked at the quality of studies that did examine eBMPs effect on student outcomes.

Ten studies were identified to determine the impact of eBMPs on student classroom behavior. Identified articles were summarized for review by their eBMPs characteristics, participant characteristics, dependent variables, independent variables, and the number of quality indicators met for single-case and group designs. The efficacy of eBMPs in the 10 studies we reviewed was variable. Single-case studies ranged in effectiveness (range = .65 - .99). Three demonstrated a medium to high effect and two studies demonstrated a large effect. We were unable to calculate effect size for one study due to graphical data being omitted. We were able to calculate effect size for two identified group studies (range = .87 - 1.60). We were unable to calculate effect size for the two remaining group studies was due to authors omitting means, standard deviations, or number of participants. Variability in the size of effects and intervention efficacy of the 10 eBMP studies reviewed may be related to variability in implementation of eBMPs that investigators used in these studies as well as the quality of the research conducted by researchers. Five single case studies met all quality indicators while one study failed to meet four quality indicators. Only one group design study identified in this review met the standards to be considered a high quality group design study.

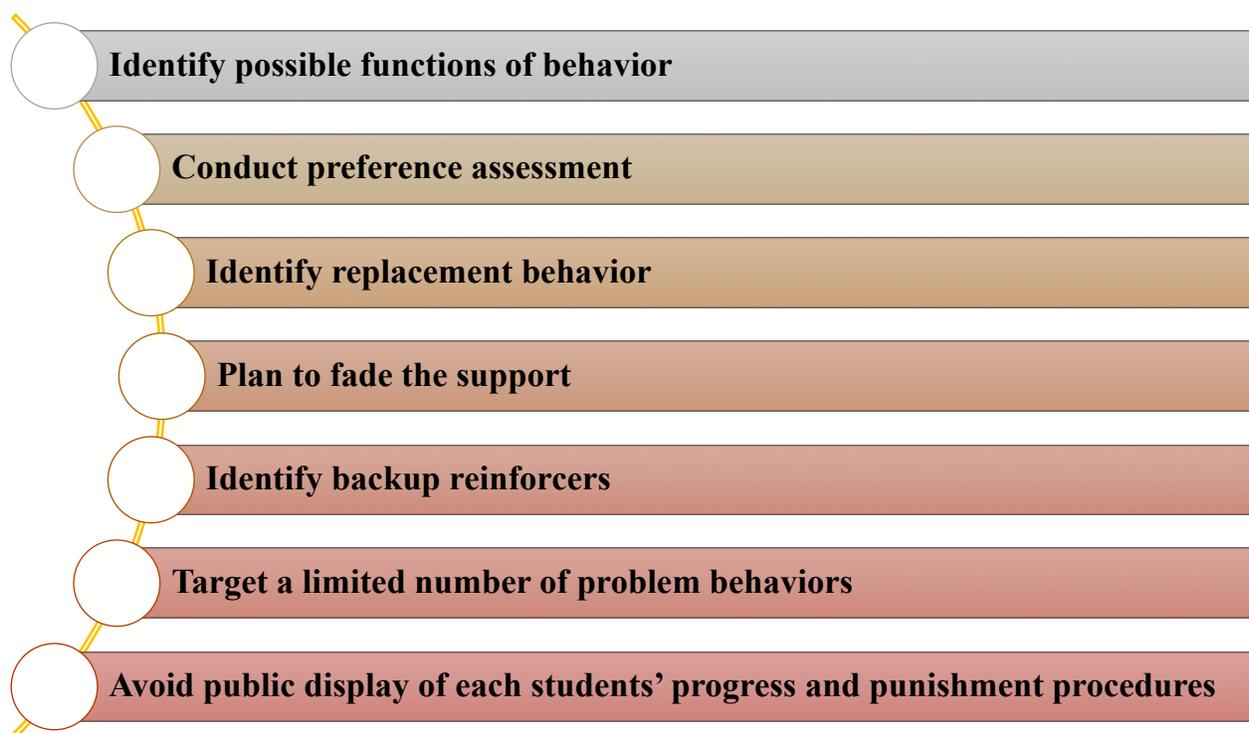
## Professional Tips for Implementation

Here are a few additional tips teachers should consider to successfully implement eBMPs in their classrooms:

- Students who engage in challenging and disruptive classroom behaviors do so for a reason, which is referred to as the function of the behavior. It is important to identify the function of behavior to effectively implement eBMPs targeting classroom behavior.
- Different things reinforce students. Not all students desire praise in front of peers, just like not all student behaviors are reinforced with peanut M&Ms (especially students with peanut allergies!). Therefore, it is important to identify potential reinforcers via assessments.
- When teachers are using eBMPs to reduce challenging student behavior it is critical to teach a replacement behavior that serves the same function as the behavior being modified. If a teacher is using eBMPs to reduce student talk outs, it is not enough to only work on reducing talk outs. A replacement behavior for talking out might be to teach the student to raise her hand when she has a question, needs something, or has something she wants to add to the conversation. It is important to remember that when the student engages in the replacement behavior, the teachers should immediately reinforce the desired (i.e., replacement) behavior.
- Among many things, eBMPs are useful because they help teachers establish positive reinforcement contingencies, electronically organize behavior management strategies, and display data for students to self-monitor progress. Ideally, teachers want students to move from relying on eBMPs, which assist with artificial and immediate contingencies of reinforcement, such as positive tokens, to more natural contingencies of reinforcement, for example engaging in the lesson, which leads to learning the content and better grades. Fading intervention support overtime is a way to assist students with contacting natural reinforcement contingencies.
- Many negative student teacher relationships result from excessive use of punishment strategies. It is important to use reinforcement interventions for students with challenging behavior and not jump straight to punishment procedures. We can use positive strategies by using backup reinforcers. Backup reinforcers are items or activities students enjoy and can work to earn those backup reinforcers. If a student meets his or her behavioral goals that day a student is granted access to the backup reinforcer. However, if a student does not meet their goal the backup reinforcer is simply withheld. No punishment procedure is implemented. For example, if a student is expected to end the day in “green” (more desirable behaviors data collected than undesirable) he may have access to five minutes of a preferred activity in the classroom. If the student ends up in “red” he is not afforded access to the preferred activity. Rather than applying a punishment for ending in red the student simply does not have access to the preferred activity.
- Try to avoid public display of each students’ progress. If using an eBMP on a smartboard with each students’ behavioral progress displayed (e.g., ClassDojo), be aware of social dynamics and students’ reactions to public monitoring. A student might be embarrassed that she is in red when her friends are in green. Other students might tease a student who is in red. Public monitoring of student behaviors can be an effective feature, especially

when implementing a group contingency (e.g., pizza party if the entire class ends the day in green). Behavioral progress must be implemented with sensitivity to all students.

- Target a limited number of problem behaviors, with the most pertinent behaviors first. Focus on the behavior(s) that will make the biggest impact in promoting a positive classroom environment. Identifying too many behaviors on the onset is difficult for students to remember what they are supposed to be doing and can lead to poor fidelity of implementation by the teacher.



*Figure 1.* Tips for successful eBMP implementation. See Riden, Markelz, and Randolph (2018) for a complete description of the professional tips for implementation.

## Conclusion

Effective classroom management is critical in promoting positive academic and social/emotional student outcomes. Teachers that are struggling to consistently implement positive reinforcement contingencies may benefit from eBMPs. Effects of eBMPs, however, will only be as strong as fidelity of implementation. Teachers must remember that to curb undesirable behaviors, high rates of reinforcement for desirable behaviors are needed, and replacement behaviors must be taught and reinforced as well. Simply setting up an eBMP will not change student behaviors—teachers must consistently use them. Grounded in effective applied behavior analysis principles with user-friendly designs, intuitive features, and constant technological updates, eBMPs are comprehensive and effective tools that can assist any teacher in promoting a positive classroom environment.

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## USING VIRTUAL SIMULATION AS A TOOL IN BRIDGING THE THEORY TO PRACTICE GAP: A PILOT STUDY

### **Abstract**

The use of virtual simulation (VS) is emerging in the field of teacher education and offers a possible tool for bridging the theory to practice gap. Traditionally, teacher education programs are a combination of course work and field experiences. While field experiences can be beneficial learning opportunities, pre-service teachers may not have the social or conceptual understanding they need to fully benefit from the experience. Additionally, pre-service teachers do not often have the opportunity to redo their actions during their field placements and must simply discuss what they might do next time. The issue of providing pre-service teachers with opportunities for engaging in the learning cycle of *practicing, reflecting, and practicing* continues to be a problem that contributes to the theory to practice gap. The findings from a qualitative research study examining the use of VS in a non-traditional undergraduate special education assessment course are provided.

### **Background/Rationale**

Currently, the use of virtual simulation (VS) is an emerging approach for teaching and learning in the field of teacher education (Dieker, Rodriguez, Lignugaris/Kraft, Hynes, & Hughes, 2014). If teacher education continues to focus on the use of simulated environments, a research base could be established that would change the field and the future training methods of teachers significantly. Mursion, formerly known as TeachLivE™ [TLE], is one such technology where a virtual environment is used to provide a “sandbox” for teachers and pre-service teachers (PSTs) alike to safely experiment and practice skills they are learning or refining. This simulated environment uses life-size computer-generated student and parent/teacher avatars presented in a real classroom environment that are controlled by a human operator to provide a personalized and targeted learning experience (Dieker, Hynes, Hughes, Hardin, & Becht, 2015). The avatars and students verbally interact with one another in a natural conversational context. The instructor can increase the complexity of the interactions and no interaction will be exactly the same because of the human operator facilitating the avatar. This environment provides a powerful and personalized learning opportunity for students, because it facilitates their practice of target skills at individualized levels while maintaining the authenticity of interaction, meaning, they can’t “beat the game.”

The field of special education has begun exploring the use of simulated virtual environments to address the gap between theory and practice in PST teacher education programs (Dawson & Lignugaris/Kraft, 2017). The examination of innovative teaching practices for undergraduates is essential for improving the teaching in special education teacher preparation

programs. Special education is a field that desperately needs qualified teachers but continues to struggle to recruit them and retain them (Sutcher, Darling-Hammond, & Carver-Thomas, 2016). Improving instructional practices for PST can help better prepare them for the demands of the classroom and provide them with the skills they need to positively negotiate those demands rather than burn out.

### **Research Questions**

1. How do non-traditional pre-service teachers describe their engagement during virtual simulation learning activities?
2. What are the experiences of non-traditional pre-service teachers with using virtual simulation activities within an eight-week course?

### **Sampling & Participants**

Fourteen adult participants from a private university in the southeast were included in the study after obtaining approval from the Institutional Review Board. Purposeful sampling (Patton, 2002) was used for this study and participants who were enrolled in an undergraduate special education assessment course in a non-traditional teacher preparation program were recruited so that in-depth examination of the research questions could be fully explored. One individual enrolled in the course chose not to participate in the study. The participants were non-traditional PSTs ranging in age from 24 - 54 years old, and who self-identified as female. Two of the participants were the teacher of record of their own classroom, and the other 12 participants were employed in various educational positions (e.g., substitute teacher, paraprofessional, preschool teacher, tutor).

### **Method**

The purpose of the study was to conduct an in-depth examination of the lived experiences of non-traditional pre-service teachers (PSTs) during virtual simulation (VS) learning activities and their engagement during the VS experiences. The study was conducted over the course of six weeks during an eight-week course. PSTs participated in the face-to-face course as usual with typical learning activities such as readings, cooperative learning engagements, mini lectures, assessment activities, etc... Virtual simulation learning activities were added to the typical course activities and occurred at the beginning of class each week. During the VS learning time, the PSTs participated in the VS as well as observed their peers and completed observer learning activities (e.g., observers collected frequency data, completed rating scale on conference skills). The scenario used during the study was a parent-teacher conference where PSTs had to communicate literacy assessment scores with the father of a struggling learner. During VS activities, PSTs or the instructor paused the simulation so that immediate feedback and coaching could be offered, and questions could be asked.

There were four data collection methods used in the study: pre and post focus groups, video diaries, Brookfield's Critical Incident Questionnaire (CIQ; 1995), and performance rubrics. The focus groups were used to gain descriptions of participants' experiences and perceptions before the VS learning activities (1st week of class) and at the conclusion of them

(last week of class). Weekly video diaries captured participants' experiences immediately after their VS experiences and over the course of the study. Brookfield's CIQ (1995) was used weekly to track engagement during virtual simulation learning activities. Participants completed CIQs for homework each week prior to coming to the next class to allow for more reflection time. Performance rubrics were used to collect information on participants' development of skills for communicating the assessment results of a struggling learner during a parent-teacher conference. Kvale and Brinkmann (2009) meaning condensation was used to analyze transcripts from focus groups, video diaries, and critical incident questionnaires. Researchers scored rubrics by re-watching videos of PSTs completing their VS experience.

## Results

**Engagement in learning.** How do non-traditional pre-service teachers describe their engagement during virtual simulation learning activities? Participants identified three factors related to their engagement in learning during virtual simulation activities within a group setting including individual, contingent, and evolving. Participants described their engagement during the VSs based on their individual desires or preferences as learners. If participants preferred immediate access to interacting with the parent avatar, they described their individual experiences with the avatar as most engaging for them. However, if participants preferred a warm-up period prior to interacting with the parent avatar, they described watching their peers first as most engaging. Furthermore, participants described their engagement during learning activities based on what they were expected to do for that class period. And lastly, participants described their engagement as evolving. As the participants gained more experience with the VS activities, their desire for change and complexity within the VS experiences increased.

**Non-traditional lived experiences.** What are the experiences of non-traditional pre-service teachers with using virtual simulation activities within an eight-week course? Non-traditional pre-service teachers had three different lived experiences during the VS learning activities including in-depth descriptions of their experiences as participants, observers, and coaches. The complex and multifaceted dimensions of the VS learning activities provided various opportunities for learning. Preservice teachers in the study described the roles of their lived experiences as observers, coaches, and participants within the simulation in depth. Their descriptions of their experiences within the VS included factors such as the intensity of feelings during the simulations, the unexpected learning they experienced, and autonomy during the experience they enjoyed.

## Discussion

Bridging the theory to practice gap is of great concern in the field of education. This study and others like it are focused on bridging this gap by answering questions such as, how do non-traditional PST preparation programs provide learning environments where students can situate their learning in context and participate in more, early field-like experiences with opportunities for immediate feedback and repeated practice? Garland, Holden, and Garland (2016) examined the efficacy of individualized clinical coaching of system of least prompts to six novice educators enrolled in a graduate special education course that focused on EBPs for teaching learners with autism using VS technology. Researchers in the field of special education

are also laying the foundation for using this kind of VS technology through studies on instructional strategies for students with moderate to severe disabilities (Garland, Vasquez, & Pearl, 2012; Garland, Holden, & Garland, 2016). Results suggest that individualized coaching in VS was effective in increasing the fidelity of implementation of the participants' use of system of least prompts. This study demonstrates basic evidence that VS can be used to teach instructional delivery for students with ASD. Findings from this study indicate that virtual simulation is a promising tool that teacher preparation programs could use to engage their learners in more active and complex learning experiences.

## **Implications**

We have identified several implications for faculty, as well as avenues for future research.

1. Using virtual simulation learning activities in group settings allows for not only the individual participating in the simulation to learn and receive immediate feedback from the instructor and peers, but also allows the observers to learn from their peers.
2. Using virtual simulation activities in the classroom setting provides opportunities for PSTs to engage in coaching, collaboration, and teaching practices simultaneously.
3. Virtual simulation learning activities provides opportunities for multifaceted learning to take place that includes course content and interpersonal skills.
4. Virtual simulation learning activities have the potential to expand the roles and opportunities of learners in the classroom setting in different ways than roleplay and case studies do.

## **Conclusion**

While the research base for using virtual simulation in teacher education is certainly developing, further studies are needed to advance what is already known. This study provides rich descriptions of how virtual simulation learning activities might be embedded into a course over a period of eight-weeks. Courses lasting longer may simply adjust the times and activities to meet the course objectives and desired outcomes for students. While more traditional practices of role play, case studies, in-field observations, and group activities are certainly useful for teaching pre-service teachers, expanding and investigating new practices must be a part of teacher education if the gap between theory and practice is going to become less like a ravine to fly across and more like a line to simply step over.

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## CONSTRUCTING COLLABORATIVE CO-TEACHING METHODS IN SCIENCE AND SPECIAL EDUCATION

### **Abstract**

Over 70% of students who receive special education services spend more than 60% of their time in regular education classrooms (US Department of Education, OSEP, 2018). Federal law states that students with disabilities have access to the general curriculum to the maximum extent possible, but content specialty teachers are unprepared to modify curriculum, enhance presentations and think about learning in terms of individual student needs. As a result, there is a need for coursework development to promote collaborative co-teaching with special education teachers and content specialty teachers, specifically in high profile topics such as STEM. This presentation focused on the collaborative development of an interdisciplinary course of study for special education teachers in science. Steps to unpack the standards and create collaborative spaces for science teachers and special education teachers to work together to provide quality science education for all learners was presented.

### **Background/Rationale**

There is a need in the field of teacher education to provide coursework and experiences in collaborative co-teaching models to best prepare teachers in content knowledge and differentiated, individualized instruction. Schools are facing increased pressure to help students with disabilities meet rigorous achievement standards across the content areas (ESSA, 2015; IDEIA, 2004). The increasing number of students with disabilities in general education places more demands on content-area teachers (Wexler et al., 2018). Knight et al (2019) identified instructional practices determined to be evidence-based for teaching science content and with the rollout of the Next Generation Science Standards (2013), there is an increased emphasis on teaching scientific practices. The best methods to prepare teachers to combine EPB and scientific practices for students with disabilities has not been determined. Research has determined that collaborative models of instruction are effective in teaching academic skills to students with disabilities (Wexler et al., 2018).

The development of new and innovative coursework for preservice teachers is essential to the field. Historically, content specialty teachers knew their content and special education teachers knew their students. Current practice and understanding insist that all children, including those with severe disabilities, are taught academic skills, and EBPs are to be used to teach those skills (Spooner, McKissick & Knight, 2017). As student need evolves and certification changes, teacher education programs must also change. There is a need in the field of teacher education to provide coursework and experiences in collaborative co-teaching models to best prepare teachers in content knowledge and differentiated, individualized instruction. Within this need, there is a growing concern that student learning in the areas of STEM has not

improved. Opportunities for progress in this high-profile area are in higher-education and preparing teachers in different teaching methods (Weiman, 2014). Most of the published literature on academics has focused on teaching literacy or mathematical skills but teaching science content knowledge has received increased attention (Spooner, McKissick & Knight, 2017). Current research points to discrete teaching of relevant science and related skills, using evidence-based practices. Knight et al (2019) identified instructional practices determined to be evidence-based for teaching science content: (a) multiple exemplar training, (b) task analytic instruction, and (c) time delay (CEC; Cook et al., 2014). These are not practices typically found in inclusive or co-taught classes and are certainly not common practice in science education programs.

The Next Generation Science Standards (NGSS Lead States, 2013) has changed the landscape of science education. The new science practices are measurable student behaviors necessary for answering questions or solving problems. According to the NRC (2012), science practices are the “habits and skills of scientists and engineering.” The authors of the NGSS Framework identified the following eight scientific practices as essential for all students to acquire: (1) asking questions, (2) developing and using models, (3) planning and carrying out investigations, (4) analyzing and interpreting data, (5) using mathematics and computational thinking, (6) constructing explanations, (7) engaging in argument from evidence, and (8) obtaining, evaluating, and communicating information (NRC, 2012). This presentation will offer a new model of teacher preparation in science and special education that blends traditional content area teaching with practices determined to be evidence-based for students with disabilities. Teachers can achieve equity for all students by providing appropriate supports to help students access and learn about their world (Spooner, McKissick, Hudson, & Browder, 2014). The aim of this session was to provide a framework for constructing collaborative co-teaching methods in science and special education using instructional practices determined to be evidence-based for students with disabilities and the NGSS Framework for essential scientific practices. By bridging the two disciplines in a research-supported learning environment, teachers will be better prepared for inclusive environments.

### **Identified Issues in Preparation and Placement**

Through a series of internally supported projects, issues in preparation and placement of both pre-service and in service science and special education teachers were identified. Issues for pre-service teacher education students and in service new teachers were found to be (1) beginning science teachers report being unprepared for diverse learners; (2) pre-service special education candidates report science as “out of my comfort zone” and cooperating teachers in science report “special education students are not my responsibility”; (3) beginning special education teachers report time constraints and the emphasis on executive functioning, social skills and literacy as interfering in teaching science; (4) beginning science and special education teachers struggle to report implementing strategies learned in preparation (New Teacher Fellowship, 2019). The results of these projects informed the development of a new non-credit offering aimed at closing these gaps in teacher education.

## Course Development

The course will be offered as a 4-module, non-credit online summer course.

Table 1: Module Descriptions

<b>Module</b>	<b>Topic</b>	<b>Objectives</b>	<b>Structure</b>
Standard-Driven, Goal-Oriented Science Instruction	<p>Presentation of the ways in which the NGSS can exist alongside individual student learning goals to form robust, meaningful learning opportunities.</p> <p>Alignment of best practices in methods of instruction, NGSS, essential scientific practices and individual student learning needs.</p>	<p>Participants will:</p> <ol style="list-style-type: none"> <li>(1) Gather information from a variety of sources, some being beyond the traditional scope of the school</li> <li>(2) Seek authentic and real evidence to support their claims and ideas</li> <li>(3) Reflect upon and analyze the individual work and the work of others</li> <li>(4) Reformulate ideas in light of new experiences and evidence</li> </ol>	<p>From the starting point of standards and student. Removing “titles” and instructional roles. All course participants will focus on using standards-based instruction as the guide. Focusing on science and more broadly STEM along the alignment with best teaching practices for all students, participants will unpack the standards.</p>
Collaborative Strategies	<p>Focus on ready-to-implement strategies to help teachers form collaborative relationships to enhance instruction for all learners</p>	<p>Participants will:</p> <ol style="list-style-type: none"> <li>(1) Engage in learning communities</li> <li>(2) Focus on student learning</li> <li>(3) Collaborate with others</li> <li>(4) Discuss methods to combine expertise</li> </ol>	<p>Participating in the course will allow for a space for discussion and sharing of what works in “real-life” alongside research-based, practical turnkey strategies.</p>
Content Area Literacy	<p>Research-based strategies focused on skill acquisition, active participation and inclusivity</p>	<p>Participants will:</p> <ol style="list-style-type: none"> <li>(1) See content area literacy as a construct aligned with general literacy skills</li> <li>(2) Highlight the shared themes of inquiry-based instruction in the areas of science and literacy</li> <li>(3) Apply content area</li> </ol>	<p>Using reading, writing and math strategies to enhance science instruction for all. Generalizability of strategies along with methods of assessment. Changing the lens to understand that inquiry-based</p>

		literacy strategies to the texts of their disciplines	instruction is the model for all content areas literacy.
Modification of Course Content While Setting High Standards for All Learners	Methods to individualize instruction to better meet the individual and collective needs of learners with and without disabilities, while keeping expectations for all at a high standard.	Participants will: (1) Focus on the individual needs of each learner (2) Support student learning through evidence and research-based practices. (3) Apply differentiated curricular enhancements	Strategies to meet the collective and individual needs of the student(s) while focusing on scientific processes.

### Next Steps

At the completion of the course an evaluation of participant engagement, goal attainment and usability of content and procedures will be reviewed. This data will be used to inform the next steps in providing in service teachers non-credit options in high needs areas of support and development. The data will also be used to inform the next steps of the New Teacher Fellowship (2019) induction for first and second year teachers.

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## RELIABILITY ASSESSMENT OF AN OBSERVATION TOOL TO MEASURE THE QUALITY OF PRAISE

### Abstract

Supported by decades of research on praise and its effect on student behaviors, we developed the behavior-specific praise observation tool (BSP-OT) to measure characteristics of effective praise. We evaluated interrater reliability of the BSP-OT to measure praise specificity, contingency, and variability using intra-class correlational (ICC) statistics. In addition, we assessed usefulness and practicality of the tool with social validity measures. Four raters with experience in praise research completed a survey and coded videos ( $n = 14$ ) of teachers in authentic situations delivering praise. Overall assessment indicated strong reliability between raters with ICC (2, k) of 0.80 (95% CI [0.77, 0.83],  $F_{(269, 19906)} = 5.1, p < .001$ ). Furthermore, high social validity ratings suggest the BSP-OT is a valuable contribution to the field concerning praise research and teacher development. The process of developing the BSP-OT and study findings are presented below with a discussion on implications and suggestions for future research.

### Background/Rationale

Researchers have studied the effects of praise on students with disabilities for decades; unfortunately, the long history of praise research limits the methodological quality of many studies included in systematic reviews to determine whether teacher praise is an evidence-based practice (Moore et al., 2019). Empirical evidence, however, continually demonstrates positive effects of praise on a range of academic and behavioral outcomes, including increased student time on task, decreased inappropriate behaviors, and reduced student tardiness (Royer, Lane, Dunlap, & Ennis, 2019). But not all praise is deemed equally effective. Over the years, effective characteristics of praise have emerged from research.

**Specificity.** Behavior-specific praise (BSP) consists of a behavioral description with positive affirmation to clarify which observed behavior the teacher is acknowledging. Examples of BSP include, “Excellent job, waiting patiently for me to call on you, Sarah,” or “I love how Jenny and Jon are working quietly together, great job!” These examples demonstrate how BSP provides explicit feedback on student performance while also communicating expectations to other students in the classroom. There is a consensus that BSP is more effective than general praise (GP) given that specific feedback is a greater reinforcer (Brophy, 1981a; Brophy, 1981b; Cooper, Heron, & Heward, 2007).

**Contingency.** Contingent praise is when an affirmative statement follows the occurrence of desired behaviors. Research has identified contingency as an important characteristic of effective praise (Floress, Beschta, Myers, & Reinke, 2017). We, therefore, reviewed the literature to identify studies where praise was a dependent variable and whether contingency was measured. Out of 38 studies, 16 studies mentioned contingency (or a concept synonymous with contingency) in the praise definition, however, no study empirically measured whether praise statements were contingent or not. Meaning, participants might have used non-contingent praise statements, yet those data were not reported in results. Although contingent praise is deemed more effective than non-contingent, the absence of data differentiating between contingent and non-contingent praise is concerning and leaves a gap in the literature on characteristics of praise.

**Variability.** Another characteristic of effective praise is variability. The efficacy of praise variability is grounded in research about the quality of reinforcer (Cooper et al., 2007). A stronger reinforcer will more likely affect behavior. Habituation of a reinforcer is when a reinforcer decreases in strength following repeated delivery of that reinforcer (Thompson & Spencer, 1966). A student that hears “good job” repeatedly may habituate to that praise statement and find it not as reinforcing. Therefore, a teacher who uses a variety of praise statements may increase the novelty of praise, capturing the attention of the student, and increase the strength of reinforcement.

### **Purpose of Study**

Although research on praise acknowledges the importance of contingency and variability (e.g., Floress et al., 2017; Simonsen et al., 2017), explicit measurements of such characteristics are lacking. Researchers of praise would benefit from more accurate measurements to inform the field of teacher development on whether certain characteristics contribute differently to praise efficacy. The purpose of this study, therefore, was to examine the reliability of the behavior specific praise observation tool (BSP-OT) so that the field of teacher development can utilize a precise tool for measuring effective praise. We explicitly aimed to measure praise specificity, contingency, and variability. The following two research questions guided our analyses.

1. Is the BSP-OT a reliable tool to measure specificity, contingency, and variability of praise?
2. Do raters find the BSP-OT as a practical and effective tool for measuring praise?

### **Method**

Based on our desire to capture multiple components of praise, we designed the BSP-OT to be practical for live observations and adaptable to accommodate individual observational needs (contact the first author for the BSP-OT packet with definition and examples). Within the BSP-OT, one can find lettered rows and numbered intervals to help observers maintain accurate data collection, while also allowing for easy inter-observer agreement (IOA) calculations. The BSP-OT uses a frequency within interval technique for data collection because it lends itself to more rigorous IOA analyses (e.g., Cohen’s kappa) as opposed to simple percentage agreement (Shoukri, 2010).

Four experts in BSP research used the BSP-OT to rate 14 videos (15-minutes in length each). To answer our first research question, we conducted a series of intra-class correlation (ICC) statistics to measure the amount of agreement and disagreement as an inter-rater reliability (IRR) measure on overall assessment and between categories: BSP vs. GP, contingency, and variability. ICCs are used in studies with two or more coders; with nominal, categorical, interval or ratio scores; when all subjects or a subset of subjects are rated by multiple coders or a subset of coders (Gisev, Bell, & Chen, 2013). Commonly-cited cutoffs for ratings of agreement based on ICC values are: less than .40 = poor agreement, values between .40 and .59 = fair agreement, between .60 and .74 = good agreement, and values between .75 and 1.0 = excellent agreement (Cicchetti; 1994).

To answer our second research question, we descriptively analyzed Likert-type scale items with averages and ranges. We designed the survey to measure expert opinion on the practicality of the BSP-OT. Open ended responses were analyzed qualitatively for themes.

## Results

**BSP-OT reliability and validity.** All variables and most individual videos represented high degrees of reliability based off of our 0.75 cut off score for ICC. Variables scores were either treated as independent or across the construct for BSP and GP. A high degree of reliability was found between raters for all measurements of BSP. The average measure ICC was 0.78 with a 95% confidence interval from 0.72 to 0.83 ( $F_{(134, 9916)} = 4.8, p < .001$ ). GP represented a higher degree of reliability for all measurements with an ICC of 0.81 ( $F_{(134, 9916)} = 5.3, p < .001$ ). The lowest reliable variable for BSP was contingency at 0.77 (95% CI [0.69, 0.84],  $F_{(44, 3256)} = 4.6, p < .001$ ). GP held a greater range in reliability compared to BSP individual variables. The lowest reliable variable of GP was also contingency with 0.80 (95% CI [0.71, 0.86],  $F_{(44, 3256)} = 5.1, p < .001$ ) and its highest was GP with 0.91 (95% CI [0.72, 0.88],  $F_{(44, 3256)} = 5.3, p < .001$ ). Reliability amongst variables appears to support strong evidence of interrater agreement with regards to the variables.

There was strong reliability between all videos rated and the master copy with ICC (2, k) of 0.80 (95% CI [0.77, 0.83],  $F_{(269, 19906)} = 5.1, p < .001$ ). All but four videos, did not meet the established cut score for good reliability videos: A, E, F, and K (see Table 4). Yet, there was reliability difference between videos. The lowest reliability in videos were between Video A with a 0.71 reliability score (95% CI [0.67, 0.75],  $F_{(269, 1076)} = 13, p < .001$ ). The highest reliability of videos was Video C with 0.95 (95% CI [0.94, 0.95],  $F_{(269, 1076)} = 23, p < .001$ ) among raters. Though there appears to be lower reliability amongst four videos, this is a marginal number of videos compared to the majority. Overall reliability of videos supports the strength of the constructs and underlying nature of this study.

**Survey results.** Raters indicated that the BSP-OT is practical and effective tool for measuring praise ( $M = 4.5$ ). Pertaining to the importance of praise being contingent on student behavior, the majority of the raters reported that the contingent delivery of praise is important ( $M = 4.75$ ). Raters were also asked their opinion on the importance of varying praise statements. All raters noted that variability when delivering praise is important ( $M = 5.5$ ). Qualitatively, raters indicated the BSP-OT is a useful tool and captures characteristics of praise that common

frequency counts do not. Critiques of the BSP-OT involved logistical use such as turning the page when conducting an observation and writing the praise word down to calculate variability.

## **Discussion**

Acceptable ICC scores across variables (i.e., BSP, GP, Contingency, Variability) and videos indicate that raters were able to measure accurate data compared to the master copy. These findings are an encouraging step in developing a tool that measures characteristics of praise. Furthermore, acceptable ICC scores and social validity data lend support to the BSP-OT being used in the field by researchers investigating praise, those supporting in-service teachers use of praise, and student teaching supervisors in programs looking to increase their students' use of effective praise for proactive classroom management.

Universal guidelines for praise are still developing. A general rule for the rate of teacher praise is around 6-10 praise statements per 15-minutes (Sutherland, Wehby, & Yoder, 2002), yet little research has explored too little vs. too much praise. And as we have discussed, specific, contingent, and variable praise is likely more effective than not. But apart from general guidelines, specific quantification recommendations are lacking. Because the BSP-OT enables quantification of praise characteristics as percentages, the tool will allow future investigation into measuring and manipulating those characteristics to determine benchmark ratings (e.g., poor, fair, good, excellent). An exploration focusing on the influence of praise contingency and variability is needed to formulate suggested guidelines (e.g., >80%).

## **Implications**

Based on the results of our research we suggest:

1. When measuring praise, researchers, university supervisors, and mentors/coaches should examine characteristics of praise during observations.
2. The BSP-OT is useful for parsing out important characteristics of praise and would be helpful when conducting research and developing teachers.
3. Statistical analysis of coded videos by expert raters suggest the BSP-OT is a reliable and valid tool for measuring praise characteristics.
4. Researchers should use the BSP-OT to measure and manipulate characteristics of praise to identify normative guidelines and standards of praise efficacy

## **Conclusion**

To our knowledge, the BSP-OT is the first tool that attempts to measure characteristics of praise beyond specificity. Given the historical scope of research on praise (Floress et al., 2017) and continuous concerns of classroom management (Westling, 2010) we believe further analysis into praise efficacy is warranted. We hope that the development and reliability findings of this study propel researchers to use and refine the BSP-OT to enhance practices of effective praise for the betterment of student outcomes.

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## BUILDING PRE-SERVICE TEACHERS' FACILITY WITH HIGH-LEVERAGE PRACTICES THROUGH FIELD-BASED ACTION RESEARCH PROJECTS

### **Abstract**

Strong evidence cited in the literature suggests a gap between educational research and practice. Teacher preparation programs are now providing opportunities for pre-service teachers (PSTs) to practice implementing high-leverage practices (HLPs) in authentic contexts. By combining both HLPs and action research projects, PSTs not only understand theoretical concepts but also can identify, track, modify, apply, and analyze student outcomes in meaningful ways. This presentation highlights the evolution of how faculty embedded HLPs in a range of methods courses related to instruction, assessment, behavior, and collaboration in the areas of literacy, mathematics, transition to post-school outcomes, and assistive technology. Faculty connected courses to field-based action research projects that apply HLPs. Recommendations for program connections, standards alignment, evaluation of practices, and logistics associated with field-based work are shared, including lessons learned and future directions.

### **Background/Rationale**

Historically, teacher preparation programs focused on what pre-service teachers (PSTs) need to know about effective practices rather than how to systematically implement these practices in real-world contexts (Grossman, Hammerness, & McDonald, 2009). The gap between educational research and practice is well documented in the literature (Bridges, Smeyers, & Smith, 2008; Vanderlinde & van Braak, 2010). Coursework and field-based experiences are often loosely connected, and therefore contributing toward a disconnect between theory and practice (Grossman et al., 2009). Action research projects can provide a pathway for PSTs to implement interventions and reflect on them to determine their value (Conroy, 2014).

### **Literature Review**

The gap between educational research and practice has been well documented in the teacher education literature (Bridges, Smeyers, & Smith, 2008; Hemsley-Brown & Sharp, 2004; Mortimore, 2000; Vanderlinde & van Braak, 2010). Teacher educators in special education have

raised concerns about the lack of evidence-based practices (EBPs) utilized in schools (Burns & Ysseldyke, 2009; McLeskey & Billingsley, 2008). Therefore, teacher preparation programs have been tasked with providing greater opportunities for PSTs to apply core practices in real-world contexts (Grossman, Hammerness, & McDonald, 2009). Greater alignment between coursework and field experiences need to be coordinated to build confidence and knowledge related to best practices. Action research projects allow PSTs to identify authentic issues in their field placements and select high-leverage practices (HLPs).

Recently, researchers have emphasized a shift in teacher preparation from a curriculum that is knowledge-based to more practice-centered (Grossman & McDonald, 2008). Pairing these practices with greater opportunities for PSTs to apply what they have learned in natural settings has resulted in issues regarding implementation and many unanswered questions for teacher education programs (Grossman & McDonald, 2008; McLeskey & Brownell, 2015). Due to these concerns, McLeskey and Brownell (2015) called for HLPs and more streamlined approaches using clinical field experiences that are more likely to lead to positive teacher outcomes. Research projects that incorporate elements of single-subject design (a) allows PSTs to define appropriate educational practices at the individual level; (b) takes place in educational settings (applied research); (c) involves little cost; (d) provides the rigor of experimental research that also allows for a determination of causal relationships; (e) requires the operational definition of the dependent variable and repeated measures of the dependent variable; and (f) includes a comparison (baseline) and intervention phase (Horner et al., 2005). By combining both HLPs and single-subject design through action research projects, PSTs understand theoretical course concepts and can identify, track, modify, apply, and analyze student outcomes in meaningful ways.

## **Contribution**

This work builds on the recommendations outlined by Horner et al., 2005; Grossman, Hammerness, and McDonald, (2009); McLeskey and Brownell (2015); and McLeskey et al., (2017). Presenters provided multiple examples of clinical experiences that could be adapted to meet the needs of other teacher preparation programs. Project examples were provided across a variety of HLPs, including literacy, math, transition to post-school outcomes, collaboration, behavior, and assistive technology. Presenters shared their experiences in developing and shaping action research projects using elements of single-subject design.

## **Practical Implications**

Below are suggested tips for connecting HLPs to course-based activities and possible field-based applications and identified benefits and barriers to implementing HLPs in authentic contexts including, recommendations for teacher preparation programs.

- As seen in Table 1, the faculty easily aligned many activities already used throughout courses and field experiences to several HLPs. These activities typically require multiple steps, including reading relevant literature for content, class-based activities, implementation in a K-12 public school setting, PST reflection, and formative feedback from field mentors and faculty. These projects occur throughout special education undergraduate and graduate teacher preparation programs.

Table 1

*Example Course/Field-Based Activities Aligned to HLPs\**

HLP	Activity
(4) Use multiple sources of information to develop a comprehensive understanding of a student's strengths and needs	Cumulative File Review Attitudes/Interests Survey
(5) Interpret and communicate assessment information with stakeholders to collaboratively design and implement educational programs	Student/Teacher Interviews Student/Teacher Observations CBM Benchmarking
(6) Use student assessment data, analyze instructional practices, and make necessary adjustments that improve student outcomes	Math Dynamic Assessment Transition Assessments AT Evaluations
(9) Teach social behaviors	Classroom Management Plans Social Skills Unit Plan
(10) Conduct functional behavioral assessments (FBASs) to develop individual student behavior support plans (BSPs)	FBAs BSPs
(12) Systematically design instruction toward a specific learning goal	Instructional Goal Development CBM Progress Monitoring Graphic Organizers
(14) Teach cognitive and metacognitive strategies to support learning and independence	SRSD for Writing Positive Self-Talk
(19) Use assistive and instructional technologies	Low-Tech AT Development UDL Framework

Note: \*HLPs are introduced and practiced through coursework and then applied in public K-12 school-based settings.

- Examples of HLP projects included creating access based on AT Evaluations and designing/implementing AT solutions, promoting self-determination via Transition Plans, and creating community partnerships and improving community engagement.
- Some students, who are honors scholars or interested in engaging in undergraduate research, leveraged what they learned through course and field-based HLP activities to conduct action research projects. In this way, the PST worked with a faculty advisor to develop a plan including formulating research questions, reviewing the literature, determining methods, and submitting an application for Institutional Review Board (IRB) approval. Additionally, the advisor supported the PST with selecting, implementing, and evaluating intervention methods, completing the data analysis and discussion, identifying limitations, and making recommendations for future investigations.

- Examples of PST's research projects using elements of single-subject design included implementing writing and math interventions using written expression and math CBM benchmarking and progress monitoring assessments, attitude/interest surveys, self-regulated strategy development (SRSD), graphic organizers, positive self-talk, and the concrete-representational-abstract (CRA) approach to instruction.
- PSTs presented their work in a variety of contexts, including course-based presentations, a campus-wide symposium, local and national conferences, and a thesis defense.
- Faculty will continue investigating ways to integrate field-based action research projects for all majors and minors in the undergraduate and graduate programs.
- Benefits of building pre-service teachers' facility with high-leverage practices through field-based action research projects include building partnerships with field practitioners, supporting reciprocity agreements between in-service and pre-service teachers, creating authentic learning contexts, promoting creative problem-solving situations, instituting purposeful redundancy in advanced concepts to build more in-depth learning, and providing multiple feedback opportunities.
- Barriers to building pre-service teachers' facilities with high-leverage practices through field-based action research projects include finding high-quality mentors and field placements, negotiating the research-to-practice gap, scheduling, transportation, and other logistical matters, and overall navigating of a rural landscape.
- Recommendations for others when deciding to pursue similar projects include ensuring buy-in from all key stakeholders (e.g., students, field mentors, administrators), beginning with a broad view and goals in mind, prioritizing tasks, planning schedules, exploring resources (e.g., transportation services, online modules, video observations, campus resources, telepresence robotics), and supporting the implementation, data collection, evaluation, and on-going revision of efforts.

### **Final Thoughts**

Action research projects using elements of single-subject design allows PSTs to identify authentic issues in their field placements, implement research-based interventions with K-12 applications, develop professional writing and presentation skills, and evaluate the use and impact of HLPs in real-world contexts.

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## IMPOSTER SYNDROME IN TEACHING FUTURE TEACHERS: FROM DOUBTING TO ASSUMING MENTORSHIP IN THE AFFINITY SPACE OF PRACTICUM

### **Abstract**

An auto-ethnographic study described and scrutinized how certain practicum experiences induced the imposter phenomenon in practicum supervisors of preservice university teacher candidates. How Gee's (2018) "evolved learning" and his work on affinity space was used to mitigate and overcome feelings of inadequacy associated with imposter syndrome. Throughout the semester Gee's (2017, 2018) work on social discourse in a learning environment and his nuanced work on affinity spaces was discussed by participants. Reflective writings were collected throughout the practicum experience whereby each participant recalled an instance where they experienced imposter syndrome and how they managed the feelings of inadequacy they experienced.

### **Background/Rationale**

"The impostor phenomenon (IP) refers to high-achievers who underestimate their abilities and thus fear being unmasked as impostors" (Patzak, Kollmayer, & Schober, 2017, p. 1). Clance and Imes (1978) in their seminal work on the imposter phenomenon, found that while women and minorities are more likely to experience and retain feelings of imposter phenomenon, most professionals will experience the phenomenon at some time during their career. Teacher preparation programs often use mentoring from a practicum supervisor in order to develop qualified preservice candidates (Hobson, Ashby, Malderez, & Tomlinson, 2009). While some work exists, which links the effectiveness of higher education faculty to the absence of IP (Brems, Baldwin, Davis, & Namyniuk, 2019). No work was found which examined the extent of the effect of IP in graduate student mentors or field-based faculty mentors on the performance of undergraduate preservice teachers within their practicum experience. More work is needed to examine the effect of IP on pre-service teacher mentors.

Chapman (2017) posits that a sense of belonging can help to mitigate the effects of IP on mature students entering college. Feelings of belonging afford these students a more positive view of themselves in their new experiences. New experiences, awards, and achievements according to Clance and Imes (1978) trigger IP, where the accompanying feelings of inadequacy limit the effectiveness of the person with imposter syndrome (Chapman, 2017).

Video game developers utilize virtual communities within the context of their games for the purpose of teaching and learning their very complex and strategic virtual environments (Gee, 2017). This, according to Gee (2017), provides a path for players to acquire a sense of belonging

within the virtual environment of the game. Gee (2017) posits that the game platforms build a virtual affinity space which can give to the players a sense of community; a sense of belonging within the virtual environment with a shared purpose of maneuvering through the virtual environment in order to collectively win the game. Gee (2017) refers to the players in these virtual environments as shared travelers or fellow “affines”.

Expanding the virtual affinity space of an online game while attending a gaming convention or a brick and mortar game store is done by extending the vernacular, strategy, and procedure for problem solving of the virtual environment within the game (Abrams, & Lammers, 2017). In doing this the player creates a traditional affinity space which is an extension to their virtual affinity spaces which reside online (Gee, 2019). Ergo, allowing the player to extend his or her community or sense of belonging to a new environment by projecting a shared purpose (Neely & Marone, 2016).

Gee (2011), a linguist who studies discourse analysis, posits that the concept of discourse within the affinity space of an online video game takes on a new meaning. In the case of an extended affinity space, discourse becomes contextual. Gee (2011) describes this as “situated and embodied learning” according to him in this case problem solving is not about knowing facts but more about solving the problem in front of you.

### **Purpose of Study**

The purpose of this study was to determine if Gee’s (2017) concept of extending affinity spaces, social discourse, and communities of practice can be used for the supervisors of university practicum students in order to mitigate the effects of imposter syndrome on the graduate student mentors. By building a community complete with a sense of belonging in a university environment, and then projecting that community onto a separate locale like a school or classroom which is hosting a pre-service teacher. We sought to determine if the shared purpose of pre-service teacher preparation could create “affines” or shared travelers of the mentors within the experience.

### **Method**

A qualitative auto ethnographic study was conducted whereby two graduate student practicum supervisors and one field-based faculty member from a Western university reviewed and scrutinized Gee’s (2011, 2017, 2018) work on discourse analysis in the context of a community of learners in the affinity space of an undergraduate pre-service practicum experience. Over the course of one semester three journal entries were recorder for the practicum supervisors in which each participant answered the following questions: Identify and explain how a situation induced imposter syndrome while supervising practicum; Describe the frequency that similar situations came up while supervising; Identify and describe how the physical and social characteristics of supervising practicum worsened or improved imposter syndrome when dealing with that same situation. The journal entries were recorded for all three questions four weeks into the practicum, and again at 10 weeks and again at the end of the semester.

Both practicum supervisors were male with less than two years of experience in their own classrooms. All settings were in suburban neighborhoods or at the Land Grant University in the foothills of a Western State:

Setting 1: An elementary school in an upper middle-class neighborhood;

Setting 2: A Title 1 elementary school in a predominantly Hispanic neighborhood;

Setting 3: A classroom at the Land Grant University

Data collection was facilitated by participants journal entries to the repeated three prompts over the course of the semester. Initial data was inclusively coded by prompt and themes were created where there was autoethnographic agreement. The two primary themes were: conflicting philosophies and social discourse.

## **Results**

Theme one, conflicting philosophies, was identified by each participant on more than one entry for each. IP was experienced when a practicum student asked a specific question of a supervisor which was highly contextual, and that research has more than one specific answer. “I experienced imposter syndrome usually when I was asked very specific questions by a student. I often had more than one answer, and I often struggled with being the one who decided which answer is most relevant for that specific student” (Participant A). The concept of competing theories such as the one shown here, diminished as the semester progressed being replaced by the idea that competency was better defined by collaborative problem-solving using both the practicum student’s knowledge as well as the practical application of shared experiences in the classroom to augment the theoretical solutions which present themselves. “It is not enough to talk and think through theory; there appears to be a critical piece of action that imbues competency” (Participant B).

Theme two, social discourse, was a manifestation of Gee’s (2017) work within the context of our practicum experience. “Gee's Affinity space was instrumental in rapidly improving my comfort and confidence in new settings as I began to recognize space as cognitive rather than geographic. The students became travelers in my (our) journey, co-affinites” (Participant A).

## **Discussion**

Clance and Imes (1978) identify IP as a problem for everyone who seeks to advance themselves either academically or professionally. The act of pushing oneself to grow creates a profound opportunity to experience IP or imposter syndrome once that growth occurs and/or is recognized by others. An intimate understanding of, and inclusion within, a learning community whereby each participant is reinforced by social interaction and positive discourse with others can have a positive effect on the feelings of inadequacy associated with IP.

## **Implications**

Based on the results of our research we suggest:

1. Further work on Gee's (2011) social discourse when seeking to mitigate the effects of the imposter phenomenon or imposter syndrome.
2. Self-compassion become an integral part of academia which is taught and fostered with the same rigor as academic competition.

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## IMPACT OF UDL INTEGRATION ON TEACHER CANDIDATES' KNOWLEDGE, PERCEPTIONS, AND ATTITUDES

### **Abstract**

This paper explores a collaborative, cross-disciplinary curriculum reform effort on teacher candidate learning conducted at a regional comprehensive university in the Southeast U.S. The goal of this effort was to reform teacher preparation curriculum to prepare graduates to effectively teach students with disabilities (SWDs) in inclusive environments. Reform efforts focused on systematic integration of Universal Design for Learning (UDL) to prepare teacher candidates enrolled in a dual certification program (elementary/special education). A quasi-experimental, static-group comparison design was used to explore the impacts of the teacher education curriculum reform on candidate learning and attitudes. Surveys of student perceived knowledge and attitudes were conducted and application of the UDL framework within lesson plans was analyzed. Results indicate improvement in perceived knowledge and usefulness of the UDL framework and a broader application of UDL strategies in lesson planning.

### **Background/Rationale**

More than 60% of students with disabilities (SWDs) receive at least 80% of instruction in general education (National Center for Education Statistics, 2016); therefore, teacher candidates must be well prepared to meet the needs of all learners. Teacher preparation programs can improve the skills and confidence of teacher candidates for inclusive education (Tangen & Beutel, 2017). Unfortunately, few reform efforts have included systematic coordination across general and special education (Blanton, Boveda, Munoz, & Pugach, 2017). A potential bridge that may connect both general and special education while allowing teachers in both disciplines to reach all learners in inclusive classrooms exists in Universal Design for Learning (UDL). Yet, research exploring how preservice teachers are prepared to use UDL in future classrooms is limited (Moore, Smith, Hollingshead, & Wojcik, 2018).

Universal Design for Learning is an instructional design framework for incorporating evidence-based practices into instruction to improve learning outcomes for students with and without disabilities by reducing learning barriers (Capp, 2017). The UDL framework rests upon

three instructional principles which include multiple means of representation, action/expression, and engagement (Meyer, Rose, & Gordon, 2014). Research suggests infusion of UDL into teacher preparation promotes candidates' selection of UDL strategies in lesson planning to promote engagement and learning (Spooner, Baker, Harris, Ahlgrim-Delzell, & Browder, 2007). Both Spooner et al. (2007) and Courey, Tappe, Siker, and LePage (2012) demonstrated positive effects of UDL training on teacher candidate lesson plan development. Edyburn (2000) argued, however, that UDL integration is not intuitive and can be challenging. Thus, teacher candidates will require training and guidance to effectively use UDL.

## **Purpose of Study**

Although SWDs are typically included in general education classrooms, teachers are not always well prepared to effectively meet their learning needs (Spooner et al., 2007). Blanton and Pugach (2011) advocated for collaborative teacher education models that promote faculty collaboration across general and special education and merged curriculum to improve educational outcomes for SWDs. Guided by this, the present study utilized a curriculum reform model to support high levels of cross-disciplinary faculty collaboration and coordinated integration of content to support improved preparation of teacher candidates to become effective inclusive educators. This study explored the impact of a cross-disciplinary UDL curriculum enhancement on teacher candidates' knowledge and perceptions of UDL strategies and attitudes towards SWDs. Questions focused on whether candidates demonstrated changes in: (a) perceived and actual knowledge of UDL, (b) perceived confidence in using UDL strategies, (c) usefulness of UDL strategies, and (d) attitudes towards SWDs.

## **Method**

A quasi-experimental, static-group comparison design was used for pre- and post-curriculum enhancement. A total of 65 candidates (32 pre and 33 post) participated in this study. Participants were enrolled in student teaching, the culminating clinical experience in a dual licensure program at a regional comprehensive university in the Southeast U.S. Using the Innovation Configuration for UDL (Israel, Ribuffo & Smith, 2014), faculty collaborated to systematically integrate UDL content across all content and clinical courses. Data sources included survey responses and lesson plans collected from candidates before and after the curriculum enhancement.

The survey was developed to assess candidate perceptions related to UDL and attitudes towards SWDs. The UDL perceptions subscale assessed candidates' perceived knowledge, confidence, and usefulness (KCU) of 14 essential UDL concepts and strategies addressed in the UDL curriculum enhancement. The KCU approach was based on previous surveys of teacher perceptions of professional development (Barton-Arwood, Morrow, Lane, & Jolivet, 2005; Lane et al., 2015). The second subscale included 14 Likert-type items focusing on candidate attitudes towards SWDs, specifically their commitment to ensuring the success of SWDs in the classroom. Reviews by content experts and cognitive interviews with candidates provided evidence of validity. In a pilot study, the reliability of the survey was found to be acceptable with Cronbach's alpha coefficients of .96 for the UDL perceptions items and .78 for the attitude items.

Survey results were analyzed using descriptive statistics, including means and standard deviations. Independent t-tests were additionally used to compare pre- and post-enhancement results for the following sections of the survey: perceived UDL knowledge, usefulness of UDL, and confidence in using UDL, as well as attitudes towards students with disabilities. Effect sizes were calculated using Cohen's *d* when significant differences ( $p > 0.05$ ) were identified by the independent t-tests.

To explore application of UDL strategies, a random sample of 20 lesson plans (10 pre and 10 post) were collected and analyzed for use of the UDL principles and guidelines. Although a general lesson plan guide was provided to candidates to assist with their planning, candidates were not specifically prompted to use the UDL framework to address learning barriers.

## Results

Following the curriculum enhancement, candidates reported significantly greater perceived knowledge and perceived usefulness of UDL as shown in Table 1. However, there were no significant changes in perceptions of confidence in using UDL or attitudes towards SWDs post curriculum enhancement.

Table 1  
*Pre and Post-curriculum Enhancement Survey Results*

Survey items	Pre (n=32) <i>M(SD)</i>	Post (n=33) <i>M(SD)</i>	Effect size
Perceived UDL knowledge	46.84 (5.85)	51.19 (4.99)*	.80
Perceived confidence in using UDL	44.73 (7.27)	47.74 (5.98)	
Perceived usefulness of UDL	49.39 (5.44)	53.05 (3.85)*	.77
Attitudes towards students with disabilities	45.41 (3.54)	45.72 (1.42)	

\* $p < .05$

The analysis of lesson plans indicated that both pre and post-enhancement groups consistently incorporated some strategies suggested in the UDL framework, such as activating prior knowledge, clarifying vocabulary, guiding practice, providing mastery feedback and reducing distractions. Following curriculum enhancements, candidates additionally incorporated strategies related to alternatives for auditory/visual information and highlighting critical features and patterns. We noted, however, few instances related to executive functioning, self-assessment and goal-setting, choice and autonomy, and self-regulation.

## Discussion

The present study supported that systematic integration of the UDL Framework across a teacher preparation curriculum can have a positive impact on teacher candidate learning and development, but additional efforts may be needed to increase both self-confidence and application of a broader variety of UDL strategies. Results from the student survey support that students who participated in the UDL enhanced curriculum had significant gains in perceived knowledge of UDL. Additionally, the post-enhancement group expressed increased perceived usefulness of UDL strategies to reduce learning barriers. While there were positive mean score gains related to attitudes for teaching SWDs and perceived self-confidence using UDL strategies, these increases were not significant. Results appear to support that teacher candidates' attitudes towards teaching SWDs were positive prior to the intervention and remained so after UDL integration. Related to perceptions of confidence in using UDL strategies, the authors believe it would be beneficial to provide additional support and mentoring to help teacher candidates develop confidence generalizing UDL strategies from practice in methods courses to application in k-12 classrooms.

It was noted that both pre- and post-enhancement groups included UDL strategies commonly included in scripted curricula into their lesson plans. However, teacher candidates who experienced the UDL enhanced curriculum included a wider variety of UDL strategies mainly related to how teachers present new content through multiple means of representation. Authors noted a lack of UDL strategies designed to empower learners including strategies related to self-regulation and executive function. To broaden the variety of UDL strategies used, including empowerment strategies, it would be important to provide teacher candidates with intentional practice and guidance integrating UDL into lesson planning in k-12 classrooms.

## **Implications**

Based on the results of our research we suggest:

1. Teacher candidates need support to transfer knowledge from methods courses to lesson planning in clinical experiences with purposeful use of UDL strategies
2. Teacher candidates need additional support and guidance to understand how to integrate UDL strategies not commonly used in scripted curricula into lesson plans
3. Teacher preparation programs should intentionally support the integration of UDL strategies related to executive functioning and self-regulation
4. Teacher preparation programs should collaborate with inservice teachers to enlist support in guiding teacher candidates to implement UDL in clinical experiences

## **Conclusion**

This study demonstrated that systematic integration of UDL across courses and clinical experiences in a teacher preparation program can improve perceived knowledge and usefulness of UDL and broader use of UDL strategies. However, a focus on UDL strategies commonly used in school-district adopted curricula indicate that teacher candidates may need more intentionally focused practice and mentoring to include a wider variety of UDL strategies in lesson planning. Further, teacher education faculty should collaborate with school districts to support the generalization of UDL integration from methods courses to clinical experiences. We hope this study can help inform other teacher education programs interested in embedding the UDL framework into curriculum to support the development of effective inclusive educators

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## AN INTERNATIONAL CROSS-COMPARISON OF PROFESSIONAL DEVELOPMENT PROGRAMMES FOR SPECIAL EDUCATION TEACHERS IN IRELAND AND THE USA

### **Abstract**

International policies continue to shape inclusive education systems globally. In addition, societal expectations for higher outcomes for all students is increasing. Effective teachers with high levels of knowledge and skills are central to the implementation of successful inclusive practices. Professional development (PD) is a critical component of inclusive education movements. Analyzing PD programs highlights the barriers and facilitators to teacher change. A better understanding of these issues will inform and enhance the future development of PD for special education teachers (SETs). This paper will share findings from studies of two PD programs and compare and analyze implications of both. Findings suggest that while PD for SETs is a positive feature in increasing outcomes for students with special educational needs (SEN), a whole school approach to PD with the provision of supports at systems level is required to ensure that each student, including those with SEN, achieve their learning potential.

### **Background**

The shift towards inclusive educational practices involves changing cultures and structures for all students and poses unique challenges for teacher learning and development. Implementing inclusive practices embodies the adoption of principles and processes to ensure the “presence, participation and achievement of all students” (UNESCO, 2005, p. 15). Teachers form the nucleus of inclusive education processes and practices (Shevlin et al., 2013). Special education teachers (SETs) acquire content and pedagogical knowledge, understand how technology supports teaching and learning, have a knowledge of the characteristics of the student and the educational implications of their specific learning needs (Brownell et al., 2010). Some teachers believe that they do not possess the skills and knowledge necessary to work effectively with students with disabilities (Zagona et al., 2017). Their views that professional development is the avenue to acquiring the specialized knowledge and skills required of them in inclusive settings is acknowledged in the literature (Leko & Brownell, 2009). However, teachers’ responses to PD varies (Brownell et al., 2006) and may be dependent on individual and/or contextual factors. An understanding of the barriers and facilitators to adapted or changed practices following PD can guide the development of effective PD for inclusion.

## Purpose of Study

This paper will present and contrast findings from two studies of professional development programs, one for SETs in Ireland and one for general and special education teams of teachers in Florida. Both PD efforts focused on promoting research-based inclusive practices to improve teacher knowledge and practice. The overarching aim of the PD was to increase outcomes for students with SEN. To achieve this aim, the studies analyzed the extent to which the PD was able to change teacher practice to better support learning outcomes from students with disabilities. In order to better understand the ways in which teachers' experiences are similar and different across contexts, demands, and PD format, this paper will provide an international cross-comparison of the two programs for SETs in order to answer the following question: *From SETs perspective, what are the barriers and facilitators to effective PD in Ireland and the United States?*

The first study, *Examining Special Education Teacher Learning in Mathematics* focused on a cohort of SETs (n = 32) who had completed a postgraduate program of professional development in special education in Ireland. The funded year-long program, aimed to provide SETs with 'substantial theoretical and practical professional development' to support them to meet the teaching and learning needs of their students (Department of Education and Skills, 2012 p. 2). The program was delivered on a face to face basis and involved block release from school. Specifically, the purpose of the study was to understand the factors, individual and contextual, influencing SETs acquisition of knowledge and skills for teaching math to students with SEN following their participation on the PD program.

In efforts to better support students with SEN within the general education classroom, our second study showcases a collaborative professional development project, *Project InSync*, aimed at increasing general and special educators' shared knowledge and skill for effective literacy instruction across the MTSS framework. In this year-long study, 4<sup>th</sup> and 5<sup>th</sup> grade teachers of general and special education (n = 7) from one school in Florida participated in a combination of face-to-face professional development coupled with face-to-face lesson study planning, observation, and debriefing sessions. In congruence with the study facilitated in Ireland, individual and contextual factors facilitating or hindering teachers' professional learning experiences were examined.

## Method

Conducted in four phases over a 30-month period, the Irish study adopted a mixed-methods case study approach to gather data relating to individual teacher factors such as attitudes towards inclusion, math teacher efficacy, mathematical knowledge for teaching and mathematics anxiety. Data relating to contextual factors such as leadership, inclusive school policies and practices was gathered through interviews. Data analysis included descriptive statistics and thematic analysis (Creswell & Poth, 2018).

Project InSync was a year-long professional development. Data were collected at the teacher and student levels from a variety of different sources. However, for these analyses, the researcher focuses on the ways the teachers' understandings of students, content, and

coordination revealed during lesson study planning and debriefing sessions change as a result of their participation in this innovation. Grounded theory methods (Charmaz, 2006) were employed to analyze the teachers' discussion for changes in these constructs.

## Results

Taken together, findings from the two studies echo and extend the idea that individual and contextual factors are significant contributors to whether or not changes in practice occur (Brownell et al., 2006). Findings from both studies suggest while PD for SETs is a positive feature in increasing attainment in math for students with SEN, a whole school approach to PD with the provision of supports at systems level is required to ensure that each pupil, including those with SEN, achieve their learning potential. Through an international cross-comparison striking differences related to contextual influences become clear. Unlike among Irish teachers, pressure related to high-stakes testing and accountability systems in US contexts present a significant barrier; that is, perceived "success" in raising test scores is believed to outweigh increased teacher knowledge. Project InSync's innovation reveals that teacher learning takes time, and that without increased support both general and special educators often have many misconceptions about students with disabilities as learners.

## Discussion

Teachers have direct influence on the academic outcomes of their students (Bettini et al., 2016). Thus, professional learning opportunities provide teachers with the opportunity to gain expertise to respond to the teaching and learning needs of students with SEN. Due consideration must be given to the individual and contextual factors which support and challenge the acquisition of new teacher knowledge and the implementation of new practices in the quest to increase student outcomes.

Supporting teachers to engage in PD is a critical component of effective inclusion. A supporting factor of the Irish PD program was that it was state funded and that it included block release from schools. Teachers' previous experiences and engagement with PD programs also had a part to play in their future engagement with such programs. Increased student attainment levels have proven to positively influence the participation of teachers in additional PD. Previous studies indicate that increasing teacher expertise is dependent on the positive dispositions of leadership/management personnel to PD. Teachers acknowledged such support in terms of approval of their studies, recognition of their newly acquired expertise and increased leadership/management opportunities (Long, 2018).

Following participation in PD, changes in student learning are contingent on teachers' implementation and sustained use of evidence-based practices. In order for this to happen, infrastructures at local school systems must be created to not only support teacher learning, but assist teachers in integrating newly acquired knowledge into classroom practices (Shirrell et al., 2019; Leko & Brownell, 2009). Infrastructure in this context implies that internal school structures and supports to the implementation of teachers' newly acquired knowledge and skills are required in order to raise student attainment levels (Shirrell et al., 2019).

As classroom contexts become increasingly diverse and inclusive, the vast majority of students with disabilities spend 80% or more of their instructional time in the general education classroom (Lambe & Bones, 2006; NCSER, 2019). This means that general education teachers are largely responsible for supporting the instruction of students with disabilities (Finkelstein et al., 2019). In order to ensure that education is meaningful for these students, general and special educators must tightly coordinate instruction. Effective coordinated instruction across tiers requires general and special educators to develop collective understandings and skills for enacting evidence based academic and behavioral instruction (Benedict et al., 2013; Long, 2018).

## **Conclusions**

The gap between what we know and what we do is a continual challenge in many fields, but particularly in education. This is especially true with regards to PD to support inclusion in terms of its ability to meaningfully impact teachers' views of students with disabilities practice in inclusive contexts. A number of barriers prevent teachers from implementing programmes or practices learned from PD, yet a comprehensive understanding of the facilitators of change, and the time it takes teachers to learn, is still emerging. In order to develop effective professional development programmes for all teachers of students with disabilities, the individual and contextual factors influencing their learning must be considered.

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## CREATING AND SUSTAINING AN ONLINE GRADUATE PROGRAM

### **Abstract**

Online programming provides increased access to higher education. Given the continued growth of online programs worldwide, responsible programming requires attention to effective instructional design and delivery. Providing ongoing support to faculty to ensure they are prepared to create a course and also to instructors who will teach in the online world is necessary. For many learners, online education is new and potentially daunting. Thus, supporting learners by engaging them via coursework and advising is critical and contributes to learner success. This paper describes the creation and maintenance of a graduate-level program in special education at a large university that serves and supports adult learners around the globe to work with individuals with special needs. Recommendations from relevant research and best practices from our experiences to support instructors and learners are outlined.

### **Background**

Online programming continues to experience growth across the nation and worldwide (Palvia et al., 2018). Although, when comparing online higher education to more traditional residential education, attrition rates are much higher (Moody, 2004; Myers & Rankin, 2016). To attend to these high attrition rates, it is essential to design effective online programs. Creating quality online programs for educators around the globe who work with individuals with special needs is no small undertaking. Higher education programs must address the unique needs of both online graduate students and their instructors.

Adult learners continue their education with added responsibilities, such as careers and families (Sun & Chen, 2016). These responsibilities make it easy for adult learners to become disengaged from their courses and program as well as unmotivated. Palvia and colleagues (2018) note that due to the nature of online education, adult learners may feel isolated from peers and instructors. Furthermore, technology concerns commonly arise in the online world (Price, 2016). Many returning learners have been out of a traditional learning environment for some time, and entering into the online world and learning in it, is quite different. Therefore, it is suggested that online learners receive early, as well as ongoing support throughout the program in order for

them to feel as though they are a part of the university (Angelino & Natvig, 2009; O'Shea, Stone, & Delahunty, 2015).

While it is essential to address learner needs, it is also important to attend to instructor needs. Instructors often report feeling like there is a lack of support from their institution when teaching online courses (Sun & Chen, 2016). Yet, the instructor role is complex and critical in the success of the course; thus, this must be remedied. Online teaching is different from the residential delivery model, as the typical lecture-style with embedded activities does not transfer well into an online format. The design and delivery of an online course takes time and careful attention. Sun and Chen (2016) note that the course design phase is a multi-faceted and ongoing process. They also emphasize the importance of a well-organized course where expectations are made clear and the content is relevant to students.

It is also vital that while implementing the course, instructors create opportunities for interaction (Huss, Sela, & Eastep, 2015). Learners want to interact with their instructor and also with their peers. Additionally, particularly in the online world, an important part of the instructor's role is to provide feedback. Feedback can be provided through various mechanisms, including text, video, and/or audio. Noteworthy and Boswell (2016) suggest that detailed feedback helps learners monitor their progress and ensures them that they are on the right track.

## **Solution**

To attend to the challenges that online learners and instructors commonly encounter, we drew from the literature to strategically design a high-quality online graduate program in the area of special education at our large public university. Our program was fortunate to have a pre-existing academic partnership between an academic unit and a centralized service. The academic unit ensures academic quality, including curriculum, course content, and instructors, while the centralized unit assists with effective remote delivery to reach the adult learner audience. These two groups work together to collaboratively design and deliver an online graduate program. This collaborative model has been effective over the last four years. Our program began with just 20 learners. Today we have almost 200 learners enrolled.

As noted previously, online programming provides access to education to diverse learners around the world (Nsiah & Oti-Boadi, 2015). When supporting learners who work with individuals with special needs, a quality program is vital. Quality and effective online programming consists of well-designed courses, quality interactions, prepared instructors, and appropriate technology (Sun & Chen, 2016). To ensure that faculty are prepared for the online environment, they need to be trained and supported in course design and delivery (Wolf, 2006). Once well-designed courses are created, Dixson (2010) posits that online instruction can be just as effective as typical residential instruction. She suggests that instructors must be present in the online community, which requires them to engage and interact with learners. Price (2016) notes that learners desire the engagement. In addition to effective instruction, advising also emerges as an important component within an online program. Schroeder and Terras (2015) suggest that successful advising includes guidance, trust, and communication.

Given the growth of online education and the need for high-quality programs, below are recommendations from recent literature and best practices based on our experiences on how to create and grow a program that initially and continues to support and develop instructors. Additionally, we provide suggestions on how to engage students via coursework and establish an advisor-advisee relationship.

**Supporting and developing instructors.** Sun and Chen (2016) suggest that a high-quality instructor is paramount to online education. Thus, providing support to faculty as online instructors who will service and support graduate level learners is essential. During the initial stages of program development, courses need to be created. Wolf (2006) found that faculty must be involved in the course design. In our model, faculty write the content for each course, design activities to support student learning, and prepare evaluations to assess understanding. Because we have an academic partnership, learning design experts from the centralized unit, with input from faculty members, design the course. The learning designers have the training and expertise to enhance the content through innovative ways; yet, faculty members contribute to the process, as they are the content expert. Through this collaborative team, we create opportunities for students to engage with the content to gain knowledge and also to apply what they have learned.

Once the collaborative team has prepped the course, our seasoned, online instructors and learning designers assist novice instructors on how to successfully engage and work with diverse learners. This ensures fidelity of course content and delivery. Although the content is ready, the instructor now delivers the content in meaningful ways. As Noseworthy and Boswell (2016) suggest, instructors should first establish an online presence. One mechanism to do so is to create an online persona allowing the instructor to connect with the learner on a more personal level. This may also help the learner feel less isolated in the online world. To do so, the instructor communicates with the learner via the course through email, video, and/or audio. Learners also note that it is helpful when instructors operationally define clear expectations, as this sets the foundation for what is to come in the course. Instructors continue to connect with the learner throughout the entirety of the course via communications, meetings, and feedback.

**Online student engagement via coursework.** Adult learners can be hesitant to enter the online world. For our learners, returning to “school” can be an overwhelming task, as many have been practitioners in the field for some time. Furthermore, many are nervous to navigate the online environment. In this technology-oriented world, learners are often novices in online learning communities (Warden, Stanwroth, Ren, & Wardent, 2015). To combat concerns, Angelino and Natvig (2009) suggest that student engagement and quality interactions assist learners when entering in online communities. Establishing and maintaining engagement activities facilitates interactions and helps to create a community among online learners. Likely, this begins with a simple interaction to establish the online presence, as noted above. As Nash (2015) notes, communications or interactions within a course should occur frequently. For instance, these interactions could take the form of virtual meetings, online repositories, and asynchronous and synchronous course components.

In our program, learners engage in the content through various mechanisms. Some take the form of more traditional readings and videos. However, learners also participate in discussions via both synchronous and asynchronous opportunities. Asynchronous activities

provide flexibility to the learners, as they can complete activities at their convenience. We include threaded discussions where students are required to interact with the instructor and their peers. Through innovative applications, learners create and post presentations that allow for instructor and peer interaction and feedback. Our program has also included synchronous activities strategically placed within the program. We are mindful about adding these to pivotal points in the program, as we do not want to oversaturate the program to the point that they become a hindrance to the online learner. The synchronous activities primarily are used for instructors to either discuss difficult content with a group or provide feedback to individual learners. As Huss, Eastep, and Sela (2015) report in their survey, we concur that these social interactions also help to build a stronger online learning community.

**Advising.** Advising is also a critical component of online education (Schroeder & Terras, 2015). The advisor-advisee interaction is vital to learner and program success. Myers and Rankin (2016) suggest that connecting the advisee to the advisor as soon as possible is best. The advisor is familiar with program specifics and serves as the consistent point of contact for the advisee. In addition, s/he can share program expectations. Thus, in our program, as soon as learners receive their letter of acceptance, the advisor immediately follows up with a welcome email and an invitation to sign up for a group orientation meeting. A group of learners then meet face to face, albeit virtually, with their advisor. This is viewed as a time to share information with advisees and also to gather information from them. We believe that this interaction assists in fostering a relationship between the advisor and advisee and also helps to establish a community of online learners. After the orientation, advisees, with the help of the advisor, build a personalized program plan together. The plan serves as a guideline and is meant to be tailored while also flexible. Advisors and advisees continue to meet as needed; however, communication is ongoing and can happen via email, phone, in-person, or virtually.

As learners move through the program, advisors continue to connect with advisees. We strategically send a variety of program logistics and reminders to the student, while consciously avoiding overwhelming them with emails. Finding that balance is essential. We also monitor advisee performance in courses and through the program by examining their grade point averages each semester. Advisors identify students who are struggling and subsequently intervene. We provide a wealth of resources such as the writing center, health and mental wellness resources, and supports for learners with disabilities. Advisors continue to monitor the progress of our struggling and successful learners. We communicate with them repeatedly throughout the semester and program.

## **Conclusion**

Given that retention can be problematic not only in higher education (Myers & Rankin, 2016) but also in the online world (Fetzner, n. d.), we hope that the collaborative approach between the academic unit and centralized service establishes a high-quality program. Supporting instructors and learners initially and continuously helps to maintain an effective program, all while creating a community of online learners. It is our desire for learners to be successful in their coursework and program, but ultimately, we want them to be more prepared and effective in their career when working with individuals with special needs.

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## CLASSROOM TEACHERS DISRUPTING DISPROPORTIONALITY

### **Abstract**

IDEA requires that race and culture are addressed within discussions of discipline systems and teacher-student interactions; these are potential sites for disrupting the disproportionality of students of identified with Emotional/Behavioral Disorders. Elementary teachers working within School wide Positive Behavioral Interventions and Supports (PBIS) school discussed their culturally responsive (CRT) classroom management practices. Challenges of simultaneously implementing PBIS and CRT were identified, including recognition that people holding power, who are overwhelmingly White, develop and implement the system which negatively impacts Black and Brown people disproportionately; the system itself needs to be interrogated.

### **Background/Rationale**

Racial disparities occur at multiple points within IDEA processes: identification, placement, and discipline. (NCES, 2018), but the process of special education identification starts in the general education classroom. Classroom teachers hold great power in deciding what behaviors are acceptable in the classroom. Current policies and practices of behavior management (Wright, 2017) and cultural responsiveness (Darling-Hammond, 2015) put the onus on teachers to solve the problem. Gregory, Skiba, and Mediratta (2017) validated the power of the student-teacher relationship and developed a framework for school discipline to increase equity, and decrease disproportionality which included culturally responsive teaching (CRT), supportive relationships, positive and respectful school environments, and opportunities for learning and correcting behavior. If we are to transform the system, it is necessary to give teachers the tools for analyzing discipline systems and increasing their cultural responsiveness.

Extensive studies analyze the causes and impacts of the overrepresentation of Black and Brown youth (BBY) in special education, but the problem persists (Harry and Klinger, 2014; Skiba et al., 2008). BBY continue to be overrepresented within the EBD category of IDEA, and these students are segregated from nondisabled peers at higher rates than White students (GAO, 2013). Large-scale attempts to reduce disproportionality, specifically in the area of Emotional/Behavioral Disorders (EBD) include Positive Behavior Interventions & Supports (PBIS). PBIS' potential for reducing disproportionality and integration with cultural responsiveness (Levenson et al, 2019) needs to be studied. This study addresses how teachers navigate cultural responsiveness within the structures of PBIS and question the discipline system itself, as support BBY exhibiting behavioral differences.

### **Research Design**

This qualitative case study analyzed culturally responsive behavior management practices supportive of Black students exhibiting challenging behaviors. The research questions were:

1. How do teachers practicing cultural responsiveness describe their behavior management for Black and Brown students?
2. What are the “cultural preferences” of their PBIS system and how does that impact their practice?

Prairieview Elementary is a Midwestern suburban elementary school, with Black (African immigrants and African-American) students comprising 14%, Brown students (Hispanic Non-white) comprising 12%, and White students comprising 48% of the school enrollment. Free/Reduced Lunch student enrollment was approximately 50%. The district trained all licensed staff in cultural responsiveness and equity during all years of the study, as part of a long term equity plan. During the period studied, resources for PBIS implementation remained constant within the school. Technical assistance from the state for PBIS implementation involved professional development three times per year for the entire PBIS team for first year, with intermittent support for the following four years. School wide implementation of PBIS was rated as “with fidelity” by the Benchmarks of Quality collaborative interview measurement in four out of five years of the study.

Six elementary classroom teachers who had been at this school for each of the five years volunteered for the study, after an invitation was made for all eligible individuals at Prairieview. Five of these teachers were mid-career teachers, and the sixth teacher was nearing retirement. Each of these teachers participated in self-selected professional development on equity and cultural responsiveness for over nine credit hours in the years prior to the study, and continued this additional training during the study. Three teachers identified themselves as White, one as Asian-American, and two as Asian-American/White. Four of six of the teachers were members of the PBIS team. The researcher was a former member of the faculty at this school, as Behavior Coach/Interventionist, Special Education Evaluation Facilitator, and Equity Professional Development Leader.

Data collected included 5-years of: School wide Office Referral data (ODR); districtwide Equity Professional Development Plans; PBIS team meeting notes, action plans, and fidelity measures. Six teachers participated in online questionnaires, one-on-one interviews and focus groups over the course of one school year. Each interview or focus group was transcribed, and analyzed with multiple rounds of coding, with member checks from two of the teachers at each round. Member checks supported confirmation of themes, new questions for the participants, recognition of contradictions/tensions, and final conclusions.

## **Results**

Prairieview’s ODR data, as documented in the SWIS system, showed that the classroom setting was the site of major behavioral incidents less than one-third of the time, over the five year period; classroom ODRs as a percentage of total ODRs by year were: 26%, 34%, 24%, 22%, and 27%. During this five-year period, the percentage of total ODRs documented for Black youth decreased from 36.81% to 14.5%; for Brown youth, the percentage varied from 4% to 22% and increased over time. When studying the percentage of students within each racial category who received at least one referral in the course of a year, Black students’ rate was

consistently higher than White and Brown students over the five year period. The average for each group in the five year period was: 39.95% of Black students; 22.68% of Brown students; and 21.90% of White students.

This group of teachers' perception of their use of the PBIS system showed that their implementation was variable; universal systems of positive reinforcement, common language for behavior, and explicit instruction of behavioral expectations were the most common teacher practices. However, there was variability in their definitions of behavior and their use of in-class interventions for BBY. Additionally, five of these six teachers used ODRs minimally or not at all for BBY. Teachers implemented culturally responsive (CRT) behavior management practices within a strengths-based framework: they understood racial and cultural preferences as different ways of being and interacting rather than deficiencies. They verbalized their understanding of their own culture as different from BBY's cultures and supported a strengths-based mindset when defining, preventing, and responding to behaviors. Patterns of culturally responsive practice across these teachers included (1) taking personal responsibility for building inclusive classroom communities, (2) maintaining positive relationships with students and families and persevering through challenges (3) innovating to ensure that students are engaged and learning, (4) nurturing while keeping expectations for learning elevated, persevering when challenging behaviors arose, and (5) partnering with families so decisions are shared.

Challenges identified by teachers included deciding when to ask for help from colleagues for a Black child; they discussed distrust of the special education referral system, colleagues' and administration's willingness to support their practice, and White families' willingness to accommodate other children's needs. Most of these teachers chose not to use ODRs that remove the child from the community and their relationship, but discussed the pressures to work with fidelity. Their perception of the PBIS Tier II interventions' standardization and data driven decision-making was that the process became about numbers, rather than keeping the child centered. They also recognized that the PBIS system "on paper" did not match the reality of implementation, as it related to Black and Brown children with behavioral differences.

## **Discussion**

These teachers discussed the cultural preferences of the PBIS system; their discussions show recognition of the White cultural norms that were built into the system. They identified challenges of implementing PBIS and CRT simultaneously; conflicts between the honoring child's behavioral differences and the system's expectations were highlighted. Relationship-based interventions, which require different types of documentation for evidence, need to be accepted as valid within a discipline system. When trying to reconcile the tensions between CRT and PBIS, one teacher stated, "Kids and parents are going to have ideas. They're the ones to say this is what needs to happen. You'd have a whole community that is willing to go through the process and look at the data".

This study supports the framework of Gregory, Skiba, and Mediratta (2017), which validated the power of the student-teacher relationship within discipline models that increase equity and decrease disproportionality. The PBIS system at this school had not integrated CRT, yet these Prairieview teachers were using innovative "work arounds" for Black and Brown

students, based in CRT: developing supportive relationships, and positive school environments. During this study, the percentage of total ODRS given to Black youth progressed from disproportionality to proportionality, when compared to their enrollment at the school. However, during the same period for Hispanic youth, the percentage of all ODRS as compared to their enrollment varied from under-representation to overrepresentation, increasing over time. Furthermore, the risk for a Black student being identified as committing a behavioral infraction deemed “major” and resulting in an ODR was nearly 2 times that of White students throughout the study. This indicates that problems of behavior management of Black and Brown students persist. As the starting point of the special education identification referral process, there remains work to be done within the school wide discipline structures.

When focusing on the cultural preferences of their schools’ PBIS structures and procedures, they recognized systems based in white privilege and cultural norms, which aligned with Leonardo (2007): the language and norms codified within the PBIS matrix of school wide behavioral expectations and expectations for parent participation in interventions. In their terms, these systems “left people out”. When using a culturally responsive lens, the required evidence-based interventions and data documentation systems were described as problematic; when implemented with fidelity, they failed to take into account the historical and socio-cultural differences of their BBY and their families. As these teachers interacted with BBY, the *vulnerable decision points* (VDP) (Smolkowski et al., 2016) did not result in pushing the child out of class or the community. Rather, these teachers reported increased time with the child. Furthermore, the reflection and discussion between teachers in this study led to their recognition that people holding power, who are overwhelmingly White, develop the system which negatively impacts Black and Brown people disproportionately, and they are required to work within this system.

## Implications and Conclusion

This study challenges education leaders to move towards analysis of the system itself, in order to understand barriers to teachers’ use of culturally responsive behavior management. Systemically, school equity leaders may benefit from the use of Equity resources from the PBIS website (pbis.org), such as *Key Elements of Policies to Address Discipline Disproportionality* (Green et al., 2015). Using the following teacher reflection questions for integrating CRT practices and PBIS systems is recommended:

1. For teachers: What cultural preferences are present within my current teaching/classroom management practice? Who is benefitting?
2. For teachers: How do I share power or wield power with Black and Brown students?
3. For school leaders: What cultural preferences are embedded within our school’s PBIS systems? How can the systems become more culturally responsive?
4. For school leaders: How does our current PBIS system benefit White families? How can our system include more families with marginalized identities?

We must find ways to support teachers who are working to end disproportionality, rather than continue with systems that may limit their culturally responsive behavior management. Creating opportunities for analyzing their discipline system for is one way of doing that.

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## PREPARING PRE-SERVICE PERSONNEL TO DESIGN FUNCTION-BASED BEHAVIORAL SUPPORTS: A PILOT STUDY AND LESSONS LEARNED

### **Abstract**

This presentation provides participants with research-based approaches for preparing pre-service educators to design behavioral supports. Effective approaches for preparing educators to develop behavioral supports are discussed. The results of a research study examining pre-service teachers' development of behavioral supports will be shared. Implications for research and educator preparation are discussed.

### **Background/Rationale**

In this presentation, two faculty members in a special educator preparation program discussed effective strategies and approaches for supporting pre-service educators with developing the knowledge and skills necessary to develop function-based behavioral supports for students with and without disabilities that engage in behavioral difficulties that interfere with learning (Loman & Horner, 2014). The first section of the presentation included an overview of the literature on function-based behavioral interventions and effective approaches for preparing educators to design and implement function-based supports in school settings. Then, the results of a study examining the effects of a brief training package on pre-service educators' knowledge and ability to develop function-based supports were presented. This investigation was guided by the following research questions:

1. To what extent does training improve pre-service teachers' knowledge of function-based support?
2. To what extent is pre-service teacher knowledge of function-based support associated with expert judgments of BSP technical adequacy?
3. To what extent can pre-service teachers trained in function-based support develop socially valid BSPs?

### **Method**

This study examined changes in function-based knowledge and skill for 19 pre-service teachers taking a course on positive behavioral supports. The training package included 15 hours of classroom instruction on FBA/BSP plus outside readings assigned from a text that describes the basic FBA/BSP process (i.e., Crone, Hawken, & Horner, 2015). Instruction included lectures accompanied by PowerPoint presentations, videos, individual and group practice sessions (e.g., collecting data), brief case studies, and opportunities to ask questions. Specifically, students received instruction on the following topics:

1. Function (positive/negative reinforcement)
2. Operational definitions of problem behavior
3. Identifying setting events, antecedents, consequences/function
4. Collecting FBA data (ABC direct observation; interviews, rating scales)
5. Developing a hypothesis statement
6. Creating a competing behavior pathway
7. Writing behavioral objective(s) for BSP
8. Identifying preventive interventions (setting events, antecedents), teaching socially appropriate alternative behaviors, designing consequence strategies (reinforcement, extinction, punishment), generalization/maintenance strategies
9. Writing comprehensive behavior support plans that includes a summary of the problem behavior (hypothesis statement), interventions (see #8 above), and implementation plan

A quasi-experimental design was utilized to test the effects of the training package. Specifically, changes in knowledge were evaluated, as were participants ability to develop socially valid, technically adequate behavior support plans.

## Measures

**FBA/BSP knowledge.** To assess knowledge of function-based support, students completed the Behavior Support Plan Knowledge Assessment (BSPKA; Strickland-Cohen, 2011). The BSPKA is a technically adequate assessment of knowledge related to function-based support (e.g., competing behavior pathways, behavior support plan components, function) that has been used in previous research studies on training school personnel (Strickland-Cohen & Horner, 2015; Loman & Horner, 2014). The BSPKA takes about 30 minutes to complete and includes items where participants identify components of effective behavior plans. The assessment also provides vignettes for participants to read and identify whether interventions are function-based. The BSPKA has two forms with similar content but varied information for the questions related to the vignettes. Form A was completed at the beginning of class and Form B was completed at the conclusion of instruction on FBA/BSP.

**Social validity.** Social validity for behavior support plans was measured using the Intervention Rating Profile-15 (IRP-15; Martens, Witt & Elliott, 1985). The IRP-15 is a widely used evaluation tool designed to solicit raters' beliefs about the contextual appropriateness and effectiveness of the intervention under investigation. Items are rated on a 6-point Likert-type scale with higher ratings corresponding to higher levels of agreement with the statement. For the study, participants presented their behavior support plans to the class and 10 randomly selected peers completed the IRP-15 for each plan presented.

**BSP technical adequacy.** To examine technical adequacy of BSPs the author created the Behavior Support Plan Technical Adequacy Checklist (BSPTAC). Based on the essential components of function-based support (Crone et al., 2015), the BSPTAC contains nine items rated on a 3-point scale (0-not present, 1-present but content inaccurate, 2-present and content accurate) including items related to operational definition of problem behavior, hypothesis statement, goals/objectives, preventive interventions (setting events/antecedents), teaching replacement behaviors, consequence strategies (for positive and problem behavior), and data

collection. The instructor and another expert in the field measured the technical adequacy of the behavior support plans. This expert was a doctoral student at a different university and a Board Certified Behavior Analyst with experience teaching graduate courses on PBIS as well as hands-on experience conducting FBAs and implementing function-based support. A score for each BSP was calculated by dividing the number of total points earned by the total points possible. The instructor rated each BSP and the additional expert rater completed ratings for 21% of the plans to establish interrater agreement. Interrater agreement was 86.11% with no ratings differing between raters by more than one point (i.e., no ratings of '0' for one rater and '2' for the other rater).

## Results

Results indicated that 100% of the pre-service teachers improved their knowledge of function-based supports. Indeed, a statistically significant change in student knowledge of function-based supports ( $t = 7.25, p < .00001, \text{Cohen's } d = 2.42$ ) occurred. Post-assessment results also indicated that training supported pre-service educators' ability to design technically adequate and socially valid behavior support plans. Ratings averaging between four and six fall in the "agree" range of the scale. Examination of this table indicates that all BSPs were rated as socially valid. Highest ratings, on average, were found for the following items: *This would be an acceptable intervention for the child's problem behavior* and *Overall, this intervention would be beneficial for the child*. Lower ratings tended to occur for the following items: *This intervention would not result in negative side effects for the child* and *This intervention is consistent with those I have used in classroom settings*.

BSPs were largely judged to be technically adequate. Total scores for the plans ranged between 75% and 100% (Mean = 93.64%, SD = 7) with only three plans scoring lower than 93%. Higher ratings tended to be found for preventive interventions, reinforcement, and extinction procedures with somewhat lower ratings for operational definition of problem behavior and data collection procedures.

## Discussion

Results of this study indicate that FBA/BSP training of undergraduate pre-service teachers is associated with improved knowledge of function-based support and appears to support pre-service teachers' ability to develop technically adequate, socially valid BSPs. Specifically, pre-service teachers receiving training on FBA/BSP significantly improved their knowledge of FBA/BSP. Furthermore, peer assessment of BSPs indicated strong social validity. Finally, expert review of the BSPs confirmed their technical adequacy. Although results are preliminary, several implications for practice and future research are apparent.

**Implications for the preparation of pre-service personnel.** Researchers previously studying training packages for typical school personnel (e.g., Loman & Horner, 2014) have underscored the need to expand the use of function-based support in schools and have noted how additional training can be one way to accomplish this goal. This study is unique in that it shows that such knowledge can be presented to pre-service, undergraduate students and has similarly positive effects. Therefore, one way to support the implementation and scaling-up of function-based support in schools may be through pre-service training.

To the author's knowledge, this was one of the first studies that systematically analyzed undergraduate pre-service teachers' function-based support knowledge following training. Similar to previous research by Borgmeier and colleagues (Borgmeier et al., 2015), findings indicate that brief training on FBA/BSP is feasible, efficient, and effective. This study extends previous work by Borgmeier and colleagues by showing that pre-service personnel can be trained to not only identify function-based interventions, but also create such supports with available FBA data. This finding has practical importance given that even those with knowledge of FBA/BSP do not always use such knowledge to design function-based interventions (Van Acker et al., 2005).

Given the encouraging findings, pre-service preparation providers are encouraged to use similar methods and strategies to support the dissemination of such information to future educators. Indeed, pre-service preparation personnel are challenged to fit all of the requisite skills and knowledge future educators may need to be successful in the field. The challenge is not only to identify what content is covered, but also how the content is delivered. In this study, less than one half of one semester was dedicated to training participants on function-based supports and results are promising. Thus, similar models of training may be worthy of implementation. However, despite promising research on the use of training to improve teacher knowledge and ability to design function-based supports, there is still a lack of research on how best to measure competency in this important area. Future research on the measurement and evaluation of teacher competency is needed.

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## AROUND THE STATE FROM YOUR COUCH: USING TELEPRESENCE ROBOTICS TO FACILITATE FIELD-BASED INTERNSHIPS IN TEACHER PREPARATION

### **Abstract**

Collaboration is becoming an increasingly vital component across education, especially in higher education teacher preparation programs (e.g. Dooly, 2010; Lewis, Chanier & Youngs, 2011; O'Dowd, 2015). The demand for online, hybrid and face-to-face classes is driving institutions to innovate and adopt new technologies such as telepresence robotics. Telepresence robotics are creating opportunities to eliminate barriers including those of distance, but the field is relatively new (Vinagre, 2016). The question in special education teacher preparation programs is how to utilize the emerging technology of telepresence robotics to give candidates authentic k-12 experiences, give teacher preparation candidates greater access to a variety of special education classrooms and services, and mitigate distance barriers. This paper will highlight how two faculty revamped a course in their undergraduate program that focuses on bridging the research to practice gap by leveraging telepresence robotics to facilitate field-based internships in a rural community.

### **Background/Rationale**

The gap between educational research and practice along with collaboration has been well documented in the teacher education literature (Bridges, Smeyers, & Smith, 2008; Dooly, 2010; Hemsley-Brown & Sharp, 2004; Lewis, Chanier & Youngs, 2011; Mortimore, 2000; O'Dowd, 2015; Vanderlinde & van Braak, 2010). Such gaps have resulted in teacher candidates who lack relevant field exposure across settings and the practical application of research-based interventions and supports for K-12 students with exceptionalities, especially when time and distance are barriers. Therefore, it is critical for teacher preparation programs to be innovative in providing teacher candidates with high-quality internship experiences that marry research to practice.

### **Literature Review**

Teacher educators in special education have raised concerns about the lack of evidence-based practices being utilized in schools (Burns & Ysseldyke, 2009; McLeskey & Billingsley, 2008). Based on these concerns, teacher preparation programs have been tasked with providing greater opportunities for preservice teacher candidates to apply core practices in real-world contexts including relevant field experiences (e.g. Grossman, Hammerness, & McDonald, 2009). Therefore, greater alignment between coursework and field experiences needs to be coordinated in an effort to build confidence and knowledge related to best practices.

Bridges, Smeyers and Smith (2008); Dooly (2010); Hemsley-Brown and Sharp (2004); Lewis, Chanier and Youngs (2011); Mortimore (2000); O'Dowd (2015); Vanderlinde and van Braak (2010) have made the important connection around the gap between educational research, practice, and collaboration. This gap has resulted in a lack of connectivity between research in course offerings and practice in k-12 special education settings. The application of interventions for teacher candidates, therefore, becomes lost until teachers are either in their practicum or job experiences.

Furthermore, researchers have validated a shift in teacher preparation from a curriculum that is knowledge-based to more practice-centered (Grossman & McDonald, 2008). Pairing these practices with greater opportunities for preservice teachers to apply what they have learned in natural settings has resulted in issues regarding implementation and many unanswered questions for teacher education programs (Grossman & McDonald, 2008; McLeskey & Brownell, 2015). Due in part to these shifts, McLeskey and Brownell (2015) called for high-leverage practices and more streamlined approaches using clinical field experiences that are more likely to lead to positive teacher outcomes.

### **Practical Implications**

The gap in research to practice, coupled with the need to design high-quality field experiences that connect research to practice, drove two researchers to form a collaborative partnership. Traditional applications in telepresence conference call systems demonstrated glaring shortcomings that prevented interactions between sites. After identifying these shortcomings that hindered access, application, and collaboration, the researchers sought out the available technology that could bring both the higher education teacher preparation candidates and professionals in K-12 into effective e-partnerships without traveling great distances. One technology that emerged as a potential solution was virtual telepresence robotics.

Virtual telepresence robotics break down place-based barriers by allowing participants to naturally engage in the k-12 learning environment. The mobility of virtual telepresence robotics allows for natural movement in school settings and provides a window of access from the comfort of campus. When distance is a barrier, such as in rural settings, telepresence robotics serve to break this barrier down with their flexible design, ease of use, and implementation. Furthermore, this research provides practical applications of virtual presence telerobotics and building an e-robotic partnership as well as expand on existing research (Vinagre, 2016).

The goals of the collaborative partnership are to expand on the research indicating the emerging promise of virtual collaboration in other content areas in teacher preparation programs where distance is a barrier (Vinagre, 2016). These goals have resulted in developing a telepresence internship program with revamped course curriculum that incorporates a more practice-based approaches and inclusion of HLPs (High-Leverage Practices). These components include several course-based clinical internships that were developed to focus on assessment, design, and innovation in the areas of literacy, mathematics, transition to post-school outcomes, augmentative and alternative communication (AAC), and assistive technology. Student and site-based feedback continue to drive future iterations, including program connections, standards alignment, evaluation of the project, and logistics associated with field-based internships.

## **Contribution**

This work builds on the recommendations outlined by Grossman, Hammerness, and McDonald, (2009); McLeskey and Brownell (2015), Bridges, Smeyers, & Smith (2008); Dooly, (2010); Hemsley-Brown & Sharp, (2004); Lewis, Chanier & Youngs (2011); Mortimore, (2000); O'Dowd, (2015); Vanderlinde & Van Braak, (2010). Examples of course-based clinical experiences that could be adapted to meet the needs of teacher preparation programs should be considered. Telepresence robotics internships have the potential to break-down barriers, enhance student learning, provide meaningful k-12 and university partnerships, and meet the demands of today's connected world.

## **Final Thoughts**

Teacher candidates can successfully have virtual clinical experiences via telepresence robotics that provide a real-world lens to current HLP's in K-12 settings. This connection allows for field-based clinical internships that apply content knowledge in real-world contexts. When distance is a barrier, leveraging telepresence robotics is an option for institutions of higher education to connect with K-12 institutions in order to bridge the research to practice gap in an innovative manner.

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