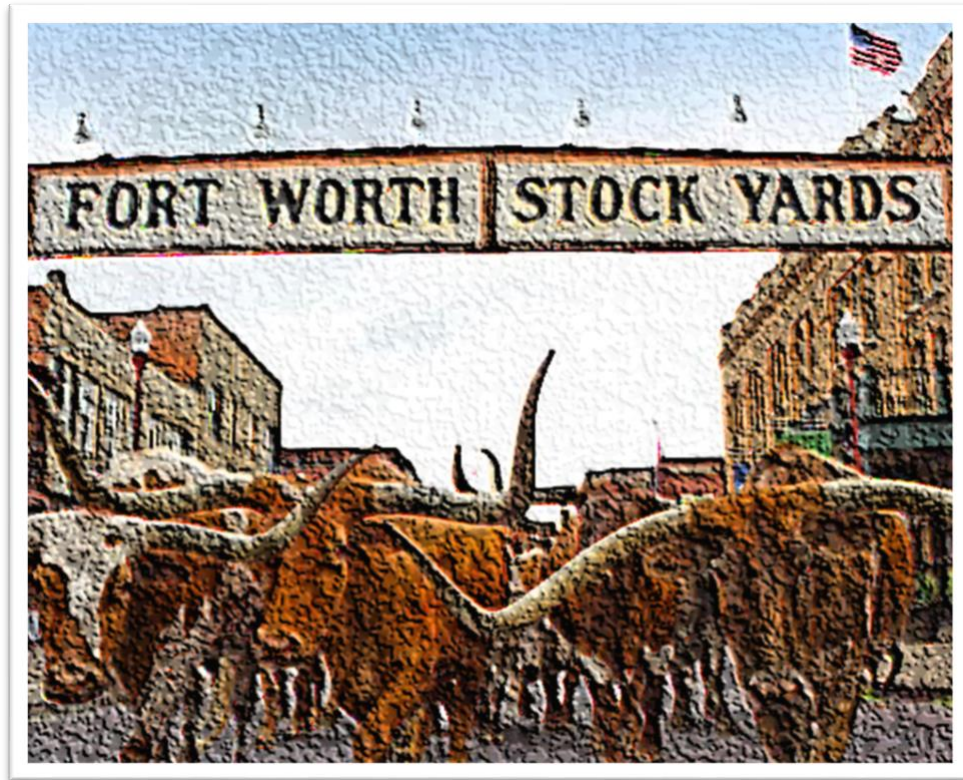# TED 2021 Conference Proceedings

November 2-5, 2021

Fort Worth, TX



# *Steering into the Future*

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**Teacher Education Division**
of the Council for Exceptional Children

**A Note from the Conference Chair and Proceedings Editor**

It is a pleasure to present the TED 2021 Conference Proceedings! As the TED executive board strives to promote research and relationships among TED members, we hope these proceedings foster knowledge, engagement, and collaboration.

We are confident in speaking for TED members that it was an absolute joy being face-to-face in Fort Worth, Texas. Whether its attending sessions in person, reconnecting with old colleagues or meeting new ones, talking shop at happy hour, or exploring a new city together, the annual TED conference is a fantastic way to build and sustain our community.

Since this was our second year publishing conference proceedings, we opened up the process a little bit to handle a higher volume of submissions. We expanded proceeding categories to include single paper sessions, conversation sessions, and poster sessions. Out of 251 total conference sessions at TED, 140 presenters checked a box during proposal submission indicating that they would like their proposal considered for the proceedings. Based on that number, we set an invitation criterion of 46/60 (or above) on the TED proposal rubric to qualify and receive an invitation. Setting a lower criterion score opened up many more invitations. Nearly 79% ($n$=110) of presenters received an invitation to submit a proposal. Out of those invitations, 45% ($n$=49) submitted and were included in this year's conference proceedings. Therefore, we are pleased to present 49 valuable contributions to the field spanning a wide spectrum of topics related to special education teacher education.

We appreciate the time and effort submitting authors and the editorial team dedicated to get these conference proceedings published. Please note that individual authors are responsible for content accuracy and reference formatting. We hope you find the TED conference proceedings to be a valuable contribution. See you all in Richmond, VA, November 8th – 11th for TED 2022!

Brannan Meyers                                          Andy Markelz
Conference Chair                                        Conference Proceedings Editor


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**Table of Contents**

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## SUPPORTING DOCTORAL STUDENTS: LESSONS FROM AN ONLINE PEER MENTORING GROUP

### Abstract

Peer mentoring is an effective way to give and receive support, learn skills, and build community among colleagues. In this manuscript we will discuss lessons learned from an online special education peer mentoring group for doctoral students which started during the Covid-19 pandemic. Guidelines for establishing peer mentoring groups and future directions will be discussed.

### Rationale

Peer-Mentoring groups have been successfully used, both within and outside of academic settings, to support relationships between colleagues. The internet has expanded opportunities for these relationships and platforms such as social media and web conferencing have provided the opportunity for *online* peer mentoring groups. While these opportunities hold potential as a promising practice to prepare burgeoning special education scholars, there is currently limited information on the components of online peer mentoring groups as they relate to graduate students in education related fields.

### Literature Review

In traditional mentoring relationships, a mentor is an experienced member of the college, school, or company, while a mentee is a newer student or employee. The benefits of traditional mentoring relationships are well-documented within the literature. However, these traditional relationships often cannot provide everything that a novice student or employee may need. For example, a power imbalance is inherent in these relationships, which may prevent mentees from sharing and receiving critical information about the program or workplace. Issues such as navigating professional relationships, sharing personal concerns or expressing hesitancy about certain program aspects may be inappropriate in a typical mentoring relationship. This is of particular relevance if the mentor is in a position to make decisions regarding the mentee's future (e.g., tenure, graduation, promotion, raises). A possible solution to fill this gap for the mentee is the development of peer mentoring relationships in addition to their traditional mentoring relationship.

Unlike traditional mentoring relationships, peer mentoring is defined as a dynamic relationship between two or more people who are of the same age, status, or ability. In a dynamic

peer mentorship relationship, the roles of mentor and mentee are *interchangeable*, which allows for everyone involved to benefit from each other's expertise. This dynamic interchange can even occur within the same conversation. Peer mentoring groups have been shown to be an effective way to build community among colleagues (Grant-Vallone & Ensher, 2000). Several key benefits of peer mentoring have been identified; the relationships are more organic, the support provided is more substantial, learning is often shared mutually, motivation is provided by sharing similar career trajectories, different perspectives are shared from similar vantage points, stress management can be accomplished by sharing in high and lows of their career (McDaugall & Beattie, 1997). In addition, peer mentoring builds personal relations. Mentors and mentees gain a confidant, build friendships, and increase opportunities for networking (McDaugall & Beattie, 1997).

**Peer Mentoring in Education**

Both informal and formal peer mentoring groups have helped professionals build community among colleagues in education. Peer mentoring has been used in other educational contexts such as in the teacher education field to support pre-service teachers (Forbes, 2007) and with early career teachers (Le Cornu, 2007). In higher education peer mentoring has been used to support early career female researchers (Kalpazidou Schmidt & Faber, 2016) and first year undergraduate students (Cornelius et al., 2016). Additionally, peer mentoring groups have been shown to help graduate students feel more supported (Grant-Vallone & Ensher, 2000). However, to date, only one conceptual paper (Faber et al., 2017) has identified components of online peer mentoring groups for doctoral students.

**Online Peer Mentoring**

With the increased use of social media and web conferencing systems to create and strengthen professional relationships, the transition to online peer mentoring groups (e.g., writing, psychological, social) has become more commonplace. Faber and colleagues (2017) identified 7 components of online peer mentoring groups for early career academics. These components include sharing common goals, experiencing similar career stages, having established relationships between group members, being from different institutions, establishing ground rules, requiring consistent participation, sharing responsibilities, and having an alignment with scholarship. The authors noted the benefits of these components to ensuring consistent results for those involved with the peer mentoring group. Although many components aligned with Faber and colleagues, our experience with online peer mentoring for graduate students resulted in different best practices.

**Our Experience with Peer Mentoring**

In August 2020, via an organic interaction on Twitter, the two authors of this paper decided to meet and start a writing group for graduate students in special education. Although initially focused on doctoral students working on their dissertation, this group quickly grew to include students in their second and third years in their program as well. We recruited widely via Twitter, word-of-mouth, and cold emails.

The initial meeting of the two co-founders included discussion of the purpose of the group and recruitment. During this meeting the authors discussed the possibility of crafting time for a "support group" where group members could discuss concerns or struggles. Eventually, this portion of our group was renamed "glows and grows". The co-founders believed that including a dedicated time to talk freely would provide the participants an opportunity to more clearly focus on our writing. Following the initial meeting, a survey was created to identify meeting days/times, areas of interest (i.e., writing and/or support group), and personal goals (e.g., academic, writing, networking). This survey was then sent out to all interested participants.

In fall 2021 and spring 2021, the first cohort of the Disability Scholars Collective (DISCO) met twice a week. This cohort included around 14 participants (out of ~30 invited/interested parties). Most of the participants had no established relationships with one another. Group members ranged from 2nd year doctoral students to 4th year doctoral students, and most were from different institutions. Participation was voluntary and decision making was shared, with the co-founders initiating and conducting all shared decision-making processes.

The DISCO writing group met via Zoom twice a week for one hour. Before starting, we wrote that day's writing goals on the Zoom chat box and proceeded to work in silence for 55 minutes. Cameras and microphones were off during that time. At the end of the 55 minutes, we turned our cameras and microphones on and used the last five minutes of the hour (and often additional time past the 5 minutes) to discuss our progression towards our writing goals for that day and any issues that may have arisen, which was done to ensure accountability.

The support group met via zoom once every other week (this meeting replaced a writing group meeting). Before starting each meeting, we discussed the ground rules. The most important rule being that everything within the conversation was considered "off-the-record" (I.e., pseudonyms when necessary, no easily identifiable information). These meetings ran over the scheduled hour. Although we started the fall semester assigning specific topics to each meeting (e.g., Advisor/chair relationships, stress management, job market concerns, work/life balance, imposter syndrome), we soon transitioned to discussing our "glows and grows". For the "glows and grows" sessions, we each shared a positive note and a struggle we had experienced that week. The group also met a couple of extra times for curriculum vitae (CV) reviews and practice job talks, as several members of the group were on the job market. In fall 2021, we split into two groups: early career faculty and graduate students. Currently each group has around 4 consistent participants each

The authors identified several components that helped our peer mentoring group succeed. Based on our experiences, and similar to Faber et al. (2017), we found that being in similar positions in our careers, establishing ground rules from the onset, being from different institutions, having an alignment with scholarship, and creating a dedicated time for sharing everyday experiences were all critical aspects of our group's success. Although some of our key components overlapped with those outlined in the literature, we additionally found that not having established relationships with the other members proved to be a significant advantage to our group, allowing for greater opportunities for networking. In addition, the authors found that

having two lead organizers allowed for more task-sharing which provided each co-leader the opportunity to not be overburdened by the work involved with group management. Interestingly, and in direct contrast with Faber and colleagues, the authors found that not requiring consistent participation from the participants ended up being beneficial, as it allowed a larger group of individuals to be involved in addition to the core members who met each week.

While there were many benefits of the peer mentoring group, the authors additionally identified some areas which warranted re-evaluation and improvement. For instance, many part-time students in our group dropped out after a few sessions. In addition, finding and scheduling a time that worked for everyone proved to be extremely difficult. A more complete summary of our recommendations for starting an online peer mentoring group can be found in Figure 1.

Figure 1. Recommendations for Implementation

Begin with the development of a commitment to one another

Be purposeful in developing rules and norms for the space

Schedule time to share real life updates in addition to work updates

Listen to one another openly

Utilize the space to not only write, but to build a culture of community

Keep it small
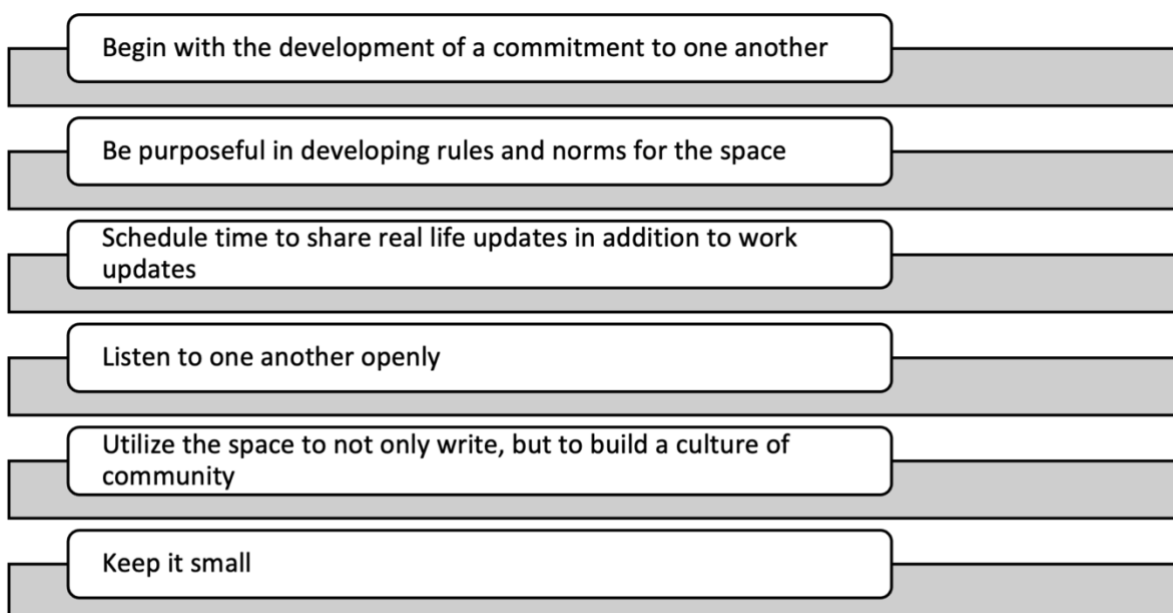
**Conclusion**

Institutional and professional knowledge in academia is often shared among a select privileged group of individuals. In order to create more equitable access to the types of formal and informal knowledge needed to be successful as a graduate student in special education, it is key to investigate and discuss the benefits that working groups like peer mentoring writing and social groups can have on the graduate student's wellbeing. Further research is needed in specific sub-fields, such as special education, to identify best practices for moving forward in a digital age.

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TEACHING SOCIAL/EMOTIONAL/BEHAVIORAL HLPs IN THE ONLINE CLASSROOM

**Abstract**

The Council for Exceptional Children (CEC) and the Collaboration for Effective Educator Development, Accountability, and Reform (CEEDAR) Center have identified four high leverage practices (HLPs) focused on the social, emotional, and behavioral needs of students with disabilities. These HLPs focus on (a) learning environments, (b) feedback, (c) social behaviors, and (d) functional behavior assessments and behavior support plans. It is vital that educator preparation programs (EPP) prepare teacher candidates for supporting student needs with these HLPs. This manuscript offers practical suggestions for incorporating instruction on these HLPs in online special education teacher preparation coursework.

**Background/Rationale**

For special educators, classroom management and supporting the social emotional needs of students is a critical aspect of the job. As teacher educators there are a variety of reasons why it is vital that we prepare our candidates with the knowledge and skills to do this. First, student learning is impacted when behavior challenges arise in the classroom (Conroy et al., 2008) and previous research has indicated that teachers spend as much as 50% of their day managing behavior (Witt et al., 2004). Secondly, there are many students in the classroom who have experienced traumatic life events, known as ACEs (Centers for Disease Control and Prevention, 2019). Supporting the needs of these learners requires specific skills, that can be addressed by teaching the HLPs (Flower et al., 2017). And, thirdly, the use of Functional Behavior Assessments (FBAs) and Behavior Intervention Plans (BIPs) is legally mandated under the Individuals with Disabilities Education Act (IDEA;2004) for students whose disability impacts their behavior.

To support special education teacher preparation, the Council for Exceptional Children (CEC) and the Collaboration for Effective Educator Development, Accountability, and Reform (CEEDAR) Center developed a set of effective practices that all special educators should know and being using in their classrooms; these are known as the special education High Leverage Practices, or HLPs (McLeskey et al., 2017). There are twenty-two total HLPs and they are divided into 4 areas of practice: (a) assessment, (b) collaboration, (c) instruction, and (d) social/emotional/behavioral (Council for Exceptional Children, 2021). HLPs 7 through 10 focus on supporting students' social, emotional, and behavioral needs. Figure 1 provides the verbiage for these four HLPs.

**Figure 1**
*Social/Emotional/Behavioral HLPs*

HLP 7: Establish a consistent, organized, and respectful learning environment.
HLP 8: Provide positive and constructive feedback to guide students' learning and behavior.
HLP 9: Teach social behaviors.
HLP 10: Conduct functional behavioral assessments to develop individual student behavior support plans.

Due to the impact of COVID-19 (Besser et al., 2020) and students' increased demand for flexible learning (Venable, 2021), online teacher preparation is becoming increasingly more common and EPPs must be prepared to provide effective instruction in the remote classroom. One way to accomplish this is by preparing teacher candidates for implementing the HLPs into their future/current classrooms. The remainder of this article offers resources and a few activities the authors use in their online classrooms to teach these HLPs.

**Resources to Support HLP Instruction**

The authors use a variety of resources to aid them in teaching online students about the HLPs, including books, peer reviewed journal articles, online learning modules, websites, and videos. Figure 2 offers a list of some of the resources the authors use in their own courses and recommend to others.

**Figure 2**
*Resources for Teaching the Social/Emotional/Behavioral HLPs*

**Books**
Lohmann, M. J. (2021). *Positive behavior interventions and supports for preschool and kindergarten.* RedLeaf Press.
Riffel, L. A., & Mitchiner, M. (2015). *Positive behavior support at the secondary targeted group level: Yellow zone strategies.* Corwin Press.
Riffel, L. A. (2011). *Positive behavior support at the tertiary level: Red zone strategies.* Corwin Press.
Sprick, R., Coughlin, C., Garrison, M., & Sprick, J. (2019). *Interventions* (3rd ed.). Ancora Publishing.
**Online Learning Modules**
IRIS Center. (2021). Classroom behavior management (Part 1): Key concepts and foundational practices. https://iris.peabody.vanderbilt.edu/module/beh1/
IRIS Center. (2021). Classroom behavior management (Part 2, Elementary): Developing a behavior management plan. https://iris.peabody.vanderbilt.edu/module/beh2_elem/
IRIS Center. (2021). Classroom behavior management (Part 2, Secondary): Developing a behavior management plan. https://iris.peabody.vanderbilt.edu/module/beh2_sec/
IRIS Center. (2021). Early childhood behavior management: Developing and teaching rules. https://iris.peabody.vanderbilt.edu/module/ecbm/
IRIS Center. (2021). Functional behavioral assessment: Identifying the reasons for problem

behavior and developing a behavior plan. https://iris.peabody.vanderbilt.edu/module/fba/

AFIRM. (2021). Functional behavior assessment.
    https://afirm.fpg.unc.edu/functional-behavior-assessment
**Websites**
Center on Positive Behavioral Interventions and Supports  https://www.pbis.org/
Center on the Social and Emotional Foundations for Early Learning
    http://csefel.vanderbilt.edu/index.html
Collaborative for Academic, Social, and Emotional Learning https://casel.org/
Treatment and Services Adaptation Center  http://traumaawareschools.org/
**Videos**
The IRIS Center Video Collection. (2018). A summary of functional behavioral analysis.
https://www.youtube.com/watch?v=NFHck-X43y4&list=PLNwDIsTyOwX79N-
gM0gAs3pzotWnabCDl&index=1
The IRIS Center Video Collection. (2018). Functional behavioral assessment: Conducting an
    ABC analysis. https://www.youtube.com/watch?v=Sxf9GPH5A-8&t=28s
CASEL. (2021). A (re)Introduction to Social and Emotional Learning.
    https://casel.org/events/a-reintroduction-to-social-and-emotional-learning/
CASEL. (2021). Social and Emotional Learning 101.
    https://casel.org/events/social-and-emotional-learning-sel-101/

## Activities to Support Learning

To support and assess student learning on the social/emotional/behavioral HLPs, the authors have created a variety of activities. While the authors implement several different activities (e.g., social story/narrative discussions, classroom management websites, video model activity and discussion, and conducting and FBA and writing a BSP) into their online classrooms, Figures 3, 4, and 5 offer our favorite ways to support instruction on these HLPs.

**Figure 3**
*Trauma-Informed Book Study*

Book Options:
        *A Child Called It* by David Pelzer
        *Spilled Milk* by K.L. Randis
        *The Boy Who Was Raised as a Dog* by Bruce Perry
Guiding Discussion Questions:
1. Discuss the ACE's that the characters in the book have and/or are experiencing.
2. How do the above experiences impact the character's personal/school/professional life?
3. What behaviors are manifested due to the ACE's experience(s)?
4. What from the book would be important information for the teacher/school to know?
5. How does knowing about the trauma the characters face, change/affect your reaction to the parent? Student? Others?
6. What are some specific things you would do if you had this child in your class?
7. If this child was in your classroom, how would you handle the parent if they came to school to discuss the child? What if the parent was upset with you? Would knowing the background of the student change how you treat them or their parents?

**Figure 4**

*Frequency Count Data Collection*

> Select one of the following YouTube videos and collect frequency count data on the specified behavior using the data collection form provided. After collecting the data, write a problem statement for the behavior and write a 1-paragraph description of the challenges you faced while collecting the data.
> **Videos you may choose from:**
> 1. [Time Life Presents: The Best of the Three Stooges](#)
>    Behavior for Data Collection: Physically harming another individual
> 2. [Swiper's Greatest Swipes](#)
>    Behavior for Data Collection: Swiper attempting to swipe an item from Dora
> 3. [Would You Do it for a Scooby Snack](#)
>    Behavior for Data Collection: Scooby agrees to do work for a snack
> 4. [The Ultimate Mashup of Sheldon's Spot](#)
>    Behavior for Data Collection: Sheldon asks someone to get out of his spot on the couch

**Figure 5**

*Asynchronous Discussion on Evidence-Based Practices for Classroom Management\*

> As special educators, we are legally mandated to use evidence-based practices (EBPs) in our classrooms. Select one of the following interventions for common classroom behavior challenges. Locate a minimum of 3 peer reviewed articles that describe the selected intervention. Using course materials and the articles, create a 3–5-minute video presentation that (a) describes how to use the intervention, (b) offers a synopsis of the research supporting its use, (c) provides a real-world example of how a teacher might use the intervention, and (d) shares any questions you might have about the intervention. Post your video (with a transcript) as your initial discussion post. Respond via text or transcribed video to a minimum of 3 classmates with responses that further the discussion and demonstrate critical thinking on the topic.
>
> Intervention Options:
> Reinforcement (rewards or praise)
> Social Skills Instruction
> Proximity Control
> Modeling
> Repeated practice of desired behavior, with feedback

**Conclusion**

It is vital that special education EPPs are prepared to support teacher candidates in learning about the social/emotional/behavioral HLPs. Special education EPPs must also be prepared for instruction in the remote classroom. The resources and activities provided in this manuscript are a starting point in supporting teacher educators in teaching the social/emotional/behavioral HLPs in their online courses.

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## THE IMPACT OF A COMMUNITY-BASED WORKSITE PROGRAM FOR STUDENTS WITH SIGNIFICANT DISABILITIES

**Abstract**

Employment outcomes for individuals with significant disabilities are not reflective of the employment skills and hiring potential they may possess. Implementing targeted transition programming that focuses on employment training and work experiences while in-school may help increase post-secondary employment outcomes for students with significant disabilities (SWSD). This study examined the effectiveness of a community-based work experience program, embedded within a transition programming model, on SWSD employment preparedness and hiring potential. The study shows promising results in increasing students' performance in the areas of resource management, interpersonal, and work-specific skills. Additionally, findings show SWSD in the program had greater employment rates one-year after participating than the national average.

**Background**

One of the stated purposes of the 2004 reauthorization of IDEA is to prepare students for their postsecondary lives. IDEA (2004) intends this to occur through implementation of transition services, which are defined as a set of coordinated activities designed to be a results-oriented process in assisting people making the move from high school to post-secondary education, training, integrated employment, adult services, independent living, and community participation. Despite the legislative focus to support post-school outcomes, national employment of students with significant disabilities (SWSD) have remained considerably lower than their same-aged peers without disabilities (Hiersteiner et al., 2016). Regardless of the evidence of successful employment of SWSD in competitive, integrated work settings (Butterworth et al., 2017), many SWSD remain unemployed or in low-wage, low-skill jobs long after leaving high school (Wehmen et al., 2017). These continued negative employment outcomes act as additional barriers to long-term life planning for SWSD that have lasting consequences in all related aspects of adult living (Schall et al., 2014).

Understanding the dire need to positively increase the employment outcomes of SWSD, we suggest enacting change at the transition programming level. This is in accordance with Test et al. (2009) finding that program structures and community-based instruction are positive

predictors of post-school success for students with disabilities. Rowe et al. (2015) further defined and identified characteristics of effective transition programs which include (a) instruction and training in natural environments supported by classroom instruction, (b) interagency collaboration to provide coordinated transition services, (c) regularly monitoring/assessing student progress, (d) using strengths-based assessments, and (e) evaluating the effectiveness of transition programs. Within effective transition programs, promising practices to support employment outcomes for SWSD can flourish. These listed characteristics are key components of the Choiseul-Praslin and McConnell (2020) six-step model for transition worksite programming to increase SWSD work skills and hiring potential.

The aforementioned transition programming model emphasizes interagency collaboration, appropriate training for all staff and stakeholders, strategic scheduling to accommodate district, school, and worksite requirements and responsibilities. A student-focused approach to teaching work-related skills, tracking individual growth, and enabling and/or increasing student involvement in the transition process are also crucial components of the Choiseul-Praslin and McConnell (2020) model which served as the foundation of one northeast, urban public school district's transition program for adult-aged (18-21 years old) students with significant disabilities. With the model in place, students within the transition program participated in a community-based work experience with natural and school-based supports for one academic school year. The purpose of this community-based work experience embedded within the transition programming model was to increase employment preparedness and hiring potential of SWSD in the school district. We assessed student work performance in three areas critical to most work settings: (a) resource management, (b) interpersonal, and (c) work-specific skills at three points within the school year. The research questions that guided this study were:

1. Were there significant differences in SWSD performance of resource management, interpersonal, and work-specific skills from the pre-, mid-, and post-evaluations?
2. Did participation in the community-based worksite program increase student's hiring potential?

**Methods**

**Participants and Setting**

SWSD participants were recruited from one urban northeast school district which followed the Choiseul-Praslin & McConnell's (2019) six-step model. In total, 34 students with a primary disability of an ID or ASD were enrolled in the transition program and data from all students were included in the final analysis. The majority of students were male (n = 23), African American (n = 30), and had an ID as their primary disability diagnosis (n = 25).

Students in the program spent about 2 months learning about various work settings and visited eligible worksites. After indicating their preferences, the students were assigned to one of three worksite placements: an urban community garden, a large chain hotel, or a local veteran hospital. Each site was located in the district's bounds and was accessible to the students through public transportation. Once placed, students would arrive to the school site, engage in morning

lessons on interpersonal and job-specific skills, take public transportation to their respective worksites, work for at least three hours, eat lunch, and return to the school site. This schedule was followed four days a week (assuming a typical school week and adjusting for the school/district calendar), averaging 12-14 hours of work per week until the end of the school year. On days where students were not at the worksite, they were in the school building working towards IEP goals, meeting with related service providers, or participating in community exploration fieldtrips.

## Data Sources and Collection

Data were collected by trained staff (teachers, paraprofessionals, job coaches, worksite supervisors) using a modified Workforce Performance Rating (WPR) scale from the CASAS Workforce Skills Certification System (WSCS). The original WPR is designed to be part of a larger system in assessing the readiness of high school students to enter the workforce (CASAS, n.d.). However, since our SWSD had limited prior experience and training in employment related skills, the WPR form was modified by district, school, and partnering state vocational rehabilitation (VR) agency professionals to focus on three central tenants to employment: resource management, interpersonal, and work-specific skills.

Prior to being placed within their worksites, students completed orientation where they were shown how to perform each job function in the work setting and were then given an opportunity to engage in the function. The orientation was necessary for identifying initial work placements for the students and also helped students identify job functions they were most interested in learning. Baseline data collection of resource management, interpersonal, and work-specific skills were collected during orientation as well as students could be assessed within the natural work setting before receiving on-the-job supports. The students were assessed a second time at the program's midpoint and once more at the program's end. Data were collected by their immediate worksite supervisors which included teachers, paraprofessionals, job coaches, and site-based staff). All supervisors were trained in the proper use and reporting of student skill acquisition prior to each data collection cycle. Exactly one-year after the study ended, participating students were surveyed via phone or text message to inquire about their current educational or employment placement. All data were analyzed extant for this study.

## Results

One-way repeated measures ANOVAs were conducted to determine whether there were statistically significant differences in SWSD performance of resource management, interpersonal, and work-specific skills from the pre-, mid-, and post-data collection periods. There were no outliers and the data was normally distributed, as assessed by boxplot and Shapiro-Wilk test ($p > .05$), respectively. Due to the limited sample size, assumptions of sphericity were violated by all three data sets (resource management, interpersonal, and work-specific skills) as assessed by Mauchly's test. Greenhouse-Geisser corrections were applied to each prior to continued analysis, results are listed below:

- **Resource management skills:** engagement in community-based work experience elicited statistically significant changes in resources management skills over time, $F(1.425, 47.021) = 476.976$, $p < .0005$, partial $\eta^2 = 0.935$, with skills increasing from pre-evaluation ($M = 0.3088$, $SD$

= 0.26), to mid-evaluation (*M* = 1.4890, *SD* = 0.31), to post-evaluation (*M* = 2.3897, *SD* = 0.45). Post hoc analysis with a Bonferroni adjustment also revealed that SWSD's resource management skills statistically significantly increased from pre- to mid- evaluation (*M* = -1.180, 95% CI [-1.287, -1.074], *p* = .000), mid- to post- evaluation (M = -.901, 95% CI [-1.107, -.695], p = .000), and from pre- to post-evaluation (M = -2.081, 95% CI [-2.263, -1.898], p = .000).

- **Interpersonal skills:** there were statistically significant changes in interpersonal skills over time, F(1.290, 42.524) = 463.524, p < .000, partial η2 = 0.934, with skills increasing from pre-evaluation (M = 0.3015, SD = 1.69), to mid-evaluation (M = 1.4596, SD = 0.26), to post-evaluation (M = 2.7279, SD = 0.54). Post hoc analysis with a Bonferroni adjustment also revealed that SWSD's interpersonal skills statistically significantly increased from pre- to mid- evaluation (M = -1.158, 95% CI [-1.276, -1.040], p = .000), mid- to post- evaluation (M = -1.268, 95% CI [-1.525, -1.012], p = .000), and from pre- to post-evaluation (M = -2.426, 95% CI [-2.631, -2.222], p = .000).

- **Work-specific skills:** there were statistically significant changes in work-specific skills over time, F(1.314, 43.362) = 471.145, p < .000, partial η2 = 0.935, with skills increasing from pre-evaluation (M = 0.3309, SD = 0.23), to mid-evaluation (M = 1.4743, SD = 0.25), to post-evaluation (M = 2.6654, SD = 0.45). Post hoc analysis with a Bonferroni adjustment also revealed that SWSD's work-specific skills statistically significantly increased from pre- to mid- evaluation (M = -1.143, 95% CI [-1.265, -1.021], p = .000), mid- to post- evaluation (M = -1.191, 95% CI [-1.438, -0.945], p = .000), and from pre- to post-evaluation (M = -2.335, 95% CI [-2.521, -2.148], p = .000).

Finally, to evaluate if participation in the community worksite program increased SWSD's hiring potential, we contacted and surveyed participants one year after the worksite experience took place. Of the 34 students, 8.8% (n = 3) sought and secured full-time employment in related fields to their work experience, 20.6% (n = 7) sought and secured part-time employment in related fields, 29.4% (n = 10) were not employed but receiving further employment training services directly from VR, 26.5% (n = 9) were not employed but enrolled in another year of the worksite program, and 14.7% (n = 5) were neither employed nor receiving additional employment services or training.

**Discussion**

Employment is an important part of adult life and the harsh reality of post-school employment outcomes for SWSD make it clear that more needs to be done to prepare students for employment after high school. By implementing change at the transition programming level, employment outcomes for SWSD can be greatly improved (Test et al., 2009). Our study set out to determine if student's resource management, interpersonal, and work-specific skills increased as a result of engagement in a community-based work experience program that was embedded within one urban school's transition program which utilized the Choiseul-Praslin & McConnell (2020) model. Our findings show that when given extended opportunity (i.e., a devoted academic year) to engage in supported work experiences within the naturalistic work environment, SWSD increase in pre- to mid-, mid- to post-, and from pre- to post-evaluations of their resource management, interpersonal, and work-specific skills. Increases in these areas correlate to an increase in their overall hiring potential after leaving the transition program and school system.

About one-third of the students in this study secured employment one-year after leaving high school, marking a much faster pace than the eight-year employment projection for individuals with an ID or autism (Newman et al., 2010). Full- and part-time employment rates accounted for a combined 29.4% of students in the program one-year past participating in the community worksite program whereas employment rates for the tri-state area for individuals with similar disabilities was 19.8% (Disability Statistics, 2018). This indicates those who participated in the community worksite program had higher rates of employment than did those in neighboring areas. While the program was successful in increasing hiring potential, 14% of student participants were not employed or connected to any agency services indicating that further review of services in the transition between the public school program and the student's final school exit are still needed.

**Conclusion**

Implementation of a structured transition programming model, such as the one used in this study, may serve as the foundation needed to establish effective employment training while students are still in the school system. We believe that through effective programming, schools and partnering stakeholders can create employment experiences and opportunities for SWSD that aim to build resource management, interpersonal, and work specific skills that are needed in most workplaces.

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HOW DO STUDENTS REALLY FEEL ABOUT ONLINE CLASSES?

**Abstract**

The number of courses presented online has increased dramatically. While this may be a great method by which instructors can provide instructional content to students at a distance, how do students really feel? The research, conducted prior to the pandemic at a medium-sized institution situated in the southwestern United States, was part of a multifaceted study designed to determine feelings around online teaching and learning from students and instructors. The results seem to suggest that while most students find online courses to be beneficial, a substantial percentage (almost 14%) still prefer a different instructional modality.

**Background/Rationale**

This study resulted from student and instructor/faculty concerns around administrative requests to increase the number of online course offerings. Anecdotally, students felt they were not able to adequately understand the online content provided to them, while faculty felt they were unable to provide the quality education students deserved if the content was in an online-only format. Therefore, the researchers decided to conduct a survey of students and faculty, institution wide, to try to better understand, empirically, not anecdotally, from where, and how, this sentiment evolved. This presentation only reviews the responses of students who participated in the survey.

**Research Questions**

The questions the researchers wanted to explore were the following:
1. Reasons students took online courses;
2. Student expectations of professors/instructors; and
3. Attributes of successful or unsuccessful online courses.

**Methods**

The researchers, each instructors with extensive experience teaching both face to face and online courses, decided the best way to collect data for this study was to send a survey to all faculty and instructors, institution-wide, and ask about their perceptions of online teaching and

learning. The survey was based on one conducted by John Huss and Shannon Eastep at Northern Kentucky University (NKU), and permission was obtained to modify the survey instrument to fit the needs of this study. The survey was administered through Qualtrics. After two weeks, the students were reminded to complete the survey, if they had not already done so. As the institution at which the study took place also offered dual-credit courses for high school students, any students who were taking dual-credit courses, as well as students who were under 18 years old, were excluded from participating.

**Results**

The purpose of the survey was to determine how students really feel about online courses. Of the almost 9,000 students who received the survey, approximately 400 responded, yielding a 4.4% response rate. The researchers are aware that the response rate is a limitation of the study. Students from all classifications (freshmen, sophomores, juniors, seniors, and graduate students), and from almost all the colleges (College of Health and Human Services, College of Arts and Humanities, College of Education, College of Graduate Studies, College of Science and Engineering, and College of Business) responded.

Not surprisingly, almost 47% of students indicated that they chose to take an online course because it either was convenient (N=74) or it fit their schedules N=103). Another 3.7% (N=14) chose online because they learned best in the online environment, while another 9.5% (N=36) indicated different reasons for choosing online courses (they live rurally/do not live in town; preferred not to take courses with the remaining professors; family was military). However, more than 25% (N=106) chose online courses because face to face courses were not offered. Yet, more than 75% (N=287) of the respondents indicated that they would take another online course, while almost 2% said they would not take another online course. Reasons given for taking another online course included being able to manage their own schedule/time, being able to continue to work full-time, online courses are convenient, and online courses allow students to nap. Reasons provided for not taking another course online included cost (online courses are more expensive) and modality (taking the course online only if there was no other option). Approximately 12% (N=45) did not answer the questions.

When asked what type of feedback students would like to receive from their instructors, 42% (N=160) would like a score plus specific feedback, while 39% (N=147) preferred score and overall feedback, suggesting that 81% of students value the feedback provided by instructors. Just over 4% (N=17) felt that just a grade was enough, while just over 2% (N=9) would like feedback to be even more in-depth, including not only a score, but also a video or audio component. Again, approximately 12% (N=45) did not answer the question.

Finally, students were asked what they feel makes an online course successful or not successful. Unsuccessful online courses contained many elements of unsuccessful face-to-face courses, including lack of organization, lack of feedback, slow response time, and having to teach yourself the content. However, additional concerns included technology malfunctions and instructors providing too much content/work. The elements of successful online courses were, therefore, quite the opposite of unsuccessful online courses, including organization and timely

feedback, as well as aspects specific to online courses such as instructor-monitored discussion boards, videos to help explain the lectures, and courses being convenient.

## Discussion

The results seem to suggest that students take online courses for a multitude of reasons, including personal convenience and learning style, as well as family obligations, and because there are no other options. Of note is exactly what students feel makes for successful or unsuccessful online courses. Lack of organization can be seen in both face to face and online courses but seems to impact students to a greater degree than with face-to-face courses, particularly when instructors do not respond in a timely manner or provide timely feedback. This frequently results in students not knowing their grades or content mastery levels until late in the semester, often too late to withdraw from the course or rectify the situation, in turn resulting in lowered GPAs and possible academic dismissal. Similarly, excellent course organization is also essential to students feeling as if the course is successful. Having the course calendar available and completed at the beginning of the semester, allowing students to work ahead, and providing clear directions are all components students stated helped them feel successful. Equally, timely feedback is important to the success the students feel in the course.

Issues specific to online courses, however, arise from technology malfunctions and too much work. Specifically, technology malfunctions can occur anywhere in the "chain," from delivery (an issue with the learning management system (LMS), such as Blackboard) to receiver (home internet is down). And, instructors who overload the course simply because it is an online course are frequently cited as reasons students drop (or fail) a course. Either of those issues can cause significant stress and can easily discombobulate a student who is teetering on the brink of just passing the course.

## Implications

Considering the results of the survey, what are the possible implications here and areas for additional research? There are several, each branching in different directions. Given students' concerns about their own success in class, there are several things instructors can do to help ensure their success. Instructors can ensure their courses are well organized, with clear directions, and clear deadlines. They can also utilize the calendar in the LMS to provide students a visual of when assignments/major projects are due and exams will be administered. They can also provide feedback in a timely manner (taking in account the course content, as well as the type and complexity of the assignments, for example). If possible, allow students to work ahead, again accounting for the type of course. And lastly, instructors can ensure the amount of work they are assigning is appropriate for the level and type of course (which will, in turn, assist with providing timely feedback).

Finally, the researchers would like to conduct the student survey again, post-pandemic, to see if anything has changed, and if so, what. The researchers would also like to know if students are still amenable to online courses after being required to take them over the past several months. Information gleaned from this survey will be invaluable, particularly if there has been a

shift towards more or fewer online course offerings by the institution in contrast to what students feel is beneficial. Possibly combining the results of the faculty survey with the results of the student survey may lead to richer information.

**Conclusion**

Online courses are likely here to stay. Effective delivery of these courses is paramount to ensuring the success of students. Ideas mentioned in the discussion and implication sections are starting points for research and continuing to ensure the success of students.

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SUPPORTING TEACHER CANDIDATES IN WRITING HIGH QUALITY IEPS

## Abstract

This presentation identifies a variety of resources that three different teacher preparation programs in Colorado use to train new special educators to be able to tackle the case management aspect of their roles. Given the various federal, state, and even district level mandates that dictate how to write legal and ethical IEPs, it can be a challenge to find resources to adequately prepare new educators for the various nuances of IEP writing. The authors of this presentation also wrote an eBook of exemplary IEPs that is now a part of their curriculum and will soon be available via the Colorado Department of Education.

## Background/Rationale

Despite the legal mandates that identify IEP requirements, recent research indicates that IEPs often do not follow best practice (Kurth et al., 2019) and many do not meet the legal requirements outlined in IDEA. When IEPs are not written correctly, students with disabilities do not receive the education they need, and school districts are subject to lawsuits. In the state of Colorado, the most recent data available regarding special education due process lawsuits is from 2016; in that year, 37 lawsuits were filed against Colorado school districts (CDE, 2017) and recently a class action lawsuit was filed because students did not receive the services listed in their IEPs during COVID-19.

When it comes to IEP writing, and existing IEP exemplars, there are multiple areas of concern that arise. Specific areas of concern are the lack of connection between student needs and student placement decisions (Kurth et al., 2019), a lack of language supports for ELL students with disabilities (Hoover et al., 2018; Tran et al., 2018), insufficient parental input into IEP development decisions (Dodge, 2018), and basic procedural errors (IRIS, 2020). In addition to the concerns noted above, the authors of this paper find that novice teachers are keen to rely on items like IEP goal banks, as they are not confident when writing their own. This leads to IEPs that are not unique to students' needs, nor are they necessarily aligned to the needs identified in the PLAAF. The authors of this paper often struggle to find a dearth of examples from which to teach their aspiring students. As such, they often create their own materials,

meaning that all teacher candidates are learning from the perspective of one professor, which can limit student learning, as they are not exposed to multiple perspectives.

**Existing Curriculum Supports**

Each teacher preparation program identified in this presentation uses a variety of resources and assignments to prepare new special educators. These resources vary from in-house materials to other Open Education Resources (OERs) available in the U.S, including the IRIS center modules. Colorado Christian University infuses their own coursework with the IRIS center modules "Developing High-Quality Individualized Education Programs" and "Accommodations" to provide necessary background and supporting knowledge to accompany coursework (IRIS, 2020). University of Colorado Denver's ASPIRE Alternative Licensure program starts with an in-depth module that goes from understanding IDEA to watching a video of an IEP meeting created by the ASPIRE faculty (Figure 1). Western Colorado University includes assignments in a sandbox in Enrich, a type of IEP software commonly used in the state of Colorado so students can practice writing components of an IEP in software (Figure 2). All three programs scaffold the writing of IEPs throughout their entire program so that teachers continue to build competence and are repeatedly exposed to and therefore can create their own IEP best practices.

**Figure 1**
*University of Colorado Denver's Initial IEP Exploration Assignments*
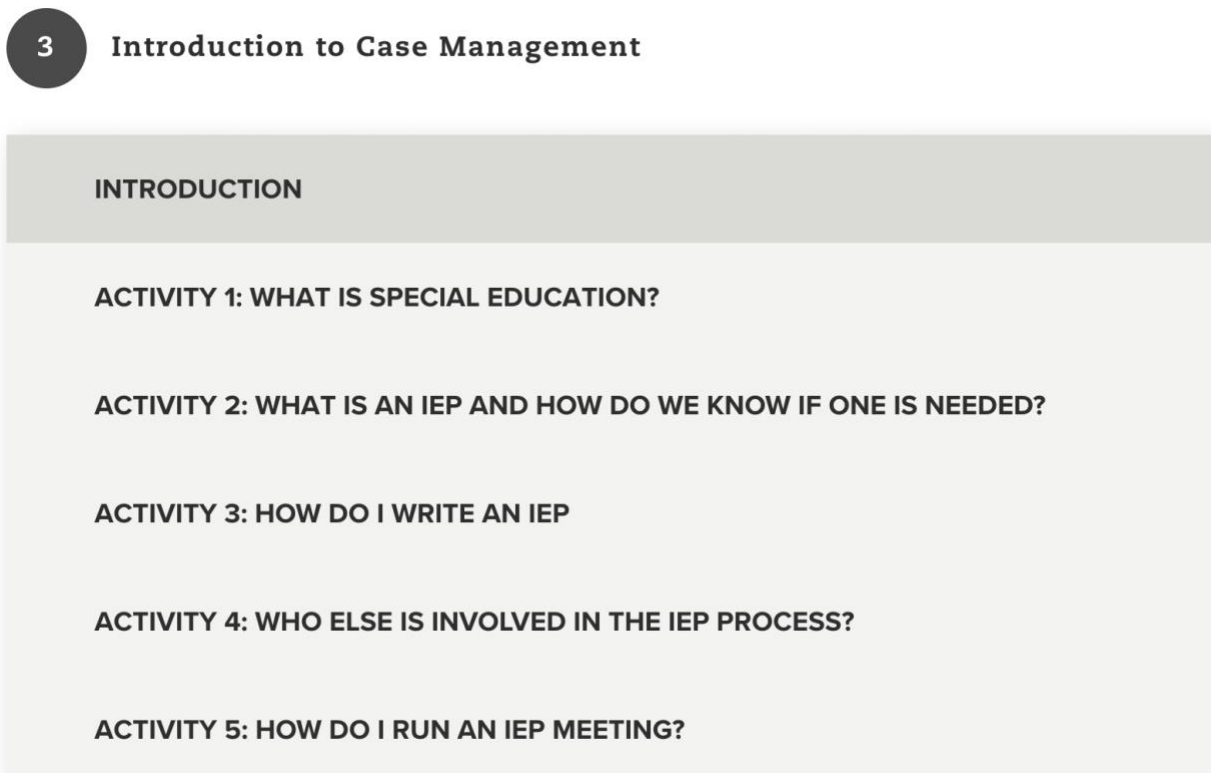


**Figure 2**

*Western Colorado University's Sandbox in the IEP Software Enrich*



## New Curriculum Supports

In addition to the already existing resources, the authors of this presentation received a grant from CEEDAR to create an Open Educational Resource (OER) of exemplary IEPs for the State of Colorado. The eBook includes examples and non-examples of high-quality IEPs that are aligned with Colorado Academic Standards or Extended Evidence Outcomes and utilize best practices in IEP development as identified through IDEA and current research in the field of special education.  The authors created an eBook that includes 20 sample IEPs that utilize mock students from kindergarten through age 21 and cover the thirteen school-aged disability categories outlined in Colorado law. Examples of transition plans (ITPs) were included. Particular attention was paid to developing IEPs that were well executed in the areas of concern noted earlier in this paper. In addition to the sample IEPs, the ebook also includes 5 non-examples with specific areas of concern noted.

It was important that the authors all wrote their own IEPs so that the exemplars show that there is not one way to write an IEP. While all authors follow the various legal and ethical mandates, they each have a distinct voice in their writing. It was critical that this eBook include three different ways to write IEPs so that students and those in the field can find their own approach to IEPs and not just rely on one example. Additionally, each author chose to represent a

different fictional school district in Colorado so that users of the eBook can see how different district mandates might result in slightly different wording in IEPs. Overall, the goal of this project was to put together a flexible resource that can be used in any special educator preparation program, and spark questions and conversations among developing teachers as they seek to become competent IEP writers themselves.

In addition to the existing curriculum and assignments in each program, this textbook will be added into the programs as a resource to supplement or revise existing curriculum. For example, at CCU, in the Collaboration course (SED 502), students will analyze the Parent Input sections of the IEPs in the e-book and use those as models for creating their own Parent Input about a mock student. In ASPIRE to Teach, this textbook will be added into the existing resource "Introduction to Case Management' (Figure 1) to serve as both a series of models and serve as a scaffold to support teachers in writing their own IEPs. Western Colorado University will be adding the resource as a required text and other learning materials to utilize in various activities leading up to creating their own IEP from start to finish in their K-12 residency.

## Conclusion

The field of special education is confusing for new teachers, and IEPs remain one of the most challenging aspects. This can result in poorly written IEPs, or IEPs that do not follow federal guidelines (Kurth et al., 2019). However, teacher preparation programs can support teachers by using a variety of resources, scaffolds, and spiraling opportunities. When teacher preparation programs carefully craft learning opportunities and assignments based on a multitude of resources, teacher candidates can leave programs as competent case managers who can write ethical, equitable, and legally compliant IEPs.

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THE EFFECTS OF TEACHER-DELIVERED E-COACHING
ON PARAEDUCATORS AND STUDENTS

## Abstract

Paraeducators play a vital role in providing special education services to students with disabilities, yet they often enter the classroom with inadequate training. Using a multiple-baseline across participants research design, we evaluated the effects of job-embedded bug-in-ear (BIE) coaching delivered to paraeducators on their use of behavior specific praise (BSP) while working 1:1 with transition-age students with autism spectrum disorder (ASD). Results showed all paraeducators used optimal rates of BSP during the intervention condition while receiving immediate feedback from the special education teacher (i.e., *e*Coach). High rates of BSP were sustained over time, and changes in expressive social and communicative behaviors in students were observed in relation to the intervention. Our findings extend the literature on BSP and have merit to help establish BIE coaching as an evidence-based practice (EBP) for paraeducators.

## Background/Rationale

According to the U.S. Department of Education (2019), the number of paraeducators employed nationwide to provide special education services to students with disabilities far exceeds the number of special education teachers. Paraeducators support students with some of the most significant educational, instructional, and behavioral needs; yet they often enter the classroom with limited preparation (Brock & Carter, 2013; Rosenberg et al., 2020). In a systematic review of the literature on paraeducator-delivered teaching practices, Brock and Carter (2013) found paraeducators to be capable of implementing EBPs with high fidelity following sufficient professional learning and development. Though it is essential to offer effective professional development (PD) opportunities to paraeducators, doing so remains a challenge (Brock & Carter, 2013). In other words, there is a disconnect between the identification of what paraeducators' PD should entail and *how* to effectively put ideologies into practice in the classroom (Brock & Anderson, 2020).

Brock and Anderson (2020) suggest performance feedback through coaching to be an effective and sustainable method for putting professional learning ideology into practice by reinforcing newly learned paraeducator teaching behaviors and correcting errors while they are providing support to students with low incidence disabilities. *e*Coaching with BIE technology is an empirically validated method for providing educators with on-the-spot performance feedback while they are actively teaching (Horn et al., 2020; Rock et al., 2009). Less is known about the efficacy of BIE on paraeducator behavior; however, preliminary findings suggest BIE is a viable

method for improving paraeducator-delivered instruction (Rosenberg et al., 2020; Scheeler et al., 2018).

**Purpose of Study**

The purpose of our study was to extend the existing *e*Coaching literature by experimentally evaluating the effects of providing on-the-spot feedback via BIE to paraeducators as they worked 1:1 with transition-age students with autism spectrum disorder (ASD). With the special education teacher as the *e*Coach, we measured the effects of job-embedded *e*Coaching on paraeducators' use of BSP. We also measured fading effects and students' expressive social and communicative responses to receiving praise from paraeducators during instruction. The following research questions guided our investigation (see Horn et al., in Review).

1. How does immediate feedback delivered via BIE technology by a special education teacher impact paraeducators' use of behavior specific praise?
2. How does the systematic fading of BIE coaching affect paraeducators' sustained use of behavior specific praise?
3. What social and communicative responses (e.g., eye contact, facial expression, vocalizations or verbalizations) are observed in transition-age students with ASD in response to receiving praise from a paraeducator who is simultaneously receiving in ear feedback on their use of behavior specific praise?

**Method**

Using a multiple-baseline research design (Ledford & Gast, 2018) replicated across participants, we evaluated the effects of the intervention. That is, we examined the special education teacher's use of BIE to provide on-the-spot feedback to paraeducators' to increase their use of BSP during 1:1 instruction. We measured the percentage of BSP given as well as the rate per minute across baseline, intervention, fading, and maintenance conditions. Following the calculation used by Scheeler et al. (2018), we measured the percentage of BSP by dividing the total number of BSP statements delivered by the total number of [all] praise statements delivered, multiplied by 100. To determine the rate per minute, the total number of BSP statements delivered in each session was divided by the session length (range = 9-16 minutes; Markelz et al., 2021). To ensure reliability across participants and conditions, we calculated interobserver agreement (IOA; Horner et al., 2005). Reliability data were collected across a minimum of 33% of all conditions for each participant. There were three paraeducator/student dyads. Dyad 1 included Faye, a Black female paraeducator with eight years of experience in special education and a high school diploma and some college classes. Faye worked 1:1 with Damani, a 21-year-old Black male student with a diagnosis of ASD and intellectual disability (ID). Dyad 2 consisted of Danny, a Black male, who was a paraeducator with 18 years' experience in special education and a bachelor's degree. Danny worked 1:1 with Jason, a 19-year-old Black male student with a diagnosis of ASD. Dyad 3 included Will, a White male paraeducator, who was in his second year of employment in that position. Will worked 1:1 with Shamar, a 21-year-old Black male student who had a diagnosis of ASD.

To answer our third research question, we examined social and communicative responses of students immediately following (i.e., 1-3s) praise delivery. As such, we observed verbal and nonverbal behaviors following praise delivery from the paraeducator. These behaviors included: 1) making eye contact with the paraeducator, 2) changes in facial expression, and 3) verbalizations (e.g., "thank you") or vocalizations (e.g., giggle).

## Results

### *Occurrence of Behavior Specific Praise*

We measured the percentage of BSP given by paraeducators as well as the rate per minute BSP was offered across conditions. Data revealed the percentage of BSP given during baseline was low across participants (range = 0-10). When paraeducators received immediate feedback via BIE, the mean percentage of occurrences of BSP increased across all three participants (Faye = 73%; Danny = 83%; Will = 92%). Similarly, the mean rate per minute BSP was given during the intervention condition increased across participants (Faye = 2.9; Danny = 1.4; Will = 5.8). High rates of BSP were observed as the intervention was faded and removed.

### *Students' Responses to Praise*

To answer the third research question, we examined students' responses to praise. Changes were observed in all three students in the occurrence of eye contact, facial expressions, and vocalizations or verbalizations, all of which immediately followed praise offered by paraeducators. Damani's rate of eye contact increased by 5.2 in response receiving BSP. Further, during the intervention condition, Damani was observed smiling at an increased rate of 2.8 and his verbalizations/vocalizations immediately following praise delivery increased by 9.4. Jason's rate of eye contact increased by 7.6 in response to BSP delivery. Facial expressions increased by 2.2 and verbalizations/vocalizations increased by .4 during the intervention condition. Finally, Shamar's rate of eye contact in response to receiving BSP increased by 6.0. Eye contact often accompanied a smile, as Shamar's facial expressions increased by 14.6 in response to receiving BSP. His vocalizations/verbalizations decreased slightly, by .7.

### *Social Validity Survey*

Results from the social validity survey revealed the special education teacher and paraeducators found BIE to be an effective form of PD. The teacher noted BIE to be a "much less intrusive way to offer feedback." The teacher further stated, "In most of the PD I've gone to, there is rarely any follow-up on skills learned and I think this [BIE] would help bridge that gap." All three paraeducators reported they "liked" receiving immediate feedback from the teacher via BIE, and one elaborated, "It was helpful feedback to let me know what to say during the right time." One paraeducator shared that they "praised the kids more" and another stated they became "more aware of when to praise." All paraeducators agreed BIE was an effective form of PD, and one suggested it would be "especially effective for new teacher assistants."

## Discussion

Our results suggest BIE coaching is an effective method for providing job-embedded PD to paraeducators who provided instruction to students with ASD. Similar to findings from Rosenberg et al. (2020) and Scheeler et al. (2018), our investigation revealed a functional relation between variables when paraeducators received immediate feedback via BIE. Our study extends the extant literature in two notable ways. First, findings from this investigation contributed to the literature to help establish BSP as an evidence-based practice (Royer et al., 2019; Zoder-Martell et al., 2019). Second, our findings support previous research suggesting *e*Coaching is a viable method for providing training and classroom-based support to paraeducators who support students with ASD.

When paraeducators received immediate feedback via BIE *e*Coaching, they were observed delivering BSP at a mean rate per minute of 5.92 (range = 5.76-6.0). After reaching criterion, all paraeducators sustained high rates of BSP as the intervention was faded and removed. Anecdotal notes indicated Danny gave a lower rate of BSP compared to Faye and Will; however, he his BSP statements reflected greater variety. That is, Danny's BSP reflected careful thought and consideration to the behavior being reinforced. By contrast, Will had the highest rate of BSP, yet there was less variation in the phrases used, albeit specific. Despite these differences, our investigation showed BIE *e*Coaching to be an effective method for increasing the occurrence of BSP in paraeducators. Additionally, data measuring students' observable social responses to receiving praise are promising, as they help validate the social validity of the intervention when working with students who have ASD.

### Implications

Based on our findings, we suggest:
1. Special education teachers consider using BIE eCoaching to provide classroom-based, job-embedded professional learning and support to paraeducators.
2. Teachers and paraeducators use BSP when working with students with ASD.
3. Researchers consider using a tool (e.g., behavior specific praise observational tool; BSP-OT; Markelz et al., 2021) to investigate dimensions of effective praise use.

### Conclusion

Paraeducators are instrumental in providing special education services to students with disabilities; however, research specific to effective professional development is limited (Brock & Anderson, 2021). Our study further validates findings from Scheeler et al. (2018) and Rosenberg et al. (2020), showing BIE is a viable method for providing real-time feedback to paraeducators while they are actively teaching students with ASD. Our study extended previous work by measuring observable changes in expressive social behaviors in students with ASD immediately following praise delivery. Our results also add to the literature on an emerging EBP (i.e., BSP; Royer et al., 2019; Zoder-Martell et al., 2019). Finally, as the third experimental study by an independent group of researchers, our investigation has merit to help establish *e*Coaching as an EBP for paraeducators who work with students with ASD**.**

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EFFECTS OF E-COACHING DURING MURSION™ SIMULATIONS ON THE OCCURRENCE AND VARIETY OF BEHAVIOR SPECIFIC PRAISE

## Abstract

We used a concurrent multiple-baseline research design replicated across participants to evaluate the effects of *e*Coaching on increasing the delivery and maintenance of behavior specific praise (BSP) in a mixed-reality Mursion™ classroom simulation. Participants consisted of four master's students in a special education program. Results showed noteworthy increases in the rate and percent participants gave BSP during the intervention condition. Additionally, praise variety increased in all participants, and high rates of BSP were observed as the intervention was faded and removed all together. Our study extends the extant literature on an emerging evidence-based practice (i.e., BSP) and helps validate *e*Coaching and an effective method for providing immediate feedback during Mursion™ classroom simulations.

## Background/Rationale

Mursion™ simulations have received growing attention in teacher preparation programs (Dieker et al., 2014; Judge et al., 2013), and the COVID-19 pandemic led to increased use across universities nationwide.  Formerly dubbed TeachLive™, Mursion™ is a "mixed reality" environment that provides users repeated opportunities to implement newly learned instructional practices in a simulated classroom (Hartle & Kaczorowski, 2019). Practice-based learning in a "safe" environment enables preservice teachers an opportunity to refine teaching and behavioral strategies over time before stepping foot into the classroom. Simulations involve a combination of human and computerized components (hence, the term "mixed reality") that work behind the scenes to produce a realistic and interactive environment (Dawson & Lignugaris/Kraft, 2017).

Performance feedback is a critical component of Mursion™, and it typically occurs at the conclusion of the simulation (Dalinger et al., 2020). However, preliminary research suggests real-time, in-ear coaching during Mursion™ can improve teacher performance (e.g., Elford et al., 2013), yet findings in the extant literature are limited and mixed, at best. An easy-to-implement behavioral strategy, behavior specific praise (BSP), has been shown empirically to increase student engagement, in real world classrooms, while simultaneously decreasing undesirable classroom behavior (Royer et al., 2019; Zoder-Martell et al., 2019). BSP has also been recognized as a potential evidence-based practice (EBP; Horn et al., in Review; Royer et al., 2019; Zoder-Martell et al., 2019). A need exists to investigate BSP use in virtual classroom environments during teacher development to ensure teacher educators are adequately preparing preservice teachers to implement BSP with fidelity.

**Purpose of Study**

In response to the aforementioned need, we sought to extend research on *e*Coaching during Mursion™ by experimentally evaluating the effects of real-time feedback delivered via *e*Coaching on increasing the occurrence and variety of BSP given to student avatars in a simulated middle school inclusion classroom. We were interested in learning if master's level students who were enrolled in a graduate-level behavior management course would naturally use BSP, or if practical application of BSP was observed because of bug-in-ear (BIE) coaching. Additionally, we examined how *e*Coaching impacted participants' use of equitable BSP in a simulated classroom setting. The research questions from our study (Horn et al., in Review) included the following:

1. Is there a functional relation between *e*Coaching and increased use of behavior-specific praise during a mixed reality classroom teaching simulation for master's students in a special education program?
2. How does *e*Coaching impact master's students' use of equitable behavior specific praise, during a mixed reality classroom teaching simulation
3. How does *e*Coahing impact master's students' praise variety, as measured by the BSP-OT, during a mixed reality classroom teaching simulation?

**Method**

We used a concurrent multiple-baseline research design (Ledford & Gast, 2018) replicated across four participants to evaluate the effects of the *e*Coaching in increasing the delivery and maintenance of BSP. Participants reached intervention criterion when 90% of praise statements were coded as BSP for three consecutive sessions. Once they reached criterion, participants immediately transitioned into the fading condition for three sessions (Horn et al., in Review), and one maintenance probe followed fading for all participants. We defined BSP as a positive verbal praise statement given by a participant to a student avatar specifying a description of the behavior being reinforced within 3s of its occurrence (Horn et al., in Review; Scheeler et al., 2018).

We used three recording methods to analyze various dimensions of BSP. First, frequency recording revealed the number of BSP statements given to student avatars by participants. We converted these data to percentage of BSP and rate of BSP per minute. Second, we were interested in learning whether participants directed increased rates of BSP toward the student avatar with a diagnosis of ASD and challenging behavior. To achieve this, we evaluated how *e*Coaching impacted participants use of equitable BSP in an inclusive middle school classroom simulation by comparing the rate in which BSP was delivered to the student avatar with ASD compared to his typically developing peers. Third, we adapted the Behavior-Specific Praise—Observation Tool (BSP-OT; Markelz et al., 2021) to analyze BSP variety and reported the rate of BSP variety per minute. Using interval recording, independent observers indicated each praise statement given (i.e., general praise, BSP) while recording the variety and simultaneously noting who the praise statement was directed toward (e.g., student avatar, group). We calculated varied praise by dividing the number of different descriptive words or adjectives (e.g., love, good, excellent) used by the total number of BSP statements given (Markelz et al., 2021).

**Results**

***Occurrence of Behavior Specific Praise during Mursion™***

Study results indicate that participants did not provide BSP consistently (i.e., range, from 0% to 50%) or frequently (i.e., range, from 0 to .4 per minute) during the baseline condition. Upon introduction of the independent variable (i.e., immediate feedback via BIE), data reveal an increase in the use and rate of BSP by all for participants (Khyla = 72%; Tina = 58%; Linsley = 87%; Kim = 80%). Further, fading and maintenance data show that all four participants continued using a high percentage of BSP during each session as the intervention was faded and removed.

***Equitable Praise***

During the baseline condition, participants were observed using similar mean rates of praise across all students (Nate = .5; Dev = .2; Jasmine = .1). Participants were not observed giving BSP to groups during baseline. During the intervention condition, the mean rate of individual BSP increased and greater differentiation rates were observed (Nate = 6.1; Dev = 4.3; Jasmine = 2.6). Group-directed BSP was observed during the intervention condition, and similar to the latter, higher rates of BSP were observed when the group included Nate. The mean rate of BSP in a group that included Nate (i.e., Nate and at least one other student) was 2.1, compared to a mean rate of 1.3 when the group did not include Nate. High rates of equitable BSP continued as the intervention was faded and removed all together, with individual BSP given to Nate being at least twice that of Dev and Jasmine.

***Praise Variety***

Participants used little-to-no variety when giving BSP during the baseline condition. As the percentage and rate of BSP increased during the intervention condition, an increase in praise variety was observed across participants as well (e.g., great, good, excellent, like, appreciate, amazing, nice, wonderful, awesome). Participants continued using variety when giving praise as the intervention was faded and removed.

***Social Validity Survey***

Results from the social validity questionnaire revealed all participants "liked" receiving feedback via *e*Coaching during Mursion™ simulations, crediting feedback delivery for improving their ability to provide BSP. One participant shared, "The feedback taught me what behavior to look for to praise and how to be specific." Another participant stated, "I found that I enjoyed presenting more opportunities for the students to respond just so I could give them more praise. This makes me think of my teaching style…this experience will make me redesign my teaching to be more interactive and will help me build a more student driven agenda to accomplish the curriculum."

## Discussion

Results from our investigation suggest providing real-time feedback via *e*Coaching during a mixed-reality classroom simulation is an effective training technique to use during teacher preparation/development. Our findings are consistent with those from Elford and colleagues (2013), validating the value in providing immediate feedback delivered via BIE while engaging in a Mursion™ simulation. Our research extends the literature by targeting an emerging evidence-based practice (i.e., BSP), and in addition to examining the occurrence of BSP, we also measured equitable BSP as well as praise variety. Still, more research is needed.

## Implications

Based on our research findings, we recommend:
1. Providing practice-based learning opportunities with feedback delivered via BIE during teacher preparation in simulated classroom environments, such as Mursion™.
2. Incorporating equitable BSP and praise variety when preparing pre- and in-service teachers to use BSP, during simulated clinical experiences, such as Mursion™.
3. Researchers consider using   a behavior specific praise observational tool, such as the BSP-OT (Markelz et al., 2021) to measure the dimensions of effective praise use.

## Conclusion

Using mixed-reality teaching simulations in teacher preparation/development is not a new concept (Dieker et al., 2014; Judge et al., 2013). Our results align with preliminary findings from Elford et al. (2013), showing positive effects when BIE coaching is used during Mursion™ classroom simulations. Results from our study support using Mursion™ with BIE coaching during teacher development, as an approach to providing practice-based learning opportunities with feedback that resulted in substantial changes in participants' BSP use (i.e., occurrence, equity, variety).

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ASSISTIVE TECHNOLOGY (AT) SPECIAL EDUCATION
ALTERNATIVE TEACHER COHORT

## Abstract

There is a significant shortage of special education teachers in Colorado. Western Colorado University is uniquely positioned to support alternative special educators with our fully online, one-year teacher licensure program which enables students to access rigorous, university-level coursework from any district in the state. This project presentation describes an Assistive Technology (AT) cohort of alternative special education teachers recruited into our special education teacher preparation program. They were instructed on how to use AT tools for their own learning, emphasizing: (1) multimodal literacy AT tools; (2) AT tools for accessibility and accommodation using technology. These two emphasis areas used high leverage teaching practices (HLPs) to help AT Cohort members situate their learning. This project proposes to positively impact working with students from underserved rural communities, with most of our alternative teacher candidates teaching in rural school districts.

## AT Cohort Rationale

According to Dalton (2018) and utilizing the Universal Design for Learning (UDL) (Rose, 2000; Edyburn, 2015) framework, K-12 learners struggling in their literacy acquisition benefit from multimodal approaches to literacy instruction and implementation Questions we hoped to answer in this project were: (1) what are the best ways to promote special education program implementation of evidence based assistive technology literacy supports; and (2) will authentic use of technology tools support future special education teachers in promoting appropriate accommodations for their K-12 students?

In order to answer these two questions, this project provided both materials and professional development to pilot test these theories. We provided a technology kit to eight alternative special education teachers enrolled in our program. We then implemented a set of professional development activities to enhance their use and implementation of AT tools for multimodal literacy in their K-12 special education programs within a year timeframe. AT skills and strategies in special education teacher candidates' professional development were incorporated in primarily two ways. First, special education teacher candidates used their technology kits comprised of an iPad, Apple Pencil, two hard copy textbooks, and remaining program textbooks as etextbooks using the Vitalsource app on their iPads. This approach encouraged future special educators to utilize tools as learners themselves. The second approach to the professional development was to learn strategies for multimodal literacy learning using technology enhancements and supports to support K-12 special education student learning. Some examples of tools AT Cohort members used in their learning and for their K-12 students were text-to-speech, highlighting tools, other methods for annotating, and providing multimedia within the text to enhance student understanding such as videos, audio, or images.

## AT Cohort Implementation

A timeline is included below outlining our project progression from recruitment through end of the spring semester reflection of SMART Goals. Cohort members completed projects associated with their AT professional development within program coursework in both the fall and spring semesters culminating in a final project related to AT SMART Goals. Some examples of AT SMART Goals created by cohort members were: "By the end of the semester, I will develop and implement a data collection tool, on the iPad, to be used by myself and EAs for data collection as measured by data collection on a weekly basis," (Western Graduate Special Education Student, used with permission, 2021). While another focused on collaboration for student learning, "By May 2022, I will collaborate with a 5th grade general education teacher to incorporate iPad's assistive technology into the scope and sequence of two writing projects by meeting bi-weekly to check progress on the writing project and discuss the assistive technology appropriate for the next step of the project," (Western Graduate Special Education Student, used with permission, 2021).

**Figure 1**
*Western Alternative AT Special Education Teacher Cohort 2021*
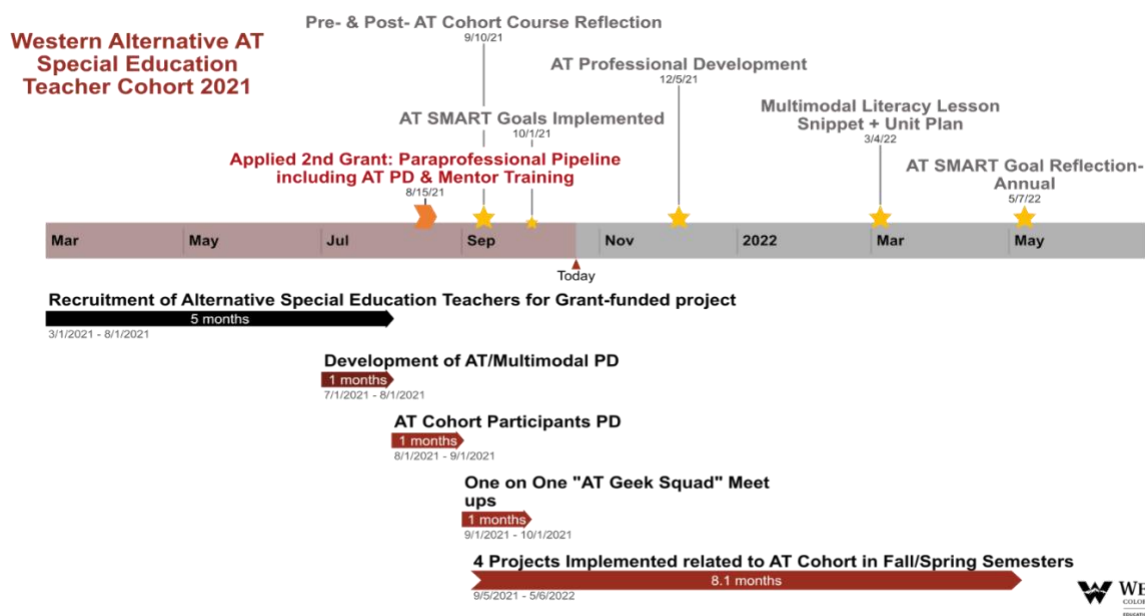


## AT Cohort Research Questions & Discussion

*RQ #1, What are the best ways to promote special education program implementation of researched assistive technology literacy supports?*

By integrating these practices early in the career of alternative special education teachers, the candidates and, most importantly, their students will benefit over the long term by utilizing AT tools and supports in their programs. AT Cohort members reported that, "I think this technology is so cool. I have learned so much about it and the ways it can help students. I feel the speech to text and text to speech will be highly useful in our classes. I have already seen students who use it with their Chromebook and it provides great benefits to them. It allows them to listen to class content at grade level and this increases their ability to participate in their classes," (Western Graduate Special Education Student, used with permission, 2021), while another AT Cohort member noted that, "The most valuable supports using AT with my students will be knowing which technology to use with each student depending on their needs. I think depending on the student, the most valuable AT tools and workflows [for using AT tools in their learning]," (Western Graduate Special Education Student, used with permission, 2021).

*RQ #2, Will authentic use of technology tools support future special education teachers in promoting appropriate accommodations for their K-12 students?*

Focusing on alternative candidates makes us more likely to see these applications and technologies integrated immediately into the classroom. Related to our teacher preparation, we utilized principles of adult learning in combination with research-based technology integration theories. Jonassen, et al., (2008) suggested the technology model integrates the five "principles of meaningful learning with technology: (1) active (2) constructive (3) intentional (4) authentic (5) cooperative" (p. 82). In combination with Malcolm Knowles (Knowles, et al.,2014; Muneja, 2015) components of adult learning pedagogy, Andragogy, the professional development course was designed to provide a framework for how technology tools were meaningful to AT Cohort members in their special education programs and learning. The professional development used a constructivist approach to learning where AT Cohorts would "try-out" strategies for multimodal literacy in the areas of reading, writing, presenting, speaking, and listening. For example, AT Cohort members annotated text using digital annotation tools and created multimodal books that included videos, audio, and visuals to provide multiple ways to engage with learning (Hitchcock & Stahl, 2003).

**Tips for IHE Implementation of Assistive Technology (AT) Teaching & Learning**

This project predicted that early use of AT tools for teacher candidate learning in a graduate program would promote AT use within special education programs. The research is still ongoing, but preliminary results indicate that AT Cohort members feel more comfortable implementing technology tools than previously in their teaching. Entering the AT Cohort, most AT Cohort members saw themselves as proficient using their own technology, i.e., their smartphones. After completing professional development AT Cohort members noted that they felt they were either augmenting (n=4 AT Cohort Members) or modifying (n=3 AT Cohort Members) learning experiences for their students using the Puentedura SAMR Model (2012). The SAMR model outlines four tiers of technology integration in learning, which are not necessarily better than one another but are described in order of their sophistication of technology enhancements and accommodations. In special education this can be transformative when applied in learning activities:

- Substitution- technology acts as a direct substitute, with no functional change;
- Augmentation- technology acts as a direct substitute, with functional improvement;
- Modification- technology allows for significant task redesign;
- Redefinition- technology allows for the creation of new tasks, previously inconceivable.

IHEs can use the framework of Andragogy to create learning experiences where adults thrive and grow based on research-based practices to support transformative technology integration.  This approach more effectively guides teacher growth specific to technology teaching and learning. The professional development course developed for this AT Cohort followed these two primary frameworks to guide AT learning and experimentation.

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TEACHING K-12 DEAF STUDENTS DURING COVID-19: VOICES FROM THE FIELD

## Abstract

A group of teacher trainees majoring in Deaf education and enrolled in a field experience course shared their observations of classrooms with D/HH students during the COVID-19 pandemic. The findings identified four major themes: attention, sign language in a virtual learning space, parents and the home learning environment, and technology. The voices of these teacher trainees have implications on how to improve Deaf education teacher preparation and the home-school collaboration.

## Background/Rationale

In the Spring of 2020, the coronavirus pandemic forced school shutdowns, affecting about 100,000 K-12 public schools and over 50 million students in the US (Zviedrite et al., 2021). About 308,648 students were Deaf or hard of hearing (D/HH) (NAD, 2021). The K-12 education system was forced into a paradigm shift from face-to-face teaching to online teaching using such platforms as Zoom, Microsoft Teams, and Google Classroom (Petretto et al., 2020). With this shift also came changes in the roles of teachers and parents. Most educators lacked the knowledge, skills, and experience of teaching online (Gudmundsdottir & Hathaway, 2020). Most parents were taking on new and unfamiliar roles and responsibilities as co-teachers and mentors (Pew Research Center, 2020). Doing so required a time commitment that competed with their other responsibilities (Garbe et al., 2020). Both learners and their parents experienced challenges in the technical side of this shift, e.g., acquiring reliable internet. (Schuck & Lambert, 2020; Scott-Webber, 2021).

The needs of learners in special education during COVID-19 varied by the nature of disabilities. Given the uniqueness of Deaf students' language needs, understanding more about the teaching and learning experiences of D/HH students during the pandemic was vital—hence, the focus of the current study. With online learning, parents were expected to assume a vital role in their children's education, but research indicates that 90-95% of D/HH children's parents are hearing and non-users of ASL (Mitchell & Karchmer, 2005). Some parents experience challenges with both ASL and English (Musyoka & Adeoye, 2020). Consequently, because of language challenges and limitations, most D/HH students arrive at school not ready to learn (Kuntze, 1998). Ultimately, language impacts literacy, possibly explaining why the reading levels of most D/HH students continue to be reported as below fourth grade level upon graduation (Traxler, 2000).

**Research Questions**

The central research question that guided this study was the following: How would teacher trainees describe the online teaching and learning experiences of K-12 D/HH students during the COVID-19 pandemic?

**Methods**

A case study research design is suitable to provide an in-depth analysis of an issue (Yin, 2014). As such, the current study was an exploratory, longitudinal qualitative study conducted over a period of 12 months. The aim was to examine K-12 D/HH online classrooms through the eyes of teacher trainees participating in a field experience from Spring 2020 to Spring 2021. During that period, 13 trainees (8 females, 3 males, and 2 declined to identify) were placed with 15 teachers (11 women and 4 men). The observed classrooms were in various educational settings: 6 in a residential Deaf school, 1 in a day Deaf school, 7 mainstream classrooms, 8 self-contained classrooms, and 2 in a resource room. Data collection was done using a qualitative survey, reflective journals, and student reports in online Blackboard discussions and online seminar activities. Content analysis involving the use of open coding and categorization of major themes was used.

**Findings**

The four major themes that emerged from the data included attention, sign language in a virtual learning space, parents and home learning environment, and technology.

**Theme 1: Attention**

The teacher had challenges sustaining the attention of most of the D/HH students during online classes. An indicator of attention is the point of eye gaze. D/HH students are visual learners, and visual attention is important for teachers and students to communicate and connect with each other. Visual joint attention allows D/HH students to shift eye gaze between the presented content and the teacher. For example, two of the teacher trainees shared how difficult it was for students to sustain attention and for teachers to gain attention. One of the trainees said,

> *The students' attention was one of the most challenging in every virtual classroom that I have observed. I came to observe the elementary and middle school students… very difficult sometimes especially with young children.*

Another student shared:

> *The teachers had a difficult time to maintain students' attention via Zoom while there were ongoing distractions at their homes. The teacher was not able to see what was going in in the students' home environments.*

The trainees also shared how teachers devised various ways to gain students' attention:

> *I thought the flashcards with students' names was very creative and smart. Waving or putting your hand in the front camera could not help receive the students' attention.*

Another issue was on balancing their visual attention, limiting it to one visual input at a time. In the case of having interpreters online at the same time with content, Deaf learners were noted to struggle with paying attention to the interpreters while reviewing the visually presented material online. The students therefore had to choose which received their attention.

**Theme 2: Sign language in a virtual learning space**

All the teacher trainees were placed for field experiences in classrooms in which the D/HH students accessed the classroom content in both English and American Sign Language. Since Deaf students are enrolled in both schools for the Deaf and mainstream programs, the trainees were provided opportunities for field experience in both educational placements. The teacher trainees expressed challenges they observed using sign language. First, the number of participants on screen at the same time affected the video quality and size, making it more challenging for Deaf learners to comprehend signed or fingerspelled information. One trainee shared the following:

> *ASL is harder to look at when seen on 13 different screens. ...when looking intently at little screens and four different students are signing to you, or when more than one student is signing and have no idea, you are waving at them, that can become frustrating.*

Another challenge using ASL online related to the signing space being spread-out and sometimes not fitting within the dimensions of the online screen. Some signs were cut off or had to modified to fit the screen space. One trainee observed:

> *Some of the students were hard to see because of lighting and at times their hands were not in the frame of the camera.*

More challenges were reported in classrooms with sign language interpreters. Some teachers did not have the skills to use interpreters online; hence, as mentioned before, they did not provide the students time to shift their eye gaze between teacher, interpreter, and the online slides. Sometimes, the interpreters were located in one small box at the corner of the screen, making it difficult for the students to see them clearly. Most times, all that the students could see was the interpreter. One trainee shared that

> *Deaf students had to pin the interpreter and teacher to their screen, which means that they could no longer see the shared screen content.*

Another shared:

> *Other times, the students pinned the interpreter only and could only see the interpreter on screen and the teacher and the content was not visible on the screen.*

**Theme 3: Parent & home environment**

Online learning moved the classroom to the students' homes, and a parent or family member assumed the role of co-teacher or tutor. The trainees observed how a home environment with visual noise affected students' attention and engagement in the class. One training reported that

*Some were in a bathroom, bedrooms, offices, and their living areas. A lot of foot traffic...a busy part of the house creating visual noise for the student, peers, and teachers.*

Another trainee shared that

*Students were even watching television, petting a dog, eating, or diverting their attention to something else, not directly to the teacher.*

Challenges with language and communication are expected when the home is the learning environment. Though most parents are hearing and do not know sign language, they are still expected to be co-teachers and support their children's learning. If the student was Deaf with additional disabilities, the situation was even more challenging. One of the teacher trainees noticed the following:

*Some students need help or modifications, and their parents were not there to support them. Also, some parents offered less due to language while others did too much for the student.*

**Theme 4: Technology**

The teacher trainees observed that internet was a challenge for some students. Despite having electronic devices, some students had difficulty accessing the internet. Also, internet interruptions affected the video quality, resulting in sign-language freezing and the students missing information. Sometimes, the interruptions even resulted in the dropping of an interpreter from the online platform while the class continued. Another challenge occurred with the use of captions and computer-aided transcription services (CART). One trainee shared the following:

*In situations where students used the CART services, it was more challenging for poor Deaf readers to cope with the speed of presentation and level of comprehension for the text. As a result, some teachers chose to sign content with captions.*

Also, teachers were observed to use technology in various ways to support the diverse learning needs of the D/HH students in their classes. One trainee shared that

*Teachers use break-out rooms for paraprofessionals...differentiated instruction...stations for independent work. Break-out rooms were also used as waiting rooms for disruptive students.*

**Discussion and Implications**

While COVID-19 posed huge challenges for teaching K-12 students online, the experience offers an opportunity to improve and revolutionize Deaf education and related services. There are implications for practice and directions for future research to improve online teaching with D/HH students in K-12 classrooms. First, Deaf education teacher preparation programs need to offer courses on educational technology that include how to teach or share online information to D/HH students with and without an interpreter. Because some of the skills affecting online teaching can improve face-to-face teaching as well, there is also a need for an interdisciplinary training course for teachers and interpreters to understand how to work together both online and face to face. Furthermore, D/HH students need parental support at home even when they return to school; therefore, schools and school districts need to engage parents more in the education of their children and support them to develop language and communication skills. In this study, teachers' skills varied on the use of technology. School administrations need to provide opportunities for professional development and mentoring of teachers on educational technology and its use with D/HH students. Also, there is need for more studies on online learning and Deaf ASL/English bilingual students in K-12 programs. Before COVID-19, some programs used online learning strategies such as the flipped classroom, but no research covers how flipped classrooms have been conducted with K-12 Deaf students in various education settings. Research shows that more than 75% of Deaf students are educated in mainstream programs; therefore, there is a need for research on how interpreters are used in classrooms. Finally, although some research exists on the attention of Deaf students, it is limited to face-to-face interactions as opposed to online ones.

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SUPPORTING EARLY CAREER FACULTY: WHAT DO WE NEED?

**Abstract**

This proceeding will provide a discussion of what early career faculty need to feel supported in making progress towards promotion and tenure requirements as identified through the research and personal experiences of the authors. The authors will provide multiple strategies on ways early career faculty can advocate for themselves and resources to meeting the tenure and promotion guidelines at their institution. Additionally, an action plan on how early career tenure-track faculty can ensure their needs are being met. This action plan can be individualized to meet the different tenure and promotion requirements of their institution.

**Background/Rationale**

Often, material and information is presented on supporting early career faculty from faculty members who are already tenured and promoted. While they have experience as early career faculty, it should not be discounted; the needs of early career faculty may be different today due to the global pandemic and worldwide events. This is aligned with the conference theme of steering into the future as early career faculty are the emerging teacher preparation educators and researchers in the field; therefore, it is imperative that they are supported. There are many pressures that junior (e.g., early career) tenure-track faculty face, including professional development, completing progress towards tenure and promotion, teaching load, and pressures to conform (Reis, 2006) that does not consider the recent events in the country (i.e., political and racial tensions, global pandemic). We are often asked to continually change and develop in all three areas (i.e., research, scholarship, and service) including integrating technology into teaching, expanding definitions of scholarship, emphasizing assessment of student learning outcomes, and building interdisciplinary collaborations (Sorcinelli, 2007).

While many of these challenges faced are not new, it is important to continue to revisit these challenges to support early career tenure-track faculty in order to build a strong workforce of teacher preparation educators in higher education. Some solutions that have been identified include re-envisioning tenure and promotion guidelines, considering new partnerships, and facilitating divisional exchanges (Baker, 2020). While there are limitations to supports and resources given at an institutional level, there are measures that can be provided at a

departmental level or self-advocacy level to support early career faculty throughout their career to increase their success with promotion and tenure.

## Tenure and Promotion Challenges

While many of the challenges faced are not new, it is important to continue to revisit these challenges to support early career tenure-track faculty in order to build a strong workforce of teacher preparation educators in higher education. Some solutions that have been identified include re-envisioning tenure and promotion guidelines, considering new partnerships, and facilitating divisional exchanges (Baker, 2020). While there are limitations to supports and resources given at an institutional level, there are measures that can be provided at a departmental level or self-advocacy level to support early career faculty throughout their career.

## Experiences of the Authors

We, Samantha, Jaclyn, and Kaitlin, are three early career faculty employed by a mid-sized private institution in Philadelphia. Two of us, Samantha and Jaclyn, are in the Department of Special Education, while one (Kaitlin) is in the Department of Teacher Education. We represent the only non-tenured faculty in our respective Departments. Here we share where we are in the tenure and promotion cycle and reflect on how this process has gone for each of us.

I (Samantha) immediately entered higher education upon graduating with my PhD and am going up for consideration for promotion and tenure Fall 2023. I knew the importance of meeting the promotion and tenure requirements and making adequate progress towards them but was not sure how to set up my time in making sure each year I was making that progress. I found that making connections with writing groups has been a tremendous help in my research accountability. I also have been mindful of checking in with my mentor to ensure that my activities support my development as a faculty member. I recently submitted and received feedback from my pre-tenure package and was relieved that I was found to be making adequate or above progress on all areas of evaluation.

I (Jaclyn) began working in higher education as an adjunct faculty member while still working in the classroom after seeing that the vast majority of my student teachers were very unprepared to enter the workforce. My passion for this grew and after 10 years working in higher education, I moved into a tenure track position and felt as though I stepped onto a hyperloop train that had already left the station…" Balancing the multitudes of demands of the job along with being a young mother can feel overwhelming despite an exceptionally supportive department. Learning to protect writing and research time was critical and I am still working on not letting perfection get in the way of good work.

I (Kaitlin) am in my fifth year of the tenure and promotion process. In a typical cycle, I would be going up for consideration next summer (2022). However, the University offered tenure-track faculty the option for a no penalty, one year clock extension given the impact of the COVID-19 pandemic, and I took this option. This process has been keeping me up at night since the 'clock' started four years ago. Even though I would consider myself to be at a very

supportive Institution, I still feel at times like I'm a little lost. I'm the only non-tenured member of my Department. For me, time is the resource that I need most. There just never seems to be enough hours in the day to teach well, serve well, and do research. I've gotten better at protecting my research time, but it's taken a while and Covid was a challenge. The one-year clock extension has definitely helped to take a little of the pressure off. For me, it has been really critical to take advantage of every support that the University has offered, including writing groups and mentorship.

**Strategies on Supporting Early Career Faculty**

An important first step in determining what early career faculty need to make adequate progress towards tenure and promotion is to identify the requirements as they relate to teaching, scholarship, and service and then create an action plan to meet those expectations by the individual's deadline. For example, in the teaching category, a candidate might outline the courses they will teach, identify who will observe them (if applicable), and determine the focus of the observation. In the scholarship category, a candidate can begin by identifying the types of manuscripts they will submit and identify the conferences they can submit to. Finally, in the service category, a candidate can write the goals they have for service each semester and identify which committees they would like to contribute to. See Figure 1 for an example of an action plan that was developed and used to ensure adequate progress was made in a pre-tenure decision.

**Figure 1**
*Example of action plan for promotion and tenure*

Plan for Pre-tenure and Promotion Review Fall 2021

| | Fall 2019 | Spring 2020 | Summer 2020 | Fall 2020 | Spring 2021 |
|---|---|---|---|---|---|
| Teaching: | SPE 160 (2 course releases a year-took both in fall) | ABA 608 (online) SPE 600 (online) ABA 603 (online) IHS 470 | ABA 602 ABA 606 | IHS 468 SPE 160 | ABA course SPE course |
| Teaching observations: | Cheryl (Oct. 30th) Goals of observation: engagement Ginny Goals of observation: activities/engagement | Frank Observed online class Goals of observation: feedback and interaction | Someone with expertise in online education Goals of observation: feedback and interaction | Cheryl Someone from IHS | Janine? Mollie |
| Scholarship: | 2 manuscripts accepted (1 in Beyond behavior, 1 in Young Exceptional Children) Goal: Apply for SABA $2,500 grant | CEC 2020 panel presentation Goal: APBA conference (not submitted yet) -tech paper (in progress to submit in spring) -2 dissertation manuscripts (in progress to submit spring/summer) | | Present at DEC Present at TASH 1 article in progress Goal: Apply for SABA $2,500 grant Goal: -metanalysis for SIB in ECE submitted | Present at CEC Present at ABAI/APBA 1 article in progress Begin research project in school **Summer 2021 Summer Scholar?? |
| Service: | ABA SJU Graduate coordinator SHSH curriculum committee DEC conference committee | Goal: to get one 1 university committee State service (PA DEC/CCBD) | | Goal: University service | Goal: continue service to school/department |

Pre-tenure review Fall 2021
Full tenure review 2023-2024

One strategy to support early career faculty trying to meet the requirements of tenure and promotion, particularly in the area of research, is to have a dedicated time set aside where individuals can focus solely on writing. Creating writing accountability groups is helpful in holding individuals accountable for writing and protecting their writing time (Boyd, 2015). These groups can meet virtually or in person and be created with individuals across the institution or professional organizations (e.g., first Friday of the month with TED). Another accountability measure includes accountability logs; these can be used to log the amount of time spent on various tasks related to research (i.e., outreach, conducting literature reviews, writing, etc.), service, and/or teaching or the actual activities completed each week. Accountability logs can be used for self-evaluation or shared with a mentor to ensure adequate progress is being made each semester towards promotion and tenure guidelines.

It is important that resources and support not only be given to faculty member's research, but also to their development of high-quality instruction (Fraser et al., 2017). Many institutions already engage in support for teaching through centers for teaching and learning that provide faculty members, particularly in early career, with resources and professional development in the area of teaching. Working with a seasoned mentor can also be helpful. These mentorships might include communities of practice, which can increase early career faculty member's understanding and interest in scholarship of teaching and learning (Cox, 2013; Osman, 2016).

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## SERVING THE NEEDS OF PRESCHOOL CHILDREN WITH DISABILITIES AND ASSISTIVE TECHNOLOGY USE

### Abstract

Provision of early intervention services for preschool children has been in practice for many years, and the approach of using assistive technology (AT) to meet the needs of preschoolers with disabilities has been embraced. However, positioning the preschool professional as a critical partner in selecting the appropriate assistive technology to serve the needs of preschoolers needs to be explored. The presenter will share the findings of a qualitative study exploring the experiences of a teacher's use of AT to meet the needs of children with disability in a preschool classroom. Findings will be presented along with developmental appropriateness of high and low AT as well as the need for professional training.

### Positionality Statement

I share my passion of a personal commitment to understand assistive technology as a mediating tool for preschoolers with disabilities. I am a woman of color from a culture that views and experiences social reality differently from the dominant culture. Historically, a belief that strongly prevails in my culture is the belief that disabilities are a curse or punishment from bad deeds of family members. These perceptions many a times limits effective service delivery where children with disabilities lack basic care, education, and dignity. I do not claim to be a person with a disability and understand all the nuances. As a woman of color, who has experienced rejection in one form or the other, the topic of assistive technology is of interest because I am an advocate for the provision of quality care for early intervention services using assistive technology. I do not suggest that all children with disabilities must use assistive technology but ultimately, I want to contribute to the research that advances opportunities for AT as a mediating tool for students with disabilities in preschool.

### Statement of the Problem

Children with disabilities and their typically developing peers want to interact with each other. Emerging technologies have necessitated challenges especially for children who are not typically developing in terms of building social skills to interact with each other. Studies have found that this may be a result of a lack of technical know-how by some educational professionals who may not be adept with selecting or using the most developmentally appropriate assistive technology (Tamakloe &Agbenyega, 2017). Against this backdrop, a qualitative case study was conducted to explore and understand how a preschool teacher uses assistive technology as a mediating tool for enhancing quality learning for young children with disabilities.

**Literature Review**

Children with disabilities who are being served in preschool settings need extra support to help them function to the maximum extent possible and, help them thrive like their typically developing peers (Morrison, 2020). The potential of assistive technology as an effective mediation tool in early childhood settings for children with disabilities has informed policies underpinning early intervention services (Chambers & Forlin, 2020).

To be eligible for early intervention services, a child must be diagnosed with a condition that will potentially result in developmental problems in any of the five areas of development. (Adaptive, physical, cognitive, communication and socio-emotional).

Research findings (Ahmed, 2018) have indicated that AT provides children with a range of functional abilities to access everyday learning experiences with typically developing peers. However, other studies also indicated is of selection and implementation of AT for young children with disabilities in promoting child engagement. To increase the effectiveness of AT use, the focus must be on the individuals that use the technology. This situates the preschool teacher as a critical resource in the implementation of effective early intervention, where AT is often deployed (Kokkoni & Galloway, 2021).

Quality early intervention services that utilize AT is key to the future school success of children with disabilities and yet research suggests young children with disabilities sometimes have limited access to meaningful and effective use of AT. Some of these have been attributed to the lack of teachers 'knowledge and preparedness to use the AT resources effectively' (Bouck & Long, 2020). Therefore, research is needed to gain insights into the ways the teacher designs environments, curricula content, learning activities, and materials to accommodate the needs of young children with disability using AT. The aim of the session is to contribute to current study in the field add to the body of knowledge as it points towards exploring the teachers' use of AT to meet the needs of preschoolers with disabilities.

**Findings**

The findings from observation and interview data, points toward the fact that AT increases engagement in learning for children with disabilities as well as their typically developing peers and, suggests that AT use could be effective in reducing future socialization risks. It can further be argued that the teacher used AT that served as mediation tools which enabled preschoolers with disabilities to be creative and be engaged in intentional mediated learning with their typically developing peers.

**Conclusion**

Research on AT use most often than not, neglects to include the narratives of professionals who serve the need of preschoolers with disabilities. The interview and observation helped to gain a true understanding of a professional's lived experience that speaks a lot to trustworthiness. The field of AT is changing fast with new innovations which translates to keeping up the pace with

current research. Professionals in no uncertain terms need the knowledge in implementing AT which holds much promise for young children with disabilities.

**Recommendations for Practice**

- Contextual factors should be considered when preservice and in-service teachers are selecting and designing assistive technology for preschoolers.
- Preschool professionals should prioritize the developmentally appropriate AT selection
- Ongoing professional development and in-service training on updates on existing technology and emerging ones for all stakeholders.

**Learner Outcomes**

- Recognize the importance of professional training in the use of AT
- Identify future possibilities for children with disabilities regarding the use of AT
- Discuss how pre-service teachers can use AT both low tech and high tech to meet the needs of preschool children with disabilities.
- Scholarly knowledge about the effective use of AT for early intervention in preschool settings.

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# USING CONCEPT MAPS TO UNDERSTAND CONCEPTUAL CHANGE IN TEACHER PREPARATION

## Abstract

Researchers have used concept maps to assess student learning. However, few have used concept maps to understand the learning of teacher candidates. Concept maps are an external representation of the internal knowledge structure an individual has about a topic (Novak, 2010). In this pilot study, experienced and preservice special education teachers completed maps in response to the focus question, "Who am I as a special educator?" We analyzed the maps quantitatively (e.g., number of concepts, levels) and qualitatively (e.g., open and axial coding to develop categories). Results indicate differences between inservice and preservice teachers in both depth and dimensions/properties of categories. In particular, preservice teachers included a significant number of personal characteristics of teachers as part of their maps while inservice teachers focused more on describing their roles. The implications for the use of concept maps in both teacher preparation and induction are discussed.

## Background/Rationale

Teacher professional identity plays a critical role in teacher persistence and retention (Day et al., 2006; Mathews et al., 2017). However, it is difficult to define (Mockler, 2011). According to Mockler (2011), the characteristics of teacher identity recognize that it is (a) shifting and may include multiple identities, (b) modified by complex circumstances and conditions, and (c) constructed through narrative. MacLure (1993) describes teacher identity as "something that they use, to justify, explain and make sense of themselves in relation to other people, and to the contexts in which they operate" (p 312). In teacher preparation and induction, teacher identity can be how individual beliefs, experiences, and contexts interact with professional knowledge to guide developing professional practice and decision-making. This identity is an internal knowledge structure. If teacher candidates and beginning special educators can integrate and make sense of these components, they stay in teaching. If they do not, they leave the field (Hong, 2010; Mathews et al., 2017). Understanding the internal knowledge structure of professional identity of teacher candidates and others may provide the opportunity for faculty and school personnel to better support these teachers and retain them in the field. Concept maps provide a means for an individual to make an external representation of an internal knowledge structure and are a way that teacher educators can better understand change in teacher identity.

**Problem/issue**

Currently, evaluation of candidate readiness for a teaching position takes several forms including evaluation of professional standards through sample products, observation of instruction in clinical practice settings, and critique on candidate dispositions (CAEP, 2021). However, few of these practices consider the development of teacher professional identity or "being" a teacher. Teacher professional identity or sensemaking is the lens through which practices are understood, chosen, and implemented and it is impacted by knowledge, context, and experiences (Beijaard, Meijer, & Verloop, 2004; Mathews, Rodgers, & Youngs, 2017). Understanding how this identity develops, changes, and is impacted is a critical component to teacher preparation, allowing for faculty during preparation and school personnel during induction to better understand necessary supports and perspectives. Better understanding of candidates' and then teachers' sensemaking of their profession may help impact desire to stay in the field (Mathews et al., 2017). Typically, researchers and others have used interviews, reflections, and surveys to understand professional identity and sensemaking; however, these methods make it difficult to understand conceptual change or how multiple factors interrelate. The use of concept maps, particularly Novakian maps (Novak, 2010), allows the individual to provide an external representation of their internal thinking and learning which may provide an opportunity for faculty and school personnel to intervene with professional development and support that would keep teachers from leaving the profession.

Researchers have used concept mapping to assess understanding and conceptual change in special education teacher preparation in multiple ways. For example, Morine-Dershimer (1993) had 65 students in a year-long course complete a concept map about teacher planning on their first day of class and then on the last day of class to describe changes in understanding. Miller et al. (2009) used a similar procedure with concept maps to understand conceptual change related to instructional methods. Additionally, Weiss et al. (2017) examined the change in understanding of collaboration using concept maps. In all cases, researchers were able to describe change in specific knowledge areas in both qualitative and quantitative terms following coursework.

Joseph Novak (2010), using the learning theory of David Ausubel, identified a systematic way to construct concept maps that provides a more thorough method of developing an external representation of internal knowledge structures. Novakian concept maps require a focus question; concepts are included and related to one another by propositions (concept-linking phrase-concept). Background knowledge can be assessed with a preliminary concept map and change is indicated by structure, concepts, and linking of concepts on subsequent maps. These changes can be described both qualitatively and quantitatively within an individual and across groups (Novak, 2010).

**Purpose of the Study**

In this pilot study, we address two research questions:
1. How can concept maps be used to capture teacher and teacher candidates thinking about their professional identities?

2. How does the professional identity of preservice special educators compare to that of beginning special educators?

**Method**

After receiving IRB approval, the research team sent email invitations to participate in the pilot study to all graduates of the special education preparation students who access the general curriculum program from 2018-2020 at a large, midatlantic university. Seven participant concept maps are included in this study for inservice teachers. Six of the seven teachers were white females. All were employed as full-time special education teachers in local school divisions and had been teaching for at least three years.

*Procedure.* Teachers who agreed to participate received an email with a link to a video that included specific information about completing a demographic questionnaire and developing a concept map and directions to do so. For preservice teachers, a research team member presented the video in their Exploratory Field Study course and asked the students to complete the concept maps after viewing the video. The maps were collected and copied for use in analysis. Each group was asked to complete a concept map responding to the focus question, "Who am I as a special educator?"

*Data Analysis.* The research team analyzed the concept maps in stages. First, all team members read through all of the maps and completed individual open coding to develop initial codes. The team met to then refine and define codes, resulting in five basic categories: working conditions, personal characteristics, role, beliefs, and professional knowledge. As team, we defined each category and assigned each concept from each map to a category. We also counted the number of concepts in each map and the levels out from the center of the map. For this presentation, the team looked for patterns in the categories and similarities/differences between the groups.

**Results**

On average, the inservice teachers had 21 concepts per map with three levels out from the center topic. Four of the seven maps were arranged hierarchically. Preservice teachers averaged 15 concepts per map with 3.55 levels out from the center concept. Seventeen of the 20 maps were hierarchical.

In the category of personal characteristics, four of seven inservice teachers included some aspect of personal characteristics that often deal with patience and empathy. Many included items related to interactions with students. Seventeen of 20 preservice teachers included personal characteristics related to patience, communication skills, thoughtful, aspirational with outliers like inspiring, motivating, bravery, and well-informed. For professional knowledge, six of seven inservice teachers included concepts; only two concepts were related to content and others were related to compliance such as IEPs. Thirteen of 20 preservice teachers included concepts related to broad ideas such as assessment. Many of these concepts were related to current coursework.

In the category of working conditions, six of seven inservice teachers included concepts that were described as stressors, such as long work hours, collaboration, and training or supports. Preservice teachers included these items as well but also included items related to school culture and compliance with school policies. In terms of roles, all inservice teachers included many roles descriptors, as many as the number included by the twenty preservice teachers. These included specific tasks and enacted roles that had legal or law references such as teaches students with IEPs and used more field-specific language (e.g., remediation, differentiation, record basic data). Preservice teachers described roles in very broad terms, showing a basic understanding of special education (e.g., provide support) and aspirational intent (e.g., build relationships). Finally, fewer than half of the inservice teachers included concepts related to beliefs and these were student- and equity-based (e.g., ensure equal access). Fifteen of 20 preservice teachers included concepts related to beliefs that were more broad and aspirational (e.g., never give up on a student).

**Discussion**

In response to our first research question, participants found concept maps to be easy to create and, once started, a feasible way to articulate a great deal of information. Not all participants included linking phrases in their maps, making it more difficult to understand their intent in including some of their concepts. Future research will emphasis the use of linking phrases and will provide the opportunity for a practice map to help teachers feel more comfortable. Even with this finding, in follow up interviews of preservice teachers (not reported in this presentation), their ideas about their professional identities were very similar to what they expressed in their maps and only one of five interviewed suggested minor revisions upon review.

In terms of our second research question, how does the professional identity of preservice special educators compare to that of beginning special educators, we continue to analyze the completed concept maps; however, a few findings are of note. First, as evidenced in previous literature, inservice teachers identify themselves mainly through the roles that they play. In this study, inservice teachers included as many roles as did all of the 20 preservice teachers. Preservice teachers noted more aspirational ideas about their roles without having concrete experience as they were at the beginning of their preservice preparation. Many of the concepts included in inservice teacher maps dealt with compliance and legal aspects of the position (e.g., IEPs, IEP teams, laws/regulation) whereas the preservice teacher maps were more focused on the personal characteristics of a teacher or what they believed those characteristics should be. They were also focused on the relationships they hope to build with their students.

**Implications**

The findings from this study are preliminary and ongoing. However, they indicate that concept maps may be a feasible means of understanding how both preservice and inservice teachers view their positions (or future positions) and their identity. In teacher preparation programs, this can be informative for program improvement as candidates progress toward internship. In schools, concept maps may be a feasible approach to understanding positions and necessary supports for the retention of teachers.

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## TOOLS FOR TEACHERS: WORKING WITH PARAEDUCATORS

**Abstract**

With continued emphasis on inclusive practices, paraeducators are increasingly relied upon as an integral part of instructional service delivery for students with disabilities. However, research consistently reveals that the effective use of paraeducators depends largely on the leadership and direction provided by the teacher. Incorporating paraeducators into the instructional planning and delivery process requires that several considerations be made. Although many teachers lack training in how to manage classroom staff, by definition, a paraeducator works under the supervision or direction of a certified or licensed professional. This presentation provides (1) guidance to teachers for designing lesson plans that paraeducators can effectively implement, (2) ideas for implementing a process for building the paraeducator's knowledge and skills of instructional delivery, and (3) ways to improve the facilitation of differentiated instruction using a paraeducator as an instructional aid.

**Problem/Issue**

Paraeducators are now providing small group instruction (Chopra, Carroll, & Manjack, 2018), 1-to-1 academic instruction (Hall, Grundon, Pope, & Romero, 2010), and targeted interventions (O'Keeffe, Slocum, & Magnusson, 2011). To ensure the quality of services, the special education teacher must function as a continuous source of professional development through mentoring for the paraeducator. However, special education teachers have reported that navigating the incorporation of paraeducators in the classroom can be challenging. Providing guidelines and tools for teachers as they work toward integrating paraeducators into the instructional process is essential to continue to improve services for students with special needs.

**Literature Review**

Meeting the ongoing and ever-changing educational needs of students with disabilities can challenge even the most experienced teacher. For many special education teachers, the responsibility of overseeing support staff adds to the complexity of the job. Teachers hold key roles related to paraeducators including training, supervision, and feedback (Council for Exceptional Children, 2015; IDEA, 2004; Every Student Succeeds Act, 2015). However, despite the federal mandates and professional guidance, research shows that teachers often lack supervisory skills, which results in limited or no direction for paraeducators (Ashbaker & Morgan, 2012; Biggs et al., 2019).

The Council for Exceptional Children (CEC) has recognized the importance of this issue by including supervision of paraeducators in the *Standards for Professional Practice for Special Educators* (2015). These standards outline the importance of ensuring paraeducators have appropriate training to complete their tasks, relevant information to complete their duties, regular communication with the teacher, and engagement with students legally and ethically (Council for Exceptional Children, 2015). Although paraeducator supervision is a critical practice for special education teachers, pre-service teachers receive limited instruction to support learning their supervisory responsibilities with paraeducators (Douglas, Chapin, & Nolan, 2016; Giangreco & Chopra, 2019).

## The Role of the Paraeducator

A paraeducator works under the supervision or direction of a certified or licensed professional. Although it is the professional who is ultimately responsible for the students and the program, the paraeducator can provide instructional services as designed and assigned by the professional. Under IDEA, a paraeducator can (a) provide one-on-one tutoring, if such tutoring is scheduled at a time when a student would not otherwise receive instruction from a teacher; (b) assist with classroom management, such as organizing instructional and other materials; (c) provide instructional assistance in a computer laboratory; (d) conduct parental involvement activities; (e) provide support in a library or media center; (f) act as a translator; and (g) provide instructional support services under the direct supervision of a teacher (U.S. Department of Education, 2018b). The 2004 re-authorization of IDEA requires that State educational agencies establish and maintain standards to ensure that paraprofessionals and assistants are appropriately and adequately trained and supervised. Unfortunately, laws provide vague and limited descriptions of what paraeducator training and supervision entails. There are no clear policies or guidelines at the state level around paraeducator training and supervision. Despite guidance from the CEC, teacher preparation programs do not address paraeducator supervision to the extent that it needs attention and teachers are often unprepared to work effectively with them. In-service teachers often find themselves learning through first-hand experience how to manage classroom staff (Yates et al 2019). The following section offers tips and tools to help teachers prepare to work with paraeducators in the classroom.

## Delegation

Teaching can become an isolating job and teachers often rely on their skills to navigate instructional delivery throughout the school day. When a paraeducator is assigned to a classroom, the teacher's ability to delegate tasks can result in (a) maximizing instructional time, (b) creating an instructional team, (c) empowering the paraeducator, and (d) having an extra set of hands to manage classroom tasks. Delegating tasks can challenge the paraeducator's knowledge and skills as they transform into an instructional aide (Capizzi, & Fonte, 2012; The Paraprofessional Resource and Research Center, 2021). The following seven-step delegation method is recommended for teachers as they begin the process of delegating the task to a classroom paraeducator (1) if possible, select the right person as the classroom paraeducator, (2) set clear objectives to meet goals, (3) train the paraeducator to carry out the tasks, (4) get input from the paraeducator, (5) set deadlines, time frames, and follow updates, (6) specify the level of

authority the paraeducator has and, (7) guide and monitor tasks need to be discussed. Learning to delegate can take time. As a partnership begins to develop, the goal of improved instructional delivery for students with special needs can result.

## Creating Instructional Plans

Creating instructional plans which incorporate the paraeducator can serve as a roadmap of how the delivery of a lesson can happen with more than one instructor (Yates et al 2020). In working on a two-person team (like in a special education setting), or a three-person team (in an inclusive setting), it is important to map and describe the instructional roles before the live lesson begins. A rehearsal session may be necessary. With the teacher serving dual roles as both the author of the written plan and the coach for the paraeducator, the process of working through a roadmap provides more than just the flow and roles of a lesson. In reviewing the Pre-Planning section of Figure 1, critical information that is important for the paraeducator to understand is revealed. For example, the paraeducator will learn background information on students, the purpose of instructional goals, guidance on Social Emotional Learning (SEL) and transition goals, and a plan for data collection for a Behavior Intervention Plan. Reviewing Pre-planning can help a paraeducator to understand the interworking parts of teaching students with special needs. In the process of reviewing Figure 1, the section titled the *Three-person instructional team roles*, the paraeducator can begin to understand where to be and what to do during the live lesson. They will also begin to understand how they will contribute to differentiated instruction under the supervision of the teacher. Taking time to teach a paraeducator instructional skills is imperative before the paraeducator begins to work alone with a group of students. Please remember, it would be unethical for a paraeducator to be the author of the lesson plan. Paraeducators are not teachers, but they are a critical component of the instructional process. Ongoing coaching and mentoring by the teacher can help a paraeducator to become an instructional aide who can help to improve services for students with special needs.

**Figure 1**
***Lesson Plan with Paraeducator.*** *See Yates et al., (2020) for a complete description of the tips for implementation*

| Lesson Plan with Paraeducator | |
|---|---|
| **Pre-planning** | |
| **Grade Level:** 4th<br>CCSS 4.NBT.A.3<br>**Lesson Objective:** I can use place value to round numbers | **Purpose of the lesson:** Students will use place value understanding to round whole numbers to the nearest tenths place<br>**Short Term Goal:** Students will identify place value and rounding to the nearest tenths (IEP Goal: Mary/Tim)<br>**Long Term Goal:** The students will apply skills to estimation in dollars, cents, and budgeting |
| **Other Skills Address**:<br>**SEL:** Taking Turns (review fair game play at Station 3) **Transition:** Rounding dollars and cents | |
| **Student Needs and Strengths** | **Accommodations/Modifications/Behavior Supports** |
| Mary: 2nd gr. math level<br>Tim: 1st grade math level, works hard | Mary: Document behavior goal<br>Tim: Read test aloud/modified test |

| General Anticipated Needs | | |
|---|---|---|
| **Common academic errors:** Confusion of tens with the tenths place | | **Behavioral challenges:** Plan for Stephanie's tardiness and disruption upon entry to class |
| **Three-person instructional team roles** (*Italic=support role*) | | |
| **Sequence** | **General Ed Teacher** | **Special Ed Teacher** | **Paraeducator** |
| Introduce Topic (full class) | *Support content being introduced; monitor Stephanie's entry into class and record behavior data* | Introduce topic; lead discussion on place value/ round numbers; money | *Walk through rows; redirect student attention; add details to discussion* |
| Main Lesson (full class) | Discuss vocabulary; provide problem examples; dry erase boards for student responses | *Support content being taught; help students with incorrect answers* | *Help students with incorrect answers; collect behavior data for Mary* |
| Next (full class) | Describe Station 1 activities | Describe Station 2 activities | Describe Station 3 activities |
| Next (stations) | Station 1: Large screen activity to review; 10 minutes, rotate to Station 2, use timer | Station 2: Small group review of place value; 10 minutes, rotate to Station 3 | Station 3: Comparing numbers; 10 minutes, rotate to Station 1 |
| Next (transition-full class) | Return students to large group on cue; begin cue with countdown | Return students to large group on cue | Return students to large group on cue |
| Next (full Class) | Review key concepts; detail how skills can be applied to money | *Support content being taught* | *Watch Mary for disruptive behavior; monitor student behavior in classroom* |
| Formative Assessment (groups as assigned) | Hand out test; collect papers; grade all student work | Have modified test ready for Mary and Tim; monitor completion | Read test to Tim |
| Formative assessment: Mary and Tim, 70%; 3 out of 4 times is considered passing | | |

## Conclusion

Being intentional in delegating tasks, utilizing written plans, and coaching and modeling instructional techniques provide a general paradigm from which a teacher can begin to build the paraeducator's skills, knowledge, and dispositions they need to work with students with special needs. To determine if the paraeducator is prepared for their day, a paraeducator should be able to answer the following questions when they report to school: (1) Where am I supposed to be at all times of the day? (2) Who should I be supporting? (3) When should I be available to the student/s? (4) What are the students supposed to do? (5) Do I understand the written lesson plan and my role in instruction? These five questions provide both the teacher and the paraeducator a starting place to become intentional in serving students. The teachers and paraeducators working as an instructional team should seek the support of their administrators by asking for time to collaborate and appropriate resources to support collaborative teams. Working as an instructional team is critical to the success of students with special needs. We owe it to the students to work together daily.

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EXPANDING PRESERVICE TEACHERS' CONCEPTIONS ABOUT DISABILITY THROUGH YOUNG ADULT LITERATURE

## Abstract

This session focuses on incorporating young adult (YA) literature into teacher preparation. Embedding YA literature with representations of disability can address ableism in education by helping preservice teachers to conceptualize disabled adolescents differently. Participants will discuss criteria for evaluating YA literature and consider ways to incorporate texts into teacher education.

## Problem/Issue

Ableism remains an active system of oppression in American schools, resulting in the stigmatization of disability and exclusionary educational practices (Broderick & Lalvani, 2017; Lalvani and Broderick, 2013; Hehir, 2002; Storey, 2007). The limited preparation of teachers on "issues of student disability identity development or the stigmatization of disability labels…contributes to dysconscious ableism" (Mueller, 2021, p. 3). Dysconsciousness results in "the limited and distorted understandings my students have about inequity and cultural diversity – understandings that make it difficult for them to act in favor of truly equitable education" (King, 1991, p. 134). Teacher education can expand preservice teachers' conceptions about disability by incorporating Young Adult (YA) literature through a disability studies framework. Young adult (YA) literature offers a unique opportunity to model evidence-based, inclusive pedagogy and simultaneously expand preservice teachers' knowledge about disability (Curwood, 2013; Kurtts & Gavigan, 2008). Additionally, "prospective teachers need both an intellectual understanding of schooling and inequity as well as self-reflective, transformative emotional growth experiences" (King, 1991, p. 134). Reading and reflecting on representations of disability, especially those that meet quality indicators, offers preservice teachers the opportunity to engage in such a reflective growth experience (Kurtts & Gavigan, 2008).

## Literature Review

Several studies demonstrated the positive impact of incorporating literature on disability within teacher preparation (Donne, 2016; Marable et al., 2010; Marlowe & Maycock, 2001). Donne (2016) employed an action research design to address the limited emphasis on Augmentative and Alternative Communication (AAC) devices in teacher preparation programs. Participants (N=10) were graduate-level preservice teachers enrolled in a course on special education, which included an assigned YA novel focused on the use of AAC. The primary themes identified from written artifacts and discussions were understandings of disability, communication as a universal human need, AAC devices, collaborating with families, friendship,

and inclusive education. Marable and colleagues (2010) utilized book talks to investigate the impact of literature on preservice teachers' knowledge of and attitudes toward disability. Undergraduate students (N=40) read a nonfiction book on disability as part of their introductory special education course. From written reflections, the researchers identified themes of increased insight into the complexity of disability, enhanced empathy, and more expressed respect for disabled people. Kurtts and Gavigan (2017) examined the impact of bibliotherapy on preservice teachers' understandings of disability. Their qualitative analysis highlighted the ways in which preservice teachers "began to see disabilities as a very human condition that goes beyond their factual textbook knowledge about disabilities" (Kurtts & Gavigan, 2017, p. 26). Results of these studies indicate that book study using YA literature can be an effective component of teacher preparation.

## Integrating YA Literature into Teacher Preparation

Addressing ableism as a system of oppression in schools requires a multi-pronged approach that includes more adequately preparing teachers to understand disability (Bialka et al., 2018; Broderick & Lalvani, 2017; Hehir, 2002). One method of expanding preservice teachers' conceptions about disability is through integrating young adult (YA) literature into teacher preparation coursework. Using YA novels that have been examined through a disability studies framework can provide preservice teachers with opportunities to learn about disability and develop more favorable attitudes toward inclusion. Such an approach also allows teacher educators to model Universal Design for Learning (CAST, 2018) and historically responsive literacy practices by using layered texts and multiple means of engagement. Finally, incorporating YA literature into teacher preparation coursework equips future teachers with the pedagogical content knowledge necessary to design instruction using diverse texts. There is an urgent need for teacher education to add disability justice to equity visions and social justice frameworks so that practitioners are more adequately prepared to meaningfully include students with disabilities.

## Figure 1

*Criteria to evaluate YA literature with representations of disability*

| Evaluating Young Adult Literature | | |
|---|---|---|
| Question | Yes | No |
| 1. Is the author disabled? If not, consider what their knowledge and background is in relation to disability. | | |
| 2. Does the text portray disabled adolescents as needing peer relationships (platonic or romantic)? | | |
| 3. Does the text portray disabled adolescents as interested in sex and dating (or identify the character as asexual)? | | |
| 4. Does the text use identity-first language or discuss the choice of language in referring to disabled characters? | | |
| 5. Do the disabled characters have intersectional identities and represent diverse races, socioeconomic status, religions, languages, sexualities, and gender identities? | | |
| 6. Does the text emphasize competence, self-determination, and bodily autonomy? | | |

| | | |
|---|---|---|
| 7.        Do the disabled characters have relationships with others without having to prove themselves or be exceptional? | | |
| 8.        Are the disabled characters shown as complex, three-dimensional humans with dynamic personalities, emotions, and interests described with realistic details? | | |
| 9.        Are disabled characters presented as more than inspirational, victims, or heroes? | | |
| 10.        Are events in the plot related to issues other than disability? | | |

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**Figure 2**

*Sample Lesson Plan*

| Learning Goals<br><br>Developed in alignment with Muhammad's (2020) equity framework for culturally and historically responsive literacy | **Identities:** Students will reflect on themselves as future educators, with a specific emphasis on how they perceive disabled people and their identities as inclusive educators.<br><br>**Skills:** Students will work toward professional educator standards and High-Leverage Practices for Students with Disabilities<br><br>Council for Exceptional Children Standards<br><ul><li>#2: "Understanding and addressing each individual's developmental and learning needs. Candidates use their understanding of human growth and development, the multiple influences on development, individual differences, diversity, including exceptionalities, and families and communities to plan and implement inclusive learning environments and experiences that provide individuals with exceptionalities high quality learning experiences reflective of each individual's strengths and needs" (CEC, 2020).</li></ul><br>High-Leverage Practices for Students with Disabilities (McLeskey et al., 2017)<br><ul><li>#4: Use multiple sources of information to develop a comprehensive understanding of a student's strengths and needs.</li><li>#19: Use assistive and instructional technologies.</li></ul><br>**Intellect:** Students will learn about IDEA (2004) categories. Students will learn about Universal Design for Learning (UDL) and assistive technology.<br><br>**Criticality:** Students will learn about the barriers disabled adolescents experience, with specific emphasis on friendships and relationships, and critically evaluate representations of disability in young adult literature. |
| **Literature Circle 2:** *Good Kings Bad Kings* | |
| **Layered Texts** | <ul><li>*Good Kings Bad Kings* (Nussbaum, 2013)</li><li>Content Acquisition Podcast – Intellectual Disability (14:45 minutes) Kennedy, M. J., VanUitert, V. J., & Sebastian, R. (2020). IDEA categories: Intellectual disability. https://vimeo.com/mjk</li><li>*Crip Camp*, documentary film on Netflix</li><li>Social media: @nina_tame, @ableismistrash</li><li>Textbook Chapters (Gargiulo & Bouck, 2018)</li></ul> |

| | |
|---|---|
| | o  Chapter 6: Individuals with Intellectual Disability<br>o  Chapter 14: Individuals with Physical Disabilities, Health Disabilities, and Related Low-Incidence Disabilities |
| **Vocabulary & Concepts** | Intellectual Disability<br>Multiple Disabilities<br>Adaptive Behavior<br>Levels of Support<br>Natural Supports<br>Deinstitutionalization<br>Self-determination |
| **Reflection Questions** | • How do the relationships between the characters demonstrate the idea of natural supports? In what ways do these relationships challenge the notion of levels of support?<br>• How do the characters from the layered texts demonstrate the notion of self-determination?<br>• How do you understand the idea of "Nothing about us without us" in relation to these texts?<br>• Compare and contrast the IDEA categorical definitions and the content from the CAP with the characteristics of Teddy, Mia, and Yessenia. After reading the text, what is problematic about the IDEA definitions and content from the CAP?<br>• Imagine that you are the assigned special education teacher for Teddy, Mia, or Yessenia (choose one). Draft a Present Level of Academic and Functional Performance for their Individualized Education Plan (IEP) based on the information you gathered during reading. Be sure to clearly identify both their disability-related needs and individual strengths.<br>• Does this text change your opinion of exclusionary educational practices (e.g. "self-contained" classes, alternative school placements)? Why or why not?<br>• In what ways does this text uphold ableism as a system of oppression?<br>• In what ways does this text disrupt ableism as a system of oppression? |

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USING THE TEACHER KNOWLEDGE QUARTET IN MATHEMATICS METHODS COURSE FOR SPECIAL EDUCATION: A STIMULUS FOR PRE-SERVICE TEACHERS TO DEVELOP THEIR PEDAGOGICAL CONTENT KNOWLEDGE

## Abstract

The study draws on Rowland et al.'s (2005) "knowledge quartet" idea, which conceptualizes elementary teachers' mathematics knowledge within four categories. To garner insights into how to transform those ideas to special education teacher education, a teacher learning tool was designed, used in a mathematics methods course, and evaluated in its effectiveness. Results indicated that pre-service special education teachers had difficulty exhibiting higher levels of mathematics knowledge on the teacher learning tool.

## Background and Rationale

Since Lee Shulman's (1986) seminal essay, there has been consensus among teacher educators that teachers of mathematics need to develop specialized knowledge above and beyond knowing mathematics or knowing pedagogy. Various development and validation studies have been pursued to unpack the complexity of mathematical knowledge for teaching and/or its association with quality in mathematics instruction (e.g., Charalambous, 2016). The current study posits a pressing need for insights into how to transform those ideas to teacher education, with a particular focus on pre-service special education teachers (Pre-SETs), who are responsible for serving students who need extensive supports to learn mathematics. More specifically, the authors intended to codify explanations for teacher candidates and formalize learning opportunities for them.

## Literature Review

The study draws on Rowland et al.'s (2005) "knowledge quartet" idea, which conceptualizes elementary teachers' mathematics knowledge within four categories. The first category, *Foundation*, considers that knowing mathematics content informs teachers' instructional decision-making in the lesson planning phase and knowledge-in-action during lesson enactment. The second category, *Transformation*, delineates teachers' selection and use of analogies, illustrations, and explanations to prompt students to make sense of mathematics concepts and procedures. The third (*Connection*) and fourth (*Contingency*) categories address coherence (e.g., making connections between alternative ways of representing concepts or carrying out procedures, anticipating complexity) and responding appropriately to students' contributions (e.g., deviating from planned lesson to develop student's unanticipated ideas).

However, it can be difficult for pre-service teachers to develop these four knowledge areas, and often experience particular difficulty generating visual representations (VRs). For example, a study examining the procedural and conceptual knowledge of fraction multiplication and division of preservice teachers ($n = 55$) found participants demonstrated weak abilities to generate accurate VRs when given a fraction problem (Morano & Riccomini, 2020). Specifically, 38% of Pre-SETs were able to generate an accurate VR to model fraction multiplication and none were able to provide an accurate VR for a fraction division problem. Similar results are observed in studies of Pre-SET knowledge of VRs: Pre-SETs have some conception about VRs (e.g., VRs as products such as graphs, tables, diagrams), but provide narrow explanations and make few references for using VRs to identify patterns, explain or communicate an answer, or monitor or check the problem-solving process (van Garderen et al., 2018). Research also indicates pre-service teachers' struggles with developing sophisticated schema to understand the diversity of student thinking and multiple sources of student misconception. For example, pre-service teachers often have difficulties determining students' pre- and misconceptions. As a result, their prediction of student thinking **is procedural in nature**, such as algorithmic mistakes in the context of teaching fractions (Tiroshi, 2000).

To an extent, these difficulties in developing appropriate applications of VRs and accurate predictions of students' preconceptions and misconceptions may stem from Pre-SETs' own experiences learning mathematics. Studies of mathematics teaching efficacy and experiences learning mathematics have found that a high level of mathematics anxiety can negatively affect mathematics teaching efficacy (Swars et al., 2006). Yet, much remained to consider pre-service teachers' own conceptual and procedural knowledge in mathematics. For example, Li and Kulm (2008) found the pre-service teachers' strong confidence in teaching fraction division but inadequate conceptual understanding and fragmented procedural knowledge would inhibit them from teaching fraction division effectively. Accordingly, while building upon a solid understanding of mathematics content, pre-service teachers should develop their pedagogical knowledge, including mathematical representation, reasoning, and common misconceptions, and practice them explicitly.

In this light, the study involved using a teacher learning tool based on Rowland et al.'s (2005) "knowledge quartet" consisting of the four teacher knowledge categories when teaching elementary mathematics – foundation, transformation, connection, and contingency. This learning tool, referred to as the Teacher-Translation-Task (TTT), was used to prompt Pre-SETs to explore the four knowledge categories in designing and enacting a mathematics lesson. The TTT includes a chart divided into 4 quadrants to take planning and anticipatory notes for given mathematics tasks. For this study, the authors analyzed Pre-SETs' artifacts (i.e., TTT) to examine the quality of mathematics knowledge and pedagogy.

## Teacher Translation Task

The TTT is a graphic organizer in the format of a quadrant chart, where each quadrant parallels a category from Rowland et al. (2005). The first quadrant paralleled *Foundation*. Because mathematics education has long emphasized both conceptual and relational

understanding as well as procedural and instrumental understanding in mathematics learning, we emphasized targeted focal points and big ideas in designing the foundation quadrant of TTT. The second quadrant of the TTT focused on visual representations and was designed to enable Pre-SETs to articulate how mathematics is or should be visually represented. The two lower quadrants of TTT were structured based on *Connection* and *Contingency*. The former addresses the coherent body of knowledge, while the latter addresses teacher cognition and decision-making in the teaching moment focused on how to respond to a particular student's thoughts and reasoning regardless of the correct answer.

The purpose of the TTT was to prompt Pre-SETs to perform anticipatory research and analysis of given mathematics tasks based on the following prompts: (a) What is the fundamental mathematical idea the teacher should highlight?; (b) Include a sketch of visual representation(s) that might help make sense of a mathematical idea; (c) Ask yourself, "How might my students solve this problem without using algorithms or well-known procedures?"; and (d) "What misconception(s) would emerge while solving the problem?" Almost every week, Pre-SETs in a mathematics methods course for special education explored mathematics tasks as independent and asynchronous learning activities before in-class discussions. It covered mathematics content such as early number sense, the meaning of the 4-operations, computations, place-value concepts, and fractions.

## Methods

This study was conducted at a public university located on the western coast of the United States. Participants included Pre-SETs enrolled in a mathematics methods course for special education as part of a teacher preparation program for dual credential of elementary school and mild/moderate educational specialist or mild/moderate only. Among 40 students, 23 provided informed consent. Because of the nature of tasks (weekly basis and asynchronous learning), many participating Pre-SETs did not submit their work on time. Thus, they missed a significant number of weeks or submitted missing ones in the final week. Then, the authors selected Pre-SETs who showed a consistent work pattern throughout the semester.

The six participants were selected from three groups based on responses to a survey conducted at the beginning of the semester that asked respondents to rate their experiences learning mathematics and their perceptions of their own mathematics ability during in their K-12 education. The first two participants perceived mathematics as one of their strength areas in their K-12 schooling, another two candidates perceived themselves as successful at school mathematics but did not enjoy math, and finally, two candidates who have a history of struggling with school mathematics and are unmotivated to learn mathematics.

For this study, the authors analyzed Pre-SETs artifacts (i.e., TTT) to examine the quality of mathematics knowledge and pedagogy. To assess the quality of the TTT, a rubric was developed for each individual mathematics task. The corresponding rubric for each TTT task outlined the four aspects of pedagogical content knowledge (i.e., mathematics focal points; visual representation; cognitive challenges and reasoning; and potential student misconceptions) Pre-SETs could attempt to develop. Two raters assessed the quality of Pre-SETs' interactions

with the TTT by comparing each TTT with the rubric then rating the TTT on a scale of one to four. The scale was based on Grossman et al. (1999), where a *one* indicated a lack of sufficient knowledge of the tool, *two* indicated adoption of a label for the tool but an inability to describe the tool's critical features, *three* indicated adoption of surface-level features, and *four* indicated appropriation of the tool's conceptual underpinnings or theory behind the tool. Raters discussed initial evaluations until they arrived at a consensus.

## Results and Implications

Findings indicate a pattern of profoundly or superficially exploring the given mathematics task using TTT in all three groups of Pre-SETs. Analysis of Pre-SETs' artifacts indicate the following levels of knowledge appropriation with the TTT: (1) no adoption due to lack of understanding of concepts and opportunities to apply it to teaching contexts; (2) adoption of a label for the tool; for instance, being able to name the tool but unable to describe critical features of it; and (3) adoption of surface feature. Rarely, did Pre-SETs exhibit (4) appropriation of the tool through a full understanding of underpinnings and background theory behind the tool.

For example, Pre-SETs' interactions with the problem, "Show 5/8 > 3/7 without using the common denominator," depicts their superficial exploration of conceptual tool (i.e., TTT) and practical tools (i.e., virtual manipulative for area/length and set models) as shown in Figure 1. Note that this TTT was given after the class explored fraction comparisons with the whole (1) as a benchmark number with the problem, "Show 5/4 >7/8 without using the common denominator." So, Pre-SETs learned how to teach fraction comparison by using ideas that 7/8 has one fractional part missing until the fraction reaches 1, while 5/4 goes past 1 by one fractional part. As such, we expected candidates to generalize what they learned to a more challenging concept and select a more effective visual representation out of the given set of virtual manipulatives.

**Figure 1.**

*Sample of Visual Representation and Prediction of Student Misconception.*

Candidate A          Candidate B.          Rubric
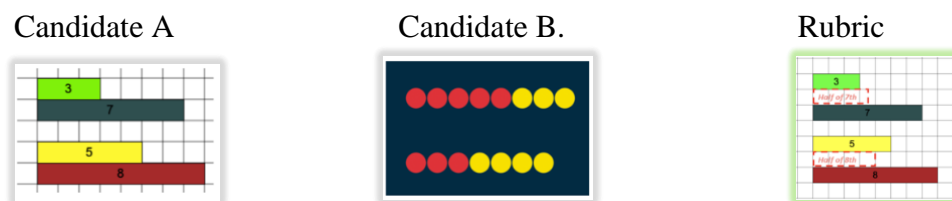


Length model with Cuisenaire Rods on graph paper (Candidate A) would be a better choice in teaching the target concept intuitively and visually than the set model (Candidate B). Neither candidate, however, noticed the need to augment the initial VR to highlight the benchmark number, "half," as seen in the Rubric. Our data analysis indicates difficulty identifying preconceptions and misconceptions as well. For example, Candidate A's statement, "*Because they are not the same size, students may see 3-7th as bigger,"* shows a discrepancy

between what she predicted as student (mis)conception and what her students would see from the selected VR. In this context, a naïve conception that 5-8th is bigger by simply comparing the length of bars should have been discussed, which is a common misconception found when a student is transitioning from a whole number system to rational number reasoning. One more example of note from Candidate A's work is: "*Students may not see or understand 4/8 is ½ meaning they may not visually see or understand why 5/8 is greater."* It indicates a less sophisticated schema in terms of thought process: This Pre-SET uses the label "the half as the benchmark," as she learned from the previous week's class. Yet, the teacher could not demonstrate a complete understanding by taking the student's standpoint; a half of 7th is harder to see visually and make sense of it. Candidate B's prediction, "*Students may think because 1/8 units are smaller than 1/7 units then 3/7 is bigger than 5/8,*" suggests a lack of motivation to use the given conceptual tool (i.e., TTT) for his/her knowledge development.

In conclusion, in order for Pre-SETs to appropriate the pedagogical content knowledge by using the developed tool, mathematics methods course should explicitly address the traits of effective mathematics teachers: (1) profound and flexible knowledge of mathematics content and (2) persistence in the problem-solving process and motivation to productively struggle in the mathematical problem-solving process.

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USING EDUCATIONAL DESIGN RESEARCH FOR ACHIEVING BALANCE BETWEEN AUTHENTICITY AND COMPLEXITY IN A PRACTICE-BASED MATHEMATICS METHODS COURSE FOR PRESERVICE SPECIAL EDUCATORS

## Abstract

This paper attempts to respond to the call to pursue a "cohesive and deep research agenda focused on high-leverage practices and practice-based approaches to learning" (Brownell et al., 2019, p. 352) by conducting an educational design research cycle based on approximations of practice (Grossman et al., 2009) in mathematics methods courses. To that end, the framework of educational design research (EDR, McKenney & Reeves, 2020) provides a guide for research processes. EDR has two-fold goals: 1) practical goals--seeking solutions to educational challenges and 2) scholarly goals--conducting empirical inquiry in real settings. This dual focus on theory and practice is fulfilled through an iterative process that entails analysis/exploration, design/construction, and evaluation/reflection (McKenney & Reeves, 2020). In this paper, we present primary activities and outputs from a cycle of EDR related to practice-based HLP-focused teacher education pedagogy for prospective special education teachers in mathematics instruction.

## Background/Rationale

Over the last decades, university-based teacher educators of both general and special teacher education are encouraged to shift from merely talking about teaching to deliberately practicing core practices in courses. In other words, they need to craft and revamp pre-service teachers' learning experiences in courses to involve more practice-oriented activities and assignments with a focus on high-leverage-practices (HLPs) programs (Brownell et al., 2019; McLeskey et al., 2017; TeachingWorks, n.d.). In particular, for special education teacher educators, Brownell et al. (2019) reviewed literature, analyzed existing practice-based approaches, and suggested a decision matrix and practical considerations, and advised the field to pursue a "cohesive and deep research agenda focused on HLPs and practice-based approaches to learning" (p. 352).

This study attempts to respond to that call and addresses the lack of research on designing and organizing feasible practice-based learning experiences (Gallagher &Ammah-Tagoe, 2017) for preservice special education teachers (pre-SETs), particularly for mathematics instruction. In achieving that goal, the framework of educational design research (EDR, McKenney & Reeves, 2020) guided the research process in the current study. Because the EDR addresses real situations, it is a valuable methodological framework for educational researchers who situate

their research in practice, for example, teacher educators. As a teacher educator, the first author sought a solution to design meaningful learning experiences for pre-SETs in her practice-based mathematics methods course. Since the EDR allows us to achieve dual goals, the authors set up a scholarly goal to yield empirical insights and theoretical advancements concerning how to interweave HLPs and practice-based approaches. The gist of EDR is the iterative development of solutions to the identified problems. Each cycle of the EDR consists of analysis/exploration, design/construction, and evaluation/reflection (McKenney & Reeves, 2020). In this paper, we present primary activities and outputs from an initial cycle of EDR related to practice-based, HLP-focused teacher education pedagogy for pre-SETs in mathematics instruction.

## Analysis/Exploration Phase

In crafting authentic and powerful learning experiences for pre-SETs, the authors undertook an EDR cycle using approximations of practice (Grossman et al., 2009). This facet of teacher education provides opportunities for pre-SETs to try out expected instructional moves in a lower-stakes context than student teaching in actual classrooms. It also offers a space for reflection and improvement in the work of learning to teach. When teacher educators create situated learning contexts, two elements should be taken into accounts: authenticity and complexity.

Authenticity takes the stance that the development of teaching competencies can be enriched by a close relation to real classroom situations (Kaiser et al., 2017). Teacher educators can adjust the level of authenticity by selecting practice-based teacher education pedagogies, for example, low-level *case learning* or high-level *lesson study*. The decision depends on the pre-SETs' readiness and financial and/or personnel constraints. The complexity or the cognitive demands of the pedagogies are taken into consideration as they are selected for pre-SETs, for example, the use of video analysis with reduced complexity instead of fieldwork, which is at the highest level of complexity (Brownell et al., 2019).

In addition to teacher learning pedagogy type, the targeted HLP to practice influences the overall cognitive demands depending on its complexity of decomposed components. For example, in practicing an HLP (e.g., student-teacher interactions eliciting student thinking), teacher candidates need to explore instructional moves at intersections among mathematics content, student learning, and teacher instruction. Another HLP, active modeling, however, asks pre-SETs to practice behaviors that take mathematic content and the teacher's instructional moves into account, which is relatively less complex than interweaving three dimensions.

When it comes to mathematics teacher education, the cognitive demand can be elaborated further. Mathematics teacher educators need to manage the complexity based on such aspects as features of practice, the nature of selected mathematics tasks, and the difficulty level of the targeted HLPs and decomposed instructional moves.

**Design/Construction**

In line with those findings, the present EDR study focused on designing tasks that allowed pre-SETs to practice instructional moves and thus develop practice-based knowledge in mathematics instruction. In doing so, we made decisions on the appropriate authenticity level and cognitive demands of the tasks. Among practice-based approaches that can be used in the methods course, we selected the *rehearsal* approach rated as "slight extent" on the continuum of authenticity of teaching situations (Brownell et al., 2019, p. 342). As what to practice, two HLPs were targeted: (1) active teacher modeling and (2) student-teacher interactions eliciting student thinking (TeachingWorks, n.d.).

In practicing active teacher modeling, observable instructional moves include recording and representing mathematics, annotating, thinking aloud, defining content terminology, backgrounding, foregrounding, marking, marking metacognition. Tasks for interactions eliciting student thinking aims pre-SETs to demonstrate their knowledge development in how students present novel, interesting, and confusing (to the teacher) ideas and what students' misconceptions, procedure-oriented strategies, and partially shared conceptions look like. From the standpoint of instructional moves, pre-SETs can practice open-ended questions, revoicing, and say-more strategy (TeachingWorks, n.d.).

Targeted mathematics content was selected by considering the cognitive demand placed upon pre-SETs. We found the selected instructional moves required pre-SETS to deal with complex cognition, from memorizing the meanings of individual decomposed practices to connecting them to classroom contexts. Of the two practice opportunities, the first task was designed within the mathematics topical area of number sense and operations: "Think Addition to Subtract" as one of the most effective strategies for subtracting mentally. To ramp up the complexity level of the mathematics content, the content area of fractions was targeted for the second practice session: "Closeness to a Benchmark" in comparing 9/10 versus 3/4. Goreact, a video recording and annotation application, was used to allow pre-SETs to film their rehearsal sessions and reflect on them by using annotation features. Figure 1 shows screenshots of final outputs.

Figure 1.

*Screenshots of Solo and Group Rehearsals in Goreact*
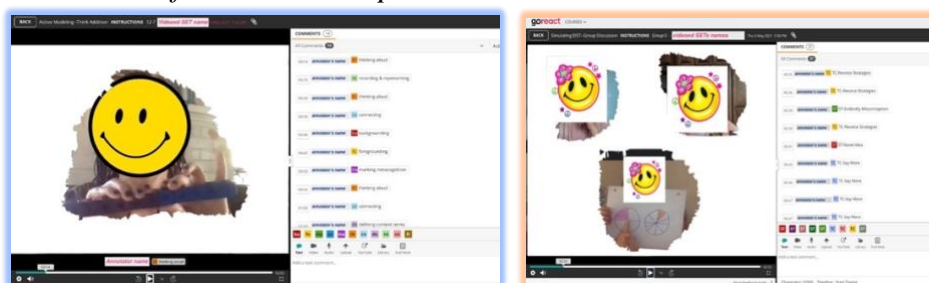
Pre-SETs were asked to choose a proper mathematical representation for the given math activity (e.g., connecting cubes or drawing of fractional circles). In the format of solo rehearsal recording, they practiced active modeling in teaching "Think Addition to Subtract" (see the screenshot on the left of Figure 1). Expected instructional moves and principles to practice (TeachingWorks, n.d.) follow:

1. *Backgrounding*: predict points that may distract students or lead to misconception and intentionally avoid highlighting those aspects in teaching moments
2. *Foregrounding*: use verbal markers to signal a particular time when students should pay attention
3. *Marking*: use verbal and visual markers to draw students' attention to important aspects of the content or highlight key elements as progressing in a logical fashion
4. *Marking metacognition*: use verbal and visual markers to signal a particular time when the teacher makes thinking visible
5. *Thinking-aloud*: use narration to make expected thinking visible
6. *Annotating*: state what the teacher is doing (modeling) and why we need to do this
7. *Connecting*: explicitly connect among the problem, texts, the verbal/written explanation, and visual representations
8. *Defining content terms*: use verbal and visual explanation on definition and meaning of a term
9. *Recording/representing mathematics*: demonstrate visual representation of mathematics and record discussed mathematics
10. *Maintaining consistency*: Maintain verbal and visual representation of mathematics clearly and consistently
11. *Framing*: state what is already known and what needs to be determined to locate the task in the trajectory prior to the main modeling

For the second practice session, pre-SETs carried out group rehearsals in which one candidate played the teacher role and the other became his/her students (see the screenshot on the right of Figure 1). The teacher role candidate created a script for interactions between the teacher and students based on the knowledge of the mathematics content and student thought process while working on the given mathematics task. The script and corresponding video clip were expected to demonstrate pre-SETs' knowledge by illustrating the following interactions:

12. Student shares a novel idea related to the given mathematics task
13. Student shares strategies to solve the given mathematics tasks
14. Student shares little about mathematics
15. Student shares ideas that confuse the teacher
16. Student shares ideas related to most frequently observed pre- or misconception
17. Teacher poses an open-ended question to elicit student's mathematical reasoning
18. Teacher uses "say more" to elicit student's mathematical reasoning
19. Teacher uses "revoicing" strategies to scaffold student's mathematical reasoning
20. Teacher responds to the five types of student's sharing (i.e., 12 through 16 above) in a way that the conversation evolves into deepening students' understanding

The multiple-component practice assignment offered another layer of practice opportunities: pre-SETs reviewed the components by watching their own and peers' videos. All those listed components were presented as predetermined markers, so that pre-SETs could annotate video-taped practices using the predetermined markers. That is, while watching the video, pre-SETs

selected a marker for a moment when particular instructional moves or principles stood out. Goreact saves those selected markers with corresponding timestamps, creating data sets.

**Implications for the Next Steps, Evaluation/Reflection and the Next Round of Educational Design Research**

The authors plan to undertake the next step, evaluation/reflection, by analyzing the video clips and annotation data sets. The evaluation results will determine whether the current configuration of the multiple-component practice assignment offers an achievable but challenging enough for pre-SETs to develop knowledge of mathematics, build understandings of student mathematics learning, and improve their pedagogy. The following questions will guide our evaluation process.

- o Is the candidate's verbal and visual representation of mathematics correct and clear when assuming the teacher-role?
- o Of the 20 components (TeachingWorks, n.d.), which ones were practiced most and least frequently?
- o Of the 20 components, which ones were most and least frequently found in pre-SETs' annotation?
- o How accurate is the pre-SETs' professional noticing of the 20 components with annotation activity?

Finally, reflection upon results will inform the next round of EDR. Preliminary analysis indicates a need to increase the authenticity and complexity of the tasks by incorporating advanced mathematics tasks (solo rehearsal) and virtual reality simulation technology (group work) into the design. Yet, the final decision on the second round of EDR will be driven by the data.

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USING PROJECT BASED LEARNING STRATEGIES TO TEACH APPLIED BEHAVIOR ANALYSIS TO PRE-SERVICE TEACHERS: A PILOT STUDY

**Abstract**

Applied Behavior Analysis (ABA) strategies can improve classroom management, however, there is a lack of research on teaching ABA strategies.  One approach to teaching new strategies is Project Based Learning (PjBL).  The purpose of this research project was to evaluate the use of a Behavior Change Project (BCP) and PjBL strategies to increase students' knowledge of ABA strategies and increase their comfortability level when implementing interventions that incorporated ABA strategies.  Participants completed a sixteen-week ABA course.  Throughout the course participants completed parts the BCP and received feedback from peers and the professor.  The results indicate participants felt more confident and comfortable when implementing ABA strategies.

**Background/Rationale**

Internationally many teachers face the problem of teacher burnout, which has significant negative consequences for teachers and students (Saloviita & Parkarinen, 2021; Skaalvik, & Skaalvik, 2017).  Research indicates one type of stressor that often leads to teacher burnout is classroom discipline problems (Aloe, et al., 2014; Dicke et al., 2014; Klassen et al., 2013).

Historically there has been a lack of delivery of comprehensive research-based classroom management strategies in teacher preparation programs and empirical research studies show they continue to be deficient (Bengy et al., 2006; Moore, et al., 2017).  Regarding management of student behavior and classroom discipline, many teachers do not feel prepared and identify these as areas of concern and need (Peterson-Ahmad, et al., 2018; Poznanski, et al., 2018). Although many teachers refer students for additional behavioral assessment with a school psychologist or behavior interventionist, the classroom teacher is most often responsible for implementing the resulting function-based interventions (Flower, et al., 2017).   Interventions based on Applied Behavior Analysis (ABA) principles have been recognized as important for teachers to manage classroom behavior for groups of students and individual students.  ABA strategies can be applied to interventions that focus on reducing problem behaviors such as, aggression, bullying, disruption, off-task behavior and property destruction (Trump, et al., 2018).   Some maladaptive classroom behaviors occur because the student has difficulty with skills such as communication, academic performance, safety skills, and social skills.  Interventions based on ABA strategies have been effective in increasing skill acquisition in these areas.  These effective teaching strategies for both academics and behavior, include descriptive praise statements, direct

instruction, opportunities to respond, self-monitoring, task analysis, and video modeling (Trump, et al., 2018). Historically Project Based Learning (PjBL) has not been included in teaching or implementing ABA strategies. However, the many advantages of PjBL such as, enhanced student motivation, learning of various skills, good preparation for a professional career, suitability for a wide range of students and learning styles, suitability for the information age, changes in the roles of lecturers and students, collaborative work, and utilization of various evaluations, could be conducive to teaching ABA strategies (Shpeizer, 2019).

**Purpose**

The purpose of this research project was to evaluate the use of PjBL to increase students' ABA knowledge of ABA strategies. Teaching pre-service and in-service teachers ABA strategies through PjBL could enhance their knowledge of ABA strategies and increase implementation of ABA strategies in the classroom setting which could lead to decreased problem behaviors, increased student engagement, increased student achievement, greater job satisfaction, and reduced teacher burn-out. The two following research questions guided our analyses.

1. Would participants increase their knowledge of ABA strategies through the completion of a Behavior Change Project (BCP) that incorporated PjBL learning strategies?
2. Would participants become more comfortable designing and implementing interventions that incorporated ABA strategies through the completion of a BCP that incorporated PjBL learning strategies?

**Method**

Twenty-two participants enrolled in an undergraduate online ABA course and Behavior Change Project (BCP) at a regional university participated in the study. Participants completed a Pre-Project Survey before the project began. At the end of the course, participants completed a Post-Project Survey. The surveys were identical and consisted of fourteen multiple choice questions. Questions assessed the participants familiarity with ABA, functional behavior assessments (FBA), behavior intervention plans (BIP), classroom management strategies, and data collection methods. Participants were also asked to rate their level of comfort about conducting a FBA, developing a BIP, implementing a BIP, implementing classroom management strategies, designing data collection procedures to address academic concerns, designing data collection procedures to address behavior concerns, collecting data. In addition, the survey asked participants the importance of collecting data on academic performance and student behavior.

Throughout sixteen-week online course participants attended online lectures, accessed recorded lectures, accessed instructional materials, and completed components of the BCP. Participants submitted assignments to discussion boards and a course dropbox. Participants received feedback from peers and the professor regarding components of their BCP. For the BCP participants were required to plan, implement, collect data, and revise an intervention to affect change on a functional living skill of an individual in their environment based on data.

The BCP and assignments related to the BCP included the following components: Subject and behavioral objective, recording method, baseline graph and narrative, description of the intervention, description of the reinforcement, intervention graph and narrative, a narrative on changes, a plan for self-management or generalization, and a self-evaluation.

## Results

Once participants completed both the pre- and post-project survey's a statistical analysis was used to determine significance in their responses. Regarding the first research question, "Would participants increase their knowledge of ABA strategies through the completion of a Behavior Change Project (BCP) that incorporated PjBL learning strategies," Wilcoxon Signed Rank Test showed that there was no significant difference between pre-test and post-test. In regards to second research question, "Would participants become more comfortable designing and implementing ABA interventions that incorporated ABA strategies through the completion of a BCP that incorporated PjBL learning strategies," Wilcoxon Signed Rank Test showed that although participants felt more confident and comfortable, these increases in their confident level or comfortability level were not statistically significant. Overall, Wilcoxon Signed Rank Test showed that there was no significant difference between pre-test and post-test.

## Discussion

While these results do not show statistical significance in participants gaining knowledge and becoming more familiar with ABA, FBAs, BIPs, and classroom management they do indicate they felt more confident and comfortable when implementing ABA strategies. Specifically, participants felt more confident and comfortable with conducting a FBA, conducting a BIP, implementing a BIP, implementing classroom management strategies, designing data collection procedures, and collecting data after completing the BCP. The BCP required participants to gather data, develop an object, implement a BIP, record data, and make decisions based on the data. Throughout the BCP participants received feedback from the professor and peers. Through completing the BCP and collaborating with peers participants reported they were more comfortable implementing classroom management strategies. This adds to previous research indicating that pre-service and in-service teachers can learn ABA strategies, conduct an FBA, and design a BIP (Skinner & Hales, 1992)

## Limitations and Recommendations

These small increases could be due to the fact that the researchers did not take into consideration that most of the participants were already employed as a paraprofessional in a school system. Paraprofessionals participate in professional development activities and often receive training on teaching strategies and classroom management strategies. In the future, when developing this type of project and research methods, this could be considered.

The results could have been impacted by the inconsistency of the Likert rating scales. Using statements of degree of agreement, such as "strongly agree, agree, disagree, and strongly disagree," would allow for more consistency throughout the survey. The majority of the

participants were paraprofessionals and there is the possibility they were overconfident in their knowledge of ABA and skills.   Therefore, on the pre-project survey they could have overestimated their knowledge and skills.  To help with this possibility, participants could have been provided with a description or example of each rating category.  For example, "a rating of very comfortable means you can conduct an FBA without assistance."

The ABA course was only offered in an online format due to the SARS-CoV-2 (COVID-19) pandemic.  The ABA course could also be offered in a face-to-face format in which students work on their projects in small groups during the class time.  Working in a face-to-face format could increase participation within the group and enhance the PjBL aspect of the BCP, therefore possibly making the BCP more effective in enhancing knowledge of ABA strategies and increasing development and implementation of interventions that incorporate ABA strategies.  Future research could focus on implementing this type of project in both an online and face-to-face format and comparing results.

Finally, research indicates project-based learning enhances student motivation, time management, problem-solving, collaboration, creativity, and critical thinking skills (Wurdinger & Qureshi, 2015).  However, the surveys did not access any project-based learning skills.  In the future, the BCP could be include grouping students into small groups and requiring a more in-depth analysis of project components.  In addition, the surveys should include questions to access possible skills gained through the PjBL process.

## Conclusions

Teachers report they do not feel prepared to implement BIPs or classroom management strategies and identify this as an area of need.  ABA may provide a vehicle that will help teacher's implement intervention strategies.  By completing a BCP that focuses on ABA skills and strategies teachers may feel more confident and comfortable with conducting a FBA, conducting a BIP, implementing a BIP, implementing classroom management strategies, designing data collection procedures, and collecting data after completing the BCP.  Future research needs to focus on implementing ABA projects and developing more effective surveys.  Using a project, such as the BCP, teachers could enhance valuable skills such as time management, problem-solving, collaboration, and critical thinking skills.  Future research should focus on incorporating more collaboration between peers and accessing PjBL skills.  Overall, this pilot study shows the BCP helped pre-service teachers become more confident and comfortable with implementing behavior management strategies.

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EVALUATING TEACHER CANDIDATES' GOAL-SETTING THROUGH
RESIDENCY PRACTICUM DURING A YEARLONG EXPERIENCE

**Abstract**

Undergraduate (UG) educator preparation programs (EPPs) strive to meet commitments to prepare teachers. After a significant revision to the curriculum to one driven by competencies, the university increased field experiences for teacher candidates (TCs), including a culminating year out called Residency Practicum (RP) and Student Teaching. Over the course of the program, TCs work toward achievement of competencies assigned through coursework and aligned to state standards. This research analyzes TC's identification of and reflection on competency-based goals for RP to gain TC's perspectives on competencies identified most often as goals for improvement and growth in proficiency through self-assessed ratings.

**Background/Rationale**

The School of Education serves approximately 800 UG students with elementary education or special education as their major. During 2014-2015, the UG curriculum was transformed in a redesign that impacted all of the coursework completed by these majors. The first six semesters of coursework are now competency-based and referred to as Phase I (first three semesters) and Phase II (semesters four through six). One of the critical hallmarks of the new curriculum is a year out culminating experiences for the final two semesters. The first semester is RP and the final semester is Student Teaching. A chief difference between the former and new curriculum is the yearlong experience, giving TCs beginning-of-year, as well as end-of-year experiences in the same classroom setting. In the fall of 2020, there were 512 TCs in the elementary and special education programs. Of those 512, there were approximately 85 TCs deployed out into RP placements in more than 30 school districts.

TCs work toward the achievement of the aforementioned competencies assigned to courses in Phase I, Phase II, and Phase III (Semesters 7 and 8). While developing the courses, competencies were derived from the analysis of the [State] Teacher Standards and national standards for specific content areas. At the end of each course, TCs were assessed on identified competencies and must have receive a proficient rating to move to the next phase of the program.

Faculty were confident TCs have knowledge and skills necessary to implement the theories and instructional strategies represented in the competencies. However, in past observations of TCs participating in traditional student teaching, a gap existed between competencies achieved and the implementation of practices in school settings. In the RP

experience, researchers created a protocol, requiring TCs to revisit the competencies achieved in Phases I/II, analyze their level of proficiency in implementing competencies, and set competency-based goals for which they felt least proficient and, analyze their level of proficiency in implementing competencies, and set competency-based goals for which they felt least proficient. Candidates rated proficiency levels on each competency at the beginning, mid-point, and end of RP. TCs set two to three goals for RP based on their perceived level of proficiency in each of the competencies.

**Purpose of Study**

The research focused on candidates' experiences identifying and reflecting upon their goals for RP during fall 2020. The purpose of the study was to gain the candidates' perspectives on which competencies they identified most when setting goals for improvement throughout RP. The overarching research question was, "How does competency-based goal setting at the beginning of RP impact a candidate's confidence and perception of proficiency at the completion of RP as they begin student teaching?" Primary research questions included: 1) How do the competencies learned in Phase I/II impact RP candidates? 2) What competencies from Phase I/Phase II were most identified as goals for improvement throughout RP?

**Methods and Results**

Fall 2020 data collected were as follows: RP Goal Setting, Rating Scale to Assess TC Application of Phase I/II Course Competencies in RP, and RP and student teaching survey data. TCs rated themselves on 53 competencies using Emerging, Developing, Proficient, or Distinguished levels. Candidates developed two to three goals around the competencies in order to address the gap between coursework and the application of the competencies during RP. Candidates were asked to develop rationale for the goals selected, steps to achieve them, identify progress toward the goals at the mid- and end points, and a final reflection about their progress.

Data analysis on the rating scales began with researchers tallying the competency ratings identified above by each of the TCs at all three points in RP to indicate how many had self-reported growth over time. Goals were analyzed and coded separately. The process of coding included labeling and sorting collected qualitative data from the open-ended responses (Merriam, 2009). Coding also served to identify, summarize, and interpret themes that emerged from the data (Emerson et al., 2011). The themes developed from the tallied competencies identified as goals and from open-ended responses. Researchers identified the top six goals and noted important phrases, discovering correlations to emerging themes extant in the data. Researchers compiled the most identified goals and notable themes and quotes to compare and check for consistency. Researchers reviewed and ranked goals and themes in order of prominence and relevance to the posed research questions, based on the number of repetitions of words and phrases (Creswell, 2012; Merriam, 2009). Researchers were careful to extract poignant quotes from various lenses including TCs from different genders, school placement settings (including rural and urban), campuses, ethnicity, race, and major. Deep analysis of the data resulted in themes (bolded) and are discussed below. Each theme discussion includes relevant supporting comments from TCs as well.

*Themes*

   **Problem solving for mathematics** was the most identified theme with 13 TCs identifying this as a goal. Thirty-nine TCs perceived themselves as developing and six as proficient at the beginning of RP; 36 students perceived themselves as proficient at the end. This competency most TCs set as a goal encompasses an extensive amount of math content and could explain the selection of it as a goal over others. Using standards to align instruction was a critical subtheme discovered. A TC wrote how this was occurring in their RP classroom, "My math lessons were all inquiry based, which is the basis of the Standards of Mathematical Practices. Going into Residency Practicum, I was nervous about teaching math. However, I have gotten comfortable with using the standards and creating inquiry-based lessons. I now know the importance of these standards and why I should be using them in every lesson." (TC1)

   Seventeen TCs perceived themselves as growing to proficient and four TCs growing to distinguished by the end of RP when self-assessing the competencies aligned with the theme of **differentiation for diverse needs**. Of the 85 TCs, 12 set this as a goal and 83% of those grew in proficiency; eight reported growth to proficient or distinguished. A TC noted, "I have a lot of students with very specific needs. I have been able to work hard with my cooperating teacher in order to meet the needs of my students. I truly feel like this has become automatic to me. When something happens I know what to do and I'm able to think on my feet." (TC22)

   Ten TCs selected **classroom and behavior management, student engagement, and motivation** competency as a goal; of those ten, eight perceived themselves as proficient or distinguished at the end. Emergence of this competency as a theme was not surprising. Research over the past 30 years has pointed to a lack of confidence expressed by beginning teachers in ability to manage a classroom (Melnick & Meister, 2008). One TC wrote, "I have also had the opportunity to go to different classrooms and identify how other teachers use management skills. It was interesting to see the difference in each, but also how they correspond to a very similar outcome. I do notice that I have grown a lot in this area from where I started, but forming my philosophy in management is something I want to continue with into student teaching." (TC12)

   Nine TCs set a goal for the competency most aligned with the theme of **inclusive classrooms**. Data revealed 10 TCs as emerging, 24 as developing, 26 as proficient, and two as distinguished at the beginning of RP. By the end of RP, 51 TCs perceived themselves as proficient or distinguished. One TC noted, "During my RP, I have watched my cooperating teacher include all of our students and treat them as equals. We have several read alouds that would reflect on some of the students in our classroom. Inclusion is a huge deal in our classroom, as we have developed a bit of a diverse group of students. I have noticed how our students react when they notice they are represented in a read aloud book." (TC21).

   The **instructional strategies for science content** theme showed 15 TCs perceived themselves as growing to proficient and one candidate growing to distinguished. Seven TCs set a goal for this competency; only two perceived growth to proficient. Interestingly, five of the TCs did not perceive themselves as growing from the beginning to the end. The low number of

candidates' perceptions of growth is related to lack of confidence in the content area (science) and observation that science instruction has decreased in elementary school settings. Wexler (2019) notes, "the amount of time spent on social studies and science has plummeted--especially in schools where test scores are low" (para. 6). A TC said, "I have not gotten the amount of time observing or teaching science as I had originally wanted, but I now have a better idea of how to implement tools of inquiry into science lessons and curriculum" (TC5).

The **Project Based Learning** (PBL) theme demonstrated 13 candidates perceived themselves as growing to proficient. Of 13 who grew to proficient, five candidates selected this competency as one of their goals. Of those ten student, all grew at least one level. During redesign, research was conducted to determine instructional frameworks to increase student engagement achievement. PBL surfaced as worthy of consideration due to its benefits, but also its alignment to the University's emphasis on profession-based learning. Thirty years ago, Blumenfeld et al (1991) defined PBL as "a comprehensive approach to classroom teaching and learning that is designed to engage students in investigation of authentic problems" (p. 369). The focus on PBL from coursework to RP included the expectation TCs collaborate with their Cooperating Teacher to develop and implement a project-based unit. Unfortunately, several school districts did not implement project-based instruction, complicating the expectation. One TC commented, "RP allowed me to observe the importance of PBL-big or small-and learn when to properly introduce them in a lesson. For example, I got the opportunity to observe my cooperating teacher formally assess students with science and social studies projects." (TC2).

**Discussion and Implications**

The purpose of this study was to gain the candidates' perspectives on the competencies identified most when setting goals for improvement. A student teaching survey (April 2021), revealed 100% of the TCs who completed the survey described their comfort level with teaching as comfortable (25%) or very comfortable (75%). Researchers believe there were implications from this study that can help improve practice and better prepare TCs for the complexities of the classroom. Based on results of the research we suggest 1) supporting goal setting and progress toward goals through a coaching model; 2) increasing levels of reflection including training on reflection to action; 3) increase diverse field experiences prior to RP to focus on differentiation, classroom management, and inclusion 4) discussing preparation in math and science within the EPP.

**Conclusion**

The research conducted has been a springboard for action using evidence from the first RP to inform the pathway forward. The reflection logs richly informed the work assisting in defining critical elements of the EPP, allowing continued momentum for strengthening the program that began with a new curriculum, and authentic field experiences were added. This is one step in improving the EPP, especially the final two semesters for TCs. The final two semesters should be rich, reflective, and challenging in order for developing first-year teachers who are clearly reflective, action-oriented, and competent classroom educators.

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DISRUPTING THE CYCLE: COLLABORATIVE EFFORTS FOR SYSTEMIC CHANGE

## Abstract

A growing research-based consensus supports addressing our nation's literacy crisis through instruction aligned with the Science of Reading (SoR). While an increasing number of universities are aligning coursework to principles of SoR, a paucity of best practice models exists in classrooms. Preservice teachers (PSTs) often abandon what is learned in coursework to espouse literacy practices aligned with cooperating teachers and thus, the cycle of status quo literacy instruction persists.  A collaborative comprehensive approach is needed to unify stakeholders. This presentation discussed one dynamic collaboration between a charter network, a university, along with community partners to enact systemic change for improved literacy instruction. These school sites then in turn served as models of best practice for PSTs. This initiative is supported by the Hamilton Family Foundation and Emily Hall Tremaine Foundation.

## Background/Rationale

Consensus on the current literacy outcomes for American students is broadly agreed to be unacceptable with nearly 60% of American students not reaching reading proficiency (IES, 2019). While these concerns have grown over the past 40 years, a confluence of research from cognitive science, linguistics, literacy educators, and others have converged to elucidate the cognitive processes required for proficient reading.  Unfortunately, this body of literature, known as the Science of Reading (SoR) has not yet influenced current widespread instructional practices. Recently, however, there have been increased calls including legislation for teacher preparation programs to align curricula to the SoR evidence base (Moats, 2020, Goldenberg et al. 2020; Seidenberg et al. 2020).

One key element that has been missing from these discussions is the role of field experiences in the development of SoR aligned teacher preparation programs. Field experiences have long been valued as a central component for teachers to develop their knowledge beyond simple factual knowledge, but also procedural and adaptive knowledge flexibly applied with students (Snow et al. 2005). Alignment between coursework and field experiences have been long documented as critical as PSTs are likely to abandon learned coursework concepts and adopt instructional practices in line with their field cooperating teacher (Clift & Brady, 2005). Even if PSTs receive quality content knowledge preparation, the paucity of schools that implement an effective SoR approach necessitates that PSTs observe and implement instructional practices of the de-rigor, despite the misalignment with extensive evidence. The result is the propagation of an ineffective teacher preparation system with little capacity or

motivation to change because scant concrete models of effective SoR aligned instructional systems exist.

**A Collaborative Comprehensive Solution to a Complex Problem**

Given that the current literacy system is yielding unacceptable outcomes for elementary school students based upon inadequate knowledge and ineffective instructional practices for in-service teachers (ISTs) as well as PSTs, a comprehensive solution is necessary. A partnership was established between local elementary schools and university partners, fortified by community partners, funding and professional development collaborate in a multi-year process for literacy reform. The goals were to develop an increasingly effective SoR aligned instructional system that will improve the content knowledge and instructional practices of both ISTs and PSTs as well as the literacy outcomes for students.

Frequently, however, essential conditions that make effective instruction possible, are controlled by leadership and school culture, which are macro level processes.  Often, leadership introduces macro initiatives (e.g., new curricula, PD sessions, etc.), that while positive, are not sufficiently supported to affect quality instruction. Micro level processes such as individual teachers' ability to enact instructional practices aligned with the SoR including knowledge of component literacy elements, data literacy, instructional decision making, flexible homogenous groupings amongst others are either not addressed or not sufficiently analyzed and integrated into macro initiatives.

In this partnership, school change initiatives are evaluated within a comprehensive guide, the Dynamic Early Literacy Framework (DELF). The DELF guides schools in a multiyear literacy reform process of system analysis and change through 7 key, interrelated drivers (leadership, assessment, curricula, instruction, supervision, coaching and professional development and family engagement) for literacy reform. See https://bit.ly/DynamicEarlyLiteracyFramework for more information on the DELF. Each of the drivers are supported with a rubric that describes four stages of growth – emerging, developing, operationalizing and optimizing. Guided by the DELF, system analysis and change occur through stakeholders engaging in strategic inquiry, "an inquiry processes by which stakeholder teams systematically study the school through the lens of the struggling students and remove obstacles to the students' successes" (Panero & Talbert, 2013, p. 13).  The result is micro level changes that inform macro level decisions.

**Disrupting the Cycle**

This collaboration is working to disrupt the cycle at five points in efforts to increase the capacity for the growing need of teachers who have both the content knowledge for the SoR but also the procedural and adaptive levels of knowledge needed to successfully implement SoR aligned instruction.

The first step in disrupting the cycle was gaining International Dyslexia Accreditation (IDA), a vetted accreditation of SoR content at SJU's undergraduate level.  However, the dearth

of SoR aligned public schools for PSTs to be placed for student teaching led us to seek a dynamic partnership with a local school network, Mastery Charter Schools.

Aware that Mastery faculty needed increased SoR content knowledge, all kindergarten through second grade ISTs and leaders completed AIM Pathways, an IDA accredited asynchronous course over the summer of 2021. This was the second point in disrupting the current cycle of inadequate teaching practices.

The third component is the keystone to disruption of the current teacher preparation system. Guided by the DELF, Mastery's early literacy team and school stakeholders, together with the external research and advisory (R&A) team, collaboratively engaged in strategic inquiry to address obstacles hampering or inhibiting students' development into independent proficient readers were identified. Team members then developed hypotheses and evidenced based solutions to obstacles and committed to documenting and measuring results.

These solutions were then piloted in a six week improvement cycle, supported with coaching from the early literacy team and R&A members. Students who were initially identified by a phonics inventory and later confirmed by MAP Fluency Assessment were flagged for additional diagnostic assessment. Phonological Awareness Screening Test (PAST) (Kilpatrick, 2019) data was collected by early literacy and R&A team members as well as student teachers who had completed these assessments in their methods coursework. Students identified with weak phonological awareness were selected for systematic and explicit phonological awareness instruction during their literacy rotations block. Students were homogenously grouped based on their present levels within the phonological awareness hierarchy and flexibly regrouped based on progress reviewed in data analysis meetings

Over the course of six weeks, student teachers worked alongside ISTs, and early literacy and R&A team members to plan differentiated explicit instruction based on students' present levels. Student teachers observed IST's instruction together with coaching facilitated by early literacy team, school leadership and R&A team members. Additionally, student teachers participated in biweekly student data meetings in which student progress and additional literacy obstacles that ISTs observed were discussed. PSTs and ISTs honed a variety of skills (see Table 1) which fostered increases in students' phonological awareness skills. At the conclusion of the six week cycle, ISTs and leaders not only wanted to continue with the instructional practices from the improvement cycle but also expressed interest in future cycles addressing other obstacles to their students' acquisition of reading skills. These changes, though labeled micro in scope, have powerful transformative effects on macro level decisions made by leadership.

In the fourth point of disruption, a variety of logistical and environmental constraints to widespread adoption and sustained implementation were identified. These included class schedules, teacher planning schedules, staffing, assessment and curricula resources, data management and teacher workload during prep periods; communication and collaboration with specialized services team. These concerns, macro in scope, were raised and documented. Efforts were made to ease obstacles in the short term while planning for long term, sustainable macro

changes. Micro changes at teacher, classroom and student levels resulted in increased leader and teacher buy in, motivation, and capacity building.

The changes made resulted in an increasingly aligned SoR field placement where PSTs collect baseline data, observe and participate in data analysis meetings, and develop systematic and explicit instructional plans. PSTs observed and engaged in student centered strategic inquiry that extended coursework. PSTs emerge from this experience adopting SoR instructional practices (for specifics see Table 1) and the knowledge of supporting processes that they take into the field. In summary, the final point of disruption is a SoR aligned field placement where PSTs will become knowledgeable and effective ISTs – thus breaking the cycle of ineffective teacher preparation.

**Table 1**
*System and Stakeholder outcomes of DELF guided system analysis and change*

| System Component or Stakeholder Group | Outcomes of DELF guided system analysis and change |
| --- | --- |
| Mastery Students | • Improved phonological awareness skills starting from syllable level to phonemic manipulation tasks |
| PSTs | • Increased development of and application of SoR content knowledge<br>• Developed corrective feedback, homogenous flexible groupings, data collection and tracking, data analysis, instructional decision making, simultaneous formative notetaking and prescriptive explicit teaching of targeted literacy skills (McLeskey, 2017)<br>• Honed diagnostic administration, assessment and analysis of screening, diagnostic and progress monitoring data (IDA KPS 3.1; 3.4; 3.6; 4C.4; 4B3-6) |
| ISTs | • Increased development of and application of SoR content knowledge to instructional practice<br>• Improved ability to differentiated instructional practices including creating flexible homogenous groupings (IDA KPS 4A.1; 4A.3; 4B.3-6)<br>• Improved corrective feedback, systematic instruction, Simultaneous formative note taking<br>• Building and executing a fading, multisensory scaffolding framework |
| Macro System Changes | • Enhanced capacity of faculty to deliver structured literacy practices in an RTI Framework<br>• Enhanced planning meetings to be data driven on literacy subskills<br>• Proof of Concept and faculty engagement for early literacy SoR aligned reform |

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## COVID-19 AND SPECIAL EDUCATION: SPECIAL EDUCATION PROFESSIONALS REPORTED CHALLENGES AND RESOURCES TO SUPPORT REMOTE LEARNING IN 2020

**Abstract**

With the onset of COVID-19, school districts were forced to rapidly engage in planning and development of resources for remote instruction during spring of the 2020 school year, and many special education professionals reported difficulty meeting student needs. In order to determine challenges and concerns related to remote instruction faced by these professionals, data was collected from a Council for Exceptional Children (CEC) public forum from March 7 to April 21 of 2020. Grounded theory method was then used **to determine** themes related to challenges with meeting the needs of students with special needs and resources utilized to overcome these challenges. From 638 entries, five major issues were identified: (a) challenges with using instructional technologies appropriately, (b) student engagement, (c) collaboration with families, (d) exacerbated inequity, and (e) needs for clear guidance during a crisis. Areas of improvement and future implications for remote learning for special education are discussed.

**Background/Rationale**

In mid-March of 2020, schools in the United States were forced to an almost total shutdown of in-person learning due to the COVID-19 outbreak, which affected at least 55.1 million students in 124,000 public and private schools (Map: Coronavirus and School Closures, 2020). To maintain educational progress, many school districts rapidly moved to online learning through emergency development of resources for remote instruction (Craig Rush et al., 2016). This rapid shift to remote learning caused a wide range of challenges, particularly for students

who had special needs and their educators as some specially designed instruction and services cannot be replicated remotely (Jenkins & Walker, 2021), especially when those interventions require intensive one-on-one guidance or physical contact with students to support their learning (e.g., physical prompting). To add to these challenges, there was substantial uncertainty related to the legal mandates under Individuals with Disabilities Education Improvement Act (IDEA, 2004) and what schools were required to provide at the beginning of the crisis (Jameson et al., 2020).

As circumstances changed almost daily, special education professionals leaned on each other to find resources, understand software, and boost morale across the country (Tugend, 2020). To support this need for collaboration, CEC waived its annual membership fee to join the organization in March of 2020, leading about 20,000 new educational professionals to sign on in the first couple of weeks to access information and share questions and fears through member forums (Tugend, 2020), thus allowing experiences of special educators to be analyzed.

## Purpose of the Study

The aim of this study was to create a portrait of the experiences of special education professionals by determining the most frequently occurring concerns/challenges and the resources they used to navigate this unprecedented time of remote learning by analyzing CEC member forums. The research questions addressed were:
- What are the most frequently occurring concerns/challenges facing special education professionals during this unprecedented time of remote learning?
- What resources are special education professionals using to meet the needs of their students during remote/virtual learning?

## Methods, Data Collection, and Analysis

This qualitative study was designed to discover the immediate concerns of special education professionals during the COVID-19 crisis by using purposeful sampling to analyze CEC member forums from March 7 through April 21, 2020 (Merriam & Tisdell, 2016). During that timeframe, 426 individuals voluntarily participated in the CEC public forum.

This study utilized the grounded theory method employing an inductive approach to determine the patterns emerging from the CEC public forums (Shank, 2006; Thomas, 2006). Of the initially identified 109 posted forums, 91 forums consisting of 638 entries focused on the concerns of special education professionals about remote teaching or COVID-19. These 638 entries were studied and analyzed through ongoing and recursive analysis methods (Merriam & Tisdell, 2016) to identify the concerns participants stated regarding the provision of special education during school closures.

Researchers used an open coding strategy (Glesne, 2016) by looking for keywords, collaboratively comparing their findings, and cross-checking the results among the researchers (Yin, 2009). Then, researchers condensed recurring statements into categories and the first and second researchers used a thematic analysis approach to synthesize the findings (Braun &

Clarke, 2006) of ten percent of the data (65 entries across 9 threads; Lacy & Riffe, 1996) and then met to check the reliability of the coding with reliability being over 87%.

## Results

Within the 638 total entries, 213 entries shared concerns and/or challenges with regard to remote teaching and learning, while 395 entries responded to these concerns or challenges and shared their advice and/or how they addressed similar situations in their class or school district. In response to the entries that shared concerns and/or challenges, special education professionals provided support and resources by sharing their advice. Information related to the ten most frequently identified themes, the percentage of proportion of concern, their definitions, and data examples are provided in Table 1. In addition to information related to each of these ten identified areas, resource banks for families of students with special needs to access during remote learning and instructional resources for special education professionals used during remote learning were also compiled and provided.

**Table 1**

*Themes and data examples*

| Themes/Percentage | Thematic Description | Data Examples |
|---|---|---|
| Instructional technologies **31%** | Distance learning platforms and technology to enhance teaching | "I am technologically deficit and was apprehensive." "If it feels any better, I have been teaching for 26 years and now I am a 'Beginning' teacher as well!!! We're all in this together!" |
| Engagement **23%** | Student's and parent's engagement, student's motivation and participation in remote education | "I'm a special education teacher and I'm so frustrated and upset that my students are not engaging in my Zoom meetings,…or even attempting to do work assigned to them… Does anyone have suggestions on how to get parents or students motivated to do the work online? …" |
| Communicating and supporting families **20%** | Communication with and supports for families to provide support for their child's learning | "A bunch of students on my caseload involve parents that are 'off the grid.' …Some parents have expressed that they're on information overload and simply can't keep up with the emails... I can definitely relate to that!" |
| Instructional resources **19%** | Identified content specific or curriculum resources for remote learning | "Does anyone have any recommendations for online sound cards that students could manipulate to work on encoding? Or any other games that could be used online for phonics rules or phonemic awareness?" |
| Regulations **18%** | Federal, State, district, or school guidelines, requirement, policies related to remote education and the COVID-19 crisis | "As we move into the potential for more student to staff communication, what guidance are you providing to staff? For example – appropriate v. inappropriate ways to connect, maintaining confidentiality with Zoom, etc.??" |
| Teaching concerns **16%** | "Craft" of teaching, accessibility to learning | "I'm just not sure how to move forward with teaching new words. I've thought about trying to do it over video chat but I think I will need to type up the entire lesson and I'm not sure if my student will be motivated to chat in that way." |
| Environmental issues **15%** | Any environmental factors such as access to internet, tech devices, or | "I am interested in what rural communities may be doing. We do not have the option of internet services for the vast majority of our students." |

| | adults who can support their learning at home | "I teach in an urban high school. Some kids have internet, some not and some have it but have limited computer access due to needing to share." |
|---|---|---|
| IEP<br>**13%** | IEP related requirement and logistics (e.g., how to run virtual IEP meeting) | "Our state has shut down for nearly a month. State Ed is claiming that after 10 days, this constitutes a change of placement and is creating a waiver for parents to sign. My question is, if a parent were to refuse, "stay-put" would go into effect, thereby violating the governor's order. Is it a change of placement or no?" |
| Teaching students with low incidence disabilities<br>**13%** | How to support students with low incidence disabilities in remote learning | "I was curious to know how other schools are providing meaningful support at this time for Low Incidence learners. Is it possible to provide individualized, direct, explicit instruction with shaping and reinforcement virtually?" |
| Assessment<br>**10%** | General assessment (e.g., formative assessment or grading) and Special Education assessment | "I would like to know what you would recommend in terms of assessments and the identification of students for special education services…We are trying to work as a team to determine what would be the best way to proceed with the identification of students since we don't want to start school with so many students going under-identified." |

## Discussion

As predicted by previous studies (Burdette et al., 2013; Müller, 2009), analysis of the CEC member forums revealed that meeting the needs of students with disabilities remotely was challenging. Although this research depicted a variety of challenges and concerns special education professionals experienced during the first six weeks of school closures, there were five main points that appeared significant: (a) challenges with using IT appropriately to meet students' needs, (b) challenges with engaging students with special needs remotely, (c) importance of collaboration with families, (d) structural inequity, and (e) needs for clear guidance for emergency situations.

## Implications

Based on the results of our research findings indicate:
- Districts that had prior experience using computer-based programs or online platforms had an easier transition to a remote setting, as they could continue using a familiar platform in a broader way (König et al., 2020).
- Organizing the infrastructure for the integration of evidence-based IT into schools and providing training and technical assistance for educators and families, such that they could adequately navigate the technology in both in-person and virtual settings is critical (CEC, 2020).
- More research is needed on how to effectively support students with a severe disability who cannot functionally engage in remote learning independently.
- It is important to teach all learners strategies for remote learning, such as self-regulation, time management, and how to self-monitor progress on various assignments.

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BETR: BUILDING EQUITABLE, TRUSTING RELATIONSHIPS FOR IMPROVED
FAMILY-SCHOOL PARTNERSHIP PROGRAMMING

## Abstract

The family-school relationship is widely recognized through research, policy, and practice for its myriad benefits to students, families, and professionals. Despite its importance, the development and ongoing support for family-school relationships has proven to be elusive. Consequently, researchers have identified the need to develop and utilize actionable strategies that can develop, nurture, and restore relationships between families and educators in schools. This paper presents a brief outcome analysis of a school-wide family-school relationship project, initiated as part of a state professional development grant aimed at promoting the family-school partnership. We present the outcomes of this pilot project, highlighting the need for developing a more transparent opportunity for families and students to meaningfully connect early in the school year; hereafter referred to as the Building Equitable and Trusting Relationships (BETR) meeting model. We conclude this paper by presenting the BETR meeting model, including implications for future practice and research.

## Background/Rationale

It has been well established that families' engagement in their children's learning is related to enhanced academic and behavioral outcomes (Jeynes, 2005), and the presence of a trusting home-school relationship can serve to enhance these benefits. For example, when teachers perceive positive relationships with families, they are more likely to rate children's behaviors as prosocial and less likely to suspend or expel students due to challenging behaviors (Minke et al., 2014; Zulauf & Zinsser, 2019), and families' positive perceptions of their relationships with teachers is linked with increased engagement in their children's education (Mendez, 2010; Santiago et al., 2016).

There is a gap, however, in the *need for* an *application of* trusting home-school relationships in school settings (Mapp & Kuttner, 2013). Teachers have reported that home-school collaboration is one of the most challenging aspects of their job (Markow et al., 2010), and families have reported a lack of responsiveness from teachers, feelings that their input is not welcome, and a predominance of deficit views and assumptions about their parenting and values (McKenna & Miller, 2013; Wanat, 2010). It is widely understood in the education field that facilitative administrative supports and other systems-level factors such as policies and procedures are key drivers of change (Fixsen et al., 2009). However, schools lack the meaningful systemic support needed to foster trusting relationships between families and educators. This is

the case even within robust schoolwide research-based approaches such as Response to Intervention (RtI) and School-Wide Positive Behavioral Interventions and Supports (SWPBIS) (e.g., Gerzel-Short & Conderman, 2019).

## The Road to the BETR Model

The BETR Model is grounded in work developed in Iowa in collaboration with family engagement leaders from the Iowa Department of Education and the Iowa Parent Training and Information Center. This work was federally funded through a State Professional Development Grant awarded to the Iowa Department of Education. Within this section, we describe the process used in Iowa, which included a usability study of a school-wide family-school partnership model.

### *Development Work in Iowa: Goals Together for Partnership*

The first step in the Iowa work was to establish the needs teachers and family members had for family-school partnership programming. To this aim, we purposefully selected 22 schools across the state and distributed a statewide survey to teachers and family members within these schools (family member $n = 1,071$; teacher $n = 391$). This survey served as a benchmark for understanding how teachers and family members perceived current family-school partnership programming. The team utilized the survey results to develop preliminary ideas for a school-wide model aimed at family-school partnership reform that considers the influences of the family and school systems on student learning. This model posited that the student crosses the boundaries of two systems: the school system and the family system. Within the school system, the strongest influence on the student is the teacher, who is influenced by the systemic factors within the school. Within the family system, the strongest influence on the student are family members, who are influenced by systemic factors within the home. To best meet the learning needs of students, the teacher and family members implement five research-based tenets, as follows:
- Families and educators treat each other as equals and advocate for one another
- Families and educator interact in a bi-directional way
- Families and educators know how to prevent and resolve conflicts
- Families and educators recognize and build on each other's strengths
- Families and educators trust each other

The name for this model was Goals Together for Partnership (GTP). The goal of GTP was to infuse these tenets within all cultural aspects of the school in which families and educators interact to improve student engagement. A key element of GTP was the implementation of partnership goal setting whereby teachers and family members develop personalized goals related to partnering to support student learning.

Prior to the field test, the GTP Model was vetted initially by the principals of the 22 elementary schools participating in the state-wide survey. A revised version was presented to a stakeholder advisory group, which consisted of teachers (general and special education), principals, and family members of students in elementary settings. GTP was adjusted based on

feedback from the advisory group and piloted in the 2019-2020 school year in three elementary schools in Iowa that were geographically distinct across the state, and distinct in terms of population density (one urban, one suburban, and one rural school for each role). Pilot participants were three school teams of five members: two teachers, two family members, and the principal ($N = 15$). Pilot participants completed online training modules, and then attended a 2-day Summit meeting in a centralized location in Iowa to develop a GTP vision statement; skills, incentives, and resources needed for their vision; and to create an action plan. A train-the-trainer model guided the implementation process whereby the GTP Team provided technical assistance for the pilot participants through resources such as learning modules, a workbook, action planning materials, and specific practice resources such as parent-teacher conference materials.

Each of the three school teams were responsible for developing and carrying out the GTP implementation (five tenets through action) and an evaluation plan in line with the needs and culture of their school, providing technical assistance support to their school community, and participating in voluntary research activities for evaluation of the GTP model. The intent of the project was for the school teams to develop, implement, lead, and evaluate their version of GTP based on their school needs. The authors of this manuscript acted as lead researchers available for technical assistance and coaching sessions, as needed.

### *Research on the GTP Model: Research Questions, Method, and Findings*

Evaluation of the GTP model was guided by action research and mixed methodology design. The research questions were: What features of the GTP Process are required to ensure that it is usable in elementary school settings? What are the resultant trends in the perceptions of family-school partnerships for teachers and family member participants? Data sources were interviews, artifacts, focus groups, and surveys. Regarding the qualitative findings, key themes included: GTP improves partnerships, GTP leads to intentionality, and GTP leads to a mindset change. Regarding implementation, challenges included the process being a new approach, teacher and family member buy-in, and time. Two of the three schools implemented GTP within parent-teacher conferences, and one school had plans to embed GTP within spring conferences, but the Covid-19 pandemic, which necessitated school closures in March for the remainder of the school year, resulted in cancellation of this plan.

Participants described needing scaffolding to implement the GTP Tenets within school routines and interactions with families. As one teacher remarked, "...maybe more like a focus area on what event you are going to do or how you are going to educate your parents involved–just a little bit more tightness around what you really wanted from us…. I felt kind of like blind going into it because I'm like, 'Well, are we doing this right? Are we not doing this right?" One school team took the conference resources we provided and added more direction for staff, because of the need for scaffolding. As the principal of this school remarked, "So M— and S— took the resources that you had provided with us, and they, using their great teacher minds, each took a different take on it and provided some conversation, kind of prompts and additional things to talk about, a little more scripted to support the teachers. Our teachers were feeling a little

unsure of themselves in making sure that they were having meaningful conversations with families, and that helped ease their anxiety, I think, a lot."

## Building a BETR Model

The aforementioned challenges revealed that although GTP implementation was designed to inform, train, and empower the participants to implement GTP throughout their schools, the GTP stakeholder teams required more guidance and structure regarding the actual design and implementation of GTP practices within the family-school relationship, including establishing an equitable and trusting foundation to build continuity for the student. In response to this need, we created the BETR meeting model.

### An Overview of the BETR Meeting Model

The BETR Meeting is designed to be the first meeting of the school year, implemented by general and special education teachers with all students (universal level). The primary aim is to build trusting home-school relationships that serve to set the tone for equity and advocacy in the relationship, a focus on strengths, and a shared vision for the student. Prior to the meeting, the teacher reaches out to each family member to share a pre-meeting reflection that includes the items that will be discussed at the meeting. At the meeting, the teacher opens with norms (e.g., share views willingly, clarification questions are welcome), and then begins the agenda. First, the teacher and family members get to know each other, and next, each shares their hopes and dreams for the student for the year. The hopes and dreams are not limited to academics. For example, a family member might share that they would like their child to make a good friend, enjoy reading, or gain good study habits. A teacher might share that they wish that the student would gain confidence regarding math or social skills. Next, the teacher and family member share ways that they can each support each other in meeting the identified hopes and dreams for the student. The meeting ends with a summary of key discussion points, and the identification of important topics for ongoing communication. The family member and teacher determine the preferred method and frequency for follow-along communication before concluding the meeting.

### Implications for Future Research and Practice

Expected outcomes of the BETR Meeting process include: increased trust and confidence in the partnership and stronger conflict prevention and resolution in the short term, and enhanced student learning in the long term. Research on the BETR model will be mixed-method. This research will occur in two U.S. states: Midwest and Southwest. Participants will be drawn from public and private elementary schools and early childhood centers. Participants will engage in active and targeted learning specific to the BETR model. Data sources will include pre- and post-interviews and surveys, observations and self-report checklists for implementation fidelity. The importance of building and nurturing family-school relationships is an ongoing and necessary component of the school system. Yet, families and school professionals continuously report challenges with actualizing their relationship as described by policy and research. It is our hope that creating a safe meeting space to hold meaningful conversations between families and school professionals can be the start to building an equitable and trusting relationship.

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EXPLORING BEGINNING GENERAL EDUCATION TEACHERS' BELIEFS, MINDSETS, AND EFFICACY FOR TEACHING STUDENTS WITH DISABILITIES

## Abstract

This exploratory, embedded case study examined beginning general education teachers' confidence for teaching students with disabilities (SWDs). Two groups of recent early childhood through sixth grade (EC-6) graduates from one teacher education program ($n = 11$) participated. Data included focus groups and an annotated Professional Induction course syllabus from each participant. Findings showed that participants' confidence for teaching SWDs was influenced positively or negatively by (a) knowledge gained through coursework, (b) self-efficacy from fieldwork, and (c) missed opportunities.

## Background/Rationale

Because about 63% of all students with disabilities spend 80% or more of the school day attending general classes (U.S. Department of Education, 2019), it is critical for teacher education programs to provide prospective teachers with requisite special education knowledge and skills. Graduates of university teacher education programs have been shown to be selective in the material they apply from their courses and field experiences when making decisions about curriculum and instruction (Clift & Brady, 2005; Kosnik & Beck, 2008). This kind of selectivity adds complexity to the challenge of preparing teachers to work effectively with diverse learners. Examining the ways in which general education teachers apply knowledge and content from their preservice program is particularly important given research showing poorer attitudes about inclusion for this population, as compared to preservice special education teachers (e.g., King-Sears et al., 2012). Furthermore, limited evidence exists regarding the impact of teacher education coursework on preservice general educators' efficacy about inclusion (e.g., McHatton & Parker, 2013; Swain et al., 2012).

This study is framed by self-efficacy theory and literature related to teachers' beliefs. Self-efficacy for teaching can be defined as the "extent to which teachers feel capable to help students learn" (Ware & Kitsantas, 2007, p. 303). Teachers' beliefs about their self-efficacy have been shown to influence teaching behaviors (Rahman et al., 2018), and teacher education researchers have found that beliefs can be changed by structured learning experiences, such as university coursework (e.g., Siwatu, 2011).

## Purpose of Study

The purpose of this study was to identify and describe programmatic elements that relate to beginning general education teachers' confidence for instructing SWDs in elementary settings. Importantly, we believe investigating program graduates' beliefs about what was helpful, unhelpful, and missing can help maximize the program's effectiveness and impact. As such, the research question guiding our study was: What aspects of a teacher education program have an effect on beginning elementary teachers' confidence for teaching students with disabilities?

## Program Overview

The EC-6 program is situated in a large urban area in the Southwest region of the United States. Students seeking an EC-6 generalist teaching credential complete approximately 150 hours of fieldwork prior to clinical teaching, which takes place during the final semester in the program. Fieldwork sites include public, private, parochial, and charter settings, as well as the university laboratory school. The university laboratory school specializes in individualized academic programming for children ages 6 to 12 with learning disabilities. The progression throughout the EC-6 program is purposeful, blending fieldwork and coursework within each semester to ensure application of learning. Students take eight required education courses in their first and second years in the program, two of which include focused fieldwork. In the third (junior) year of the program, courses focus on instructional methods for content areas, special education, and Teachers of English to Speakers of Other Languages (TESOL). In the fourth year of the program, fall coursework includes a dedicated fieldwork course and professionally related courses that support instruction (e.g., family-professional partnerships, classroom management, assessment); in the spring of the final year, students complete clinical teaching and return to campus for the Professional Induction course.

## Method

This exploratory, embedded case study (Yin, 2009) involved two groups of recent EC-6 graduates for a total of 11 participants (20% of the graduating class). All participants identified as female. Nine identified as White, and two identified as Hispanic/Latina. Seven were full-time graduate students and four were first-year teachers (Grades 4 and 5). Data sources included focus groups and an annotated Professional Induction course syllabus from each participant. There were two rounds of 75-minute focus groups, each with two discussions: one with graduate students ($n = 7$) and one with first-year teachers ($n = 4$). The first round explored confidence for teaching SWDs associated with taking the Professional Induction course. The second round explored confidence for teaching SWDs associated with program experiences broadly. Participants wrote notes on the Professional Induction syllabus related to aspects that impacted confidence and knowledge for teaching SWDs, course aspects that were especially helpful or not helpful, and content that they would add or remove from the course.

## Findings

Figure 1 provides an overview of the patterns in the data regarding EC-6 program aspects that had an effect on participants' confidence for teaching SWDs. Bridging *coursework*, which results in knowledge, and *fieldwork*, which results in self-efficacy, is required for enhanced

confidence. Both coursework and fieldwork included instructional and non-instructional aspects related to confidence for teaching SWDs. The extent to which participants perceived each of these indicators to be present served to add to (+) or take away from (-) beginning teachers' confidence.

**Figure 1**

*Beginning Elementary Teachers' Confidence for Teaching Students with Disabilities*
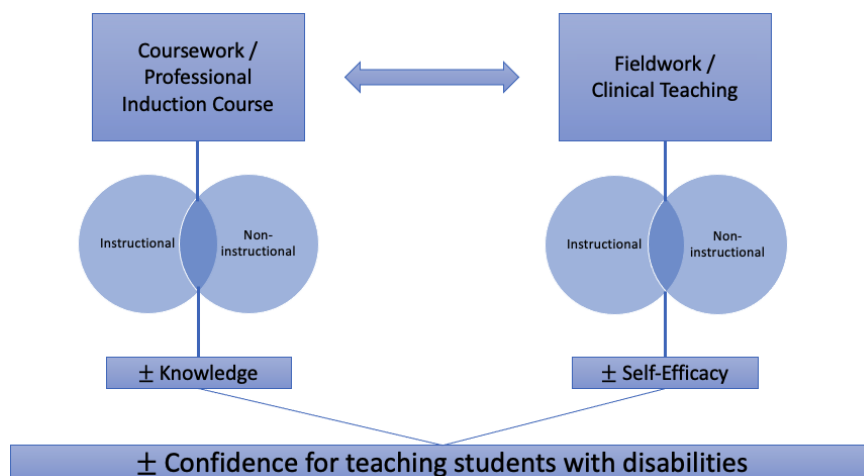


### *Knowledge from Coursework*

First, regarding the effect of knowledge from coursework on confidence, one participant (4th grade teacher) remarked, "…those RTIs and 504s and everything as a first year teacher—there's a lot to remember and a lot that goes into it. And to have some background knowledge on it, to be able to hold your own and advocate for your students, that's been really helpful." These remarks point to the value of knowledge gained from preservice coursework in enhancing confidence to carry out special education policies and procedures. Another participant (M.Ed. student) explained, "Having taken the [Intro to Special Education course] freshman year and junior year, I was in need of a refresher for some information. This lecture [in the Professional Induction course] was great because it served as a review for what I learned in [the Intro course] but was seen through a more applicable perspective because I had experienced what [the speaker] was talking about in my student teaching." These comments illustrate the importance of revisiting information throughout the program, with exposure across multiple experiences.

### *Self-Efficacy from Fieldwork/Clinical Teaching*

Second, regarding the effect of self-efficacy from fieldwork on confidence, one participant (4th grade teacher) stated, "The [special education field experience course]…made me feel so much more comfortable teaching students with disabilities, having exposure to all different types of disabilities and what students work through each day. So I would say that class really gave me the experience I needed to know how to differentiate my lessons to meet everyone's needs." This participant linked the field experience with self-efficacy to differentiate

instruction. A second participant (4th grade teacher) remarked, "My [field experience student with a disability] always had to be standing when he was working…. And I actually have a student in my class that does that. He cannot work sitting down… so I just moved him back farther so other students could see, and now he can [stand up and] do his work… if he needs to." This participant credits fieldwork experience to confidence for meeting student needs.

### *Missed Opportunities*

Finally, the data revealed that in some cases, confidence for teaching SWDs was diminished when beginning teachers believed the program failed to offer instruction in a specific area. In other words, missed opportunities led to lower confidence for teaching SWDs. To illustrate, one participant from the M.Ed. group said, "One thing that I wish could've been incorporated more—and it was a little bit [in the classroom management course]—is students with autism…. Because there typically are always kids with autism spectrum disorder in the classroom. And that's really hard for general education teachers who've had no background on autism to manage." Missed opportunities like this one were related to instructional as well as non-instructional aspects of teaching.

## Discussion and Implications

Findings suggest that *knowledge*, resulting from exposure to instructional and non-instructional aspects of the teaching profession through *coursework*, and *self-efficacy*, resulting from exposure to instructional and non-instructional aspects of the teaching profession through *fieldwork*, contribute to beginning teachers' *confidence* for instructing students with disabilities. The small sample size from this study necessitates future research on the extent to which knowledge and self-efficacy predict confidence within teacher preparation as well as within the induction period after graduation. In investigating the relationship of self-efficacy and teacher knowledge for literacy instruction for prospective elementary education teachers, Sharp et al. (2016) found that self-efficacy and knowledge increase for students over time but are not related; that is, the presence of one does not serve to predict the presence of the other. In our model, knowledge and self-efficacy are distinct, and drawn from separate sources: knowledge stems from coursework, and self-efficacy stems from fieldwork. Future research should seek to shed further light on the ways in which knowledge and self-efficacy are developed in beginning elementary school teachers and utilize study findings to adjust program expectations and activities so that candidates experience the richest context for growth in both knowledge and self-efficacy.

In this study, there were references to knowledge and self-efficacy that were present, leading to enhanced confidence, and to knowledge and self-efficacy that were absent, leading to diminished confidence. Future research should explore the effect of missed versus not missed academic (coursework) and experiential (fieldwork/clinical teaching) learning experiences and how this is related to knowledge, self-efficacy, and confidence for teaching students with disabilities. Finally, future research should seek to disentangle the influences of instructional (e.g., differentiated instruction) and non-instructional (e.g., multi-tiered systems of support) content and experiences for confidence in teaching students with disabilities.

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COLLABORATIVE INCLUSIVE PROGRAMS: ADMINISTRATIVE INFLUENCES

**Abstract**

This qualitative research examined the factors that affect collaboration practices of two rural elementary schools. The interviews revealed that the teachers are key to inclusion and successful collaboration in their classrooms. The administrators are vital to implement and support the school-wide collaboration including coordinating schedules, supporting teacher-generated agendas for the meetings, arranging for professional development, and providing resources to enhance collaboration. Professional Development is necessary at all levels from assistants to administrators.

**Rationale**

The inclusive elementary school is a very complex ecology. The principal is the school leader, and it is his/ her charge to implement the program that meets the needs of all students and teachers through various forms of inclusion. This project addresses collaboration efforts and how the administrators play a vital role in the implementation of successful collaboration at multiple levels in the elementary schools. These two schools demonstrate different approaches to inclusion and collaboration, yet there are similarities in the outcomes of meeting the needs of students and teachers.

**Literature Review**

Teacher collaboration is necessary for inclusion of students with disabilities in the general education classroom in a meaningful manner. According to Waldron and McLeskey (2010) the general education classroom is the best environment for students with mild disabilities. And for inclusion and collaboration to work teachers need to 'buy in' to the school-wide inclusion and collaboration model (Hamilton-Jones & Vail, 2014). The inclusive program is designed "to provide a coherent educational program to support students' academic achievement" (Ketterlin-Geller, Baumer & Lincoln, 2015, p52).

Successful collaboration also includes recognizing the teachers' need for professional development to implement the changes (Berry, Petrin, Gravelle & Farmer, 2011). Professional development takes many forms in different schools and the administration has to make sure the professional development is appropriate to the specific context and culture of their school.The administration has to have stakeholder involvement including building leadership capacity of teachers; encouraging team learning that is focused on the goals, and distribution of leadership responsibilities throughout the school improvement process (Murawski, 2012). Another aspect of successful inclusion and collaboration is the structure supported and implemented by the

administration, such as space and resources, coordinated teamwork, teachers motivated, and in-service for staff development (DaFonte & Barton-Arwood, 2017).

There are many factors that influence the implementation of a collaborative program. Administrative support is a vital component of implementing collaboration programs (Vangrieken et at 2015). Therefore, support from administrators to arrange collaboration time, promote in-service for staff development, and empower teachers to make decisions are essential for the collaboration program to be successful (Hargreaves, 2019).According to Cobrun and Turner (2011) the principal has to be an instructional leader with the power to implement school-wide programs. The definition of instructional leader "views the principals as facilitators, guiding and encouraging an educational environment in which administrators and teachers work collaboratively to diagnose and solve the problems facing the schools" (Nettles & Herrington, 2007, p 725). A part of this leadership includes recognizing the teachers need for professional development and appropriate training to implement the collaborative programs (Leatherman, Bangel, Cox, Merrill & Newsome, 2012). The teachers, and administrators at multiple levels, need to be empowered to participate in professional development in order to understand the needed responsibilities of all involved in the successful collaborative program. (Waldron & McLeskey, 2010).

The research question for this study was: What are the factors of successful inclusion and collaboration programs in elementary schools?

**Research Design and Analysis**

The data sources include collaboration meetings, observations, and interviews with principals of two different elementary schools; special education and general education teachers at each school; literacy coach at one school; and director of special education at one school. Drawing on Patton's (2002) theme development, the interviews and observation notes were analyzed for insights into their understanding and perceptions of inclusion and collaboration and the factors that affected the success of the collaboration programs.

**Setting**

The Turtle School enrolls preschool through grade five and was located in a small community in the Midwest. The elementary school enrolled approximately 625 students each of the two years of the study. The students with mild disabilities comprised approximately 19% of the total school population. The goal of implementing the inclusive and collaborative program was to meet the IEP specifications for children with special education needs while including them in the regular classroom. The Cougar School: This school is much smaller in the number of students than the Turtle School and were implementing a new school-wide inclusion program as part of the MTSS and investing in professional development. The Cougar school had approximately 317 students with 12% of the students with IEPs..

**Results**

There is an overarching theme and two sub-themes as related to implications to practice. The overarching theme of a principal empowers the implementation of collaboration programs and the sub-themes 1) individual teachers benefits of collaboration and coordinated/dedicated schedules; 2) professional development and resources to support collaboration.

*Principal Empowers Collaboration*

The principal has the ability to provide resources and personnel to accommodate new programs or reform of the existing programs. At both schools, the new principals (less than two years) had previous success with inclusion and collaboration and brought in new ideas to be implemented in their schools. In practice, the principals' positional power made it possible to engage the teachers in an exploration of an inclusion model and collaborating with other teachers. Without the leadership from the position of the principal and teacher leader, the collaborations may have never taken place in either school. The administration has to have goals in place and at times to really listen to what the teachers need to make the programs work, evidenced by both principals. The literacy coach for the Cougar school suggest that it works well with all of the members involved. "Collaboration is teamwork. I think that we, literacy coach, teachers, principal, should come together to find solutions to problems in the most effective way possible. Everyone should feel free to share their thoughts and ideas." Additionally, the Cougar School Principal stated, "The survey {of teachers at the school} suggested that the collaboration be in the morning and with the middle and high school students needing supervision of athletes on Wednesday afternoons, they are looking to move that to Wednesday morning for next year".

A factor of importance is to have buy-in for collaboration and inclusion from all stakeholders. In the Turtle School the special education teachers and assistants had presented the plan as their idea and the principal included them in as many levels of decision-making as possible. He recalls

"We invited all those teachers to come to a meeting. That there was an option, that I wanted to give to them, that they could opt not to do it. We presented what their numbers would look like, we presented what we knew in our research about it, we presented why we came up with the plan, and to ask them to begin quizzing each other. All of the people that we picked had been team teaching with each other, so it wasn't a new element in that way. It came back that all of them wanted to do it. Not without some questions or some reservations, but because of the literacy program and the support that was given to that big change, I think that they trusted the fact that I would at least give them support." (Turtle School, Principal)

*Individual teachers benefit of collaboration*

Individual teachers hold power to structure their classrooms as they feel appropriate, yet they feel limited in their efforts to effect change at the school level. A first grade Cougar School teacher concurs, and states that collaboration is

"Talking about what is really going on in the classroom. Things that we really need to be changing and doing, issues that we have as teachers. Things that we come up with so I can say things like, 'here is what I am doing can you help me with this?' or they can say, 'you have been here a long time you have all this stuff', can I borrow this and this?'

This teacher agrees that collaboration is sharing and finding out how to do different lessons and activities with all of the students in their classrooms. She says the collaboration is needed and these teachers use other available time to share ideas. She feels their group could use more time to share ideas that work in the classroom. Even though the concept was implemented in those classrooms, teachers did not have the power or capability to affect the inclusion and collaboration program to a full-school program. The teachers were very supportive of inclusion being school-wide, realizing that they had already done the inclusion and collaboration within their rooms or grade levels.

### *Professional Development andRresources to Support Collaboration*

Professional development has to be continual and pertinent to be effective. As with most school reforms, professional development played an important part in the success of the changes for these two inclusive elementary schools. The professional development needs of the teaching staff were revealed as they went through the process together.

The Turtle School special education coordinator expresses the benefits of professional development for the participants and the leaders.

I think in planning those professional developments I have had to delve deeper into those topics. So, I felt like in organizing the presentation for the staff that really helped me understand that in a deeper way. It forced me to look at it deeper and be ready for questions. The comprehension strategies have permeated this building. We still have a way to go. But I hear kids using the terminology and making connections. I know that they are in the process of using those.

The Cougar School took a slightly different approach to professional development. At the beginning of the year the schools in the district did Professional Learning Community (PLC) training using the Dufours model.

"So, we all had a clear definition of what a PLC looks like and what they should do. We came up with a format where teachers created their own agendas and took their own minutes. They met 3 times per month at grade level. Then once per month in site-based team. These teams are an off-shoot of our district improvement team. We wanted to empower more people in the process". (Cougar School, Principal)

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PRESERVICE PREPARATION INSTRUCTION AND CURRICULA TO INCREASE FAMILY-PROFESSIONAL COLLABORATION FOR SPECIAL EDUCATORS: A MIXED-METHODS SYSTEMATIC REVIEW

## Abstract

Collaboration between professionals and families is a vital component of special education service delivery. Preservice special education programs are often missing content and opportunities for preservice special educators to demonstrate effective collaborative interactions with families. We conducted a mixed-methods systematic review to investigate the effectiveness of programs and curricula in enhancing preservice teacher's knowledge, practices, and beliefs regarding family-professional collaboration. Thirty-seven studies were included (18 qualitative and 19 quantitative). The most commonly measured preservice student outcome was beliefs ($n$=30). Results indicate a lack of studies measuring practice and knowledge as outcomes and recruiting diverse family members. Implications and additional recommendations for future research are described.

## Background and Study Rationale

The term *collaboration* is defined as "joining, pooling, or coordinating resources and entities to meet goals, overcome problems, and improve service delivery" (Bricker et al., 2020, p.2). A few necessary components for collaboration to occur include back and forth communication, leadership, cooperation, and trust (Bricker et al., 2020; Salas et al., 2005). This definition as well as features of collaboration show that this is a complex construct to teach to preservice special educators; however, it is necessary. As a mandated component of special education service provision under the Individuals with Disabilities Education Act (IDEA) (IDEA 34 C.F.R. § 300.322), family-professional collaboration (FPC) is required in particular as it is recognized as being crucial to support child and student outcomes. Research has shown that FPC contributes to an increased likelihood of inclusive education placements for the child (Miller et al., 2019) and positive social, emotional, and academic outcomes (Smith et al., 2020).

Despite these legal mandates and positive child and student benefits, preservice programs vary regarding the pedagogical methods, depths of exposure to FPC content, and number of opportunities for preservice special educators to interact with families across coursework (Kyzar

et al., 2019; Evans, 2013). Research has also found that preservice educators can develop negative assumptions and stereotypes about families prior to entering the field (D'Haem & Griswold, 2017) which can perpetuate negative FPC if left unaddressed. First-year special educators have reported a lack of adequate preparedness to engage in FPC, particularly with families from diverse cultural and linguistic backgrounds (Fowler et al., 2019). It is crucial for preservice preparation programs to address FPC in explicit ways prior to entering the field; however, without knowledge of effective instruction and curricula, faculty may not be sure what FPC content to include in their courses.

### Study Purpose

This study explored the efficacy behind programs and curricula aimed at preparing preservice special educators with knowledge, practices, and beliefs regarding FPC to equip faculty in special education preparation programs to prepare preservice teachers. The research questions guiding this study include:

1. What are the characteristics of instruction and curricula used in teacher preparation programs to increase preservice teachers' knowledge, practices, and beliefs regarding FPC?
2. Do instruction and/or curriculum improve preservice teacher knowledge, practices, and beliefs regarding FPC?
3. What are the implications for faculty and researchers interested in instruction and curriculum development in this area?

## Methods

The present review was structured in accordance with the Cochrane guidelines for systematic reviews (Higgins et al., 2021).

### Inclusion Criteria

Peer-reviewed quantitative and qualitative studies were included. Studies had to be published in English between 1968-present. The study population had to include preservice students enrolled in a college/university special education preparation program (including early intervention, early childhood special education, and K-12 special education; undergraduate, graduate, and interdisciplinary programs were included). Lastly, studies were included if the outcome measured was student practices, beliefs, and/or knowledge of FPC.

### Search Strategy

The search strategy was developed using the Sample, Phenomenon of Interest, Design, Evaluation, Research type (SPIDER) tool. A peer review of search terms was completed using the Peer Review of Electronic Search Strategies (PRESS, 2015) by a university librarian as recommended in the literature (McGowan et al., 2016). The final search terms included:

*preservice OR "pre-service" OR "student teach\*" OR "teacher education" OR (prepar\* AND teacher\*) AND collaborat\* OR partner\* OR cooperat\* OR involv\* AND "early intervention" OR "special educat\*" AND parent\* OR famil\* OR father\* OR mother\* OR grandparent\*.* Published literature was searched using the following databases: Academic Search Complete, ERIC, APA PsychInfo, Scopus, and ProQuest. Dissertations were not included in the results; however, dissertation reference lists were included in a hand search of the literature.

### Study Selection

Titles, abstracts, and full texts were screened to identify relevant studies using standardized Excel spreadsheets. Twenty percent of abstracts and full texts were randomly selected and coded by the third author for interrater reliability (IRR). Percent agreement and Cohen's $k$ ($k$) were calculated to determine IRR. Articles were coded based on the following inclusion criteria: location of study, study design, participants, peer review, and outcomes measured. Discrepancies between the first and third authors were resolved via discussion with the second author until consensus was reached by all three reviewers.

### Data Extraction

Data were extracted from included studies using a standardized Excel spreadsheet according to the following criteria: study context (including setting, class format [in-person, online, hybrid]), sample characteristics, study design, instruction/curricula characteristics, and findings. Outcomes measured were extracted from quantitative studies.

## Results

The initial search yielded N=1,144 articles. After title and abstract screening, a total of 117 articles were included in full text screening. IRR calculations at the abstract (90.5% agreement, $k$=0.578, CI=0.44-0.75) and full text screening (91.3% agreement, $k$=0.795, CI=0.542-1.000) steps indicate substantial agreement. A total of 37 articles met inclusion criteria for analysis. Please contact the first author for the full list of included studies and study exclusions in each step.

Out of the 37 studies included, 18 were qualitative and 19 were quantitative. Several instructional strategies were identified, with $n$=15 studies using more than one instructional strategy. Instructional strategies were grouped into two categories: 1) actual interactions with families and 2) hypothetical interactions with families. The most common instructional strategies that incorporated actual interactions with families were inviting family members as guest speakers ($n$=5), Family as Faculty ($n$=5), and having students complete home visits ($n$=5); followed by inviting families as co-instructors of the class ($n$=4), having students complete interviews with families ($n$=4), service learning ($n$=3), and including families as students in the class ($n$=3). Strategies categorized as hypothetical interactions with families included: vignette/case study ($n$=7), simulated IFSP/IEP meetings ($n$=2), role play ($n$=1), reading a book chapter ($n$=1), LAFF active listening strategy ($n$=1), and concept maps ($n$=1).

Family member demographic data were also extracted, specifically family member race/ethnicity and role. Out of 261 family participants, n=55 were mothers, n=56 were fathers, and n=11 were siblings. Only one parent was reported specifically to be a single parent. There were no grandparents, adoptive parents, or foster parents reported in the studies. Out of the studies that reported family member race/ethnicity, n=51 identified as White, n=8 identified as Black, n=5 identified as Asian, n=9 identified as Hispanic/Latino, n=1 identified as Hawaiian or Other Pacific Islander, and n=1 identified as Other. No participants identified as American Indian or Alaska Native.

Data were extracted based on student outcomes (knowledge, practices, and beliefs) to answer the second research question. Some studies measured or explored more than one outcome. The majority of included studies (*n*=30) examined student beliefs, with very few examining student knowledge (*n*=8) and practices (*n*=8). The next step in this study will be to conduct a risk of bias assessment using the Mixed Methods Appraisal Tool version 2018 (Hong et al., 2018).

## Discussion and Implications for Faculty

Teaching preservice special educators to collaborate with families has far-reaching implications for children and students with disabilities. In an effort to prevent negative FPC and increase preparation of early career special educators it is crucial for this content to be taught in preservice preparation programs. This review illustrates various instructional strategies that faculty can incorporate into their courses. Studies that included families as participants reported positive student outcomes, however it is worth noting that the researchers were often able to compensate families for their time through grant funds. The variation in instructional strategies reported in this review may be beneficial to faculty without grant funds, such as junior faculty or faculty with teaching appointments only. This variation is also beneficial to provide students with both actual (e.g., family interview, home visit) and hypothetical (e.g., case study/vignette, role play) opportunities to interact with families. Including both types of instructional strategies could provide preservice special educators with both low- and high-stakes opportunities to interact with families to apply their knowledge. Additionally, using a combination of instructional strategies aligns with Universal Design for Learning by allowing faculty to teach FPC content using multiple means of engagement, representation, and action and expression (CAST, 2018).

## Future Research

This review found that, while there are a variety of instructional strategies studied, there is a need for additional research regarding all of these instructional strategies before any can be deemed evidence-based. Future research should also recruit families from diverse backgrounds and family members representing diverse roles to evaluate differences in preservice special educator preparedness to engage in FPC with families whose backgrounds differ from their own. Since the COVID-19 pandemic forced many faculty to offer classes virtually, future studies could incorporate virtual interactions with families to determine whether these are an effective way to increase student FPC outcomes.

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# BRING A DEVICE WITH GOOGLE CHROME AND EXPLORE HOW TEACHERS CAN USE DATA TO CAREFULLY DESIGN WRITING INSTRUCTION

## Abstract

A series of federally funded WEGO projects (see https://wego.gmu.edu/) aim to improve essay writing for struggling writers with and without disabilities. The most recent WEGO project is WEGO-RIITE which stands for Writing Efficiently with Graphic Organizers – Responsive Instruction while Implementing Technology Effectively. WEGO-RIITE's team of researchers developed and studied the use of a technology-based writing intervention with an embedded teacher dashboard that allows teachers to use an analytic rubric to design meaningful, purposeful instructional lessons so that students may acquire needed skill(s) to improve their persuasive writing. This presentation encouraged participants to login and use the intervention and the teacher dashboard on a mobile device using a Chrome browser.

## Problem/Issue

The ability to transform data to instructional action is called instructional decision-making or pedagogical literacy (Mandinach, 2012). Results show that when school teams engage in data-based decision-making, student achievement improves. Research in the area of early writing has indicated that with professional development (PD), teachers have significantly improved their knowledge and skills of data-based individualization and as a result, early elementary student writing outcomes are promising (Lembke et al., 2018; McMaster et al.,

2019). For students with more advanced paragraph level skills, general education and special education teachers may lack knowledge of how to make effective data-based instructional decisions at the classroom level (Dunn et al., 2013). For example, teachers may struggle to identify a student's specific writing skill in need of instruction (e.g., lack of organization) or identify the self-regulatory learning skills (lack of self-monitoring) that may be impeding on a student's writing behavior. Further, teachers need PD to determine how best to prioritize aspects of writing instruction. Monitoring progress for advanced writers can involve work samples, portfolios, and rubrics. These sources can be used alongside CBM-W measures. Data-driven decision making steps for teachers of writing have recently been proposed and demonstrated when using a technology-based writing intervention for students with and without disabilities (see Regan et al., 2021). Specifically, teachers can use the analytic rubric embedded in the teacher dashboard of WEGO-RIITEs technology-based graphic organizer or TBGO+ to inform their persuasive writing instruction. In order to provide context for the TBGO+ we have decided to review the literature pertaining to instructional decision making and use of the TBGO.

**Literature Review**

The systematic process of using data to make instructional decisions includes implementing a research-based intervention and monitoring student progress. We know that when teachers are taught how to progress monitor and use that data to modify their writing instruction for individualization, student writing outcomes improve. For example, following professional development, teachers have improved their knowledge and skills for providing data-based individualization in the area of early writing (Lembke et al., 2017). Further, when teachers use early writing data outcomes to inform instruction, student writing outcomes are promising (McMaster et al., 2019) and data-based instruction has resulted in significant academic improvement across other subject areas as well as writing (Jung et al., 2017). However, the research in this area is largely focused on **early** writing skills such as measuring a students' ability to copy, or dictation tasks. Also, not all teachers have the knowledge to use the data they are provided effectively or systematically. Teachers in general may lack the knowledge for how to make effective data-based instructional decisions at the classroom level (Dunn et al., 2013). Specifically relevant for this presentation is the notion that we need to know more about how teachers use data from rubrics to inform their writing instruction. In our research-based TBGO+ intervention that supports students to compose a paragraph or multiple paragraphs in response to a persuasive writing prompt, we have included a Teacher Dashboard with an analytic rubric to help evaluate students' persuasive essay writing.

*What is the TBGO?*

The TBGO involves students producing advanced paragraph level writing. The TBGO has embedded evidence-based strategies including a mnemonic device, video models, a graphic organizer, universal design for learning supports, and self-regulated learning strategies that are used to improve the quality of persuasive writing for students with and without high-incidence disabilities (see Evmenova et al., 2020a). Earlier iterations of the TBGO have investigated its impact for students with emotional and behavioral disorders (Evmenova et al., 2016), English language learners (Regan et al., 2019), students with learning disabilities (Evmenova et al.,

2020b) and students with and without learning disabilities across Grades 3 to 12 and across instructional settings (Brady et al., 2021; Regan et al., 2016, 2017). Previous evidence consistently suggests that following explicit instruction using the TBGO, students with and without disabilities improve the quality of their writing, and students with disabilities and English language learners also increase the quantity of their writing. Student users also report improved confidence and writing self-efficacy after seeing their sentences transform into an entire paragraph. Finally, research indicates that students are also able to maintain these gains after the TBGO was removed.

### *Making Instructional Decisions with the TBGO*

Among the neweest features of the TBGO is the teacher dashboard that allows teachers to assess student writing and systematically make an instructional decision. The TBGO+ dashboard helps the teacher collect and score student writing, store data, and design writing instruction for individual students (see Regan et al., 2021).

Figure 1 provides an image of what the teacher dashboard looks like. As seen in the figure, a split screen provides an opportunity for teachers to use the students' finished product and to evaluate the students' performance using the analytic rubric embedded in the TBGO. The teacher can scroll on the left side to see the students' completed TBGO in full. On the right side of the split screen in Figure 1, student work is stored at the top so the teacher can look at scored rubrics from previous TBGOs for that student. At the bottom right of the rubric is a section titled Instructional Decision. In real time, the teacher uses information from the rubric to target a specific writing area and to insert a plan for instruction.

The plan for instruction is drawn from the embedded instructional decision maps provided in the TBGO+. These decision trees or maps largely involve the option of assigning students to specific content video models or how-to video models that provide students with personalized high quality instruction (Basham et al., 2016). The video models are designed to teach a specific learning objective and provide practice opportunities in a playful, creative, and engaging manner (Raaijmakers et al., 2017). Other instructional actions may involve explicit 1:1 instruction.

Over 5.5 months, the WEGO researchers explored teachers' application of the TBGOs teacher dashboard (as well as student outcomes), with a particular emphasis on answering the following research questions: *After receiving professional development, how do teachers engage in data-driven decision making? How does use of writing data influence teacher instruction and student outcomes, specifically?* The data for this manuscript is currently in preparation.

### Professional Tips for Implementation

Here are a few actions teachers could follow when considering implementation of the TBGO+ in their classrooms:

- Using a chrome browser, go to https://tinyurl.com/wego-tbgo in order to get familiar with the TBGO. Start by filling in your name. Nothing will be saved on this no login version of the site. Move down from the top and try inserting text and clicking on icons. Move through all 5 steps of the TBGO to gain familiarity.
- In order to gain access to the teacher dashboard, please navigate to the following site and scroll down to select WEGO-RIITEs Login Request Form: https://wego.gmu.edu/tbgos-current.html
- An accessible WEGO-RIITE Manual provides step-by-step instructions for how to navigate the TBGO for the student and the TBGO+ for the teacher is available here: https://wego.gmu.edu/Content/vid_guides/WEGO-RIITE_Manual2020.pdf
- For more information on the analytic rubric, decision maps, and the instructional decision in the TBGO+, please see Regan et al., 2021 in the references listing.
- We love to reiterate that it is a FREE tool available for teachers!

**Figure 1**
*Split screen of the TBGO+ dashboard showing the students' TBGO and the analytic rubric*



**Conclusion**

Using data to make decisions for individual students in the classroom is a component of high quality instruction. Although this presentation is not a full training of data-driven decision making within the technology-based graphic organizer for writing a persuasive essay, you are encouraged to follow the professional tips for implementation. Also, for any teachers or teacher educators who are interested, we provide (free) professional development modules to support effective implementation of the TBGO+.

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# ALIGNING HIGH LEVERAGE PRACTICES, STATE PROGRAM STANDARDS, AND TEACHING PERFORMANCE EXPECTATIONS FOR PROGRAM REDESIGN

## Abstract

California has developed new program standards and teaching performance expectations (TPEs) for special education teachers that focus on the inclusion of all students and emphasize the importance of multiple clinical practice experiences across general and special education settings. These new standards and performance expectations have necessitated redesigns of credential programs across the state. A CEEDAR grant enabled the development of a web-based resource that aligns High Leverage Practices with the new TPEs and identifies key instructional resources that bolster program redesign to meet these performance expectations and support education specialist candidates' engagement in high quality coursework and clinical practice.

## Background/Rationale

As research in effective teacher preparation expands, certification, induction, and graduate programs must be both responsive to, and leaders of, new ideas and priorities. State agencies that are responsible for setting standards for teaching certifications must continue to update these standards so that the newest teachers have the newest knowledge. A vision that is clearly expressed in the competencies and ideals of credential candidates will move the state forward as a whole.

Accordingly, California's most recent updates of its state standards and Teaching Performance Expectations (TPEs) for teaching credentials became operational in 2017 for general education Multiple Subject (elementary) and Single Subject (secondary) credentials and will be operational in 2022 for Education Specialist (special education) credentials. Both sets of standards and TPE's emphasize competencies needed in inclusive education settings and integrate a focus on diversity and equity into the preparation of teachers. These TPEs require teacher education programs to build credential candidates' competencies in effective instruction and academic and behavioral support of students with disabilities. Most importantly, the overarching principle is that for every teacher, "all students are our students" (Kennedy & Spillane, 2021).

## Purpose of the Project

As preparation programs engage in redesigning their own coursework and clinical practice experiences, it has become evident that they need a way to organize these changes,

connect their changes to the new standards and TPEs, and identify and incorporate high-quality resources into their courses and clinical practices. The well-known, widely available set of teaching practices, High Leverage Practices in Special Education (HLPs) (McLeskey et al., 2017), when aligned to a state's teacher preparation standards and Teaching Performance Expectations, is ideally suited for inclusion in methods and other coursework as well as in early fieldwork, student teaching, and intern/residency clinical experiences. Aligning HLPs with state preparation standards and TPEs facilitates the identification of key instructional resources and activities included in a web-based resource to enhance clinical practice coursework, support program redesign across the state, and promote inclusion of all students.

## California Program Standards and Teacher Performance Expectations (TPEs)

In 2018, the California Commission on Teacher Credentialing adopted new standards and performance expectations that IHEs preparing preliminary education specialists are required to meet. These new standards and performance expectations were designed to promote the inclusion of all students into the general education environment and classroom, with an emphasis on extensive clinical practice in both general education and special education settings.

California's TPEs are organized into six broad areas: Engaging and Supporting All Students in Learning; Creating and Maintaining Effective Environments for Student Learning; Understanding and Organizing Subject Matter for Student Learning; Planning Instruction and Designing Learning Experiences for All Students; Assessing Student Learning; and Developing as a Professional Educator. Each of these areas has identified elements that address specific performance expectations dependent on the credential type. Universal TPEs are those elements that must be met by all teacher candidates regardless of credential type. Education Specialist candidates must also meet the Mild/Moderate Support Needs (MMSN) TPE elements and/or Extensive Support Needs (ESN) TPE elements, respectively, for those credentials (Commission on Teacher Credentialing, 2021).

## High Leverage Practices (HLPs)

HLPs were identified as practices that would be used to assist special education candidates in learning to use instructional and behavioral interventions in their K-12 classrooms to support the complex needs of students with disabilities and promote their success. The practices were organized to be integrated around four aspects of practice: collaboration, assessment, social/emotional/behavioral practices, and instruction (Council for Exceptional Children, 2017). These HLPs can be used as the core curriculum for teacher preparation programs centered in clinical practice to improve teacher practice (McLeskey, et al., 2019). Acquiring the proficiency to implement HLPs in strategic ways will require special education teacher candidates to practice HLPs across multiple methods courses and field experiences (Brownell, et al., 2019). However, while faculty in higher education have expressed confidence in HLPs as being a means to provide a common curriculum and set of teaching strategies that future teachers could use to successfully navigate their early teaching experiences, they were less confident in their ability to teach the HLPs (Hurlbut & Krutka, 2020).

**Alignment Matrix and Website**

 A sub-group of the CEEDAR California State Leadership Team identified the need for teacher candidates to participate in high quality clinical practice experiences whereby they can implement MTSS and HLPs under the guidance of university supervisors and district mentors to meet the new state TPEs. By aligning HLPs and TPEs with resources and activities for clinical practice, educator preparation programs (EPPs) would be given a tool to use in redesigning their programs. The first step of this process was to create a matrix that aligned the HLPs with the related Universal, MMSN, and ESN TPEs they would address. Then resources were identified that could be used in coursework and clinical practice to support candidates in implementing HLPs and demonstrating achievement of their performance expectations (see Figure 1). Identified resources were accessed from high quality education sites such as CEEDAR and the IRIS Center. An observation form was developed to evaluate candidate progress on implementation of the HLPs, along with a glossary to ensure understanding and establish a shared vocabulary for the terms and practices contained in the matrix.

**Figure 1**
*Alignment Matrix (excerpt)*

| High Leverage Practice | CA Universal TPE | Resources and Example Activities |
|---|---|---|
| ● Collaboration HLP1-3<br>● Assessment HLP4-6<br>● Social/Emotional/Behavioral Practices HLP 7-10<br>● Instruction HLP 11-22 | https://www.ctc.ca.gov/docs/default-source/educator-prep/standards/adopted-tpes-2016.pdf<br><br>**CA MMSN & ESN TPEs**<br>https://www.ctc.ca.gov/docs/default-source/educator-prep/standards/education-specialist-standardsb6e846731dff6ddbb37cff0000940c19.pdf?sfvrsn=729750b1_32 | |
| **Collaboration**<br>**HLP1: Collaborate with Professionals to Increase Student Success**<br><br>Use effective collaboration behaviors to develop and adjust instructional or behavioral plans based on student data, and the coordination of expectations, responsibilities, and resources to maximize student learning. | **U TPE 2.4**<br>Know how to access resources to support students, including those who have experienced trauma, homelessness, foster care, incarceration, and/or are medically fragile.<br>***MMSN 2.7***<br><br>***ESN 2.10***<br><br>**U TPE 3.4**<br>Individually and through consultation and collaboration with other educators and members of the larger school community, plan for effective subject matter instruction and use multiple means of representing, expressing, and engaging students to demonstrate their knowledge.<br><br>**U TPE 4.6**<br>Access resources for planning and instruction, including the expertise of community and school colleagues through in-person or virtual collaboration, co-teaching, coaching, and/or networking.<br>***MMSN 4.6***<br>***ESN 4.7***<br><br>**U TPE 5.6**<br>Work with specialists to interpret assessment results from formative and summative assessments to distinguish between students whose first language is English, English learners, Standard English learners, and students with language or other disabilities. | HLP in Collaboration: Research brief<br><br>Collaboration and Consultation IRIS module<br><br>CADRE Webinar: Using Trauma-Sensitive Strategies to Support Family Engagement and Effective Collaboration<br><br><br>Planning & co-planning<br>*CEEDAR Innovation Configuration – Universal Design for Learning*<br>*https://ceedar.education.ufl.edu/wp-content/uploads/2014/08/IC-7_FINAL_08-27-14.pdf* |

 Upon completion of the matrix, the content was added as the "HLP and TPE Alignment Resource" section of the existing CSU website for Inclusive Education for Educator Preparation to allow for easier navigation and wider distribution (https://inclusive.calstate.edu/index.html). The website is organized around the four aspects of practice that encompass the 22 HLPs.

Clicking on an area of practice opens a list of the HLPs that fall under that area. From there, users can click on an individual HLP to view the specific TPEs that align with the HLP, and access resources that support both the HLP and TPEs (see Figure 2).

**Figure 2**
*HLP/TPE Alignment Resource Website*



Education preparation programs can use the website to identify TPEs that can be met via instruction of specific HLPs when developing their programs, along with resources that can be used in individual courses and clinical practice to provide instruction and support in the HLPs. For example, the second author identified HLP 16 – Use Explicit Instruction as a practice that meets Universal TPEs 1.4 and 1.5, along with MMSN and ESN TPE 1.9. During her course, students viewed and discussed the video on HLP 16, and engaged in further instruction on this practice using a resource on microteaching.

**Conclusion**

Aligning performance expectations with HLPs and quality research-based resources can support educator preparation faculty in providing the structured clinical practice experiences that allow teacher candidates to gain experience in implementing HLPs. The creation of a website to support dissemination of an alignment matrix may assist EPPs in redesigning their programs to meet this need and increase the inclusion of students with disabilities in K-12 settings across the state.

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## "WE'RE NOT WALKING SCHOOLS.": MOTHERING CHILDREN WITH DISABILITIES DURING COVID-19

### Abstract

The COVID-19 pandemic provides unprecedented context for understanding the multifaceted experiences of mothers of children with disabilities (CWD), as they have been disproportionately impacted. In this study, we employed participant-driven qualitative methodology to unpack the nuanced experiences of mothers of CWD during school building closures, remote learning, and staggered re-openings.

### Background/Rationale

In March 2020, the World Health Organization declared the novel coronavirus, COVID-19, a worldwide pandemic. Preventive measures to combat the spread of the virus in the U.S. included statewide shutdowns of school buildings. A noted challenge of COVID-19 school closures and subsequent shift to remote learning was the provision of special education services for the 14% of K-12 children with disabilities (CWD) in U.S. public schools (Nadworny & Kamenetz, 2020). While some special education services could be provided virtually (e.g., extended time for assignments/assessments), more intensive, one-on-one supports for students with more significant educational or behavioral needs were much more challenging (or impossible) to deliver remotely. In such instances, the provision of educational continuity became a primary responsibility of students' families. The COVID-19 pandemic provides important context for understanding the experiences of mothers of CWD in unprecedented times.

Mothers have been uniquely and disproportionately impacted by the global pandemic, with higher rates of emotional distress and significant disparities in the distribution of child care responsibilities, even in two parent homes (Miller, 2020). Likewise, nearly 80% of mothers reported that they managed the majority of their child's remote learning needs (Gewertz, 2020). Recent studies (e.g., Collins et al., 2020; O'Reilly, 2020) suggest that many mothers described their pandemic reality—taking on increased care for children and family— as exhausting, overwhelming, and "unfunctionable" (O'Reilly, 2020, p. 7). However, the pandemic has not affected all groups equally. Families experiencing poverty, particularly single mother households, have felt the economic effects disproportionately (Miller, 2020). Black, Latinx, and indigenous groups have carried a heavier burden in the economic downturn, while simultaneously shouldering higher rates of serious COVID-19 infection, hospitalization, and death (Tai et al., 2020). These proceedings describe a study designed to better understand the fallout of extended school closures and staggered re-openings for mothers of CWD. In the U.S., mothers tend to engage more often and more intensely with their disabled children's schooling than other family members (Landsman, 2009; Valle, 2009). As a result, this research team explored how a small group of mothers experienced educational shifts during the COVID-19

pandemic, with the goal of providing solidarity and a "space of care" (Averett, 2021, p. 7) to communicate their stories.

## Methods

In order to unpack familial experiences amidst the complex landscape described in the previous section, we employed participant-driven qualitative methodology (Koro-Ljungberg et al., 2015) and integrated narrative data collection and analysis procedures (Gilligan et al, 2003) to explore the lived experiences of five mothers of CWD. Secondarily, children within these families were given the opportunity to participate alongside parents. We collected three types of data: transcripts from individual virtual interviews; transcripts from child (with mother present) virtual interviews; and publicly accessible information about the schools and districts serving our participants. Each individual participant was asked to provide a minimum of two interviews (initial and follow up). For those participating with children, we completed an additional interview. Data collection ran concurrently with data analysis. Researchers discontinued interviews once analysis reached saturation (Lincoln & Guba, 1985).

During the formal data analysis phase, we analyzed transcripts using Gilligan and colleagues' (2003) listening guide procedures, which included four steps or "listenings" (i.e., full readings of the transcripts, each with a unique goal). In Step 1, *Listening for Plot,* we endeavored to unpack the participants' stories, their experiences, identities, and contexts. In Step 2, *Listening for I Poems,* we explored and explained the unique lens through which they see themselves vis-à-vis the research questions. The I Poem procedures are described in greater detail in subsequent sections. In Step 3, *Listening for Contrapuntal Voices,* we identified emergent themes across participant's experiences, as well as how they diverged. Finally, in Step 4, *Composing a Synthesis,* we explored how our findings from these previous listenings coalesced into a meaningful whole in the context of related literature and theory. Credibility measures (Brantlinger et al., 2006) that buttressed the trustworthiness of our findings included triangulation of three data sources (i.e., individual interviews, mother/child interviews, and published school and district information) member checking, peer debriefing, collaborative analysis, and transparency of researchers' positionality.

## Results

Analysis revealed contrastive stories of diverse family experiences, but also many similarities across contexts. These proceedings focus on one mother-child dyad, Amelia and Jada. Results are provided following each step of the listening guide.

### *Step 1: Listening for Plot*

Amelia is a mother of one child, Jada (14). Though originally from Jamaica, Amelia has lived in the Southeastern US for most of her adult life. She has worked in housekeeping at the same nursing home for over 15 years. Jada was diagnosed as autistic during her elementary school years. She initially received instruction in a full inclusion model, but was shifted to a "self-contained ASD cluster" for middle school. According to Amelia, Jada began to regress

immediately. "Regressing, as in not doing anything at all, like shut down completely from doing work," Amelia explained. This resulted in additional diagnoses of psychosis and catatonia. Amelia described Jada's placement as completely segregated from the "general population." Soon Jada began to vehemently oppose entering the school building. At the time of our first interview, Amelia was attempting to navigate a world with a deeply traumatized child, now schooling at home, and a full-time job as an essential worker—all during a global pandemic.

Jada's school building closed in March of 2020. Amelia described the transition as a mix of good and bad, explaining, "So, when the COVID came around, it was like a blessing in disguise for her because she didn't want to go to school." At the same time, the options provided to Jada by the school did not align well with her needs. She said, "By that time, she had regressed so badly she was not communicating, not participating in anything at all." Thanks to the help of a community advocate, Jada was placed in a new, specialized school for students with disabilities for the new school year. Though she elected to continue the digital schooling option for Fall 2020, Amelia described the new school as a good fit for Jada's needs. In our last interview, she explained that Jada was speaking more and engaging even in the virtual format.

### Step 2: Listening for I Poems

In this step, we reread the transcripts, listening for passages where the participant spoke about their experiences in the first person. These first-hand accounts were then transformed into what Gilligan and colleagues (2003) call "I Poems." During this step of analysis, the researcher extracts first person "I" passages. Each "I" phrase becomes its own line in a poem, with less important words dropped, but verbs and select modifiers retained. The process of creating the I Poems is more important than the actual product, as the focus of this step is "tuning into another person's voice and listening to what this person knows of her- or himself before talking about him or her" (Gilligan et al., 2003, p. 162). One of Amelia's I Poem, "I Couldn't Fight So Many Battles at Once", highlights the challenge of navigating job respobsibilities in conjunction with caring for her autistic daughter.

> Sometimes I'm so late for work
> Sometimes I'm crying
> I couldn't fight
>      so many
>        battles
>          at once
> I couldn't fight
>      for Jada
>       and
>         my job
> I'm so glad that last year is gone.

### Step 3: Listening for Contrapuntal Voices

In Step 3, transcripts were reread, listening for distinctive "voices." The term "voice" refers to the participant's inner speech, as well as "the participant's unique standpoint or

expressed experience" (Cheyney-Collante & Cheyney, 2018, p. 2160). Across transcripts we identified two: the voice of weariness and the voice of advocacy.

Amelia described her year navigating the COVID-19 pandemic alongside Jada's needs as "a rollercoaster". The challenges they faced in trying to secure the best instructional services for Jada prior to school building closures were only exacerbated by the transition. Amelia's weariness was fed by multiple sources including worry for Jada's current and future general well-being (which she related to her academic growth in particular), and a constant stance of vigilance, pushing back against what she saw as unresponsive teachers and administrators. When Jada did not respond well to virtual instruction, and was unwilling to engage with most teachers in that format, Amelia's ongoing concerns escalated. This concern was unfortunately not met with demonstrable action by the school. "It's tiring. It's very tiring," she states. She was weary of bearing the tremendous burden for Jada's daily care, while also being forced to maintain a vigilant stance towards the school. "I'm not sure they did the right thing, because *I* don't know what the right thing was…I'm feeling for the teacher. It's not easy for them." However, in the final analysis, Jada spent those months at home with virtually no engagement with her teachers. "I think they gave up on her." When asked what could have changed things for Jada, Amelia explained, "Someone that is trained…Because if she gets the right professional, she will come around. I believe that." Indeed, at the time of our last correspondence, Jada's placement in a more specialized school setting seemed to be bringing the desired results.

We can also see the voice of advocacy in the way Amelia navigated Jada's complex medical and instructional challenges and in her commitment to seek out resources and use them to improve Jada's situation. A critical feature of Amelia's advocacy was her vast reservoir of knowledge about Jada's disability and the systems they are embedded within (medical, legal, and educational). Amelia spoke extensively about state-, district-, and school-specific procedures and policies. "I have to," Amelia explained, "because, as I told them, I don't want her to fall through the cracks. I think she can be successful. I don't think I should say, okay, she has ASD. I'm going to just let them do whatever… She can't make decisions for herself right now, so I have to be her advocate." Amelia took it upon herself to contact an advocate that had been provided by a local non-profit several years before, who was able to offer advice on Jada's struggles. Friends in her community helped find her legal support when she encountered difficulties from her employer as she needed to take time off to deal with emergencies that arose in Jada's care and schooling. This community legal support gave Amelia the terminology and language to advocate for her lawful use of provisions in the Family Medical Leave Act (FMLA). Not surprisingly, Amelia reflects, "it has been the roughest time in my life." However, she also describes confidently advocating for herself and Jada with her employer: "I said, 'I'm under the FMLA, what are you talking about? You're not supposed to be complaining about me not being here. I'm covered under the law'."

**Discussion (Step Four: Synthesis)**

These stories paint a picture of how mothers of CWD must navigate both socio-structural and emotional burdens in the absence of the usual, though sometimes inadequate, support provided through the public education system. Where school-based resources have been

minimized or eliminated in COVID-19 plans, these mothers have marshaled their own internal reserves to ensure their children's needs are addressed, and in some cases have rallied support for other mothers with children in similar circumstances. Future research is needed to study the ongoing impacts of the COVID-19 pandemic on children and families, and the lingering effects for CWD and their mothers. The landscape of mothering CWDs in the time of global crises is highly complex.  However, taking a deep dive into the experiences of a small group of mothers allowed us to contribute to the fields' understanding of women's "multiple identities" as well as the larger socio-cultural burdens that contribute to their subjugation (Damant et al., 2008). This study contributes to the literature on schooling and parenting in the midst of the COVID-19 pandemic by elucidating the nuanced experiences of diverse mothers of CWD, and broadens our understanding of its current and lingering impacts. Findings from this study also underscore the importance of including mothers of CWD in discussions and decision making, and to listen closely to their voices amidst the noise of a traumatized world.

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CAN ANNOTATED VIDEO-ANALYSIS IMPROVE REFLECTION AND FEEDBACK?

**Abstract**

Although the student teaching experience is widely considered the most valuable component of the teacher preparation process, research suggests that it is still one of the least intentional components. As an opportunity to reflect on concrete practice and receive critical feedback on their practice, it is vital that preparation programs find ways to improve the fieldwork experience. Utilizing the latest in video technology, this session examines the use of an annotated video analysis tool and its potential to support preservice teachers.

**Problem/Issue**

One of the most powerful and influential components of the teacher preparation process is the field experience (Clarke, Triggs & Nielsen, 2014; Darling-Hammond, 2000; Wasburn-Moses, 2018). Often referred to as student teaching, fieldwork provides preservice teachers with an opportunity to practice their craft under the supervision of an experienced mentor teacher. Student teaching is typically the first time teacher candidates take responsibility for the class for a substantial amount of time (Ronfeldt, Reininger & Kwok, 2013). The critical nature of this experience has challenged many teacher preparation programs to improve the quality of their field placements, and to ensure candidates are receiving opportunities to reflect on their work and obtain specific and timely feedback.

Reflection (Moore-Russo & Wilsey, 2014; Nagle, 2009) and feedback (Bransford, Brown & Cocking, 2000; Marzano, Pickering & Pollock, 2001) play a pivotal role in the development of teacher candidates. This is problematic for teacher prep programs because University faculty are not consistently in the classroom to provide either with high degrees of frequency. Thus an enduring challenge for most teacher preparation programs is the ability to control the quality of the field experience. As designed, student teaching relies on the cooperating mentor teacher to

model best practices, elicit reflection, and provide the candidate with feedback (Darling-Hammond, 2000).

One approach to solve this problem is to engage teacher candidates in reflection and provide them with high quality feedback using digital video technology. By having student teachers record themselves teaching, supervisors can increase the number of times they see their student teacher in action, while at the same time providing an opportunity for the student teacher to reflect on their practice. Research suggests that watching a video of one's teaching enables the viewer to notice things that may have otherwise been overlooked  (Chizhik & Chizhik, 2018) In addition to expanding  what is observed, research by Arya, Christ, and Chiu (2015) and Marshal and Mitchel (2014) suggests that viewing one's practice refocuses the reflection away from oneself and promotes more pedagogical thinking. Along with many other findings, research substantially supports the use of video as a tool for reflection.

While improving teacher candidates' ability to reflect on their practice is critical, technology can also be used to influence supervisor feedback. Rather than solely relying on the mentor teacher to provide the candidate with feedback, some programs have successfully implemented video annotation software into the field experience. New products entering the market allow student teachers to upload videos to a cloud based server, which their supervisor not only can watch, but can also add time stamped comments to; this feature moves traditional video-analysis into what is now referred to as annotated video-analysis. Annotated video-analysis may enhance the student teacher's field experience by allowing for specific and timely support from one's mentor teacher, both considered key elements of high quality feedback (Wiggins, 2012). According to Rich and Hannifin (2009), annotated video-analysis allows student teachers to observe and reflect upon the actions of their students, as well as on the impact of their instruction, suggesting important advantages.

## Implementation

Over the course of the past two years, the authors have secured and implemented an annotated video-analysis (AVA) process. Using the TORSH platform, three separate implementations were explored. A pilot study was developed to examine the possibility of using this technology in the PK-12 classroom. After a successful pilot, a phase one phenomenological study asked both teachers and supervisors to describe their experience with this process. The current phase uses the lessons learned from phase one to deepen our understanding of student reflection and supervisor feedback.

The pilot project took place just prior to the pandemic. At that time, it was challenging to find a school district that was comfortable with student teachers recording themselves teaching in

the classroom; an understandable concern, given the privacy matters involved. However, the authors were able to successfully implement the pilot project in a school district where one of the authors serves as a student teacher supervisor. Three elementary school student teachers within this district agreed to record themselves teaching and to use the TORSH annotation tool to reflect on their practice. This pilot project helped clarify the obstacles and supports that would be necessary for larger implementation.

As a result of the pandemic, districts were forced to utilize virtual teaching tools, including video platforms, in order to provide remote instruction to students. Along with the rapid increase of video technology in the instructional setting, the authors found that districts were less resistant to classroom video observations and were more receptive to the annotated video-analysis project overall. With the assistance of three university supervisors and their respective student teachers, the first large-scale implementation began in fall of 2020. Each supervisor had their student teachers split into two groups. One set of student teachers used a traditional video-analysis approach, which involved watching their recorded video and then writing a narrative reflection; the other half used the annotated video-analysis (AVA) tool, TORSH, where both the student teacher and supervisor watched the video and then made time stamped comments. At the end of the semester, students and supervisors were interviewed separately so the authors could learn about their experience. A number of themes surfaced throughout these discussions, which informed the design of the second larger-scale implementation project. One noteworthy theme reported by participants was their perception that the annotation tool better enabled both student teachers and supervisors to provide more specific reflections and feedback. In addition, students reported feeling more compelled to watch their entire video when using the AVA tool, as opposed to when utilizing traditional video-analysis. Similarly, supervisors reported the perception that students were better involved in the post-lesson debrief when using AVA.

During the following semester, spring of 2021, the AVA tool was again implemented in the field. With the goal of identifying any observable difference between traditional video-analysis and annotated video-analysis, the spring implementation sought to understand the following: Does annotated video-analysis increase students' ability to participate in their debrief? Does annotated video-analysis influence what student teachers notice when they are watching themselves on video? To address these questions, student teachers were assigned to complete half of their observations using a traditional video-analysis approach and the second half using an annotated-video analysis approach. Within this second study, supervisors were asked to use a video conferencing platform to record the observation debrief sessions they had with their respective student teachers. The transcripts of these debriefs were then recorded and used for analysis. This specific phase of the project is underway. While the data is still being analyzed, preliminary findings suggest that student teachers may not actually be participating more in their

debrief conversations, but that what supervisors discern as a notable difference may relate to  a shift in what their student teachers are noticing and discussing. This encouraging data may suggest that the value added by annotated-video analysis is not only the way it inspires student teachers to watch their entire recorded video lesson, but that AVA also  shifts the viewer's focus and promotes  specific, targeted reflections

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# PANDEMIC PIVOT!: PREPARING PRESERVICE TEACHERS FOR COLLABORATION USING UNIVERSAL DESIGN FOR LEARNING AND MIXED-REALITY SIMULATION

## Abstract

With increased expectations for access to the general education curriculum for students with disabilities, the need for collaboration between general education and special education teachers has been heightened to address students' academic and other needs. Virtual learning environments provide preservice teachers opportunities to practice skills and techniques when they are unable to do so in classrooms because of challenges such as COVID-19 pandemic school closures. However, there is little research on the impact of mixed-reality simulation on collaboration skills. The current study examined the impact mixed-reality simulation had on 12 preservice special education teachers' understanding and preparedness to collaborate with general education teachers. Results from this study suggest that participation in mixed-reality simulation enabled the preservice teachers to develop an understanding of the need for reciprocity within collaboration.

## Background/Rationale

A critical element of a special educator's job is to collaborate with others to support the needs of students with disabilities (Brownell et al., 2010). Given increased expectations for all students to access and participate in the general education curriculum, the need to for collaboration between general and special education teachers has been heightened to address students' academic needs (Darling-Hammond & Hyler, 2020), especially in content areas like science where students with disabilities are more likely to receive instruction from general education teachers. Unfortunately, general education teachers report feeling underprepared to teach science to students with disabilities (Kahn & Lewis, 2014). Therefore, a collaborative relationship with a special education teacher can be critical to providing students with disabilities access to the general education curriculum (Olson & Roberts, 2020). The quality of the collaborative relationship, however, is an important factor for effective and improved outcomes for students (Rabin, 2020). Having strong collaboration skills are necessary to ensure the needs of students with disabilities are being met.

Virtual learning environments—such as mixed-reality simulation—provide preservice teachers a way to practice collaboration skills and techniques particularly if they are unable to do so in classrooms because of challenges such as COVID-19 pandemic school closures (Walters et al., 2021). However, there is little research on the impact mixed-reality simulation has on collaboration skills (Driver et al., 2018). Therefore, the purpose of the current study, in response

to the pandemic, was to examine the impact mixed-reality simulation has on special education preservice teachers' understanding and preparedness to collaborate with general education teachers. The following research question was investigated:

*RQ: How does participation in a mixed-reality simulation influence preservice teachers' understanding and preparedness for collaboration with general education teachers?*

**Methods**

This was a qualitative study involving a case study design (Merriam & Tisdell, 2016). The case involved undergraduate preservice teachers (*n* = 12) enrolled in a course titled *Science and Social Studies for Struggling Learners*. The course focuses on learning about and applying Universal Design for Learning (UDL) principles to support students with disabilities in general education classrooms. Knowledge of UDL is applied as preservice teachers collaborate with general education teachers to discuss barriers to learning and match these barriers with UDL solutions. Ultimately, knowledge of UDL becomes the bridge to collaboration for the preservice teachers. Typically, this project occurs with collaboration between the special education preservice teacher and a general education teacher who is in their student teaching placement building. However, due to COVID-19 school closures and related teacher/student absences, this project occurred through a collaboration between the special education preservice teacher and a general education teacher Avatar. See Table 1 for a description of how each component of the project was carried out in both delivery methods.

**Table 1**
*Project Component Comparisons Between Delivery Methods*

| Project Component | Collaboration with Live General Education Teacher | Collaboration with Avatar General Education Teacher |
|---|---|---|
| Meeting with Teacher | Meet with live teacher to discuss a student struggling academically in the general education classroom | Avatar sends email to preservice teacher describing a student struggling academically in the general education and reaching out to ask for help |
| Observation | Observe a live lesson in the general education classroom | Watch a TIMSS pre-recorded lesson of a general education teacher teaching a science lesson |
| Table of Barriers | Complete after meeting with teacher and observation to identify barriers to learning | Complete after reviewing email from the Avatar and watching pre-recorded lesson to identify barriers to learning |
| Collaborative Planning Form | Complete after table of barriers to design UDL solutions to address barriers to learning | Complete after table of barriers to design UDL solutions to address barriers to learning |
| Meeting with Teacher | Meet with live teacher to discuss UDL solutions | Meet with Avatar to discuss UDL solutions |

Data collected included seven open-ended survey written responses, focus group interviews, and individually written reflections. The open-ended survey questions were adapted from a survey (Driver et al., 2018) aimed at understanding preservice teacher perceptions about inclusion and collaboration. The focus group interviews, which asked the preservice teachers to answer pre-determined guiding questions, aimed to collect information about the mixed-reality experience. Each focus group included three to four preservice teachers all of whom were together on Zoom during the simulation to participate in peer observation and stayed together on Zoom to answer the guiding questions. The individual written reflection included written

prompts and aimed to support the preservice teachers in reflecting on their experience with the simulation and how they perceived it prepared them for collaboration with general education teachers.

To analyze the data, the authors participated in two coding cycles. First, apriori codes were developed based on the main idea in the questions asked in the open-ended survey, focus groups, and individual written reflections and the data was organized to identify relevant segments of text. During this first-cycle descriptive coding, the segments of text were independently applied using the apriori codes. Following the coding, the authors met and discussed the first-cycle-coding and looked for patterns within the segments. The patterns were used to revise and, where necessary, elaborate the codes that were used during second-cycle pattern coding (Miles et al., 2020). The authors independently re-coded or confirmed codes for the segments of data using the patterns found during the first cycle of coding and to group the segments of data into potential themes. Then, the first author went back into the data to code more segments using the finalized codes from second-cycle coding, grouping into the potential themes. Once data saturation was reached, the authors finalized the themes connected to segments of data.

## Results

Results from analyzing the qualitative data yielded the following themes: confidence, practice, contribute, and reciprocity. The mixed-reality simulation enabled the preservice teachers to gain *confidence* to collaborate. The preservice teachers mentioned an increase in confidence related to using their knowledge of UDL to add to what general education teachers already know about supporting students with disabilities in the general education classroom. For example, one student said, "The experience of giving a teacher, who has been teaching longer than I have, advice has always made me nervous. Now, I can recognize how my advice is further adding to what they know with my specialized knowledge." Where the preservice teachers may have felt nervous sharing their knowledge and ideas before, participating in the mixed-reality simulation helped ease this nervousness and increase their confidence. They said, "I have the utmost confidence that I am a better collaborator because of this assignment." Overwhelmingly, the preservice teachers reported feeling more confident after participating in the simulation.

Participating in the mixed-reality simulation enabled preservice teachers to *practice* the skills they need to collaborate. They appreciated having a safe space to collaborate. For example, they said, "By being able to practice these skills in a safe space prior to entering the profession, I feel that I will be able to collaborate with others with confidence." The preservice teachers valued having a safe space to practice before having to participate in collaborative conversations with live teachers. In addition to gaining practice collaborating, the preservice teachers found value in observing others practicing their collaboration skills. They said, "It was really good to see what you guys said and like, be able to say, oh, I would have done that better, oh, I could have said this better." Setting up the simulation in small groups of three to four preservice teachers allowed the students to gain practice and learn from each other at the same time.

The mixed-reality simulation enabled preservice teachers to expand their ability to meaningfully *contribute* within collaboration. The UDL knowledge they gained throughout the course gave them something meaningful to contribute when meeting with the Avatar. For example, they said, "I believe I introduced some solutions that would be beneficial to all students in their class. These solutions all incorporated main ideas from the UDL framework. When I told the teacher my ideas for possible solutions, they seemed quite intrigued and willing to try them out!" and "The solutions that [Avatar] needed for their classroom were very simple and resources were something that I already had developed for my classroom, so it was a great way to offer UDL advice to a teacher and potentially change the atmosphere of learning in their class." Drawing from the UDL framework supported the contributions of the preservice teachers as they collaborated with the Avatar on solutions for students in the general education classroom.

Finally, participation in the mixed-reality simulation enabled the preservice teachers to develop an understanding of the need for *reciprocity* within collaboration. The importance of working together as a team to support students with disabilities in the general education classroom was realized. For example, they said, "Most special educators are used to working in a "sped bubble." An important skill for us to develop is developing those open lines of communication amongst educators of all varieties. Ultimately, we are a team." They began to recognize the ways this reciprocal relationship could benefit students. Not only did they find value in working as a team, but they also began to see the ways this reciprocal relationship could help them understand things in a new way. They said, "…that collaborative discussion towards something where both sides are being able to share their input and also gain some new findings and understanding." The preservice teachers were able to share and gain new understandings through the reciprocal, collaborative relationship.

**Discussion and Implications**

The current study sought to examine the impact mixed-reality simulation had on special education preservice teachers' understanding and preparedness to collaborate with general education teachers. Results suggest that the use of mixed-reality simulations enabled understanding and preparedness for preservice special education teachers to collaborate with general education teachers for the benefit of students with disabilities as they receive instruction in general education classrooms. The use of mixed-reality simulations enabled preservice teachers to gain confidence to collaborate. Similar studies reported a gain in confidence in other areas such as confidence to teach science (Bautista & Boone, 2015) and confidence working with live students and parents (Dalinger et al., 2020). The mixed-reality simulation enabled preservice teachers to practice the skills they needed to collaborate with general education teachers, a skill they will use in their future positions. Although the preservice teachers noted some awkwardness working with the Avatar—also reported by Theelen et al. (2019)—participating in the simulation still allowed them a safe space to practice which may have otherwise been challenging given the current pandemic. Much like the preservice teachers studied by Mikeska and Howell (2020), our preservice teachers saw the value of using simulations, especially during a pandemic, when getting into classrooms and working with real teachers was a challenge. Additionally, the mixed-reality simulation enabled preservice teachers to share resources and learn from each other while observing their peers' simulation meeting. Few studies have included peer observation during the

mixed-reality simulation (Walters et al., 2021) but setting up the schedule in a way that allowed this to occur proved to be of value to the preservice teachers. The debriefing sessions that took place immediately after the simulation provided an opportunity for preservice teachers to give each other feedback and reflect upon the experience together. Finally, the mixed-reality simulation enabled the preservice teachers to see how a reciprocal collaborative relationship can benefit students in the general education classroom.Leveraging mixed-reality simulation to give preservice teachers a space to practice their collaboration skills can be implemented in teacher preparation courses. Giving preservice teachers an opportunity to practice these skills before using them in real-life situations supports their understanding and preparedness to collaborate.

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COLLABORATIVE BEST PRACTICES FOR THEDEVELOPMENT AND CO-TEACHING OF A FULLYONLINE SPECIAL EDUCATION MASTER'S COURSE

## Abstract

Collaborating for the development and instruction of fully online graduate level courses in special education allowed for faculty with complementary knowledge to provide unique knowledge and expertise to the process. Successful co-teaching and co-development required each instructor's content and pedagogical knowledge, with a willingness to compromise and to build rapport and trust. Through several years of implementation, much has been learned about how to successfully implement co-development and co-teaching in a special education, fully online master's degree course with weekly, hour-long synchronous class sessions. Faculty learned the importance of providing organized class meetings centered on a review of critical content, opportunities for authentic student engagement, and a social emotional check in.

## Background and Rationale

The University of Massachusetts Global (UMass Global) Master of Arts in Special Education is a fully-online program consisting of six required core courses, along with a four to six course emphasis area chosen by each student. Each course in the Master of Arts in Special Education program at UMass Global has been co-taught by a full-time faculty (FTF) member and either another FTF or an adjunct professor. However, when the program began, the instructors did not collaborate as weekly synchronous class meetings were not required. Over time, faculty recognized the importance of meeting each week with students and began mandatory synchronous class sessions that were co-taught by a FTF and an adjunct. Coordinating these class meetings to use that limited time wisely provided a unique opportunity for a FTF and an adjunct to collaborate about course content, assignments, and instruction. Collaboration involved utilizing technology to develop class meeting materials, discuss course assignments and content, and share knowledge and expertise about course content and pedagogy/andragogy. Strategies and best practices for collaboration, organization. and co-teaching weekly synchronous sessions developed over time.

During their collaborative process, faculty in Special Education at UMass Global investigated the elements of effective co-teaching practices and analyzed how those elements could positively impact student achievement and teacher success. While new adjunct instructors are afforded the opportunity to attend professional development as part of the onboarding process, it became apparent that ongoing mentorship was important to developing high-quality instructors. Co-teaching serves as one part of that development, resulting in early career success

and strong instructional practices that serve as models of collaboration for the students in the course. Further, a secondary benefit is the mentor/mentee relationship that develops organically from building rapport and shared responsibility between co-teachers.

## Literature Review

Supporting newly hired and veteran higher education professors in course development and instruction is an ongoing issue. While some universities may provide comprehensive instructor training and professional development (Yurkofsky et al., 2019), there remains a gap between theory and practice (Neifeald and Nissim, 2019). Given the need to provide students high quality theoretical and practical content and instruction, co-teaching can effectively meet the needs of faculty. Additionally, co-teaching in higher education provides students with a model of practice so they can, in turn, advocate for co-teaching in their school settings. Collaboration and co-teaching has long been established as a cornerstone for professional growth, education reform, and an effective method of supporting diverse learners (Darling-Hammond & McLaughlin, 1995; Friend, 2008).

Despite the benefits of co-teaching, potential roadblocks in the academic environment such as how to share creative instructional practices, retain academic freedom, maintain a position of expertise (Gappa & Austin, 2010), and faculty workload issues may impede widespread use of this beneficial process. In addition, personality differences and the influence they may have on instruction and the co-teaching relationship may impede effective co-teaching (Simpson et al., 2014). While the the act of teaching has been described as lonely, singular, and competitive (Boreen & Niday, 2000; Jamal & Baba, 2001; Lindenfeld, 1992), co-development and co-teaching of a course provide opportunities for faculty to break that mold and model collaborative best practices for their students. Co-teaching is one approach that benefits both professors, while increasing student interest, motivation, and learning (Anderson & Speck, 1998).

A comprehensive review of the literature revealed that many resources exist that explore co-teaching best practices in a K-12 setting (Darling-Hammond & Mclaughlin, 1995; Graziano & Navarrette, 2012, Neifeald & Nissim, 2019). However, few resources exist that address the co-teaching partnership in a higher education classroom. The key concepts within this conference proceeding aim to address the practice of co-development and co-teaching as a mentorship model that allows veteran and novice instructors to refine their craft within a supportive environment.

## Co-Development and Co-Teaching Processes

At the start of the co-teaching journey, minimal co-planning and co-development took place. The adjunct faculty in the co-teaching pair was assigned to teach the course with the full-time faculty member shortly before the course began, so there was little time for any co-planning. Weekly, synchronous sessions were not yet mandated, so the two faculty were merely teaching the same course at the same time. The following year, mandatory, weekly synchronous class meetings were implemented, and the two faculty met in advance of the course to discuss

how best to structure each week's session for the combined two sections of the course being offered.

**Figure 1**

*Co-Development Process*



**Relational Capacity**
- Build professional rapport and trust
- Take the time to learn about one another
- Understand communication styles
- Establish parity

**Pre-course Planning & Debriefing**
- Strengths based approach (theory and practice)
- Debriefing immediately after every session
- Shared responsibilities (alternating class sessions)
- Planned and spontaneous anecdotes and expertise shared
- Frequent communication (email, phone, zoom, text)

**Organization**
- Use of various technology platforms (shared google drive, google slides, handouts, breakout room template)
- Uniformed class content
- On the fly adjustments to meet student needs

*Note.* Cornerstones of the co-teaching/co-development process

Based on the experiences of that first team-taught year, the instructors agreed that a more formal approach to co-planning and co-teaching was needed to improve content presentation and student engagement. During these planning meetings, the two faculty gradually built professional rapport and trust, as they understood the strengths and content knowledge each brought to the process. The course addresses special education program evaluation and advanced assessment techniques, and the instructors discovered that each had expertise in one of these areas. This allowed the instructors to develop content and activities that clearly and completely met course learning objectives and modeled best practices in student engagement.

Another opportunity for collaboration is through the calibration of scoring the signature assignment for the course. As part of the process of continuous improvement for the Master of Arts in Special Education program, the signature assignment for the course, tied to a program learning outcome, is scored using a standardized rubric. Each year, faculty teaching the course calibrate on the scoring of the assignment to ensure consistent outcomes. The calibration session also affords the faculty an opportunity to discuss student outcomes, the clarity of the assignment directions and content/assignments that lead up to the signature assignment. Improvements in

course content, assignments, and scoring rubrics have been made based on these collaborative calibration sessions.

## Suggestions for Implementation of Co-Development and Co-Teaching

Over the past four years of co-planning and co-teaching the course, important lessons have been learned about how to manage and organize the process. The overarching theme to our collaboration has been to work from a strengths-based approach for the theoretical and practical demands of the course. Practically, the instructors found the use of a course Google drive with folders for weekly slides, breakout group templates, and a weekly class meeting planning document was critical to facilitate organization and communication. The instructors meet several times before the course begins and continue to meet after each class session to discuss any needed adjustments. Communication also occurs between class sessions via email, phone, text, and Zoom. Since the instructors have complementary knowledge of course topics, they planned how to equally share responsibility for class meetings and class activities.

## Lessons Learned

Through our experiences in co-development and co-teaching, the instructors learned that building rapport is critical for a successful course. In addition, they discovered that using data from student feedback during class sessions and assignments is important to inform the process of continuous improvement. Since the course meets for just one hour synchronously each week, advanced planning and organization of content and activities is critical. The instructors organize each week's content presentations, student engagement, and breakout group activities in Google docs and slides. Classroom Assessment Techniques (Vanderbilt Center for Teaching, 2021) were utilized and the instructors planned for a variety of activities each session that met content and collaboration needs.

## Conclusion

The practice of co-development and co-teaching within the context of higher education has afforded both students and faculty with the opportunity to bridge the theory to practice gap. Further, this practice also continues to serve as a model of educational best practices as students who graduate from the Master of Arts in Special Education program may advocate for a co-teaching model to support their students in the initial years of teaching. The work of two instructors in this setting was based on best practices in collaboration, co-teaching, adult learning theory, and pedagogy. This process continues to be developed as the aforementioned co-teachers are in their fourth year of collaboration and formative analysis is continuously being conducted to better meet the needs of students.

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DIFFERENTIATED MEANS OF ACTION AND EXPRESSION
IN HIGHER EDUCATION COURSES

## Abstract

Higher education classrooms are diverse learning environments and as such it is incumbent upon the instructor to meet the needs of all learners in the classroom. In addition, the Initial Practice-Based Professional Preparation Standards for Special Educators, standard two requires that special educators understand and address the individual developmental and learning needs of each student. Standard five requires that special educators employ learning strategies to promote active engagement and increased motivation. An important teaching strategy is modeling of skills to be performed by learners. If the expectation is for special educators to be proficient in addressing the learning needs of each student, then it is essential that pre-service training programs for special educators model practices that have been shown to promote accessibility to learning opportunities through the implementation of UDL principles. In addition, the development of critical thinking skills is essential to engage in effective problem-solving and lesson planning.

## Background/Rationale

There is an extensive body of research that describes the benefits of implementing Universal Design for Learning (UDL) principles in higher education. The provision of choice in the learning process has been found to be effective in enhancing motivation, persistence, and performance (Patall, Cooper, & Robinson, 2008). Higher education classrooms are diverse learning environments that require education faculty to meet the individual learning needs of all students in their courses. The provision of multiple means of action and expression can be incorporated into pre-service special education training programs to model an effective practice that is designed to promote active engagement and motivation for a diverse group of learners.

Pre-service teachers are taught to incorporate UDL practices into their lesson plans to improve accessibility of learning experiences for all children yet may not experience these practices firsthand in their higher education courses. Kennete & Andrew (2018) surveyed students regarding their experiences with the provision of choice on course assignments. The majority of students reported that faculty determined the course content and provided a little amount of autonomy in student learning. Pre-service teachers may struggle with planning and implementing UDL practices in their teaching if they have limited first-hand experience with these practices in their training programs.

According to the UDL Guidelines, the goal of providing multiple means of action and expression is to develop expert learners who are strategic and goal-directed (CAST, 2018). Goal directed behavior involves a process of interpreting and applying information to make decisions

or solve problems.  Critical thinking involves skills in interpretation and analysis and the development of dispositions or habits of mind to inquire and entertain various viewpoints (Lai, 2011).   These critical skills of decision-making and problem-solving must be acquired by special educators so that they can provide high quality learning experiences for students with disabilities.

**Purpose of the Study**

Kumar & Wideman (2014) surveyed students regrading course outcomes after participating in a first-year undergraduate course in which students were offered a variety of means of representation, engagement, and expression opportunities.  Students reported feeling in control of their learning through this process.  The purpose of this mixed methods sequential explanatory study was to identify if the provision of choices in the completion of course assignments positively impacted the demonstration of critical thinking skills using a pre and post assessment assignment, ratings of course satisfaction, and critical components of rating of course satisfaction.  The study was guided by the following research questions:

Does the provision of multiple means of action and expression through choice in class assignments result in increased demonstration of critical thinking skills in pre-service special educators?

Does the provision of multiple means of action and expression through choice in class assignments result in higher levels of course satisfaction in higher education courses?

How does the provision of multiple means of action and expression through choice in class assignments impact ratings of course satisfaction?

**Method**

The present study took place in two sections of the same pre-service special education course presented in an on-line format.  Students were assigned randomly to course sections and the sections were similar in size and composition.  One course section incorporated six assignments in which students were provided choice in how to demonstrate their learning of the assignment content.  The other course section was presented in a more traditional delivery model in which the instructor designed the assignments and the method of task completion.

A quantitative analysis addressed the first research question regarding the demonstration of critical thinking skills following the provision of multiple means of action and expression through choice in class assignments.  A pre and post assignment was administered to both sections to measure the development of critical thinking skills.  Critical thinking was analyzed using the Association of American College and Universities *Critical Thinking Value Rubric* (AAC&U, 2018). To address the research questions related to course satisfaction, a course satisfaction survey was administered with Likert scale questions and open-ended responses to both class sections to address whether course satisfaction was impacted by multiple means of action and expression through choice in class assignments and if so how.  Open ended data were

reduced by annotating & analyzed recursively in a search for emergent themes & patterns, as well as negative cases to identify how the provision of multiple means of action and expression through choice in class assignments impacted ratings of course satisfaction.

**Results**

The pre and posttest analysis on the demonstration of critical thinking skills as measured by the *Critical Thinking Value Rubric* resulted in a statistical difference at the .05 level in critical thinking skills when comparing the two course sections with higher levels of critical thinking demonstrated by the course section that incorporated choices of action and expression. An effect size computation using Cohen's D yielded an effect size of .62 indicating a medium to large effect size. Calculation of percent change in growth of critical thinking skills demonstrated a growth of 30.4% in critical thinking skills for the course offering multiple means of action and expression and 2.8% growth in critical thinking skills for the course section delivered in a traditionally designed course in which the instructor determined the course content and means for assignment completion.

No statistical difference was found in course satisfaction ratings between the two course sections with course satisfaction rated highly for both sections. Themes emerged through the analysis of student responses to the open-ended questions on the course satisfaction survey. Themes of personal and professional benefits of being provided multiple means of action and expression in course assignments emerged during the analysis of the open-ended survey questions.

**Discussion**

Students in the course incorporating differentiated means of action and expression demonstrated higher levels of informed evaluation, incorporating multiple perspectives in problem solving tasks as measured by the *Critical Thinking Value Rubric* (AAC &U, 2018). Critical thinking was enhanced by providing opportunities for students to be purposeful and strategic in their learning process. This was evidenced by comments that emerged into a theme related to personal benefits of multiple means of action and expression such as: the provision of options provided the opportunity to determine personal strengths, being strategic in determining how to best complete an assignment, the ability to demonstrate mastery of the course content by strategically utilizing strengths, and allowing for creative approaches to the completion of course assignments. To paraphrase a student, an expectation in higher education courses is the ability to synthesize information and apply it appropriately in a variety of ways which is what multiple means of action and expression allowed during assignment completion; the synthesis of information in a meaningful way for current and future use.

A theme emerged regarding the professional benefits of taking a course designed following UDL guidelines and more specifically multiple means of action and engagement. Students frequently commented that experiencing multiple means of action and expression allowed firsthand experience that could then be transferred to their professional lesson planning and pre-service teaching activities. It allowed for experiencing and then practicing the

expectations for meeting the needs of diverse learners that promoted a deeper understanding of the course concepts. To paraphrase a student, learning something by experiencing it was one of the best ways to internalize, adopt, and transfer understanding of multiple means of actions and expression that gives me the affirmation and motivation to use it in my future classrooms. Students reported feeling better prepared to implement UDL practices by taking a course designed following the UDL guidelines. As stated by a student "From witnessing multiple means of expression, I am now more prepared to accommodate more learning preferences and abilities."

A balance must be achieved between teacher designed and participant designed assignments. Patall, Cooper, & Robinson (2008) found that some choice is beneficial but too much choice can be overwhelming. This was supported by this research. Students acknowledged that assignments that were student driven took more time to complete due to the necessity for planning a strategic approach to assignment completion by analyzing personal strengths to utilize to demonstrate mastery. In addition, at times, a teacher designed assignment was appreciated due to time constraints when taking multiple courses with heavy course demands.

## Implications

The Initial Practice-Based Professional Preparation Standards for Special Educators, standard two requires that special educators understand and address the individual developmental and learning needs of each student. Standard five requires that special educators employ learning strategies to promote active engagement and increased motivation. An important teaching strategy is modeling of skills to be performed by learners. If the expectation is for special educators to be proficient in addressing the learning needs of each student, then it is essential that pre-service training programs for special educators model practices that have been shown to promote accessibility to learning opportunities through the implementation of UDL principles.

The provision of multiple means of action and expression in course assignments can promote the development of critical thinking skills in interpretation and analysis. It provides learners with opportunities to develop into experts who are strategic and goal directed. This study has demonstrated that it offers both personal and professional benefits to pre-service special educators. It allows pre-service educators multiple opportunities to practice the skills that they will be expected to demonstrate to meet the unique learning needs of all of the students in their classrooms. Higher education training programs must model the teaching practices that teachers are expected to implement in their classrooms.

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## PREPARING EDUCATORS TO IMPLEMENT INTENSIVE INTERVENTIONS IN VIRTUAL SETTINGS

**Abstract**

Prior to the COVID-19 pandemic, the number of K-12 students learning in virtual and hybrid settings was steadily increasing (Schroeder, 2019). There was speculation the upward virtual learning trend would remain as schools returned to pre-pandemic operations (Torchia, 2021). The sudden shift to online learning in the spring of 2020 accelerated discussions on providing appropriate, effective, and responsive structured instructional support and interventions to students with high-intensity needs (HIN) in virtual settings. This paper highlights how a large university in the Southeast enhanced a Masters program to provide practicing special educators with technology-based knowledge and skills to implement instruction and intervention within a Multi-Tiered System of Supports (MTSS) in a virtual learning environment.

**Background/Rationale**

Learning for K-12 students has traditionally taken place in physical buildings. Accordingly, teacher preparation programs have focused preparation for educators on face-to-face delivery of instruction and intervention. However, the development of the world wide web along with advances in technology, global trends, and societal events have led to online learning opportunities for K-12 students. The emergence of fully online virtual schools for K-12 students began in 1997 with Virtual High School Global Consortium (VHS) and Florida Virtual School (FLVS) (Barbour, 2019). Shortly after, statewide virtual schools were launched nationwide. A slow shift to digital learning followed over the next two decades as states and districts offered supplemental virtual options. During the 2000-2001 school year, approximately 40,000 to 50,000 students were enrolled in virtual school across the nation representing less than 0.001% of the student population (Barbour, 2019; Clark, 2001). By the 2016-2017 school year, the estimates for students participating in full time virtual school ranged from 2.8 to 8 million (Barbour, 2019). This number is expected to increase as states and districts include digital competency initiatives such as engaging in at least one online course to graduate high school (Hart et al., 2019).

The COVID-19 global crisis further thrust online learning into the spotlight when schools across the nation were abruptly forced to transition to virtual platforms in March of 2020. As states and districts considered best practices for returning to the classroom for the 2020-2021 school year, multiple modalities were adopted and flexible options were provided including face-to-face, hybrid, and virtual (Knox et al., 2021). However, some states elected to have public

schools remain fully virtual for a significant portion of the 2020-2021 school year. The continued emphasis on virtual and hybrid learning accelerated discussions about how educators can provide appropriate, effective, and responsive structured instructional support and interventions to students with HIN and students with disabilities (SWDs) within a multi-tiered system of supports (MTSS).

## Multi-Tiered Systems of Support in Virtual Settings

As required by federal legislation (e.g., *Individuals with Disabilities Education Act*, 1997, 2004; *Every Student Succeeds Act*, 2015), school districts across the nation implemented MTSS frameworks to support students with HIN. MTSS is a problem-solving approach to improving student outcomes that utilizes evidence-based practices, data-based decision-making, and progress monitoring to deliver effective intervention to support students (Lane et al., 2019; Sailor et al., 2020). Through collaborative teaming, educators work together to facilitate flexible learning formats within a three-tiered framework which provides students with immediate supports with intensifying frequency and increased duration that is responsive to student need. MTSS is both a means for providing supports to students who require additional instruction and intervention to meet grade level standards and is a framework for determining eligibility for special education (Murawski & Hughes, 2009). Therefore, fidelity of implementation of MTSS is critical whether in a school building or in a virtual setting (Knox et al., 2021).

The flexibility and responsiveness of the MTSS framework can be difficult to replicate in a virtual setting. Specifically, Woolf (2020) identified four key areas where challenges arise: (a) ability to connect with students to understand academic, social, and emotional needs, (b) adaptation of in-person interventions for virtual delivery, (c) ability and opportunity for educator collaboration to provide a holistic approach to intervention and support, and (d) equitable access. Although adapting MTSS for a virtual setting can be complicated, these challenges can be overcome when educators receive targeted professional learning focused on assessment, data-based decision making, and tiered instruction, as well as resources related to technical assistance and support created for virtual settings (Alexander, et. al, 2020). To ensure educators receive targeted professional learning, teacher preparation programs must reconceptualize programming and provide guidance on effective ways to implement MTSS with fidelity in online learning environments (Knox et al., 2021). Educators can use various tools and resources to implement MTSS in a virtual setting to address the challenges presented by Woolf (2020).

## Enhancing Teacher Preparation for Virtual Implementation of MTSS

Teaching or transitioning to virtual environments requires specialized knowledge and skillsets especially when working with students with HIN or SWDs. Just like in traditional settings, educators impact student outcomes through the selection of assessment practices, evidence-based instruction, and intervention strategies (Brownell et al., 2010). Therefore, it is critical educators be equipped with the technology-based knowledge and skills necessary to implement MTSS within a virtual environment. To address this need, a personnel preparation program funded by the Office of Special Education Programs (OSEP) leading to a Master's degree in Exceptional Student Education and a Graduate Certificate as an Interdisciplinary

Language and Literacy Intervention Specialist was enhanced to address the implementation of MTSS in virtual settings. This program leveraged national centers such as the National Center on Intensive Intervention (NCII), IRIS Center at Vanderbilt, National Center on Accessible Educational Materials, the PROGRESS Center, and state sites such the Florida Problem Solving/Response to Intervention Project, Technology Integration Matrix at the University of South Florida, and the Florida Center for Instructional Technology which issued webinars, guidance, or other resources to support educators in the implementation of MTSS in virtual platforms. Table 1 provides information about the four challenges and the online resources from national and state sites that can be used by teacher educator programs to enhance syllabi, course content, and professional learning opportunities.

**Table 1**

*Sample of Sites and Resources for Addressing Challenges for Virtual Implementation of MTSS*

| Area of Need | Resource | Use to Address Area of Need |
|---|---|---|
| Connection & Assessment | • NCII Webinars<br>• Progress Center Webinars<br>• Technology Integration Matrix, USF, FL Center for Instructional Technology<br>• Technology and Learning Systems, USF (Data Tools)<br>• Data Systems from PS/RTI | • Utilize multimodal tools<br>• Remove Barriers to Active Participation<br>• Decrease Barriers to Engagement<br>• Universal Screening Tools<br>• Diagnostic Assessments<br>• Progress Monitoring Tools<br>• Essential Elements for Data Literacy Webinar |
| Intervention Delivery | • IRIS Modules<br>• CEEDAR Center<br>• NCII<br>• PS/RTI – Increase Intensity of Intervention | • Webinars focused on intervention delivery in remote instruction<br>• Remote learning resources<br>• Going Virtual: Implementing DBI<br>• Online Course Module Design<br>• Course Enhancement Modules<br>• Virtual Lesson Examples |
| Collaboration | • NCII<br>• CEEDAR Center | • Voices from the Field<br>• Resources for collaborating with parents and other educators to improve student outcomes<br>• Virtual Toolkit |
| Equity & Access | • National Center on Accessible Educational Materials<br>• Various peer reviewed articles, papers, webinars | • Design accessible instructional content<br>• Allow for screen reader access<br>• Use of image/video descriptions<br>• Create, acquire, use, and learn about accessibility and equity in educational materials across technologies<br>• Caption video resources |

## Conclusion

The complexity of multiple variables within the curriculum, students, educators, and classroom settings necessitates ongoing evaluation of school-based decisions impacting the implementation of intensive interventions within online environments. The continually evolving landscape of the K-12 educational system must be addressed within teacher education to ensure educators have the knowledge and skills necessary to enhance their practice in online settings. As K-12 students continue to choose to learn online, teacher education needs to continue to build educator capacity to address challenges of implanting interventions through targeted and relevant professional learning opportunities. Utilizing digital applications extends the ability of educators to implement an MTSS framework within a virtual environment to address academic, behavioral, and social-emotional needs of their students.

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COPING SKILLS TO DECREASE EDUCATOR STRESS

**Abstract**

Teacher preparation programs are accountable for providing quality education and adequately preparing students for success in the workplace. Stress is common in the teaching profession and future educators should be prepared with techniques for stress management. Implementation of stress management techniques may prevent burn-out, decrease attrition, and improve student outcomes. Mindfulness programs are an easy, low-cost solution to teaching stress management skills.

**Problem**

Retaining a stable, competent teacher workforce is essential for quality student learning (Podolsky et al., 2016) and difficulties with filling vacancies continue to be problematic (Sutcher et al., 2019). Increasing demand for teachers, less interest in entering the field, turn-over and attrition rates all contribute to the current shortage. Attrition rates of approximately 8% over the last decade are accountable for much of the shortage and decreasing these rates could reduce much of the problem. Current severe shortages are evident in the areas of special education, mathematics, and science. Difficulty retaining teachers negatively impacts student learning, school climate, and the stability of the public education system (Garcia & Weiss, 2019).

Nationally, U.S. teacher attrition rates historically have ranged from 5.1% in 1992 to 8.4% in 2008, a difference of 3.3 percentage points (Sutcher et al., 2016). In a workforce of 3.8 million, this seemingly small amount adds about 125,000 to the annual demand for teachers (Carver-Thomas & Darling-Hammond, 2019). Approximately 30% of teacher graduates left the profession within five years and more than 50% leave before reaching retirement (Garcia & Weiss, 2019). Job dissatisfaction accounts for the majority of reasons teachers choose to leave the profession (Sutcher et al., 2019). Although there is no singular solution to solving the teacher shortage, preparing pre-service teachers to understand and manage stress may improve teacher retention.

## Stress and Educators

Research has found that the occupation of teaching is more stressful compared to other professions (Landsbergis et al., 2020). Factors contributing to teacher stress include lack of independence (Ansley et al., 2016), workplace bullying and harassment (Landsbergis et al., 2020), lofty demands without inadequate supporting resources (Jennings & Greenberg, 2009), excessive workloads (Hydon et al., 2015), and overwhelming emotional and mental demands (Ansley et al., 2016; Jennings & Greenberg, 2009). The Yale Center for Emotional Intelligence and the Collaborative for Social Emotional and Academic Learning (CASEL) performed a survey in March 2020 to over 5,000 teachers in the U.S. and findings included high levels of anxiety due to pandemic related demands (Cipriano & Brackett, 2020). However, Cipriano & Brackett (2020) discuss similar survey results received prior to the pandemic in 2017 also revealed high levels of stress due to employment demands (e.g. poor administrative supports, increased job demands, high-stakes testing) and the importance of addressing educator well-being.

Exposure to community crisis and trauma can lead to secondary traumatic stress and burnout in both administrators and educators (Hydon et al., 2015). School violence, natural disasters, pandemics, and individual trauma experienced by students are all instances negatively impacting school climate. The need for additional support for administrators and all educators to decrease the physically and emotionally unhealthy cycle of stress in the workplace is evident.

Stress is not uncommon in the teaching profession, and early career teachers are particularly susceptible to stress (Harmsen et al., 2018). Stress reactions occur during experiences of actual or perceived demands (Ansley et al., 2016). Reactions to stress include increased cardiorespiratory arousal and heightened psychological focus. People have individualized reactions to stress, and these reactions can be positive or negative. Positive stress can be motivating, including increased energy and alertness required to adapt to situations such as a new place of employment, due dates, or studying for an upcoming exam. However, a person must have the capacities and resources to deal with stress. When capacities are not available, long-term toxic stress can lead to adverse health consequences such as elevated blood pressure, inadequate immune responses, anxiety, and mental illness (Ansley et al., 2016). Long-term stress can negatively impact executive function skills, emotional regulation skills, and relationships between teachers and students (Cipriano & Brackett, 2020). Through the provision of stress management education during pre-service teaching, students will learn invaluable skills while receiving guidance prior to entering the field of one of the most stressful occupations. Interest and research regarding mindfulness has grown exponentially in the last 50 years and has become recently popular in school settings with both students and staff.

## Mindfulness

The definition of mindfulness includes awareness of everything that is happening in one's environment and acceptance of oneself and others, a curiosity in regards to one's surroundings (Kabat-Zinn, 2003). Mindfulness emerged from a Buddhist tradition and was "westernized" in the 1970s by Jon-Kabat-Zinn.

A pilot study using an adapted version of Mindfulness-Based Stress Reduction (MBSR) noted improvements in self-regulation in 36 high school teachers (Frank et al., 2015). Kerr et al. (2017) found pre-service teachers had increased emotional regulation compared to a control group after a six-week mindfulness program. Survey results from 231 teachers in Australia revealed a relationship between mindfulness and levels of anxiety, lower levels of mindfulness were associated with higher levels of anxiety (Hwang et al., 2019). The Prosocial Classroom Model suggests that mindfulness and other aspects of social-emotional competence may lead to more effective classroom management and protect educators from experiencing a "burnout cascade" of deteriorating classroom climate, student misbehavior, and emotional exhaustion (Jennings & Greenberg, 2009). Mindfulness can improve teacher and student communication, helps with classroom management, sets a positive learning environment, encourages deeper learning, and builds community (Jennings, 2015).

**Tips for Implementation**

Simple ways to implement mindfulness as a stress management tool for pre-service teachers:

- Start with mindful breathing by finding a relaxed seated position and rest hands wherever it feels comfortable to do so.
- Allow yourself to become relaxed, notice any sensations and thoughts, be non-judgmental.
- Notice the rhythm of your breath, now consciously inhale for a count of three seconds, hold your breath for two seconds, and exhale for a count of three seconds.
- Continued controlled breathing for five-minutes (research suggests mindfulness increases with more practice).
- If your mind wanders, direct yourself back to the breath counts.
- Once finished, sit for a moment and notice sensations, thoughts, and feelings. Do you feel calmer and more focused?
- Next, try mindful walking for 10 minutes to increase awareness of your surroundings and your feelings.
- Start walking at a natural pace while counting up to five and pausing briefly before counting backwards to one.
- Pay attention to the sensations in your body, noticing movements of your arms and legs.
- Notice everything in your environment without judgment.
- If your mind wanders, direct yourself back to the counts.
- Once finished, pay attention to your thoughts, feelings, and sensations. Do you feel calmer and more focused?

**Table 1**

*Free links for guided mindfulness meditations*

| Name | Link |
|---|---|
| 10-Minute Meditation for Anxiety | Meditation for Anxiety |
| 3-minute Mindful Breathing Meditation (Relieve Stress) | Meditation for Stress |
| Positive Energy 10-minute Guided Meditation | Meditation for Positive Energy |
| Feeling Full of Energy First Thing in the Morning~ Guided Meditation | Meditation for Energy |

**Conclusion**

Difficulty retaining teachers negatively impacts student learning, school climate, and the stability of the public education system (Garcia & Weiss, 2019). The greatest challenge faced by educators may be the high level of stress within their occupation causing them to leave. The literature indicates the knowledge and skills traditionally associated with addressing stress management to reduce educator attrition is sparse. Therefore, implementing programs to manage stress to improve the quality, job satisfaction, and attrition rates of educators in the field is justified. Mindfulness is an effective tool that can assist pre-service teachers with recognizing, understanding, and preventing toxic stress.

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DEVELOPING INTERCULTURAL COMPETENCE VIA STUDY ABROAD:
LESSONS OUR STUDENTS TAUGHT US

## Abstract

Students in three diverse disciplines (undergraduate - early childhood education, masters-special education, and doctorate-educational leadership) participated in study-abroad experiences over two consecutive summers. An analysis of their reflective journals indicates that teaching and learning in unfamiliar environments provides opportunities to question, explore, and de/construct sociocultural and pedagogical dimensions of identity.

## Background

Preparing educators to become culturally competent is a challenge faced in personnel preparation and is imperative given the increasing diversity of the USA population. Cultural competence is fundamental to effective teaching and "entails developing certain personal and interpersonal awareness and sensitivities, understanding certain bodies of cultural knowledge, and mastering a set of skills that, taken together, underlie effective cross-cultural… and culturally responsive teaching" (National Education Association, 2016, p. 6). According to Petrovich & Garcia (2015), our understanding of cultural competence includes not only what one feels or their level of awareness, but also an emphasis on our own actions and behaviors.

Study abroad experiences have emerged as a framework that taps into experiential learning by preparing students to understand and develop their own intercultural sensitivity, cultural responsiveness, and global competencies (Byker & Putman, 2019). Currently considered high-impact practices in higher education, these experiences are defined as involving students who "physically leave their home countries to engage in college study, cultural interaction, and more in the host country" (McKeown, 2009, p. 12).

Our study abroad program was part of an initiative establishing a partnership between a large university system in the south-central USA, a private educational and research center located in central Mexico, Mexican local, state, and national governmental officials and agencies, private citizens, and businesses (herein referred as the Collaborative). The Collaborative was created to afford clinical and service opportunities for undergraduate and graduate students to interact with a small rural and remote community (approximately 1,000

people) located in the state of Guanajuato, Mexico. During both summers, faculty and students from participating system universities were charged with developing and delivering one week of educational activities for the elementary school children in the host community.

From a social justice reference, we as university educators, construct meaning and make choices amidst the complexity of designing instruction that facilitates our scholars' ability to integrate, transfer and apply learning acquired in one setting to lived experiences in another (Hunter, 1971). We recognize that our role is to foster critical thinking and facilitate critical reflection. Thus, activities were structured to maximize student and faculty interaction and engagement in critical reflection concerned with place, culture, language, power, and privilege.

**Rationale/Purpose**

Preparing educators to become culturally competent practitioners is a challenge faced by educator preparation programs. According to the National Education Association (2016) cultural competence for educators is defined as "the ability to successfully teach students who come from a culture or cultures other than our own" (p. 6).

Using student responses to multiple course assignments, this qualitative experiential project examined ways in which a teaching and learning study abroad experience contributed to the development of cultural competence among preservice and in-service teachers and aspiring administrators from diverse disciplines.

Three research questions guided this project:

- In what ways do participants describe the influence of a study abroad experience?
- How do participants describe their evolving cultural sensitivity and competence?
- How do participants reflect on study abroad influencing future practice?

**Literature Review**

It is easy to recognize how the school system in the USA and its environment became structured around hierarchy, specialization, and standardization (Diehl, 2017). Concerning is that lingering views of race, gender, ethnicity, class, and language are often unconsciously maintained by educators through inherited systems of bureaucratic control (Larson & Ovando, 2001). Disrupting these systems requires socially just educators who "make issues of race, class gender, disability, sexual orientation, and other historically and currently marginalizing conditions in the United States central to their advocacy, leadership practice, and vision" (Theoharis, 2007, p. 223). The appreciation of diverse cultures and responsiveness to those cultures are imperative mindsets for pre-service teachers and in-service educators.

Previous study abroad research has supported that participants' appreciation and sensitivity to a culture different from their own has grown as a result of those experiences. (Sahin, 2008; Mahon & Cushner, 2002). In addition, intercultural competence, "an individual's effectiveness in drawing upon a set of knowledge, skills, and personal attributes in order to work

successfully with people from different national cultural backgrounds at home or abroad." (Johnson, et al., 2006, p. 530) is another essential skill.

Critical self-reflection is an important skill to cultivate early in the preparation of pre-service teachers and in-service (e.g early childhood education and special education teachers) (Schön, 1987) and is an essential disposition of culturally responsive practitioners (including administrators) that must be nurtured throughout preparation programs and beyond (Gelfuso & Dennis, 2014). Such reflection enables educators to make connections between university curricula and field experiences and to accommodate new knowledge and experiences by examining existing mental models of language, culture and disability (Senge et al., 2000).

This project utilized a *Bildung*-oriented theoretical frame, based on a reflective and critical discourse of study abroad experiences from our students' perspectives. Fuhr (2017) explain *Bildung* as learning that goes beyond the cognitive transformation of existing knowledge structures to include transformations of the learner's feelings, personality and relationships. Bleicher's (2006) conceptualization of *Bildung* includes the very individual and never-ending process of critically assessing knowledge.

**Methods**

Participants included two cohorts of 20 scholars participating over two summers (6 undergraduate, 12 masters, 2 doctoral). Nine are white, three black and eight Latinx; 19 are female and one male; ten are first generation; seven had never left the United States and nine had previously traveled to Mexico. Data from observations and scholar's reflective journals (Elizabeth, 2008) were analyzed using an iterative process of coding and categorization to generate preliminary themes (Saldaña, 2009). Analysis was interactive (Corbin & Strauss, 2008) and included multiple perspectives (Barden & Cashwell, 2014).

**Findings**

This qualitative analysis revealed four themes that emerged from the data. The themes of questioning, power and privilege through personal history, who is teaching/who is learning, and othering as a tool helped us to examine exploitative social relations, and how students study abroad experiences may include their own practice as educators. Results indicate that teaching and learning in unfamiliar environments provides opportunities to question, explore, and de/construct sociocultural and pedagogical dimensions of identity.

For example, on the first evening prior to a visit to Guanajuato City, students participated in a presentation by a local art historian who introduced them to the importance of art in Mexican history and culture.  The next day the students, along with a local guide, toured a silver mine, a basilica, the Hidalgo Market, and the Diego Rivera Museum. In response one student wrote, "I know it sounds incredibly selfish, but up until now, I'd always (subconsciously) thought of Mexico in relation to my own country – the land we bought (or perhaps stole) from them, the wars we fought, the recipes we use. They are so much more than their connections to the United States, and I hate admitting that I thought of them like that."  Others shared developing an

understanding of, "the discriminatory impact of providing a monolingual emphasis on English only education." Not only were scholars able to critically articulate, conceptualize and create equitable educational arrangements while in Mexico, but  their journals also reflected on their change. From one student, "I know that my lens has changed and I will look differently to the cultural and language needs of non-English speaking students," to another, "I feel as if this program allowed me to step back and see where I can grow as a student, leader, and advocate."

**Discussion and Recommendations**

While our own reflections, as faculty, constitute an in-depth, probing, specialized discourse analysis, with this project we used our student's reflections to push the realms of what typically constitutes study abroad as a high-impact practice and then leveraged the findings to reimagine our work at home. What we have learned from our students in the study abroad programs has led us to reexamine our own practices within a bureaucratic setting at the university level. The constructions and associations we hold relating to traditional landmarks (e.g. college classrooms, textbooks, papers, tests) used to prepare culturally responsive educators were lost within this new place. Our work now becomes centered on recasting the *boundaries* of a study abroad experience to include high impact, transformative exercise for students *at* home.

We recommend that, in addition to discussions of cultural responsiveness combined with required assignments, we need to create space within our traditional classrooms for students to plan and deliver activities to local volunteer organizations as part of coursework.  Additionally, graduate students who are being trained to be teacher leaders can be intermixed with undergraduates who they mentor in leadership while planning for community events. These types of activities frequently face obstacles where students must design strategies to comply with various bureaucracies, but working with the support of faculty and peers can enable them to overcome such constraints.

What remains unknown is how these profound understandings will actually influence the practices of these educators as they begin to examine and address issues of power and privilege within the bureaucratic systems in which they work.

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TEACHING SPECIAL EDUCATION PRE-SERVICE TEACHERS TO ACCURATELY ASSESS DECODING SKILLS

## Abstract

This paper recommends three easily available decoding instruments, the Phonological Awareness Screening Test (PAST), the Informal Decoding Inventory (IDI), and selected subtests of the Dynamic Indicators of Early Reading and Literacy Skills 8th Edition 8th Ed (DIBELS) to be included in reading methods courses.  The PAST and DIBELS are freely available on the authors' websites while the IDI can be used for personal use from the book *Differentiated Reading Instruction in Grades 4 and 5: Strategies and Resources,* by Sharon Walpole, Michael C. McKenna, and Zoi A. Philippakos. These assessments highlight word level decoding skills and subskills that will assist pre-service special education teachers (PSET) in learning reading development, how to assess students' word level reading skills, and how to use this data to inform explicit and systematic instruction. Additionally, theory that informs these assessments will be discussed as well as tips in using these assessments in pre-service training.

## Background/Rationale

Decades of reading education has been mired in the pull between phonics and whole language instruction (Goodwin & Jiménez, 2021).  Current research for students with and those at risk for disabilities point to phonics instruction that is systematic and explicit (Spear-Swerling, 2019).  The National Reading Panel stipulated five components of evidence-based reading instruction to include phonemic awareness, phonics instruction, fluency, comprehension, and vocabulary (Cunningham, 2001).  Phonics contains the subskills of decoding and sight word recognition.  Phonological awareness, decoding, and sight word recognition skills comprise the building blocks for reading development and the focus of this paper (Ehri, 2005; Gough & Tunmer, 1986; Scarborough, 2001).

I argue that special education pre-service programs should focus training on reading assessment tools that are easily transferable for novice teachers to take with them as they exit TPPs and begin data collection of their own.  The assessments highlighted in this paper are easily available, quickly administered, and the data can be used immediately to inform instruction.  These assessments will aid pre-service teachers in understanding theories in reading development and garnering useful data which should enhance PSETs and novice teachers' ability to develop explicit instruction based on student data from the onset of their teaching career (Fuchs et al., 2014; Spear-Swerling, 2007).

The PAST assessment is a phonological screening assessment in which students are asked to manipulate the sounds or word parts within words by orally deleting or replacing sounds after given prompts.  This skill underlies a students' ability to work with phonemes and word

parts and is a strong early predictor for future reading development (Kilpatrick, 2012; Suggate, 2016; Wagner et al., 1993). The IDI presents assessors with distinct syllable patterns in which to determine curriculum placement (McKenna et al., 2017). The DIBELS- 8th Ed. battery gives insight into fluency skills through varied 1-minute assessments with letters, pseudo words, real words, and passages (Goffreda et al., 2009). Because the PAST satisfies phonological awareness assessment and the IDI examines decoding, DIBELS- 8th Ed.'s subtests should be selected based on the need and age of the student. See Figure 1 for a feature list for each assessment. For instance, a first-grade student could be examined on DIBELS- 8th Ed. real words and passages, but not pseudo words as that would be satisfied in the IDI. A fourth-grade student, however, would only be assessed on passages for DIBELS- 8th Ed. as that is the only measure available for that age group. It should be noted that DIBELS also has a brief comprehension measure for grades two through eight, but this is not recommended when looking for word-level data.

**Figure 1**
*Features of the PAST, IDI, and DIBELS assessments for decoding and subskills.*

| PAST | IDI | DIBELS 8th Ed. |
|---|---|---|
| • Appropriate for Pre-K to adult<br>• Verbally administered<br>• No practice items<br>• Stages of phonological development<br>• Accuracy and Automaticity<br>• Available through: https://www.thepasttest.com | • Appropriate for late K to adult<br>• Two levels- single and multisyllabic words<br>• Based on syllable type<br>• Real and Nonsense words<br>• Available within *Differentiated Reading Instruction in Grades 4 and 5: Strategies and Resources*, by Sharon Walpole, Michael C. McKenna, and Zoi A. Philippakos | • Comprised of subtests that highlight component skills in 1 minute timed drills:<br>• Word Reading Fluency (K-3rd)<br>• Oral Reading Fluency (1st-8th)<br>• Available through: https://dibels.uoregon.edu/materials/dibels |

**Literature Review**

***Word level skills***

Gough and Tunmer (1986) devised a theoretical equation in which decoding *times* oral language comprehension *equals* reading skills. Scarborough then expanded this theory to flesh out the subcomponents of decoding (i.e. word recognition) and language comprehension (2001). This paper addresses assessment for the three components under word recognition in Scarborough's model; phonological awareness, sight word reading, and decoding. Assessing word-level skills through these three components, faculty can assist PSETs in seeing how subskills relate to one another and build toward reading skills.

***Phonological awareness and the PAST***

Phonological awareness (PA) is a subskill in reading. When assessed, PA has the ability to predict future reading ability for Pre-K and Kindergarten students and assist in determining possible underlying contributing factors for older students experiencing reading difficulties. Kilpatrick (2012) argues that PA must be assessed past first grade segmentation tasks such as those available in DIBELS. He describes PA tasks typically studied in assessments as *phoneme segmentation* tasks, the ability to separate or blend individual phonemes in a word such as /l//o//t/ for "lot" and *phoneme manipulation* tasks which may contain verbal word work in deleting, substituting, or reversing individual phonemes in words. He asserts that phoneme manipulation is

a superior assessment compared to phoneme segmentation tasks because phoneme segmentation tasks lose predictive ability for future reading skills past first grade. However, Kilpatrick notes, phoneme manipulation tasks not only hold strong future reading predictive value in early grades, but alert teachers to undeveloped phonological awareness skills which may be usurping reading progress for older students. The importance, therefore, of performing an assessment like the PAST is to garner whether phonological awareness development can be ruled in or out as an underlying cause of reading difficulties. PA skills can then be added to instruction that matches the developmental stage appropriate based on PAST data.

The PAST relies only on phoneme manipulation (deletion and substitution) and separates its tasks by overlapping grade bands from Pre-K/Kindergarten to 2nd grade/adult according to expected developmental progress. Notice that the full range of development is including from Pre-K to adult. The development of PA stages is listed on the PAST as *Basic Syllable*, *Onset-Rime, Basic Phoneme,* and *Advanced Phoneme*. Beginning items ask the student to work at the syllable level by manipulating compound words such as "Say 'manmade.' Now say, 'manmade,' but don't say "man," where the reader would reply "made." In advanced phoneme tasks which develop into adulthood, readers are asked to manipulate phonemes within consonant blends such as "Say 'best.' Now say 'best,' but instead of /s/ say /n/,' where the reader would reply, "bent" (Kilpatrick, 2018).

### *Decoding and sight word reading / the IDI and DIBELS*

The field would likely agree that an efficient and effective reader is one that is able to read and understand text with ease. Ehri (2005) describes such a reader as having moved into the consolidated alphabetic phase. She holds that a reader progresses through four phases of reading development; the *pre-alphabetic phase (Pre-AP)* notes a reader who does not yet display accurate letter sound matching to read text and might rely on picture cues to assist them, the *partial alphabetic phase (PAP)* notes a reader who has most letter sound matching intact, but is not yet using decoding skills to read unfamiliar words, the *full alphabetic phase (FAP)* describes a reader is able to use decoding skills with many words being pulled from memory yet decoding effort is still apparent, and in the *consolidated alphabetic phase (CAP)* a reader is efficient in reading text and intertwining read words with meaning.

Sight word reading and word recognition refer to the automaticity of word reading rather than to specific words (Ehri, 2020). We often think of "sight words" as a list of commonly used words from text, but here the term references reading skills available to a reader through orthographic mapping where the specific spelling of a word and its pronunciation have been mapped in a student's lexicon such that automatic reading of the word is available to them. In consideration of Ehri's (2005) phases of the alphabetic principle, a reader with such skills is in the FAP. The reader does not need to lean on decoding in order to successfully read all words, but has access to the skill when needed for grapheme-phoneme analysis. A reader has entered the CAP when automatic reading is paired with meaning and the reader has moved past decoding at the phoneme level to use larger units of words like syllables and morphemes.

Assessments like the IDI and DIBELS allow us to see when a reader is employing PAP, FAP, or CAP.  Pre-AP can be captured through DIBELS letter name fluency task, but the IDI and DIBELS passage reading would not be appropriate for this learning phase.  Specifically, the IDI targets both single and multiple syllables such that the PAP, FAP, and CAP can be partially garnered from its data.  In the English language, there at six syllable types; closed, vowel-consonant-e, open, r-controlled, final stable, and double vowel. Additionally, the IDI uses an equal number of nonsense words for each syllable type assessed.  Nonsense words allow the assessor to determine if a reader is able to deploy decoding strategies for truly unfamiliar words-the *FAP* and *CAPs*.  Readers may have orthographically mapped real words from the real word lists and are able to pull them from memory, but difficulty on the nonsense word lists show the reader is not employing syllable or morpheme knowledge consistently when presented with unfamiliar words.  In this way, the nonsense words ensure that readers have to access and use decoding mechanisms.  Evidence from responses on the IDI and passage reading text would signal a development phase of FAP or CAP.  Furthermore, the IDI can be used for progress monitoring and users are encouraged to re-administer portions of the assessment that showed weakness after targeted instruction has been enacted (Walpole, McKenna, & Pilliphakkos, 2011).  DIBELS also aids in determining alphabetic phases through word reading fluency and oral reading fluency.  In both subtests, readers ae exposed to phonetically regular and irregular words (e.g. what we often term as "sight words").  In having students read text with a mix of word types, the assessor is able to notice whether difficulties appear in phonetically regular or irregular words.

## Conclusion

Looking across all the PAST, IDI, and DIBELS assessments, assessors should be able to determine if phonological awareness, decoding of specific syllable types, or sight words are problem areas for readers experiencing difficult progress.  In applying the alphabetic phase theory, teachers can target instruction for precise deficits for each student.

### *Tips for using the PAST, IDI, and DIBELS with PSETs*

Assessors should build fluency when giving assessments such that directions for themselves and their reader are second nature.  Though these assessments are informal, it's important to begin building the habit for PSETs of working with assessments to familiarized themselves with procedures and protocols *before* sitting down with a student.  Use the following steps to scaffold the work in your courses:
- Model scoring with K-12 student audio samples
- Pair PSETs to practice administration in class
- Have PSETs give full battery to a peer before working with a K-12 student
- Assign the assessments within practicum placements
- Assign reflection paragraphs with prompts such as
  - Did you notice differences from the first time you gave this assessment to the last?  If so, how?  If not, did you find it as easy to administer in all sessions?  Why?
  - What ways steps will you take before you administer a new assessment to a student?  Why are these steps important?

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EVOLVING BELIEFS, PERCEPTIONS, AND ATTITUDES OF PROSPECTIVE SPECIAL EDUCATION TEACHERS ABOUT SELF AND THE FIELD: A LONGITUDINAL STUDY

## Abstract

Shortages of special education teachers may be due, in part to, new teachers' hesitations to enter the field or decisions to leave the field early in their careers. Several studies have examined pre-service teachers' intentions to enter the field, but little is known about how and why those intentions change over time. We present findings from the first phase of a larger longitudinal study. We tracked pre-service teachers' changing beliefs, perceptions, and attitudes about working in the special education field and in urban schools before and after their completion of their student teaching placement training. Most of the participants were found to change their preference from either wanting to be general education teachers, both general or special education teachers, to preferring to become special education teachers. Findings also shed light on the rationale behind participants' decisions regarding working in urban schools. Implications for research and practice are discussed.

## Background/Rationale

The special education field has been struggling with teacher shortages for over a decade now (HESCE, 2019). These shortages are especially pronounced in urban schools (McLeskey et al., 2004). One of the contributing factors to the shortages is what Ingersol (2001) identified as the "revolving door" phenomenon, in which a high supply of special education teachers enters the field but end up leaving during the first 3-5 years of their careers. Studies have attempted to explore the intentions of pre-service teachers to enter the field (Zhang et al., 2014), yet very little is known about how pre-service teachers' views and beliefs about teaching shape their plans to enter the field (Löfström & Poom-Valickis, 2013).

## Beliefs, Perceptions, and Attitudes

We draw on three main concepts to capture pre-service teachers' intentions to enter the field: beliefs, perceptions, and attitudes. Borg (2001) defines *belief* as "the proposition which may be consciously or unconsciously held…and is accepted as true by the individual" (p.186). *Self-efficacy*, a subconstruct of beliefs (Pajares, 1992) captures teachers' beliefs about how well they anticipate their teaching skills to match expectations of their role as teachers. *Perceptions* represent the process by which a teacher views or interprets their environment (Pickens, 2005). Van den Berg (2002) emphasized the significant influence that teachers' interpretations of their work circumstances have on their pursuit of professional growth. *Attitudes* constitute both an

internal, cognitive component (an individual's position or stance about an issue) and an external action component (how they behave as a result of that stance) (Pickens, 2005). Beliefs, perceptions, and attitudes work in tandem with one another, continuously influencing and being influenced by each other.

**Purpose of Study**

We asked the following research questions:

1) How did pre-service teachers' beliefs, perceptions, and attitudes about the special education field change from before to after completion of their student teaching placement training?

    a) How did changes in their beliefs, perceptions, and attitudes influence their intentions of entering the special education field?

2) How did pre-service teachers' beliefs, perceptions, and attitudes about urban schools influence their intentions to work in urban school settings after completion of their student teaching placement training?

**Methods**

This study followed a Qualitative Longitudinal Research (QLR) design to explore how participants' beliefs, perceptions, and attitudes changed over time (Saldana, 2003, Thomson & McLeod, 2015). Eight student-teacher participants were recruited from a Masters-level Dual Certification program. The program prepares student-teachers to teach a content area as well as special education for grades 7-12. There were four female and four male participants who were white and were educated in suburban schools.

The study's measures included an adapted version of Tschannen-Moran and Hoy's (2001) Teachers' Sense of Efficacy Scale (TSES) and two waves of semi-structured longitudinal qualitative interviews. The TSES included the same 12 survey questions before and after student-teachers received and completed their student teaching placement that participants answered based on a nine-point Likert Scale where 1 was none and 9 was a great deal. For Wave 1 of the interviews, participants were interviewed before they were given a school placement to student-teach in. For Wave 2 of the interviews, participants were interviewed after they had student-taught in their placement for a school year.

*Analysis*

The TSES was analyzed by computing the means of the participants' answers to each survey question from before student-teaching and after. The interviews were analyzed by drawing on premises of grounded theory (Saldaña, 2016) and by conducting two coding rounds. The coders employed structural coding for the first round of coding to keep the codes aligned with the research questions (Saldaña, 2016) and pattern coding to develop a system of parent- and sub-codes for the second coding round (Miles et al., 2014; Saldaña, 2016). Pattern coding contributed to the 'meaning-making' process of what participants' beliefs, perceptions, and attitudes were towards special education and working in urban schools. Consensus agreement was completed during coding to establish inter-coder agreement on 18.75% of the transcripts

(McDonald, 2019; O'Connor & Joffe, 2020). Finally, matrices and visualizations were created to note thematic patterns and make comparisons (Miles et al., 2014).

## Results

The mean scores per item on the TSES increased from an average of 5.40 points across all participants pre-training to an average of 6.94 points post-training. All eight participants illustrated an overall improvement in their sense of efficacy post-training.

### Qualitative Findings and Themes

**Preference for working in Special Education.** Before beginning the student teaching placement training, six of the participants indicated that they were open to the idea of being either a general education teacher or special education teacher once they graduated while two shared that they preferred to be general education teachers. After completion of their training, however; the majority shared a preference for becoming a special education teacher. More specifically, four out of the six who mentioned being open to both options and one of the two who shared a preference for becoming a general education teacher shared that they would prefer to become special education teachers.

***Striving for Collaboration and Inclusion of Students with Disabilities.*** Four out of the six that changed their preference developed a belief that a strong school community must foster collaboration between special education and general education teachers after completion of their training. In looking deeper into what might have contributed to that belief during their time in training, four out of the six participants expressed perceiving that special education and content-related skills could in fact be combined and incorporated with each other. Moreover, before beginning their training, three out of those six demonstrated an attitude of wanting to find ways to incorporate both content and special education in inclusive settings which could have influenced their subsequent perception and belief about the importance of collaboration.

***Driven to Make Change in the Special Education Field.*** Another salient theme seemed rather counter-intuitive. Five out of the eight participants related that they perceived a disconnect between the theory they were learning in their coursework and what was actually being practiced at their placements. Four out of those five, however, expressed post-training an attitude of desiring to make systemic change and advocating for students within special education. Moreover, before beginning their training, those four participants shared believing in the need to recognize and value special education students' needs and diversity and reflected an attitude of wanting to utilize their role as teachers as an avenue for helping students and making systemic change. Those pre-training beliefs and attitudes might have, therefore, prepared them to translate the disconnect they perceived between practice and theory into a constructive post-training attitude.

**Preference for working in Urban Schools.** Before beginning their student teaching placement training, participants were asked whether they envisioned themselves wanting to work in urban or suburban schools once they graduated. Students were placed in urban or suburban settings for their student teaching placement training and were later asked the same question

again after completing it. It appeared that the type of placement had an influence on students who were open to working in either placement. Hence, students who stated they were open to working in either urban or suburban settings tended to prefer working in urban settings if that's where they received their training or in suburban settings if that's where they were placed. On the other hand, placement type did not seem to change the preferences of students who had a clear preference before beginning their student teaching placement training.

### *Relating to Students in Urban Schools.* Participants who preferred working in non-urban schools felt that they were unable to relate to students given their own suburban school backgrounds. They also believed that students should be able to see themselves in their teachers and that they wouldn't be able to fulfil that need. Participants who preferred working in urban schools expressed perceiving urban schools as more enjoyable due to the rich diversity of the students. Their attitude was one of curiosity to learn about cultures different from their own and of advocating for social justice and equity for their students.

### *Driven to Make Change in Urban Schools.* Participants preferring non-urban schools perceived urban school environments as lacking in structure and organization. As a result, their attitude was one of feeling overwhelmed with their inability to potentially make any change due to those systemic structural barriers. On the other hand, they believed that they could make a difference in suburban schools by raising students' awareness about social justice issues- an area many of them felt was overlooked in those schools. Participants who preferred working in urban schools, however, believed that they could make a stronger impact in urban school settings. Even though they were aware of systemic challenges in those settings, they demonstrated an attitude of not letting those challenges deter them and wanting to inspire students and make an impact in low-resource schools.

## Implications for Theory and Practice

Most of the participants were driven by intentions to establish more collaborative relationships between special and general education. They expressed a keen interest in finding ways to incorporate content and special education accommodations whether they worked as a general education or special education teacher. More research is necessary, therefore, to help us rethink how the two could be better incorporated so that special education teachers can apply their knowledge in content and continue to feel that they are contributing to students' academic advancement while accommodating them. Meanwhile, several participants seemed to be driven away from certain special education specialties due to perceptions that those operate in isolation from the remainder of the school. Future research should explore ways to support schools in establishing inclusive communities not only for all students but also for all special education teachers. Lastly, equipping pre-service teachers with advocacy tools might not be sufficient in preparing them to meet systemic challenges in the real world. In addition to those tools, it is recommended that teacher preparation program leaders consider providing pre-service teachers with coursework and resources on navigating the frustrations of those challenges to develop resilience and buffer against early-career burnout and decisions to leave the field and urban school settings.

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# THE SOCIAL JUSTICE TEACHING COLLABORATIVE: A COLLECTIVE TURN TOWARDS CRITICAL TEACHER EDUCATION

## Abstract

In this TED Conference Proceeding, we share the collaborative curricular work of an interdisciplinary Social Justice Teaching Collaborative (SJTC) from a PWI university located in the Midwest, USA. Members of the SJTC worked strategically to center social justice across core courses all pre-service teachers (PSTs) are required to take at our institution. First, we share our conceptualization of social justice and guiding theoretical frames that shape our work. We then detail changes made across core courses which include introduction to education, sociocultural studies in education, and inclusive education. We conclude by offering our reflections and challenges, as well as lessons learned for teacher education. (Aronson et al., 2020)

## Background/Rationale

In this paper, we will share excerpts of our Aronson et al. (2020) article "The Social Justice Teaching Collaborative: A Collective Turn Towards Critical Teacher Education" published with our valued colleagues in teacher education and educational leadership. Our work has been a collaborative effort and this presentation originates from this shared article. From this work, we have pulled out the elements we feel are necessary to develop such a collaborative effort at other institutions, with the aim of building more inclusive, universally designed teacher preparation across the boundaries of general education and special education. We could not have done this work or presented these ideas without the scholarly work of our colleagues Brittany Aronson, Rachael Banda, Raquel Radina, Ganiva Reyes, Scott Sander, and Meredith Wronowski.

"Critical scholars have argued for the need for social justice to be a focus in teacher education (Cochran-Smith et al., 2009; Zeichner,2009). Despite these calls to action, we still see very few programs centering social justice as a part of their teacher preparation coursework" (Aronson et al., 2020, p. 23). Namely, very few programs require courses focusing on disability studies (Annamma, 2015). The lack of social justice teacher education (SJTE) is problematic given the "demographic divide" between a predominately white, straight female, mono-lingual, able-bodied teaching force that is charged with teaching an increasingly diverse student population (Cochran-Smith et al., 2009). In agreement with these scholars, we argue that social justice is a crucial part of effective teaching and something and should be the core of teacher education. (Aronson et al., 2020, p. 23)

In this piece we examine what it looks like when faculty from different disciplinary backgrounds collaborate to center social justice across multiple required courses in a teacher education program and how critical theories in education can be used to organize and co-construct transformative curricula and pedagogy for pre-service teachers (PSTs). Representing faculty from Teacher Education, Educational Leadership, and Educational Psychology, we came together to form what is now known as the Social Justice Teaching Collaborative (SJTC). In response to the habit and tradition of minimal cross-departmental communication about curriculum and pedagogy at our institution, we formed this collective to un-silo our individual efforts in centering social justice in each of our courses required for PSTs (Aronson et al., 2020). "The formation of this group is also a manifestation of our commitment to prepare culturally proficient and justice-oriented teachers" (Aronson et al., 2020, p. 23).

> "Through the SJTC, we have revised our curriculum and engaged in critical introspection of our teaching. Instead of adding a single course on social justice, our interdisciplinary work redefines both the content and pedagogy in a sequence of required courses (i.e. Introduction to Education, Sociocultural Foundations, and Inclusive Education) to map a curricular trajectory for PSTs to learn about justice in education and practice the use of critical perspectives" (Aronson et al., 2020, p.24).

Here we highlight particular critical theories that inform the curriculum and pedagogy of our collective group with PSTs. We then describe the connection between these theoretical understandings and the practice of re-imagining teacher education courses with social justice foundations Aronson, et al., 2020). In this undertaking we hope to address the gap in understanding the beliefs of PSTs and teacher educators and provide a rich exploration of the practice of preparing "PSTs to engage with student diversity in socially just ways" (Mills & Ballantyne, 2016, p. 263).

## Literature Review

As an interdisciplinary group we developed a collective framework or vision of teaching and learning to guide our collaboration. We developed a definition of social justice to apply to our work. As a collaborative, we, Aronson et al. (2020) defined social justice teaching as:

> A mindset, orientation, a way of thinking, and teacher identity that encourages dialogue among learners. It is a method that explores the emotional and moral dimensions of learning, facilitates problem solving, and interrupts normative narratives. It promotes social awareness and an ongoing process of critical consciousness toward self in relation to others. (p. 23)

The "north star" of this group rests on critical theories that: 1) Recognize that inequality is deeply embedded in the fabric of society; and 2) Actively seek to change this by questioning power dynamics in education (Aronson et al., 2020). We employ multiple critical theories to foster critical thinking and a sense of personal agency in our teacher candidates. Each of these theories can be discussed at length but we focus on only two here in the interest of brevity.

## Critical Disability Studies in Education and DisCrit

Critical special educators Annamma, Connor, and Ferri (2013) coined the theoretical framework DisCrit. They analyze the social constructions of race and disability status to inform scholarship and praxis in social justice for disabled students of color. DisCrit extends the work of the theoretical frameworks of CRT and Disability Studies in Education (DSE) illuminates disability and race as social constructs through injustices in schooling including disproportionate representation of students of color receiving special education services. The school-to-prison pipeline continues to impact disabled youth of color, acknowledging that while "ability and racial categories are socially constructed, they continue to have real material outcomes in terms of lived experiences" (Annamma et al., 2013, p. 9). DSE and Discrit provide tools for analyzing special education practices and policies that perpetuate discrimination towards and segregation of disabled children and youth (Aronson et al., 2020).

## Practical Implications of the Social Justice Collaborative

Through the collaborative work of this body of scholars using the theories described above as guiding principles towards social justice, we identified an interdisciplinary approach to required foundational courses typical in most teacher preparation programs, and strategically introduced issues of social justice in each course. For these courses we developed guiding questions and associated assignments, discussions and activities to address these complex questions by developing a critical consciousness. Guiding questions include 1) What does it mean *to teach,* 2) What is the purpose of school, and 3) How do college students become transformative teachers? (Aronson et al., 2020) Four distinct, explicit themes undergird our assignments, discussions and activities and these are 1) the aims of education and the role of schools in a democratic society through the development of critical thinking (requiring students to confront their own privilege and learn in discomfort), 2) exploring the political, historical, social and economic context of schools, 3) the importance of culturally responsive and inclusive education, and 4) ethics and professionalization (Aronson et al., 2020). These questions are strategically explored across the following three courses, generally taken by our pre-service teachers in their first and second years of college: sociocultural studies in education, introduction to the teaching profession, and inclusive classrooms.

Figure 1. Social Justice Teaching Collaborative Curriculum Changes (Aronson et al., 2020)

| | Content Shifts | Pedagogical Shifts | Cultural Shifts |
|---|---|---|---|
| Introduction to Education | • Shift from technical topics to transformative teaching<br>• Creation of a reader with diverse, critically-framed texts for the course (i.e. *Teaching Critical Thinking*, hooks, 2010; "Whose Culture Has Capital…," Yosso, 2005; *The Dreamkeepers*, Ladson-Billings, 1997) | • Common assignments and readings across sections<br>• Focusing more on questioning and critical self-reflection (anti-banking model)<br>• Experiential learning components (i.e Digital Storytelling Project, Educational Autobiography) | • Stepping stone to EDL 204<br>• Explicit focus on critique and self-examination<br>• PSTs encouraged to experience productive discomfort |
| Sociocultural Studies in Education | • Stronger emphasis on intersectionality<br>• Emphasis on marginalized voices including women/people of color (i.e. *The Challenge to Care in Schools*, Noddings, 2005; *Teaching to Transgress*, hooks, 1994; *There is No Teaching without Learning*, Freire, 1998; "The Urgency of Intersectionality," Crenshaw, 2016) | • Shift towards *unapologetically* critical pedagogy from the idea that "all sides" must be covered<br>• Disrupt presenting issues as "binary"<br>• Students create an educational platform on current education issue rooted in sociocultural studies | • This course is not the only "critical" course in teacher education program<br>• Instructor collaboration and peer observation model used to tackle instruction across 17 sections |
| Inclusive Classrooms | • Use of texts that critique traditional special education approaches (i.e. *Rethinking Disability*, Connor & Valle, 2019; *Creating Inclusive Classrooms*, Salend, 2016)<br>• Use of materials that reframe disability as a marker of diversity rather than a deficit (i.e. *Intelligent Lives* and *Including Samuel* by Habib) | • Moving away from the "disability of the week," medical/psychology pedagogy<br>• Focus on classroom actions and choices of educators including Universal Design for Learning Principles | • Decreased curriculum protectiveness of special education instructors<br>• Disability is understood as a social justice issue examined through intersectional sociocultural lens |

## Inclusive Special Education Teacher Preparation Implications

Since our discipline is inclusive special education, we offer special attention to the issues impacting disabled students in school. The policies of special education law (via the Individuals with Disabilities Education Improvement Act or IDEIA), while intended to protect the rights of disabled students, often perpetuate the deficit view that undergirds the early foundations of special education. Located in the belief that something is "wrong" or deficient in the disabled student, special education practices are often described as interventions meant to minimize or mitigate the disability contained within the identified student. Disability Studies in Education (DSE) offers an important counter narrative to this deficit view by situating the "problem" within the boundaries of the curriculum being offered, the manner of instruction, the attitudes and beliefs of the teacher and learning community, and the built environment (Connor & Valle, 2019). Through the critical lens of DSE, PSTs are able to view the obstacles to learning and consequent dire outcomes (e.g. early school "pushout", low achievement and graduation rates, and decreased satisfaction with school and post-school outcomes) as a result of low expectations, stereotyping of behavior, instruction to student mismatch, culturally irrelevant curriculum, and institutional and systemic bias. Valle & Connor (2019) argue that the attitude of the teacher and their belief about disability is the single most important factor in determining student outcomes. We then center the notion of "presumption of competence" and the skills of Universal Design for Learning as an alternative framework to the deficit view. Empowering our PSTs to view all

children through a competence-based lens, is critical in our work toward social justice in teacher preparation.

We do not offer this approach as a formal "how-to" formula, for such a formula cannot exist outside of context. We do, however, believe this approach can serve as a powerful example of how faculty can organize around critical issues of social justice to advance curriculum changes in teacher preparation at other institutions. The work at our institution has shown measurable positive changes in students' social justice growth. There remains important work to be done since we do have colleagues who do not embrace the need for a focus on social justice across multiple courses. This points to our need to remain reflective and to continue to build trusting relationships with our colleagues. Furthermore, some PSTs have indicated a resistance to the heavy focus on difficult issues of social justice, and others have described that social justice as an emphasis seems to "fade away" once they are engaged in their methods classes. Clearly, there is more work that needs to be done, but facilitating a social justice teaching collaborative with colleagues offers a promising entry into the transformation of teacher preparation.

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BUILDING SKILLS FOR TEACHER LEADERSHIP: SPECIAL EDUCATORS' EXPERIENCES

**Abstract**

Special educators bring skills that apply directly to teacher leadership but are rarely placed in such positions. With increased requirements for teachers to engage in leadership roles, preservice teacher education programs must prepare candidates with the skills necessary to do so. Developing a better understanding of the experiences and skills that teachers utilize throughout their career span will allow programs to provide targeted learning opportunities aimed at teacher leadership will allow special educators to tap into these skills. This study interviewed 45 in-service special educators on their understanding of leadership, the supports and barriers that they experience, and their personal experience in leadership positions. Themes from interviews are named and implications for preservice education programs are discussed.

**Background/Rationale**

School leadership has been shown to significantly contribute to the academic success of students (Leithwood et al., 2004). Leadership as a construct is often loosely defined (Wenner & Campbell, 2017) with our current understanding of special education teacher leadership particularly limited. Yet, many of the skills required to be an effective special educator, such as strong collaboration and problem-solving skills, are those that are identified as necessary for strong leadership (Billingsley, 2007). Despite this, administrators often overlook special educators for leadership roles in favor of general educators. Many reasons exist for this disparity, such as a misunderstanding of special educators' roles, skills, and knowledge, as well as a "lack of commitment" from leadership to implement inclusion efforts (Maggin & Hughes, 2021).

The Every Student Succeeds Act (ESSA), asserts a new and prominent focus on leadership as a key lever of school and student success (ESSA, 2015). Through ESSA, Title II funds were explicitly allocated for provision of leadership development for educators, reinforcing the importance of leadership as a component of preservice teacher education programming (Scales & Rogers, 2017). Thus, there is an increasing demand for more in depth understanding of educators' experiences with leadership and the ways preservice training programs can lay the foundation for strong leadership competencies for all future educators.

The path to leadership emerges in informal ways and gradually shifts towards formal aspects over time (Von Dohlen & Karvonen, 2018). Pucella (2014) argues that the foundation of teacher leadership begins in preservice programming and that leadership concepts are already present throughout the content being presented to teacher candidates. As such, the knowledge, skills, and dispositions of leadership begin with the very start of teacher education and continue to evolve over the course of a teacher's career. Because of this, Smylie and Eckert (2018) suggest gaining a deeper understanding of the ways to promote leadership development across the span of an educator's careers, particularly given the high levels of attrition in special education teaching populations (Billingsley & Bettini, 2019).

**Purpose of the Study**

Research shows that educators generally come to the table with highly variable understandings of leadership (Smylie & Eckert, 2018), yet the requirement for teachers to operate as leaders has significantly increased (ESSA, 2015). What special educators perceive as teacher leadership and the various barriers they identify may dictate if, when, and how they pursue leadership opportunities. More information regarding the structures and resources that support special educators in pursuing leadership roles is necessary. This study was guided by the following research questions: (1) How do special educators define and describe formal and informal teacher leadership?; (2)What are the supports and barriers that special educators observe to be able to access leadership roles?; and (3) Do these perceptions vary across special educators in different career stages?

**Methods**

*Participants*

Forty-five special educators participated in this interview study. They were included in the study in the order that they responded to the eligibility self-assessment screener and were grouped (15 per group) based on years teaching, early, middle, and late career. Special educators overwhelmingly identified as white (n=33), female (n=41), and held master's degrees (n=40).

*Data Collection and Analysis*

We conducted semi-structured interviews to capture special educators' perspectives on teacher leadership, supports and barriers to accessing leadership roles, and their own personal experiences with teacher leadership. Interviews were audio recorded and transcribed. Transcriptions were sent back to the special educators for a member check. Interview questions included items such as (1) *How would you define teacher leadership?*; (2) *How would you describe the difference between formal and informal teacher leadership?*; (3) *What are some of the ways that schools and districts that you have worked in have supported and facilitated the development of teacher leaders?*; and (4) *What are some of the reasons that teachers might find it difficult to become teacher leaders?*

Qualitative analysis using open coding of participant responses was used to analyze the interviews. After the first read, we met to discuss, and review developed codes. Major topics that were mentioned across interviews were discussed and emergent ideas were identified (Creswell & Poth, 2018). We used the constant comparative analysis method (Boeije, 2002) to ensure that codes were applied consistently across interviews and researchers. A code book was developed, and several rounds of coding were conduct with codes revised as needed. Each round consisted of negotiation of codes, review of categories, and refinement of the codebook until 100% agreement was met. After each negotiation period, codes were submitted to a second coder outside of the analysis team who evaluated for adherence of data analysis procedures and accuracy of the coding process (Mayron, 2014). Finally, we engaged in a cross-sectional analysis of the coded responses to interview questions and indexed the categories based on the themes.

**Primary Findings**

*Definitions of Teacher Leadership*

In general, special educators defined leaders as those who maintain the roles and responsibilities of a teacher of record while simultaneously taking on additional responsibilities outside the classroom. One special educator noted, "I think teacher leadership is when a teacher takes a role outside of his or her… classroom responsibilities to improve the overall school community and the achievement of all students in the school." Teacher leadership was often discussed as if it included an individual's personal characteristics; the ability to lead came naturally to some teachers and thus, they secured positions of leadership. Additionally, there was a major focus on these educators acting as agents of influence within the school community.

Numerous special educators indicated similar ideas as this, "…they naturally get other teachers to want to improve practice." Others stated that teacher leaders possess experience and expertise with qualifications to back it up. And finally, leaders are approachable and committed to being high quality educators who maintain a focus on students.

*Comparing Across the Career Stages.* Minimal differences appeared across the career stages of special educators regarding the involvement of experience, expertise, and commitment when defining teacher leadership. However, differences did appear in the middle career group in the focus on 'taking on extra roles outside of the classroom.'

### Supports and Barriers to Attaining Teacher Leadership Positions

*Supports.* Special educators specifically reported on the supports they see as necessary for developing leadership. Educators talked about the accessibility of opportunities and importance of administrator's communication surrounding them. One special educator summarized this idea by saying, "The administrators…announce them in the beginning of the year and encourage everyone and anyone to sign up…because when it is open and publicized to everyone then, you know, I think people are more likely to sign up." Conversely, many special educators believed that teacher leaders need to create these opportunities when school leaders fail to do so. One stated, "I just feel like it really comes back to some persistence on the part of the teacher and just looking for the opportunities that come by and seeking out opportunities to be a leader." Because not all teachers are ready for leadership opportunities, considerations must be made for teachers to gain experience, secure professional development, and attain credentials to increase readiness. Many special educators noted that school leaders not only need to provide opportunities for these development options, but also need to incentivize teachers to pursue them (e.g., release or coverage time, increased pay, etc.).

*Barriers.* The greatest barrier indicated by special educators was the extra stress that comes with leadership positions. Many teachers mentioned a heavy workload, lack of time, and high levels of stress. As this educator noted, "There's too much going on. You are constantly interrupted. … It's time consuming, it's really time consuming." Additionally, many teachers discussed a difficult dichotomy that can occur in some schools where there may arise an adverse relationship between teachers and administrators. One stated, "A lot of teachers often use going to the dark side like 'Oh you're doing more of an administrative role' and … they feel like, there's a separation between admin and teaching."

*Comparing Across the Career Stages.* Some differences appeared across career stages in discussing both supports and barriers to teacher leadership. Late career special educators indicated with the greatest frequency that teacher leaders are often appointed to their leadership roles. The biggest difference across the career groups seemed to be with middle career special educators. Many identified professional accreditation or specialized degrees as an important step, such as gaining a master's degree, becoming National Board certified, or attaining an administrator's certification or license.

### Teacher Leadership Experiences

Of the 45 special educators who participated in the study, 33 indicated they are current leaders, with four more stating they are former leaders. Less than 18% of the teachers that participated in the study indicated that they are not current or former leaders. Considering only those who indicated that they are current or former leaders, 32 leadership roles were named explicitly in the interviews and of those, over 60% were positions related to special education.

***Comparing Across the Career Stages.*** We found little difference across the career stages regarding who currently holds leadership roles. Early career educators reported equal rates of leadership participation to middle and late career teachers.

## Discussion

Special educators shared definitions of teacher leadership that aligned with Wenner and Campbell's 2017, literature review. Wenner and Campbell define teacher leadership as "teachers who maintain K–12 classroom-based teaching responsibilities, while also taking on leadership responsibilities outside of the classroom" (p. 140). Special educators in this study largely agreed. Special educators also emphasized a significant focus on teacher leaders' consideration of students. This is in line with other research involving both teacher leaders (Hunzicker, 2017) and special educators' (Maggin & Hughes, 2021; Zigmond & Kloo, 2017) narrow focus on individual student strengths, needs, and development. Special educators largely asserted that teacher leadership comes from those who are natural leaders, but that school leadership can support teacher leadership through ample provision and communication of leadership opportunities. Primary barriers to special educators' access to leadership opportunities were resoundingly reported as heavy workload, lack of time, and high levels of stress.

In our study, the career span did not directly correlate to assentation of special educator leadership. Instead, all educators shared unique ways that they are contributing to school communities. Thus, preservice programs can directly foster the development of leadership skills and capacities, as well as the executive functioning skills to manage a heavy workload while simultaneously taking on additional responsibilities. There is also a need to further recognize and solicit the voices of special educators in schools and in research.

The results of this study indicate that the implementation of strategic leadership preparation and development in preservice programs is having some impact, since early career special educators were equally involved in leadership positions as middle or late career special educators. This early development of the knowledge, skills, and mindsets necessary for teacher leadership is key to supporting special educators in achieving these roles as teachers of record. Yet it is also imperative that pre-service programs begin to strategically pair executive functioning training with leadership preparation to allow special educator candidates to overcome the difficulty of a demanding profession paired with the added requirements of a leadership position.

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BUILDING THE BRIDGE: PREPARING GENERAL & SPECIAL EDUCATORS TO TEACH MATH TO STUDENTS WITH SIGNIFICANT DISABILITIES

**Abstract**

Pre-service general educators may not receive sufficient training to support learners with diverse needs, while special educators may not be given opportunities to practice collaborating with general educators. Both sets of teachers could also benefit from training in supporting students with significant disabilities in mathematical instruction. To meet this need, a pilot study was conducted with general educators participating in a mathematical methods course and special educators participating in a course focused on students with significant disabilities. The general educators wrote two lesson plans for secondary math topics. The special educators adapted and returned those plans to the general educators. Both sets of pre-service educators reflected on their experiences, with the general educators reporting they felt more comfortable with asking special education colleagues for help in adapting lessons and the special educators reporting that they felt more able to teach and adapt math content for students with significant disabilities.

**Introduction**

General education teachers, especially at the secondary level, may not receive more than a cursory overview of special education and how to support learners with diverse needs. Furthermore, one of the leading causes of general education burnout is lack of knowledge in supporting students with diverse needs (Talmor, Reiter & Feigin, 2005). Teacher stress is up, particularly with the challenges of pandemic teaching (Hoang, 2020; Fullard, 2021), leading to burnout and teacher attrition in both general and special education (Madigan & Kim, 2021).

General education teachers receive little instruction on how to support students with severe disabilities (Dibbs et al., 2020), and pre-service general and special education teachers do not often collaborate on designing mathematics lesson plans for students with disabilities (Trent et al 2003). This lack of practice can lead to students with disabilities not receiving mathematical instruction and a corresponding lack of opportunities in school, community, and employment (Othman, 2020).

Research has shown that students with significant disabilities can be taught to understand and use complex math concepts (Bowman et al., 2019). However, teacher preparation programs for pre-service special educators may focus more on preparing educators to teach literacy and life

skills rather than mathematics, and include no or very limited opportunities to work with pre-service general education teachers, particular secondary teachers (Da Fonte, 2017).

One solution could be pairing pre-service general and special educators to collaborative write lesson plans for supporting students with disabilities in middle and high school mathematics. Such collaboration benefits all pre-service teachers learn communication strategies and flexible pedagogy (Ricci & Fignon, 2017). The purpose of this case study was to examine how pre-service teachers benefit from writing inclusive collaborative secondary math lessons. We argue that both groups of teachers benefitted from writing these lesson plans by learning to communicate clearly with future colleagues and realizing that inclusive teaching would benefit all of their potential learners.

## Methods

Participants in this study were five pre-service secondary math teachers at a rural public research university in the south, and 28 pre-service special education teachers in a small public comprehensive university in the northeast. There were two collaborative lessons; one middle school lesson based on a geometric art project and a high school problem-based learning lesson on similar triangles. For the purpose of this paper, we will focus on the former assignment. After completing the art, students were directed to analyze the art algebraically, geometrically, and with probability and statistics. Typical questions for students asked students to create a histogram of the colors in the art, find the probability of choosing a green rectangle, identifying parallel lines, writing the fraction of rectangles that are purple, and converting that fraction to a decimal and percent.

*Figure 1*
*Typical art project*



The pre-service special education teachers created adaptations for the art project based on the Universal Design for Learning (UDL) guidelines (CAST, 2021).  These guidelines emphasize designing lessons to include multiple means for engaging learners of all abilities and backgrounds, representing the material to be taught in various ways, and allowing the learners choice in how they express or show what they have learned.  Both sets of pre-service teachers were provided with information about the UDL framework and its uses.  Additionally, the

special education teachers had practiced creating adaptions based on UDL in literacy and communication contexts.

The data collected were the lesson plans written by the pre-service general education mathematics teachers, the adaptations written by the pre-service special education teachers, and the individual reflection papers written by all pre-service teachers. These reflections were coded thematically, and the coding scheme was member checked by the participants for trustworthiness.

**Findings**

Adaptations the pre-service special educators made including providing choices with group roles, offering peer and paraprofessional supports, and providing opportunities for generalization.  They noted that practice for generalization could occur when general education students were working on parts of the lesson in which target standards that students with significant disabilities may not be addressing.  The teachers also focused on adapting materials for students with visual or fine motor impairments, suggesting adaptive pencils, Braille dice, and large text directions.  Lastly, they emphasized communication adaptations for students with limited speech and/or writing capabilities, planning for access to alternative and augmentative communication systems and other means of support, such as scribes and speech-to-text software.

The pre-service general education teachers had two main realizations from this activity that they all said in their reflections. The first was that they knew a lot less about special education than they had realized. As Maria explained:

> I have no experience with special education and I have very little knowledge of special education. It honestly opened my eyes on how a special education lesson plan is written and how I can adapt my lessons for students with disabilities. I am glad we did this lab because they gave good examples of resources to use for students with auditory, visual, and vocal disabilities.

The second universal theme in their reflections was that special education adaptations could often improve the lessons for all students, with two students even making connections to a presentation on UDL earlier in the semester. "Most of the adaptations to the lesson I wrote would actually help all of my students with the activity," Deanna observed in class.

Pre-service special educators, for their part, realized it was possible to adapt secondary math lesson plans for students with significant disabilities using the UDL framework.  Several teachers observed that it was important to plan for students with significant disabilities to meaningfully engage in mathematical activities, especially in small group activities with general education students.  As Kayla wrote in her reflection:

> By adapting this lesson plan I learned that you need to make sure you create adaptations for engagement, representation, and expression. I feel like most of the time teachers just

think of adaptations or modifications for representation and expression, but do not figure out ways to engage students with severe disabilities.

The pre-service special education teachers also realized that secondary math instruction could be made enjoyable and interactive. Sarah spoke for much of the class when she wrote:

This activity taught me that teaching math can be done in interactive ways. Most of my math classes consisted of listening to the teacher lecture and then doing problems out of a book. This lesson helped me see how to design an activity to lead students to construct their own learning of a principle.

Several special educators also noted that need to be very clear in their instructions when teaching math to students with disabilities. As Hannah observed, "I learned that when it comes to teaching math, you need to really describe the steps it takes to create or solve anything math related."

## Discussion

Overall, general education teachers found the adaptions eye opening, and reported that if they didn't feel more prepared to support students with disabilities yet, they at least felt more prepared to ask questions of their future special education colleagues. On the other hand, the special education pre-service teachers found the math content challenging, but were able to provide useful adaptations to the general education teachers. The pre-service special education teachers also reported new understandings of how math can be taught using interactive activities and art, and felt that they would be able to successfully adapt math lessons for future secondary students with disabilities. This aligns with similar work done with in-service teachers (Ricci & Fignon, 2017), but are hopeful realizations for novice educators.

## Implications

Faculty at teacher preparations programs for both general and special education may find this study a useful template for enhancing collaboration between general and special education teachers while improving educators' skills at adapting lesson plans for students with disabilities. In particular, the geometric art project can be done with preservice educators preparing for all age and ability certifications (Dibbs & Boyle, In preparation). All preservice teachers can practice working together and creating adaptions for students with disabilities (especially significant disabilities) using this interactive art activity. Preservice general educators can gain knowledge of practices to support learners with disabilities as well as what questions to ask of their future colleagues in special education. Similarly, preservice special educators can gain confidence about creating adaptations for math content as well as knowledge about using interactive activities to teach math to learners with disabilities. Lastly, it is our hope that our preservice teachers' future students, especially those with significant disabilities, are now much more likely to receive meaningful and appropriate mathematical instruction from the general education and special education teachers who participated in this study.

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PROFESSIONAL DEVELOPMENT FOR EDUCATORS SUPPORTING STUDENTS WITH AUTISM: AAC, ACADEMICS, AND BEYOND

## Abstract

Students with autism spectrum disorders often face challenges with verbal communication and could benefit from augmentative and alternative communication (AAC). However, educators may not have the training required to support such students.  Thus, a series of virtual workshops were held for early intervention educators who work with young learners with autism.  These workshops focused on using AAC to support the growth of communication and literacy skills for children with autism.  Educators indicated they found each session useful, leading to positive changes in their practices. Future plans include hosting in-person workshops, offering more information on accessing short-term trials of and funding for AAC systems, and providing classroom coaching on using AAC to educators.

## Rationale

Students with autism spectrum disorders often face challenges with verbal communication, particularly in the early years. One report suggested that nearly half of students with autism grow up with limited or no speech (Lord & Bishop, 2010). Such students could benefit from access to and instruction in using augmentative and alternative communication (AAC) systems. In fact, the evidence base for students with autism suggests that AAC interventions are effective in improving communication outcomes (Iacono et al., 2016).  In addition, students with limited speech have successfully learned early literacy skills with the use of AAC in adapted literacy programs using direct instruction (Browder et al., 2012; Yorke et al., 2020).

However, special educators, early intervention providers, and other professionals may not have the training required to support such students in gaining access to and effectively communicating with AAC (e.g., Andzik et al., 2019). They may falsely believe that AAC does not benefit young children or those with cognitive disabilities or may think that providing AAC would make students less likely to use speech (Romski &Sevchik, 2005). Moreover, educators may struggle to adapt academic instruction for students with limited oral speech (Ruppar et al., 2011), despite research showing that such students can learn literacy and other skills (e.g., Browder et al., 2012). Students with autism and limited speech - and particularly young learners - may be thus at risk for negative communication and academic outcomes that could stem from lack of access to both AAC and educators who know how to teach students with limited speech

both academic and communication skills. Educators who work with students with autism need to be provided with professional development opportunities that will bridge their skills and knowledge in this area.

**Research Question**

What are educators' responses to workshops focusing on using AAC to support the communication and literacy skills of students with autism?

**Methods**

Three workshops were presented via Zoom to early intervention educators on supporting young students with autism (ages 0-5) who could benefit from access to and use of AAC systems. These educators included itinerant teachers who traveled to homes and childcare centers, preschool special education teachers, and speech-language pathologists working in early intervention. In addition, a few of the educators shared that they were parents of children with disabilities themselves. All of the educators worked in a county with a diverse and multi-lingual population in a Northeastern state. This state places emphasis on oral speech and sign for students with autism, based on a verbal behavior approach.

The first workshop served as an introduction to AAC, with a focus on providing definitions and examples (unaided vs. aided, low-tech vs high-tech, etc.) as well as debunking common myths (such as the idea that AAC means giving up on speech). The second workshop presented an overview of the research on AAC interventions for children with autism, a demonstration of aided language modeling, and a discussion of how AAC use may be supported within a verbal behavior framework common in local preschool autism classrooms. The final workshop provided information on teaching academic skills to their students, including how to adapt literacy and other instruction for students using AAC systems.

In each workshop, a parent partner shared stories and examples of her journey with her child, who had started using an AAC system when he was 7 and now had much more effective communication skills and a much larger vocabulary. As her child had received early intervention services starting at the age of 2, she was able to connect her story to what she wished had learned from educators early on.

Lastly, for each workshop, educators were asked to share what they learned and what they still had questions about. They were also invited to make any other comments about either the content or the workshop format.

**Results**

In general, the educators found the workshops useful, often stating that they had received little or no training in AAC during the professional preparation programs. They planned to use this information in their work going forward. For example, an educator in charge of other professionals providing early intervention evaluations indicated that they would now plan to

always evaluate for AAC needs when performing an evaluation for services, especially for children with a suspected or actual diagnosis of autism spectrum disorder. Another speech-language pathologist reached out after the last workshop to share that she was going to recommend AAC evaluations for 2 toddlers on her caseload who were not making progress with oral speech. Educators also indicated interest in face-to-face workshops in the future, which would allow them to practice using actual low-tech and high-tech AAC systems.

In addition, educators had questions about supporting beginning intentional communicators, getting access to AAC systems for short-term trials, and how to support families through the funding process for owning an AAC system. Although they appreciated the parent presenter's description of how funding her son's AAC system through her private insurance worked, they requested more detail on how they could learn more about supporting this process as educators as well as more knowledge about additional funding sources, such as Medicaid and nonprofit organizations.

**Discussion**

Overall, the educators found the workshops helpful, increasing their knowledge of AAC and how to use AAC to improve the communication skills of students with autism spectrum disorder. They also learned how to better support the academic instruction of young students with autism and limited speech, with a focus on literacy. Educators reported that they would make changes in their practice going forward, recommending AAC evaluations as a first line of defense when children present with limited speech, instead of a last resort. They are also better equipped to support families in using AAC to communicate with their children with autism and limited speech. However, they also indicated a desire for additional information on logistics of accessing AAC, especially how and where to request high-tech systems for short-term trials and how to support families through the funding process for a high-tech AAC system.

Responding to that feedback, future workshops will include more information about accessing and funding high-tech AAC systems. In-person or hybrid workshop formats in which participants could practice with actual AAC systems are also being explored. Additionally, starting in January 2022, we will be offering coaching on using AAC with young learners in literacy and other activities at an early intervention center where several of the educators who attended the workshops are employed. We hope that this will help educators generalize what they have learned in the workshops to their students, and that this has a positive effect on the communication and literacy skills of the learners, especially those with autism and limited speech.

In conclusion: a call for action: faculty at special education and speech pathology preparation programs should ensure that preservice educators receive sufficient training in accessing and using AAC to support the growth of communication and literacy skills for students with limited speech. This is especially critical for students with autism spectrum disorders, who very often face challenges with oral speech. In addition, both preservice and inservice educators could benefit from professional development in teaching academic – particularly literacy – and communication skills to students with autism.

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A DISCRIT POLICY DISCOURSE ANALYSIS OF IDEA (2004)

## Abstract

A primary purpose of the Individuals with Disabilities Education Act (IDEA; 2004) is to ensure equal educational opportunity for students with dis/abilities. Yet, ambiguous and paradoxical language used in this federal policy leads to misinterpretation and misguided implementation at state and local levels. As a result, disparate student outcomes persist, particularly for students with dis/abilities from minoritized racial/ethnic backgrounds. To identify and dismantle the language utilized in IDEA (2004) that perpetuates inequitable special education programming within the United States, a critical policy discourse analysis was conducted through the lens of Dis/ability Critical Race Theory (DisCrit). Additionally, a survey was administered to understand constituents' interpretations of ambiguous policy language and to privilege the voices of marginalized populations participating in the public education system. Preliminary findings were shared in this presentation.

## Positionality & Background

As a White cisgender female with a dis/ability (attention deficit hyperactivity disorder [ADHD]), I served as a professional special educator for seven years across urban, suburban, and rural public school systems in the U.S. and witnessed inequitable distribution of resources as federal policy was interpreted and implemented at local levels. Noticing how this differentially impacted students with dis/abilities from minoritized racial/ethnic backgrounds, I wondered, what constitutes a free appropriate public education (FAPE) for this group of students and who decides? The U.S. Supreme Court's decision in *Endrew F. v. Douglas County School District* (2017) proved disappointing when seeking an answer, as the court stated that an education is appropriate when a child makes meaningful progress in light of their circumstances. By declining to elaborate further on the concept of meaningful progress, authority in reconciling discrepancies in the provision of a FAPE remains beholden to state (SEAs) and local educational agencies (LEAs). Of importance to note, policy actors (e.g., legislators, judges) intentionally use ambiguous and paradoxical language to generate consensus among constituents with differing values. However, reconciling unclear or incompatible policy objectives to make implementation decisions affecting the masses, is given to a few privileged individuals (Stone, 2012). As history is innately engrained in policy texts, readers, and contexts, inequitable systems are reinforced when such policies are introduced in spaces with preexisting patterns of inequality (Ball, 1993).

## Study Purpose & Research Questions

The purposes of this study are to (a) examine how ambiguous and paradoxical language used throughout IDEA (2004) reallocates power and privilege into the hands of a few, resulting

in the inequitable distribution of resources and social stratification of students at the intersection of dis/ability and minoritized race/ethnicity; (b) understand how constituents interpret ambiguous policy language; and (c) combat persistent educational inequities for students with dis/abilities from minoritized racial/ethnic backgrounds by offering examples of innovative solutions. To accomplish these purposes, the following research questions guided this analysis:

1) What examples of ambiguous and paradoxical language exist in IDEA (2004), and how do they relate to current inequitable programming or outcomes for students with dis/abilities from minoritized racial/ethnic backgrounds?
2) What do adults and youth participating in the U.S. public education system consider an "appropriate" education and "meaningful progress" in school?
3) What are some examples of diverse forms of resistance to inequitable special education programming/services that exist to date?

**Method**

Critical policy discourse analytic methods were applied through the lens of Dis/ability Critical Race Theory (DisCrit) in this study. The five distinct themes of CPA include attention toward: (a) differences in policy rhetoric and implementation; (b) policy emergence and development, and its role in reinforcing the dominant culture; (c) inequitable distribution of knowledge, resources, and power; (d) the effect of policy on relationships of privilege and inequality; and (e) non-dominant group members' reactions to policy (Diem et al., 2014). As discourse is linked to socially defined constructs that carry privilege and value in society and, therefore, individuals' interpretations cannot be considered neutral, CDA is an inherent exploration into the negative uses of power articulated through/within discourse. In addition to critiquing, researchers employing CDA methods seek to transcend domination and oppression (Rogers, 2011). The theoretical frame of Dis/ability Critical Race Theory (DisCrit) focuses on "the ways in which race, racism, dis/ability, and ableism are built into the interactions, procedures, discourses, and institutions of education which affect students of color with dis/abilities qualitatively differently than White students with dis/abilities" (Annamma et al., 2016, p. 14). Findings are presented as they pertain to each of the seven tenets.

*Data Sources & Analysis*

In addition to IDEA (2004), seminal case law and policy documents that led to the development of this policy were examined. Additionally, an online, self-selecting survey was administered through social media outlets (i.e., Facebook, Twitter, and Instagram), gathering constituents' interpretations of ambiguous policy language through two substantive questions: (1) How would you describe an "appropriate" education?; and (2) What would you consider to be meaningful progress in school? Demographic information (i.e., age, race/ethnicity, gender, and residing U.S. region) was also collected. The survey yielded a total of 59 responses from 54 adults and five youth. Due to IRB restrictions on the participation of minors within research, recruitment was restricted to adults. While adults could give consent for their child's participation directly in the survey, this limited youth responses. Lastly, data sources were analyzed using categorical analysis (Constas, 1992), with 7 codes developed a priori using the tenets of DisCrit, and 32 a posteriori codes developed from language in survey responses. All documents were read line by line, or entry by entry, and ideas within the data sources were coded accordingly.

**Findings**

      ***Legal, Ideological, and Historical Aspects of Dis/ability and Race:*** In *Brown v. Board of Education* (1954) the U.S. Supreme Court stated that "Separate educational facilities are inherently unequal." Following, however, they requested arguments from all parties regarding the timeline for integration. Rather than upholding the notion of separate as "inherently unequal", power was reallocated to the same SEAs and LEAs that refused to recognize inequality in the first place. Unsurprising then, separate schooling apparently remains seen as "equal" under the law for students with dis/abilities from minoritized racial/ethnic groups, as only 13% of White students with dis/abilities versus 21% of Black and 17% of Latin-x students with dis/abilities receive their education in separate classrooms for the majority (i.e., 40% or more) of their school day or in separate facilities altogether (U.S. Department of Education, 2020). Though a 32-year-old Latina female indicated that she considers an appropriate education to be "culturally inclusive and historically accurate", this does not seem to be the current reality in schools.

      ***Material and Psychological Impacts Resulting from Social Constructs:*** IDEA (2004) states that "greater efforts are needed to prevent intensification of problems" associated with the education of "minority children" (20 USC §1400(c)[10-13]). Yet, discipline-specific teacher preparation programs are one example of a system that contributes to such problems. As general, special, and ESL teachers learn best practices for students within these singular disciplines, they are ill-equipped in planning and providing instruction with consideration toward intersectional needs, impacting multiply marginalized students' psychological well-being and achievement (Trainor & Robertson, 2020). Evidence of this is found in a survey response from a 16-year-old Black male with a dis/ability, as he stated that an appropriate education is "Giving me skills to survive." Navigating multiple forms of marginalization, the typical focus on content area curricula has taken a back-seat in this student's education as he, instead, finds it necessary to focus on gaining skills for survival in the world.

      ***Concern with Singular Notions of Identity:*** IDEA (2004) also indicates that "recruitment efforts for special education personnel should focus on increasing participation of minorities in the teaching profession...to provide appropriate role models with sufficient knowledge" to address student needs (20 USC §1400(c)(10)[D]). While recognizing the importance of group identification in social environments, this is nullified by suggesting that teachers only require "sufficient" knowledge to successfully meet the multidimensional needs of marginalized students. A 14-year-old female with a dis/ability identifying as Black, Asian, and White illuminates these needs, as she stated that an appropriate education is "An education that meets my unique needs. Not cookie cutter...less box checking to push me through to meet the needs of adults." Though states are starting to recognize the necessity of fostering culturally competent educators by establishing professional standards of practice, only 35 have done so thus far, and they vary greatly in comprehensiveness (Schettino et al., 2019).

      ***Upholding Notions of Normalcy as Whiteness and Ability:*** IDEA (2004) states that the effectiveness of SEAs and LEAs will be based upon "improving the participation of children

with disabilities in the general education curriculum" (20 USC §1464(b)(2)(D)[ii, iv]). Yet, using general education curricula as the criterion for program effectiveness is a paradox to the primary purpose of this policy, which is to ensure students' unique needs are met. Further, by promoting the general education environment as the benchmark for improved participation, this policy promotes the notion that this environment is the norm to which all students should strive. Survey responses illustrate this contention and the confusion that results. A 45-year-old Black female indicated that an appropriate education is "Meeting the needs of the individual." However, when asked what constitutes meaningful progress, a 32-year-old Latina female responded, "Testing seems to be the only way to deem progress as meaningful, unfortunately."

***Interest Convergence Among the Marginalized and Those Claiming Whiteness and Ability:*** The final purpose of IDEA (2004) is to "assess and ensure that efforts to educate children with disabilities are effective" (20 USC §1400(d)[4]). Suggesting that education is effective if multiply marginalized students achieve passing scores similar to their White, general education peers is certainly another example of upholding notions of normalcy. However, failing to ensure that education is effective for students who do not identify as White and abled also constitutes a lack of interest convergence as the same institutions requiring participation in standardized assessments consistently find discrepancies in student performance and yet, nothing changes. Fortunately, interest convergence for the good of constituents may not be far-reaching as many survey responses spoke to the need for individualized supports and reduced standardized testing. Similar to the Latina female's response above, a 54-year-old White female stated that "Meaningful progress is definitely not just being able to pass standardized tests...Our educational system needs diversification to be able to provide opportunities for all our children."

***Diverse Forms of Resistance are Required:*** This final DisCrit tenet contends that, to combat systems of oppression, diverse forms of resistance that are linked to and informed by the community are required. To address this tenet, exemplar initiatives that may combat some of the challenges faced by students with dis/abilities from minoritized racial/ethnic backgrounds were shared, as follows:

1) School-based restorative justice programs;
2) Culturally responsive positive behavioral interventions and supports (CRPBIS);
3) Innovating parent and student involvement;
4) Culturally responsive teaching standards and teacher preparation;
5) Evidence-based practices that address the needs of students at the intersection of minoritized race/ethnicity and dis/ability.

**Discussion**

Without clear objectives or steps for achieving improved educational outcomes for students with dis/abilities from minoritized racial/ethnic groups, this goal of IDEA (2004) cannot be accomplished. Developing clear objectives requires the engagement of a range of individuals—who, at a minimum, comprise a representative sample of their school community—in conversations around broad policy terms to better understand interpretations and work toward collectively defining such. Actively involving marginalized peoples in conversations and decisions that directly affect their lived experiences will support the establishment of a community of trust which, in turn, should decrease the discrepancies we currently see between policy rhetoric and policy-in-practice

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PUBLIC SAFETY INSTRUCTION FOR INDIVIDUALS WITHINTELLECTUAL
DISABILITIES: A FIRST RESPONDER'S RESPONSIBILITY?

## Abstract

First responders are often called to assess and intervene in emergencies involving individuals with intellectual disabilities (ID). Nevertheless, the critical analysis of public safety instruction for this marginalized population is underdeveloped, yet it is urgently needed. This study reported data from a questionnaire distributed in the United States, where 318 first responders were surveyed about working with individuals with ID when on the frontlines, in schools, and at homes. Results from *f*-tests showed that in-school first responders had significantly higher perception scores on the *Public Safety Instruction for Individuals with ID – Questionnaire* (PSIID-Q) than with first responders on the frontlines, but there was no significant difference in perception scores when compared to first responders who were social workers. Additionally, linear regression results revealed that ADA awareness was a significant predictor of preparedness. Future implications and research are discussed.

## Background/Rationale

Displaying poor communication and reasoning skills, decreased social awareness, and poor mobility make individuals with (ID) more vulnerable (Henshaw & Thomas, 2012) to experience negative outcomes when engaging with first responders. Determining the right way to communicate is somewhat disability specific and not always clear cut, despite the general legal requirement for all public sectors to provide effective communication pursuant to Title II of the Americans with Disabilities Act of 1990 (Americans with Disabilities Act [ADA], 1990). While aware of ADA, researchers have found a minimal level of public safety engagement in many Western nations, recognizing that U.S. systems of criminal justice and punishment have largely failed to comprehend the diverse needs of individuals with ID (Segrave et al., 2017). Although one may recognize the need for such training, recent community programs and current studies have not adequately addressed how the diverse group of individuals with ID themselves should be best instructed to interact with the diverse groups of first responders. The roles and responsibility of first responders are becoming more complex, multifaceted, and sometimes dangerous occupations that now require comprehensive, community-based training for both individuals with ID and first responders.

## Research Questions

Given safety is a highly valued expectation around the world, and available data suggest individuals with varying disabilities sustain injuries from accidents at a rate that is comparable to or may exceed the normative population, many do not receive systematic safety skills instruction (Agran et al., 2012). For this study, the authors investigated the following research questions: (a) based on objective ratings, were there significant differences among first responders' perceptions (ADA awareness, confidence, attitude, strategy) of public safety instruction for individuals with ID, and (b) what was the predictive relationship between first responders' ADA awareness and preparedness (confidence, attitude, strategy) when working with individuals with ID?

## Method

A total of 318 first responders from police departments, fire departments, colleges and universities, local education agencies (LEAs) and from the field of social work (SW) completed the questionnaire and met the inclusion criteria for this study (See Table 1).

**Table 1**
*Descriptive Demographic Characteristics of Sample.*

| Variable | | | *n* | % |
|---|---|---|---|---|
| First Responder | Frontline | EMT | 26 | 8.2 |
| | | Firefighter | 33 | 10.4 |
| | | Police Officer | 47 | 14.8 |
| | | Total | 106 | 33.4 |
| | In-school | School Counselor | 51 | 16.0 |
| | | Special Educator | 55 | 17.3 |
| | | Total | 106 | 33.3 |
| | Social Work | Social Worker | 106 | 33.3 |
| | | Total | 318 | 100 |
| Training | Frontline | Yes | 94 | 88.7 |
| | | No | 12 | 11.3 |
| | | Total | 106 | 100 |
| | In-school | Yes | 99 | 93.4 |
| | | No | 7 | 6.6 |
| | | Total | 106 | 100 |
| | Social Work | Yes | 97 | 91.5 |
| | | No | 9 | 8.5 |
| | | Total | 106 | 100 |

## Instrument Construction

This study utilized a portion of one previously published survey (Stevens, 2018) to assist in developing PSIID-Q assessment. In a previous study, the researcher explored post-secondary faculty perceptions of awareness and preparedness relating to ADA. The American with

Disabilities Act Faculty Questionnaire (ADAFQ) was adapted from several non-experimental instruments located in the research literature and was used to obtain demographic information such as age, gender, employment status, level of education, ADA awareness and ADA preparedness. With a similar contextual structural, the PSIID-Q consisted of five components: demographic and professional characteristics of participants, ADA requirement statements, attitudinal statements, statements about confidence, and statements regarding strategy. The demographic and professional components, such as age, gender, job description, years of working with individuals with ID, and their experiences, were also assessed in detail.

### Validity and Reliability

Four experts' feedback regarding contextual, physical, and sensory accessibility was incorporated into the survey. Beginning with one biostatistician with a doctoral degree in epidemiology, it was recommended to develop a repertoire of questions surrounding the keywords for the study. Those questions were then forwarded to two experts with doctoral degrees in special education, and Section 504 of the 1973 Rehabilitation Act, which prohibits discrimination against people with disabilities in programs that receive federal financial assistance and set the stage for enactment of ADA. Finally, another biostatistician with a doctoral degree in psychological research reviewed the questionnaire in its entirety for social construct.

This study included objective ratings on to what extent participants agreed with a given statement on the PSIID-Q in the intended domain. Thirty-eight items from five sections: (a) awareness of ADA (1990), (b) confidence levels of first responders, (c) attitudinal statements, (d) the use of targeted response strategies, and (e) professional and demographic characteristics were designated for the initial instrument based on the PSIID-Q as a new conceptual model. After collecting data, the questionnaire was validated and grouped using factor analysis and reliability analysis. Twenty-eight items remained in the final questionnaire after deleting items which cross-loaded on multiple factors and grouped into a four-subscale construct (i.e., ADA awareness, confidence, attitude, and strategy).

### Survey Results

Results indicated a statistically significant difference in perceptions of public safety instruction for individuals with ID among groups of first responders. The proposed hypothesis for the first research question was generally supported in that the variables of first responders' objective ratings on the PSIID-Q differed significantly with in-school first responders having a higher total perception score in public safety instruction for individuals with ID than frontline first responders, but not with first responders in social work. Additionally, there was a statistically significant difference in first responders' objective ratings on the subscales. The second research question considered the predictive relationships between a first responders' awareness of ADA (1990) and its effect on confidence, attitude, and strategy toward public safety instruction for individuals with ID. Confidence, attitude, and strategy were all significantly predicted by ADA awareness scores, where $p < .001$ was considered a statistically significant difference.

## Discussion

Data from this study were consistent with previous findings that emphasized the way training should include information about how and when to ask about disability, how to discern disability from suspicious behavior or intoxication, how to avoid escalation, and how to deescalate if interactions intensify. (Neave-Ditoro et al., 2019; Stevens et al., 2018). Due to various reasons (e.g., lack of ID literature, autism-focused curriculum, disability-specific training, etc.), the differences of perceptions among groups of first responders subsequently aligned with a preconceived notion that those whose jobs require daily interaction with individuals with ID produce better life experience for one of the most marginalized populations.

As it related to ADA awareness predicting preparedness, findings from the data implied that confidence, attitude, and strategy were all positively correlated, meaning that the more a first responder was aware of ADA, the more prepared they were to intervene with individuals with ID. This finding substantiates other studies' results that show general safety skill instruction as an effective intervention for implementing procedures for teaching public safety skills to individuals with ID (Mechling et al. 2009; Mechling, 2008).

## Implications

This study calls upon first responders to produce a core training package, suitable across professions with elements that are disability-specific and therefore tailored accordingly (Hemm et al., 2015). Specifically, it calls on practitioners to provide ADA, confident-building training with exposure to various de-escalation techniques to support first responders in engaging effectively with individuals with ID. Based on previous literature of safety instruction regarding individuals with ID, it can be concluded that a breakdown in the collaboration between families, schools, and public officials is occurring. Individuals with ID need specific instruction in crisis prevention to be part of their specially designed, systematic instruction that includes focusing on behavior analysis in the preparation and implementation of interventions (Spooner et al., 2012).

## Conclusion

Although individuals with ID may not have extensive knowledge of a crisis plan, they should be included in the instruction of public safety skills, along with their caregivers because they are the experts, and they have valuable information about the individual with ID that can offer productive and successful crisis planning and outcomes. Disability-specific training programs for first responders should produce best practices that are geared towards the construct of adaptive behavior and intellectual functioning for individuals with ID. Understanding and use of the construct of adaptive behavior is critical to clinicians and practitioners in the field of ID because of the four essential functions that adaptive behavior fulfills in regard to (a) understanding the phenomenon of ID, (b) diagnosing a person with ID, (c) providing a framework for person-referenced education and rehabilitation goals, and (d) focusing on an essential dimension of human functioning (Tassé et al., 2012). This step forward would afford future research the opportunity to focus on first responders who are better trained and have practiced response techniques under simulated conditions.

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# INTEGRATING FLOURISHING IN TEACHER PREPARATION AND SPECIAL EDUCATION COURSEWORK

## Abstract

Special education teachers have one the highest levels of stress and burnout thereby impacting not only their overall being, but also the wellbeing and academic performance of their students. During this session, presenters will discuss how two universities are using a standards-based approach to integrate flourishing/overall wellbeing into special education teacher preparation and coursework to proactively promote prospective special education teachers' wellbeing.

## Background/Rationale

The teaching profession has been long been correlated with high levels of stress, which impacts teachers' wellbeing and can also lead to burnout (McLean, 2017). Levels of stress and burnout are particularly high among special education teachers, leading to an increasing number of special education teachers leaving the profession (Hester, Bridges, & Rollins, 2020). Hester and colleagues (2020) found that emotional and physical health needs were one of the primary reasons why special educators leave teaching. Brunsting, Sreckovic, & Lane (2014) reported similar findings as well.

Although schools in recent years have started to provide professional development to address teacher wellbeing, these professional trainings may prove to be an additional burden to already packed teacher workloads (Corcoran & O'Flaherty, 2021). Furthermore, research shows that lack of wellbeing can occur as early as entry into pre-service programs. Kratt and Houdyshell (2020) found that student-teachers exhibited symptoms of negative mental health, such as anxiety and depression, during their time in the program. Despite these findings, teacher preparation programs are doing little to equip future teachers with the knowledge, skills and competencies to promote wellbeing (Schonert-Reichl, Kitil & Hanson-Peterson, 2017).

Finally, existing research on teacher wellbeing tends to focus on negative correlates of wellbeing (e.g., stress, burnout, and lack of job satisfaction) rather than adopting a comprehensive and proactive approach towards promotion (Bjorklund, Warstadt & Daly, 2021; Corcoran & O'Flaherty, 2021). Hence, to promote the wellbeing of pre-service and prospective teachers, it is imperative for teacher preparation programs to adopt a comprehensive understanding of wellbeing and integrate practices, skills, and competencies in existing curriculum.

**Literature Review**

Although recent research has shown how stress management can reduce teacher stress and burnout (Brunsting, Sreckovic, & Lane, 2014), additional knowledge, skills, and strategies are required to promote wellbeing and flourishing in special education teacher preparation programs. Research shows that an absence of negative correlates of mental health, such as stress and anxiety, does not mean that an individual is experiencing wellbeing (Bjorklund, Warstadt & Daly, 2021; Keyes, 2002). Mental health is continuum that includes ill mental health, languishing, good mental health, and flourishing (Keyes, 2002). According to Keyes (2002) languishing, defined as the absence of good mental health, is problematic because individuals are more prone to developing mental illness. Although more research is needed in this area, it is likely that many special educators are languishing, especially given the unique stressors they encounter in their job (e.g., legal mandates, challenges of collaboration, meeting the behavioral needs of students; Hester et al., 2020).

To ensure a proper understanding of wellbeing and to promote practices, skills, and competencies that help pre-service and prospective special educators to flourish, a comprehensive framework is needed. According to VanderWeele (2017), flourishing is a state of being where all aspects of an individual's life are good. In order for one to flourish they must be doing well in at least five of the following domains: (i) mental and physical health (ii) happiness and life satisfaction (iii) meaning and purpose (iv) close social relationships and (iv) character and virtue (VanderWeele, 2017). Financial and material stability is the sixth domain that can impact one's flourishing (VanderWeele, 2017).

In addition to adopting a comprehensive framework for flourishing, it vital for teacher preparation programs to integrate flourishing in their curriculum (Katz, Mahfouz & Romas, 2020). Specifically, researchers have called for teacher education programs to use a standards-based approach to promote teacher wellbeing (Katz, Mahfouz & Romas, 2020; Larson, Chaturvedi, & Lee, 2020). Accordingly, two universities collaborated to integrate the *Education for Flourishing Standards* (see Table 1; Larson, Chaturvedi, & Lee, 2020; Larson & Chaturvedi, 2021) into their university offerings through coursework, research, and practicum experiences in PK-12 settings.

*Coursework.* A faculty member at University A created a course entitled "Art and Science of Human Flourishing" that will introduce pre-service teachers to the scientific, philosophical, and theoretical underpinnings of flourishing. This course will also teach the practical skills and tools to promote flourishing. In addition to this course, *Education for Flourishing Standards* are integrated across other special education courses that address student behaviors, collaboration, and transition planning, to name a few.

*Research.* Faculty at University A and University B have integrated flourishing research into their coursework. Specifically, a faculty member at University A, in collaboration with a faculty member at University B integrated the flourishing domains to coach students in the *Art and Science of Human Flourishing* course. Research findings on coaching students are

forthcoming. Moreover, faculty member at University B has integrated a contemplative practice intervention at the beginning of each special education class. Research findings of this intervention are also forthcoming.

**Table 1:**

*Education for Flourishing Standards*

| Standard I: Happiness and Life Satisfaction | Standard III: Meaning and Purpose |
|---|---|
| HF1.1: Define happiness and life satisfaction. | HF3.1: Define meaning and purpose. |
| HF1.2: Identify factors that promote happiness and life satisfaction. | HF3.2: Identify factors that promote meaning and purpose. |
| HF1.3: Apply tools of flourishing to increase happiness and life satisfaction | HF3.3: Apply tools of flourishing to increase meaning and purpose. |
| HF1.4: Analyse resources and draw connection between actions and happiness/life satisfaction. | HF3.4: Analyse resources and draw connection between actions and meaning/purpose. |
| HF1.5: Evaluate various strategies that contribute to happiness and life satisfaction. | HF3.5: Evaluate various strategies that contribute to meaning and purpose. |
| HF1.6: Create an action plan to increase happiness and life satisfaction. | HF3.6: Create an action plan to increase meaning and purpose. |
| **Standard II: Mental and Physical Health** | **Standard III: Character and Virtue** |
| HF2.1: Define mental and physical health. | HF4.1: Define character and virtue. |
| HF2.2: Identify factors that promote mental and physical health. | HF4.2: Identify factors that promote character and virtue |
| HF2.3: Apply tools of flourishing to increase mental and physical health. | HF4.3: Apply tools of flourishing to increase character and virtue. |
| HF2.4: Analyse resources and draw connection between actions and mental/ physical health. | HF4.4: Analyse resources and draw connection between actions and character/virtue. |
| HF2.5: Evaluate various strategies that contribute to mental and physical health. | HF4.5: Evaluate various strategies that contribute to character and virtue. |
| HF2.6: Create an action plan to increase mental and physical health. | HF4.6: Create an action plan to increase character and virtue. |

| Standard V: Close Social Relationships | Standard VI: Financial and Material Stability |
|---|---|
| HF5.1: Define close social relationships. | HF6.1: Define financial and material stability. |
| HF5.2: Identify factors that promote close social relationships. | HF6.2: Identify factors that promote financial and material stability. |
| HF5.3: Apply tools of flourishing to increase close social relationships. | HF6.3: Apply tools of flourishing to increase financial and material stability. |
| HF5.4: Analyse resources and draw connection between actions and close social relationships. | HF6.4: Analyse resources and draw connection between actions and financial/ material stability. |
| HF5.5: Evaluate various strategies that contribute to close social relationships. | HF6.5: Evaluate various strategies that contribute to financial and material stability. |
| HF5.6: Create an action plan to increase close social relationships. | HF6.6: Create an action plan to increase financial and material stability. |

*Larson, Chaturvedi & Lee, 2020*

***Practicum Experiences.*** This integration work is also being conducted during interns' practicum experiences in alliance with Professional Development School (PDS) partnerships. Specifically, faculty at both institutions have presented at conferences with teachers where the *Education for Flourishing Standards* have been integrated into the schools. Moreover, interns in these professional development schools, who are also taking special education courses, have been invited to attend *Teacher Alliance for Flourishing* meetings. These meetings create spaces for teachers to learn and apply flourishing tools and practices into their lives.

## Conclusion

In implementing the *Education for Flourishing* work, we have learned important lessons about mindset, policies, practices, and culture. We have found that teacher preparation programs are often firmly rooted in the belief that their primary purpose is to prepare pre-service teachers to meet the academic needs of their future students. This belief can often impede the flourishing of preservice students and, in some instances, can even lead to negative outcomes for them. Also, the policies and practices followed by teacher preparation programs can be rigid because of institutional and teacher certification policies, which can further impede pre-service teachers' flourishing. Given that pre-service and prospective teachers are at an increased risk of experiencing lower levels of wellbeing, which in turn will impact the wellbeing and academic outcomes of the students they will teach, it is imperative for teacher preparation programs to rethink the approaches they are taking to promote flourishing.

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# PRESERVICE SPECIAL EDUCATORS' DEVELOPMENT OF SELF-EFFICACY: THE ROLE OF STUDENT TEACHING

## Abstract

Student teaching is often the culminating experience in special education teacher preparation programs. Preservice special educators gain insight and practice with the dynamic role of a special educator through fieldwork, and allow them to assess their capabilities for this role. In this qualitative interview study, five special education preservice teachers' understanding of their student teaching experience was explored by identifying their engagement with the four sources of self-efficacy. Student teaching was viewed as beneficial, and positive self-efficacy and all sources of self-efficacy were identified.Responses also revealed a perception of idealism from the preparation program compared with realism faced in field placements. The development of positive self-efficacy is crucial for perseverance and competence, and preparation programs should therefore consider self-efficacy development when creating high-quality field experiences.

## Background

Self-efficacy relates to one's beliefs about their capabilities, and is contextual and specific to tasks or skills within a domain (Bandura, 1997). A strong sense of self-efficacy positively impacts perseverance and can predict competence. Mastery experiences, vicarious experiences, verbal persuasion, and physiological and affective states are the sources that contribute to the development of self-efficacy (Bandura, 1997). Mastery experiences are authentic direct experiences with a given skill. Vicarious experiences generally involve comparing oneself to others. Verbal persuasion is tied to social influences and performance feedback. Physiological and affective states refer to bodily and emotional responses. Individuals engage in cognitive processing to judge their capabilities, contributing to positive or negative self-efficacy.

### Teacher Self-efficacy

Teacher self-efficacy, defined as "teachers' beliefs that their efforts, individually or collectively, will bring about student learning" (Ross, 1998, p. 49-50), is related to a teacher's practice and student outcomes. High teacher self-efficacy is associated with the implementation of innovative teaching strategies, problem solving, direct instruction, teacher resiliency, and student motivation (e.g. Lee et al., 2011; Soto & Goetz, 1998; Woolfolk Hoy et al., 2009). Teachers with high self-efficacy are less likely to refer students for special education, and more likely to recommend inclusive, general education placements for students with disabilities (Soto & Goetz, 1998; Woolfolk Hoy et al., 2009). Self-efficacy is therefore a crucial construct to the effectiveness of special educators and high-quality special education services.

*Teacher Self-efficacy through Student Teaching*

The act of teaching has a great impact on preservice teachers' (PSTs) self-efficacy when compared to other experiences (Woolfolk Hoy et al., 2009). During field placements, PSTs apply coursework to practice, and take ownership for special educators' responsibilities. Researchers found by the end of field experiences, 91% of participants felt confident to be a teacher (Black, 2017). Cooperating teachers, supportive colleagues, and feedback also contribute to self-efficacy development. Positive correlations between PSTs' self-efficacy and mentor support have been found (Moulding et al., 2014). Although Hoy and Spero (2005) found self-efficacy increased for student teachers after their field placement, a lack of perceived preparation for their role led to a decrease in self-efficacy after their first year of teaching. Knowledge of the development of PSTs' self-efficacy during student teaching is necessary to the preparation of increasingly effective special educators.

## Problem Statement

Understanding the self-efficacy of future special educators is critical as self-efficacy is related to action and perseverance. Prior research examining PSTs' self-efficacy generally employs quantitative measures (e.g. Colson et. al, 2017; Hoy & Spero, 2005). These measures are critiqued for lacking context and domain specificity (Bandura, 1997). The aim of this qualitative study is to extend current research to identify and emphasize the sources of self-efficacy for special education student teachers. The use of open-ended interview questions rather than closed-response surveys allows participants to speak openly about their student teaching experiences, capturing contextual information. This study sought to answer the following research question: How are the four sources of self-efficacy present in preservice special educators' understanding of their student teaching experience(s)?

## Method

The current qualitative interview study analyzed a sample of five interviews with special education student teachers from a state university in the Midwest. Participants were recruited using a list of PSTs enrolled in special education student teaching. All participants identified as female and were aged from 20 to 25 years old. Each participant completed one semi-structured interview, focused on responsibilities in their field placement, coursework, knowledge and beliefs about special education, and confidence from student teaching.

Thematic analysis from deductive and inductive coding was used to analyze interview transcripts, and find themes in participants' self-efficacy. Deductive codes were the four sources of self-efficacy derived from self-efficacy theory and examples in prior literature (e.g., Lee et al., 2012; Moulding et al., 2014), which were used in the first round of coding. The second round of coding used inductive coding, which included specific experiences participants had in relation to student teaching. Inductive codes enabled examination of specific occurrences within the sources of self-efficacy. The use of thematic analysis provided a means to compare the sources of self-efficacy and insight into participants' student teaching experiences.

## Findings

All participants verbalized characteristics of positive self-efficacy overall, and for tasks related to instruction. One participant shared that "By the time that I'm done student teaching I'll be ready to be a special ed teacher." Participants expressed lower self-efficacy in special education requirements, behavior management, and job demands. All sources of self-efficacy were identified. Student teaching was perceived as beneficial due to positive experiences, learning, and a holistic view of teaching. Mastery experiences included participants engaging in special educator responsibilities. A participant felt "all of the background information is great but getting to be in the classrooms, getting to sit down and actually do real paperwork for real students who you know makes it that much more meaningful and really puts into perspective what your job as a teacher is going to be." Mastery experiences offered valuable first-hand learning with a special educators' unique role.

Vicarious experiences were found in coursework, field observations, and sharing knowledge with others, and addressed instruction, service delivery models, special educator responsibilities, and interactions. In reflecting on what they saw in their field placement, a participant shared "I've never seen like a true co-teaching setting and I know I had at least one class…that was really like you need to co-teach…I haven't seen it yet, so I don't know what that looks like." The main source of verbal persuasion was participants' cooperating teachers, evidenced by a participant who expressed "Cooperating teachers have really been my biggest source of support at my student teaching placement". Student teachers spoke highly of advice, feedback, encouragement, and engaging in reflection with others. Responses from PSTs demonstrated positive and negative physiological and affective states in special educator responsibilities, placement logistics,teacher responsibilities, and preparation programmatic experiences. Behavior management however, was consistently negative, and one participant shared "emotionally I was not prepared for how taxing that can be." Special education PSTs noted seeing their coursework in practice through field experiences, yet four out of five participants used the term "ideal" when discussing their preparation program compared to their fieldwork. One participant illuminated this divide stating "I think in an ideal world…we would be able to really hit on things like collaboration and really be able to specifically plan for every students' specific needs which obviously would be fantastic but then coming into student teaching as you see you know just kind of how classrooms work and all the other things that teachers are responsible for." Student teaching clearly offered preservice special educators a range of experiences impacting their self-efficacy.

## Discussion

Special education student teachers in this study articulated a positive self-efficacy overall from student teaching, aligning with prior quantitative studies (e.g., Hoy & Spero, 2005). Each source of self-efficacy was evident, demonstrating the impact of student teaching on PSTs' self-perceptions for their future work. Student teaching allowed PSTs to engage with responsibilities of special educators, including leading instruction across content areas and formats, and some participants verbalized involvement with IEP meetings, progress monitoring, and behavior management as difficult. These challenges hold potential to contribute to a negative self-efficacy for those special educator skills if ignored. Notably, participants identified a recognition of coursework, including strategies, and a lack thereof, particularly with service delivery models, within their placements, giving rise to a tension between idealism and realism.

### *Idealism and Realism*

The majority of participants perceived their preparation program to be ideal, particularly for service delivery models, a finding similar to the "reality shock" described by Colson et al. (2017). Implications of this bear significant weight when considering self-efficacy development. The potential arises to negatively impact self-efficacy as PSTs' feel they cannot implement the (perceived) idealistic philosophies and strategies from their preparation program while they encounter unexpected situations in the reality of schools. This may cause feelings of failure as PSTs face this disconnect. Perceived failure results in low self-efficacy (Bandura, 1997), causing increasing concern. Low self-efficacy is difficult to change, and has negative implications for special educators' job satisfaction, instructional practice, and student outcomes (Lee et al., 2011). Consideration must therefore be paid to directly addressing this issue.

Interpretations of experiences determine self-efficacy development (Bandura, 1997). While participants expressed value in reflecting with others, it is unclear how reflection allowed for collaborative sensemaking around the disconnect between coursework and fieldwork. This raises the questions: (1) how are PSTs being supported with their sensemaking of implementing the ideal situation within the constraints of the real environment?; (2) What elements of best practice get lost in translation?; (3) How does this shape PSTs' views of theory and research and its place in schools?; (4) How are PSTs being prepared for the dynamic role of a special education teacher? A failure to address this with PSTs risks developing low self-efficacy, resulting in a negative impact on their beliefs, practices, and commitment to the field.

### Recommendations for Practice

The findings of this study highlight the need for educator preparation programs to intentionally address the disconnect PSTs may perceive between programmatic ideals and field work reality. Furthermore, self-efficacy development should be considered when creating programmatic experiences and support. Intentionally incorporating modeling and reflection, may bridge the dichotomy between idealism and realism, while also targeting self-efficacy development. Preparation programs should facilitate explicit conversations of idealistic and realistic differences, communicating it is not a failure of the PSTs, but rather a real tension, and guide preservice special educators in collaborative sensemaking.

**Conclusion**

Interviews with five preservice special educators revealed an overall positive self-efficacy and the student teaching experience containing all four sources of self-efficacy. Responses expressed a tension between idealistic philosophies of their preparation program and the realistic teaching environments they were placed in; a dichotomy that may negatively impact self-efficacy. Educator preparation programs must be intentional to address the theoretical and practical disconnect to mitigate negative self-efficacy development.

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## EXPLICIT, SYSTEMATIC, AND INTENSIVE WORKS FOR TEACHERS TOO: TEACHING TEACHERS TO TEACH READING

## Abstract

Targeted, practice-based coursework and practicum experiences can have a powerful influence on teacher candidates' reading instruction. Presenters will share details from a highly acclaimed program, including syllabi from coursework, descriptions of practica, and results from two mixed-methods studies that measured graduates' sense of efficacy ratings and feelings of preparedness.

## Background/Rationale

Teacher knowledge and instructional expertise have been found to be related to student reading achievement (Lyon & Weiser, 2009), but teacher education programs have not prepared teachers to successfully implement research-based practices in the teaching of reading (Spear-Swerling & Zibulsky, 2014). Teaching students to read is a complex task and effective reading instruction requires teachers to have knowledge of language structure, as well as language and reading development (Moats & Foorman, 2003). When teachers have the necessary knowledge and skills to meet the instructional needs of students who are having difficulties learning how to read, including students with disabilities, students make significant progress (Podhajski et al., 2009). However, most teachers do not have the requisite skills in the structure of language to effectively teach students with reading disabilities (Binks-Cantrell et al., 2012; Washburn et al, 2011). In fact, 77% of teachers report that they did not learn about dyslexia at all during their teacher preparation program (Moss, 2019), and 87.8% of teachers do not feel prepared to teach children with dyslexia (Wadlington & Wadlington, 2005). More than 100,000 teachers have joined a Facebook group called "Science of Reading—What I Should Have Learned in College" in an effort to gain the knowledge they need to be effective (Severino et al., 2021). This session

will (a) address the problem of inadequate preparation of teachers to provide evidence-based reading intervention and (b) provide concrete examples of effective solutions.

There is a positive relationship between teacher preparation and student outcomes (Darling-Hammond, 1999). Teachers who receive preparation through substantive routes and gain instructional expertise are more likely to remain in teaching (Brownell & Sindelar, 2016). However, despite significant advances in our knowledge about what children need to learn to read (Moats, 2020), teacher preparation programs remain disconnected from the knowledge and skills teachers need (Salinger et al., 2010). Emily Hanford's article, "Hard Words: Why aren't kids being taught to read?" (2018), presented evidence of the problems in reading teacher preparation and provoked a national conversation.

Teacher preparation programs should prepare teachers in literacy development, instruction in reading content, and effective practices (Brady & Moats, 1997). Practice-based experiences allow preservice teachers to implement learned practices in authentic instructional settings (Darling-Hammond & Sykes, 2003). To effect substantial and sustained changes in practice, field experiences should include a content focus, active learning, coherence and alignment with teachers' prior knowledge, sufficient duration, and opportunities for collective participation among teachers (Desimone et al., 2002), alongside effective instructional coaching (Desimone & Pak, 2017). Reviews of reading teacher preparation found substantial benefits resulting from meaningful opportunities for practice teaching methods with students (Risko et al., 2008). Teacher candidates earned higher preparedness scores and achieved better student outcomes when using highly structured reading lessons (Al Otaiba et al., 2012). Teacher candidates are more likely to improve their instruction when they receive feedback and observation data gathered during participation in field experiences (Abernathy et al., 2014).

**Summer Literacy Intervention Block**

These conference proceedings describe a special education teacher preparation program that has experienced success in preparing candidates to teach reading by building pedagogical knowledge of assessment and instructional practices in literacy through carefully designed coursework and practicum experiences. Teacher candidates that participate in this program complete a bachelor's and master's degree that leads to teacher certification in elementary education and special education. The Literacy Intervention Block, scheduled in the summer before students complete their master's year, consists of three courses.

*Coursework*

The block includes six graduate credit hours of coursework focused on language development and disorders, the impact of language on learning, the reading process and reading disabilities, and the use of effective practices in the prevention and remediation of reading disabilities. To assess candidate learning and assign course credit, there are structured assignments called demonstrations of learning, structured live practices, knowledge assessments, video practices, and a final exam. The assignments and assessments during the course content provide teacher candidates with ample practice opportunities and feedback on skills before

working with struggling readers. Teacher candidates also receive training in UFLI instructional models: UFLI Foundations and UFLI Intensive. These models introduce students to the foundational knowledge and skills necessary for proficient reading, and they promote the development of teacher expertise in the areas of language structures and reading pedagogy. UFLI Foundations and UFLI Intensive employ explicit and systematic phonics instruction and follow a scope and sequence designed to ensure that students systematically acquire each skill needed. Both models provide ample practice, so children learn to apply each skill with automaticity and confidence, and they also employ multisensory methods. Prior studies of these instructional models have consistently demonstrated significant gains in reading proficiency, as well as improvements in teacher knowledge and self-efficacy (e.g., Contesse et al., 2021; Lane et al., 2009).

### *Practicum Component: Summer Adventures in Literacy (SAIL)*

Teacher candidates are able to complete their three credit-hour practicum as a part of the Summer Adventures in Literacy (SAIL), a summer reading program which UFLI has operated for over a decade. SAIL serves elementary aged children who need extra support in reading. SAIL is designed to reduce summer learning loss and increase students' foundational reading skills, while building the reading intervention skills of teacher candidates. SAIL participants are selected based on the results of literacy screenings. UF teacher candidates, called "interns" during the SAIL practicum, provide instruction for these students, and are closely guided and supervised by experienced teachers, along with UFLI faculty. SAIL provides an opportunity for in-depth professional learning experiences for our interns using UFLI instructional models, along with targeted observation and performance feedback. The experience develops expertise in reading intervention in whole-class, small-group, and one-on-one settings. This high-quality reading intervention also provides significant benefit for elementary students with and at risk for disabilities, as they have access to this immersive literacy experience while away from school during the summer months. During the SAIL program, participants are taught using intensive, evidence-based instructional practices. Instruction is delivered within a multi-tiered system of supports (MTSS) model. That is, students are thoroughly screened and assessed prior to SAIL, and they are then taught in various groupings based on their established needs. All students at SAIL receive tier 1 (whole group instruction). Because they were identified as struggling readers, all students also received tier 2 (small group) supplemental instruction using the UFLI Foundations curriculum. Students with the most significant needs receive tier 3 (one-on-one) instruction using the UFLI Intensive intervention model. SAIL is typically held at UF's laboratory school for approximately 4 weeks. During summer 2021, SAIL was help at a local public-school venue.

## Studies of SAIL

Research has found a relationship between feelings of preparedness and an increased sense of teaching efficacy (Darling-Hammond et al., 2002). Teachers' feelings of preparedness are impacted by teacher preparation program features (Kee, 2012), including participation in practicum experiences (Brown et al., 2015). Improved understanding of graduates' feelings of preparedness after the completion of a program is also critical for teacher preparation program

evaluation or development. Below we share results from two mixed-methods studies that measured teacher candidates' self-efficacy and graduates' feelings of preparedness after completing the summer block of reading courses and practicum.

Study 1 compared teacher candidates' reading-specific efficacy before and after the intensive reading practicum. All participants (n=29) completed the Reading Teacher Sense of Efficacy Scale (RTSES), an adapted version of the Teacher Sense of Efficacy Scale (TSES), before the start of the practicum and upon its completion (Haverback & Parault, 2011). A paired sample t-test was used to compare this data. A follow-up questionnaire, including Likert and open-response items, was also administered. Teacher candidates' mean self-efficacy ratings were statistically significantly higher after the practicum experience for all items. These findings reveal that participation in an intensive reading practicum, that included ongoing observation and feedback, increased teacher candidates' self-efficacy. Specific themes identified through conventional content analysis of open-ended responses included (a) Knowledge & Resources, (b) Practice-Based Opportunities, (c) Feedback & Support, and (e) Feelings of Preparedness.

In Study 2, we sought to (a) understand how graduates feel about their preparation in reading instruction, (b) identify specific program features attributed to increased feelings of preparedness, and (c) identify possible program areas in need of change based on graduate responses. This study used a mixed-methods sequential (Quantitative>Qualitative) explanatory design (Onwuegbuzie & Teddlie, 2003) that began by collecting and analyzing quantitative survey data, followed by qualitative data analysis aimed at elaborating on the quantitative results generated by the first phase of the study (Ivankova et al., 2006). Seventy-nine percent of participants ranked their teacher preparation program as the most valuable source of knowledge and skills related to reading instruction. Higher feelings of preparedness scores were revealed in various areas including addressing the needs of students with reading difficulties.

## Conclusions and Next Steps

Our team continues to investigate our teacher candidates' coursework and practicum experiences in order to improve our teacher preparation practices. Using SAIL 2021 data, teacher candidates' reading-specific efficacy before and after the practicum will be compared using the Reading Teacher Sense of Efficacy Scale (RTSES). Analysis of pre/post-assessment data for students who participated in SAIL will be conducted to examine effects on various reading measures. Observational analysis will be conducted with teacher candidates' lesson videos to determine which practices were implemented, with what frequency they were implemented, and how frequency of implementation was related to student outcomes. Additionally, qualitative analyses will be conducted with teacher candidates' self-assessment reports to examine the impact of the coursework and practicum experiences on their development as reading interventionists. The teacher preparation program described in these proceedings stands out among the nation's best teacher preparation programs. The National Council on Teacher Quality (NCTQ, 2020) recently reviewed the quality of over 1,000 reading teacher preparation programs nationwide. Our program is considered a model for other programs to develop expertise among preservice teachers. Readers can use the following link to view additional resources related to this presentation.

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USING INNOVATION CONFIGURATIONS TO ALIGN COURSE CONTENT TO THE SCIENCE OF READING AND STRUCTURED LITERACY

## Abstract

*Informed teachers are our best assurance against reading failure*. Innovation Configurations (ICs) offer teacher preparation programs a process to engage in collaborative syllabi review, examining gaps and redundancies in and among courses as well as places for possible enhancements. This presentation highlights one college's efforts to align course content to the science of reading and Structured Literacy, which began in 2017 through the support of The CEEDAR Center and their ICs. This work continues today through the use of a newly developed Crosswalk, modeled after the well-known CEEDAR Innovation Configurations, and an aligned Resources Document. Both tools will be available for wider use in 2022. Institutes for Higher Education (IHEs) are encouraged to consider utilizing these new tools, once available, to start or continue their continuous improvement efforts related to literacy. Using a tool that examines syllabi across programs promotes a de-siloed approach, as highlighted in this presentation.

## Background/Rationale

The National Council on Teacher Quality (2020) recently acknowledged that significant progress on the science of reading in teacher preparation has occurred since 2013 when they began publishing program ratings related to early reading instruction. This is welcomed news; however, there is still substantial work to do. According to the National Report Card (2019), the percentage of 4th graders reading at or above a proficient level is roughly 34%. Moreover, that number has not fluctuated much since 1992 (Hanford, 2020). With significant consequences tied to lower levels of literacy such as dropping out of school, lower income levels, and reduced access to health care (Moats & Tolman, 2019), the urgent call for reform is warranted.

According to Moats and Tolman (2019), "Informed teachers are our best assurance against reading failure" (p. 5). Thus, addressing common gaps in teacher preparation for reading and language instruction is a priority (Moats, 2020). Innovation Configurations (ICs) are "designed to improve teacher education, which, in turn, can lead to improved student achievement" (CEEDAR, n.d., p. 3). ICs offer teacher preparation programs the opportunity to engage in collaborative syllabi review work focused on examining gaps and redundancies in and among programs, as well as identifying possible enhancements, by answering two key questions: 1) what types of instruction and experiences do teachers candidates receive throughout their

preparation that promote the use of evidence-based practices and 2) to what extent are teacher candidates provided with opportunities to apply strategies with explicit feedback to ensure fidelity?

**Literature Review**

According to Moats (2020), "In today's literate world, academic success, secure employment, and personal autonomy depend on reading and writing proficiency" (p. 8). However, even though "hundreds, if not thousands, of studies over several decades" illuminate "the chain of cause and effect that supports the development of literacy…Far too many children have trouble reading and writing" (p. 8). This "tragedy" is "unnecessary" (p. 9) because as she notes:

> Classroom teaching itself, when it includes a range of research-based components and practices, can prevent and mitigate reading difficulty… instruction that targets specific…skills beginning in kindergarten enhances success for all but a very small percentage of students with learning disabilities or severe dyslexia. Researchers now estimate that 95 percent of all children can be taught to read by the end of first grade. (p. 9)

According to Seidenberg (2017), "American educators have never been able to settle on how to teach children to read…The unresolved issues about reading education matter because instructional practices make a difference, affecting children's proficiency…" (p. 247-248). He argues that a "major factor contributing to our nation's underachievement in reading" is " the culture of education related to the teaching vocation and its practice" and "responsibility rests with the educators who teach the teachers, shaping their expectations about the profession and curating the ideas and methods to which they are exposed" (p. 248-249). He concludes, "Whereas poverty will not be eliminated any time soon, the culture of education could be changed more easily…" (p. 249).

**New Crosswalk and Resources Document**

Tools and resources exist that faculty can use to engage in continuous improvement related to literacy, and new tools and resources are on their way. The process of using an Innovation Configuration (ICs) is self-driven and designed to look across a program, not at a particular course (NCII, 2020).  It is a collaborative process by which programs review, reflect, revise and refine their content to benefit preservice teachers within the program (NCII, 2020). In this presentation, we share how utilizing ICs jumpstarted our collaborative, continuous improvement journey related to literacy, and how the new Crosswalk and aligned Resources Document created by the Rhode Island CEEDAR Literacy/Dyslexia Workgroup is propelling us forward with this work.

**Figure 1.**

*Example of a continuous improvement journey related to literacy.*

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|---|
| CEEDAR Innovation Configurations: |
| ● Evidence-Based Reading Instruction for Grades K-5 |
| ● Evidence-Based Practices for Writing Instruction |
| Rhode Island Science of Reading and Structured Literacy Syllabi Refinement Tool: |
| ● Rhode Island Literacy/Dyslexia Endorsement Competencies |
| ● Evidence-Based Reading Instruction for Grades K-5 |
| ● The Science of Reading in Teacher Preparation Rubric from MSJ University |
| ● Knowledge and Practice Standards for Teachers of Reading from IDA |

*Note:* The Crosswalk and Resources Document was developed by the Rhode Island CEEDAR Literacy/Dyslexia Workgroup and piloted by the authors of this presentation.

Innovation Configurations for continuous improvement efforts related to evidence-based practices (EPBs) are available in a variety of areas (i.e., reading, writing, mathematics, assessment, Universal Design for Learning). This presentation highlights a college's use of a new tool, formatted as an IC, that crosswalks the well-known CEEDAR Evidence-Based Reading Instruction for Grades K-5 IC, the Mount St. Joseph (MSJ) Syllabus Planning Rubric to Teach the Science of Reading, and the International Dyslexia Association's (IDA) Knowledge and Practice Standards through the frame of their state's Science of Reading and Structured Literacy expectations. The use of this detailed tool helped the college's faculty who teach literacy courses in the Elementary Education and Special Education Departments align and refine course content to the science of reading and Structured Literacy in an effort to reinforce learning across programs, prevent contradictions, and discourage departmental silos. This Crosswalk and Resources Document that includes directly applicable research-aligned books, articles, and other resources to address gaps, will be widely available in the Rhode Island Department of Education website by February, 2022. Institutes of Higher Education (IHEs) are encouraged to consider utilizing these new tools, and the de-siloed approach highlighted in this presentation, in their continuous improvement efforts related to literacy.

**Figure 2**

*Professional tips for continuous improvement related to literacy.*

| |
|---|
| ● Identify departments/programs preservice teachers cross during their Program of Study. |
| ● Identify the faculty who teach the literacy courses in those departments/programs. |
| ● Bring those faculty together and start to move from a "my course" perspective to a "literacy scope and sequence" perspective. |

| |
|---|
| ● Ask yourselves: What is our vision for program completers related to literacy? What do we want them to know and be able to do? |
| ● Backward map from that vision. |
| ● Utilize the MTSS/RTI framework as the foundation of your backward mapping as this is the framework utilized in schools to support a shared responsibility between general and special education. |
| ● Consider utilizing the Crosswalk and aligned Resources Document to start or continue your continuous improvement journey related to literacy. |

**Conclusion**

According to Moats (2020), "Surveys of teacher preparation programs in English language arts and reading have exposed an unfortunate misalignment between what is typically taught to prospective teachers and what is consistent with research" (p. 10). In addition, "Most teachers report that they do not feel prepared to teach struggling readers" (Stollar et al., 2020, p, 40). Over the last few years, however, there has been major momentum for change brought on by what Vaites (2019) coined a "literacy tsunami" which has resulted in an important national conversation about how we teach reading and advanced evidence-based reading training requirements (i.e., Right to Read Acts) which often include requirements for teacher preparation programs.

As we move forward, we continue to reflect on and discuss the role and responsibilities of teacher preparation programs in improving literacy proficiency for all students. Seidenberg (2017) notes, "The barriers between education training programs and the related science – psychology, neuroscience, cognitive science - are especially entrenched. These barriers could be overcome, and…the benefit could be substantial" (p. 249). Our hope is that this presentation will offer other IHEs interested in starting or continuing their continuous improvement journey related to literacy in general and the science of reading and Structured Literacy in particular some user-friendly ideas. Echoing the sentiment expressed by Stollar et al. (2020), "We would like to increase this movement by joining forces with others on the same mission" (p. 44).

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GRAPH MANIPULATION AND THE IMPACT ON PRE-SERVICE TEACHERS'
ACCURACY IN EVALUATING PROGRESS MONITORING DATA

## Abstract

Through time-series graphs, both special education and general education teachers often evaluate progress monitoring data to make both low- and high-stakes decisions for students with and at risk for disabilities. The construction of these graphs–specifically the presence of an aimline and the data-points per x- to y-axis ratio (DPPXYR)–may impact decisions teachers make. The purpose of this study was to evaluate the impact of graph construction manipulations on pre-service teachers' accuracy with instructional decision making. Participants included 94 pre-service teachers enrolled in an introductory course focused on students with disabilities at two universities. Following instruction on progress monitoring, students evaluated 48 graphs representing eight data sets with six manipulations (i.e., with and without aimline; DPPXYR set at 0.05, 0.10, 0.15). Results suggest the presence of an aimline increased accuracy; whereas, the manipulation of the DPPXYR led to mixed findings. Implications for future research and practice are discussed.

## Background/Rationale

Special educators and general educators use progress monitoring data to make both low- and high-stake decisions that impact their students. There are several factors that will increase the likelihood educators make valid decisions when interpreting progress monitoring data. Graph construction is one element that has been under researched in the area of progress monitoring data and further research could identify salient graphical elements that will increase validity in decisions made by educators.

### Importance for Special Educators

Special education teachers lead multi-disciplinary teams in developing an individualized education program (IEP) for each student receiving special education services. These IEPs consist of three core components aligned with progress monitoring: (a) presence of at least one

measurable, annual goal; (b) a statement of how a student's progress toward the annual goal will be measured; and (c) appropriate, objective procedures for monitoring student progress (Yell, 2019). Special education teachers must collect data on annual goals frequently. These data are then evaluated, typically by presenting data via a time-series graph, to determine if the student is making adequate progress toward the annual goal or, if not, to determine how to intensify instruction to increase student response. The ability to evaluate progress, or lack thereof, through the visual analysis of these data presented via time-series graphs enables special education teachers to validly ascertain whether the student's IEP is adequately constructed to protect their right to a free appropriate public education (Yell, 2019).

### *Importance for General Educators*

To best serve students in public school systems, the reauthorization of the IDEA (2004) placed a greater emphasis on early intervening interventions for students struggling both academically and behaviorally prior to the identification of a disability. Today, educational systems typically accomplish this by implementing a framework of tiered interventions, which address school-wide improvement in instructional efficacy and the use of data to inform decision making (i.e., a multi-tiered system of support [MTSS]). A critical element of an MTSS framework is the reliance on student outcome data to inform this dynamic, decision-making process. Similar to special education teachers, progress monitoring data for academic outcomes are typically collected using curriculum-based measures administered with regular frequency to gauge student responsiveness to instruction (National Center on Intensive Intervention, 2013).

### *Data and Graph Construction*

Foundational studies demonstrated that teachers often had a difficult time interpreting and making "accurate" decisions based on common data decision-making rules. One concern is the lack of standardization in graph construction by practitioners, and this may then impact visual analysis (Lewis et al., 2021). Dart and Radley (2018) proposed a schema for thinking about graph construction by categorizing graphical elements as either aesthetic-altering or analysis-altering. We focused on analysis-altering elements, which are elements that when manipulated have evidence to suggest the decisions made by a reader of the graph will be altered. To date, there are two potentially analysis-altering elements: (a) ordinate scaling (Dart & Radley, 2017) and (b) data points per x- to y-axis ratio (DPPXYR; Radley et al., 2018).

### **Purpose of Study**

In the previous literature, the DPPXYR was raised as an element worth investigating for progress monitoring data. Dart and Radley (2018) raised the concern that commonly used computer-based programs generate graphs with DPPXYR values less than 0.14, which increased Type I error rates based on single-case design graphs. Additionally, findings from Dart and colleagues (2021) were inconclusive regarding x:y ratio scaling because of the additional graphical element variables that were different across educational program vendor graphs. Thus, we aimed to isolate the DPPXYR to investigate if it impacted the evaluation of progress monitoring graphs. Along with the DPPXYR, we aimed to investigate the presence of an

aimline. It is recommended to include an aimline on progress monitoring data, and most computer-based progress monitoring programs include an aimline (see Dart et al., 2021). Therefore, the following research questions guided this investigation:

1. How accurately do pre-service teachers make intervention decisions based on graphs of different constructions?
2. How accurately do pre-service special educators make intervention decisions compared to other pre-service educators?
3. Does the presence of an aimline produce more accurate intervention decisions among pre-service teachers?

## Method

We surveyed 94 pre-service special and general education teachers from three introductory special education undergraduate courses at two universities. The survey consisted of 48 graphs developed from eight data sets. For each data set, we created six graphs—using three DPPXYRs (0.05, 0.10, 0.15) with and without an aimline. Four data sets consisted of eight data points depicted in each a Tier 1 and Tier 2 condition. The other four data sets consisted of eight data points in either a Tier 1 or Tier 2 condition. For each graph, participants were asked *Given the student's current performance what instructional decision do you feel is needed?* Response options included *keep intervention intensity, increase intervention intensity,* and *decrease intervention intensity*. Prior to viewing graphs, students were provided definitions for the response options. For *decrease intervention intensity,* we clarified this would be removing the Tier 2 intervention and only providing Tier 1 instruction. For *keep intervention intensity,* we clarified this would mean continuing the current intervention. For *increase intervention intensity,* we clarified this would include introducing a Tier 2 intervention in addition to the Tier 1 instruction.

## Results

Overall, participants responded correctly for 65.1% ($SD = 8.2\%$, range $= 14.6\%$ to 85.4%) of responses across the 48 graphs. Participants' correct responses on each graph ranged from 7.4% accuracy to 91.5% accuracy. Pre-service special educators responded correctly for 68.1% ($SD = 25.8\%$, range $= 6.3\%$ to 100.0%) of responses across the 48 graphs compared to 64.5% for other pre-service educators ($SD = 22.2\%$, range $= 6.4\%$ to 91.0%).

Both pre-service special educators and other pre-service educators made correct decisions more often when the data indicated a need to either increase ($M = 73.5\%$, $SD = 27.9\%$ and $M = 67.9\%$, $SD = 21.4\%$, respectively) or maintain the intervention intensity ($M = 69.8\%$, $SD = 18.0\%$ and $M = 71.5\%$, $SD = 12.1\%$, respectively). Comparatively, both groups' accuracy was lowest when deciding to decrease the intervention intensity—29.2% ($SD = 18.8\%$) of pre-service special educators responded correctly and 29.9% ($SD = 19.5\%$) of other pre-service educators responded correctly.

### Graph-Altering Variables

For graphs with the presence of an aimline, participants responded correctly in 67.2% ($SD$ = 16.4%) of opportunities. For graphs with the absence of an aimline, participants responded correctly in 63.1% ($SD$ = 27.4%) of opportunities. Participants selected the correct response in 66.2% ($SD$ = 18.3%) of opportunities for the graphs with a DPPXYR of 0.05, 64.2% ($SD$ = 23.5%) of opportunities for the graphs with a DPPXYR of 0.10, and 65.0% ($SD$ = 22.8%) of opportunities for the graphs with a DPPXYR of 0.15. Only the aimline variable emerged as a positive and significant predictor ($b$ = 0.205, $SE$ = 0.066, $p$ = 0.002) of the probability of a student making the correct judgment from a graph.

**Discussion**

Effective teachers use graphs to make decisions that can have a profound impact on students' future instruction and academic placement. We examined the effects of two graphing elements (i.e., aimline and DPPXYR) on pre-service special and general education teachers' accuracy in making correct intervention decisions. Our results highlight important findings that can guide future research and practice. First, the presence of an aimline on the graphs we examined was the only graphing element that had a statistically significant impact on correct responses. None of the DPPXYRs nor the interaction of the aimline and DPPXYR had a statistically significant impact on correct responses. Second, the accuracy of participant responses ($M$ = 65.1%) indicates that pre-service teachers made correct instructional decisions more often than chance (i.e., 1:3) but not as accurately as previous research (Lane et al., 2021). Third, despite small differences among pre-service educators, our data suggest the importance of inter-rater reliability (IRR) among school-based teams in making instructional decisions. Participants made correct responses on 65.1% of graphs, which would indicate an inaccurate decision on roughly one-third of graphs.

**Implications**

Based on the results of our research, we suggest:
1. An aimline should be considered an analysis-altering element when constructing progress monitoring graphs for use in practice.
2. Continued research is needed regarding the effects of ongoing intervention on student academic and non-academic factors when they have met or exceeded the academic goal.
3. Building knowledge of how to enhance a data teams' IRR to increase accurate decision-making is warranted.

**Conclusion**

This study sought to identify graphing elements that reliably predict accurate intervention decisions based on simulated progress monitoring data. We found that the presence of an aimline was the only examined element statistically significant in improving pre-service teachers' accuracy. This work can inform how data are presented to practitioners to increase the likelihood of correct decision making and how instructors in teacher preparation programs may utilize this work.

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## URBAN MINORITY SPECIAL EDUCATION TEACHERS IMPLEMENTING INTENSIVE INTERVENTIONS: LESSONS LEARNED

**Abstract**

Research has shown that teacher preparation programs that focus on evidence-based platforms guided by data-driven decision-making within the Multi-Tiered System of Support (MTSS) will arm practitioners with the knowledge and skills needed to make the greatest impact on improving outcomes for students with disabilities. This presentation described a highly effective OSEP funded preparation program for 49 minority scholars. Based on the evaluation survey results, findings discuss program completers' perception of training in intensive interventions, the benefit of program supports, and describe the importance of these needed supports for scholar retention in programs to improve instruction and intervention delivery for students with persistent and severe disabilities.

**Background**

Students with disabilities who present with very low academic achievement, and/or intense behavior problems are considered those who need the most intensive interventions to make satisfactory progress. Many students with severe learning problems often exhibit behavior issues that may impact their academic deficits (Fuchs, Fuchs, & Vaughn, 2014). Although the literature for decades has been replete with research, legislation, and practice intended to improve academic outcomes for struggling students in the United States, an estimated 2.5 million students require intensive academic and behavioral interventions (Danielson & Rosenquist, 2014). Critical to implementing the most intensive interventions is the use of Data Based Individualizations (Lemons, Kearns, and Davidson, 2014). The outcomes of decisions and intervention implemented depend on the validity of the inferences drawn from the data. Even though DBI plays a critical role, data literacy tends to be low among school practitioners (Filderman & Toste, 2017; Means, Padilla, & Gallagher, 2010); however, supporting teachers' understanding of data can increase their data literacy (Pagan, Magner, & Thibedeau, 2019), thereby improving effectiveness of the intensive intervention and student outcomes. This data-driven problem-solving process is critical to making instructional decisions and adjustments needed for continual improvement. Students with persistent and severe learning and/or behavioral difficulties require personnel with the knowledge and skills to collaborative design and support focused instruction and intensive individualized interventions (McLeskey &

Brownell, 2015). The States' support for fully credentialed special education teachers has been unable to meet the demand (Boe, deBettencourt, Rosenberg, Sindelar, & Leko, 2013), particularly in high-need schools where specialized training is most critical. Therefore, a need for intensive interventions to meet the needs of students with persistent and severe learning and behavioral problems in high need schools is paramount. Interventions supported by higher levels of evidence are more likely to improve student outcomes because they have been proven to be effective (U.S. Department of Education, 2016). Teachers need to be trained in how to identify quality evidence-based academic and behavioral intensive intervention platforms and how to implement with fidelity selected platforms. Teachers require support in using and understanding appropriate assessments plus ongoing job-embedded coaching and modeling of good instruction. Highly trained practitioners as school level leaders can be powerful resources to ensure that even students with severe and persistent academic or behavioral challenges can score higher on proficiency tests, graduate from high school, and lead the K-12 education system ready for their future education, training, and careers.

**Purpose of the Study**

The purpose of this study was to evaluate an OSEP-funded training program through survey research to understand scholars' perspective on the impact of the program in supporting and improving their teaching of students with disabilities. Survey research was undertaken to determine program completers' perceived benefits and satisfaction with program training in intensive academic and behavior interventions and program financial and non-financial supports.

**Methods**

Evaluation data was collected through survey research to understand the impact of a 6-year personnel preparation grant funded by USDOE, Office of Special Education Programs. Forty-nine urban special education teachers were recruited to participate in a graduate degree program where participants earned a MS in Special Education with a focus on Intensive Interventions and a State-approved endorsement in autism spectrum disorders (ASD). Through an outside evaluator, a final project evaluation was developed, administered, and reported to provide information of the effectiveness of the project in meeting program objectives. The project, funded from 2015-2020, aimed to prepare forty (40) scholars to receive a master's in special education with a focus on academic and behavioral intensive interventions. A total of three cohorts of scholars were recruited and by project end, 49 scholars had completed the program. The focus of the 36-credit program was to implement intensive interventions in urban, high need K-12 schools in two of the largest school districts located in the southeastern United States.

Of the 49 scholars surveyed, 33 scholars completed the survey yielding a 67% response rate. Of those 33 respondents, 97% were from minority backgrounds and all provided services to students with disabilities. Twenty-nine (87.88%) identified as female and four (12.12%) as male. Additionally, the majority (81.81%) of the respondents were in the 30- to 49-year-old age range. Of the 33 respondents, 18 (54.55%) identified as Black / African American, 9 (27.27%) identified as Hispanic / Latino, and 4 (12.12%) as Multiracial / Biracial.  One respondent

(3.03%) identified as Asian / Pacific Islander and one respondent (3.03%) identified as White / Caucasian.  The majority (83.33%) had over six years of overall teaching experience with the majority (74.19%) of the respondents having over six years of experience teaching specifically students with special needs.

## Results

The results of the survey data were analyzed and reported by four major themes related to project outcomes. These areas include: (1) Teaching Effectiveness, (2) Dissemination Activitie*s*, (3) Impact on K-12 Student Learning, and (4) Impact on Scholars (Table 1).
1.　　**Teaching Effectiveness.** Completers were asked to provide their most recent evaluation ratings from their administrator. Project participants indicated their ratings were either highly effective (71.88%) or effective (28.12%). To further demonstrate teaching effectiveness, 93 % of participants indicated they had incorporated scientifically or evidenced-based practices into their curricula after completing the project. The same number of participants indicated that the program had provided knowledge and skills to use scientifically or evidenced-based practices with children with disabilities. Finally, 93% of participants indicated program preparation increased their confidence in implementing intensive interventions for students with persistent and severe learning and/or behavior problems? 2. **Dissemination Activities.** As part of the project objectives, scholars were trained to provide professional development to other educators in intensive interventions. When asked if they had provided professional development to others, their responses showed that 82.14% indicated they had. Furthermore, 55% of completers were unsure or doubted they would have been able to provide this type of PD to others if not for this training. 3. **Impact on K-12 Student Learning.** When asked about the impact of the program on student learning gains, 85.2% said that they would attribute their K-12 students' gains to their participation in the project. 4. **Impact on Scholars.** Participants had indicated there were many positive impacts from participating in this funded project. These benefits include (a) collegial relationships with other special education teachers (96.5%), (b) technology tools to support program participation and instructional/behavioral support for students (96.5%), (c) memberships (and respective resources) in professional organizations (96.5%), and (d) financial support to earn an advanced degree. Most participants (78.5%) indicated they were unsure or would have been unable to pursue advanced training in special education without the financial support. When asked an open-ended question regarding their perceived program benefits, participants discussed receiving awards, recognitions, or promotions while in the program or after completing the degree. Five respondents were recognized for outstanding accomplishments through awards.

**Table 1**
*To what extent did Project SIAIMESE….*

|  | Strongly Agree | | Agree | | Neutral | | Disagree | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | *n* | *%* | *n* | *%* | *n* | *%* | *n* | *%* |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| incorporate scientifically or evidenced-based practices into their curricula? | 28 | 93 | 0 | 0 | 1 | 3 | 1 | 3 |
| provide you with knowledge and skills to use scientifically or evidenced-based practices with children with disabilities? | 27 | 90 | 0 | 0 | 1 | 3 | 1 | 3 |
| give you confidence in implementing intensive interventions for students with persistent and severe learning and/or behavior problems? | 25 | 86 | 2 | 7 | 1 | 3 | 1 | 3 |
| provide sufficient financial support to complete a master's degree? | 27 | 93 | 1 | 3 | 0 | 0 | 1 | 3 |
| provide you with technology, technology tools, and training to support your learning and skill development? | 27 | 93 | 1 | 3 | 0 | 0 | 1 | 3 |
| provide you with opportunities for professional membership? | 23 | 79 | 5 | 17 | 1 | 3 | 0 | 0 |
| support professional collegiality through a cohort model with other teaching professionals? | 27 | 93 | 1 | 3 | 0 | 0 | 1 | 3 |

*No responses indicated a strong disagreement with items

**Discussion**

Program evaluation data support the literature indication that increasing teacher training in intensive interventions will increased student outcomes through the teacher implementing evidence-based interventions with fidelity for students with disabilities (U.S. Department of Education, 2016). Providing intensive training in how to identify quality evidence-based academic and behavioral intensive intervention platforms and how to implement with fidelity selected platforms will improve teachers' skills, their confidence in identifying and implementing evidence-based interventions, and their ability to support other teachers to learn about intensive interventions. Through increased skill and confidence, teachers had the opportunity to be recognized for professional achievements, increase their salary, and advance in the profession through promotions. These type of training programs, particularly those using cohort models can increase job satisfaction through networking, collaboration, and support. Research has long indicated the importance of minority teachers in urban diverse school settings. Evidence supports the increased positive ratings for Latino and Black teachers rather than White teachers after controlling for student demographic and academic characteristics (Cheng & Halpin, 2016). Financial and non-financial supports are of critical importance to increase knowledge and skills in implementing intensive interventions for urban minority teachers working in high need schools for students with persistent and severe learning and/or behavioral problems.

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PREPARING PARAPROFESSIONALS FROM NON-DOMINANT BACKGROUNDS: AN INVESTIGATION OF EXPERIENCES IN GRADUATE SCHOOL

## Abstract

Although the field is committed to recruiting and retaining teachers who identify as Black, Indigenous or People of Color (BIPOC), pre-service teachers often face barriers and institutional racism during their preparation. This presentation describes a pilot survey of special education teacher candidates who identify as BIPOC in a graduate program in a medium-sized, urban university in the Midwest. Candidates, most of whom work as paraprofessionals, identified motivations, experiences, and barriers that they encountered during their graduate studies. The results of this study allow us to propose ways to recruit and retain special education teacher candidates by creating an inclusive environment that celebrates racial diversity.

## Background/Rationale

Educational institutions were designed to reproduce the dominant culture in US society (Bourdieu & Passeron,1990). As the student population of US schools, in particular in urban centers, becomes increasingly diverse, the teaching force continues to be predominantly white. According to the most recent statistics, 79% of teachers are White and 76 % are female (NCES, 2021). When teachers are mostly white and students are mostly from non-dominant communities, many issues arise, including the overrepresentation of students who identify as BIPOC in some special education categories (Artiles et al., 2010; Sullivan & Proctor, 2016). However, Trainor and colleagues (2019) argue that equity in the classroom is improved when teachers reflect the racial and ethnic makeup of their students. There is a clear need to diversify the teaching force and there is evidence that a more diverse faculty impacts the academic achievement of students (Gold, 2020). For example, students that have teachers of the same race have lower suspension and expulsion rates and higher rates of placement in gifted programs or enrichment classes (Simon et al., 2015). Additionally, Black teachers have been shown to have higher expectations for Black children's academic success (Dee, 2005), can provide equitable identification and referral of students to Special Education (Ford 2012; Jones-Goods & Grant, 2016), and serve as advocates for children of color (Irvine, 1990).

Research on the obstacles teacher candidates who identify as BIPOC face in their trajectory towards teaching and how to best support them through graduation is emerging. Nationally, less than 40% of college aged Black and Latino students are enrolled in college, with even fewer reaching graduation (Simon et al., 2015). Additionally, teacher candidates of color at predominantly white institutions report feeling marginalized and isolated (Brown, 2014) while
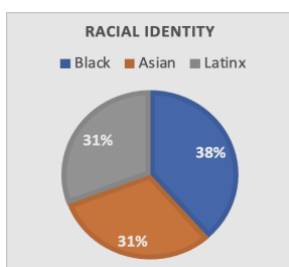
others report feeling disengaged from their program (Jackson, 2015). Both of these issues correlate with attrition of students of color (Strayhorn, 2008). Similarly, lack of access to faculty of color makes students feel like their experiences cannot be understood (Scott, 2018; Campbell-Whatley, 2003). Faculty of all races must listen to marginalized students' voices to prevent this alienation and collaborate to improve a sense of belonging and community.

**Figure 1.** *Racial distribution of participants (N = 13)*

## Purpose/Research Questions

The current study investigates graduate students, who are also teacher assistants, at a small special educator preparation program in a medium-sized urban university in the Midwest. Although the program is part of a racially-diverse institution, students and faculty are predominantly white.  The purpose of this survey was (a) to seek feedback about strengths and weaknesses of the teacher preparation program; (b) to identify relationships among factors such as expectations and perceptions of their experiences and barriers they may have faced before or during the program. This study explores (a) how teacher candidates' racial identity informs their decision to pursue a special education teaching license; (b) the motivations and barriers of candidates who identify as BIPOC to become special education teachers; and (c) how special education teacher preparation programs recruit, support, and graduate teacher candidates who identify as BIPOC. The research questions include:

1. What is the relationship between teacher candidates' racial identity and the decision to pursue a special education teaching license, including the interactions among racial identity and opinions about race in the classroom?
2. What motivates Black, Indigenous, and People of Color (BIPOC) to become special education teachers?
3. How can special education teacher preparation programs recruit, support, and graduate BIPOC teacher candidates?

## Methods

### Participants

At the time of survey distribution, the program had 81 active students, (71% female). Of these students, 34 identified as BIPOC. Thirteen students completed most of the survey for a participation rate of 38%. There were two items that only 9 participants completed (see Appendix A). Of the pool of 13 participants, 92% work in K-12 classrooms with students with disabilities.

### Procedure

After obtaining IRB approval, a mixed-method survey study that combined Likert-style questions with open-ended questions was developed. The first step was to conduct an item panel

with experts to ensure construct validity. Second, the survey was distributed in three waves using Qualtrics and collected responses over the course of one month. Participants were incentivized by offering ten $10 Amazon gift cards through a raffle. Responses were anonymized before interpretation. Please see Appendix A for a list of items addressed in the presentation.  For analysis, qualitative items were reviewed for common themes and reported as participant quotes. Quantitative items used four-point scales for importance (very unimportant, somewhat unimportant, somewhat important, and very important) and agreement (strongly disagree, somewhat disagree, somewhat agree, and strongly agree). There were also options for "not applicable" and "I don't know." For analysis, categories were collapsed into unimportant or important and disagree or agree and percentages were calculated and reported.

**Results**

Qualitative results suggest that participants were motivated to become special educators to support students and families who identify as BIPOC. One participant reported that they were situated to, "contribute to a more equitable society where people, regardless of ability, have a fair chance to thrive." Another participant reported, "working as a paraprofessional showed me that the students are not getting a fair education and in order to change that I decided to become a special education teacher." They identified program strengths of "real world preparation" with applicable coursework and professors who built good rapport with students, were flexible, and available to answer questions. Participants had ideas for improvement including establishing a program orientation, providing peer mentors, and more in-person courses, and allowing students to student teach where they currently work.

Quantitative results indicated that 100% of respondents agreed that using materials and resources in courses that authors who identify as BIPOC created and learning about anti-racist teaching were important. Ninety-two percent of participants reported that their racial identity and family and traditions were important parts of their work. They agreed that it is important for students who identify as BIPOC to have teachers who identify as the same race as them (77%) or who identify as BIPOC, but not the same race as the students (69%).

Participants reported about classroom climate and support from family and the campus community. Eighty-five percent of respondents reported that they feel a sense of belonging at the university and that peers willingly collaborate with them. Sixty-two percent of respondents have a support system to help them through grad school. Ninety-two percent agree or strongly agree that classroom instructors make them feel part of the classroom community. However, 38% feel that their contributions are not valued in classroom discussions and activities. Fifteen percent of students have felt uncomfortable by words or actions of their peers due to racial identity. Out of nine participants who responded, 75% agreed that peers make assumptions about their competence based on their perceptions of respondents' racial identity.

**Discussion**

Preliminary results from the first 13 participants suggest that the participants' positionality as paraprofessionals situated them to "give back" to under-resourced communities

and work with students and families who they can understand. The vast majority of participants felt that their racial identity was crucial to the work they do and wanted their university professors to integrate anti-racist materials and more racially-diverse authors into their courses. Most of the participants thought that it is important that teachers who identify as BIPOC work with students who identify as BIPOC. Given the equity effects that having a BIPOC teacher has on the educational experiences of minoritized students (e.g., higher expectations, lower suspension and expulsion rates; Dee, 2005; Trainor et al., 2019), it is crucial that teacher preparation programs understand the needs and barriers BIPOC teacher candidates face in their trajectory towards becoming special educators. Programs need to adjust practices and listen to suggestions from their students. It is only through providing BIPOC teacher candidates with culturally responsive practices that they can, in turn, provide them to the students they wish to serve.

**Appendix A**
Survey Items

1. Did you face any barriers to attending graduate school prior to entering the program? What were these barriers?
2. It is important to me that (4-point Likert scale from very unimportant to very important):
   a. Teachers have the same racial identity as their students.
   b. Teachers who identify as Black, Indigenous, or people of color (BIPOC) work with students who identify as BIPOC even if the teacher does not have the same racial identity as the students.
   c. I learn about anti-racist teaching in the graduate program.
   d. My professors use resources developed by BIPOC researchers and authors.
   e. My own racial identity is a part of my life and work.
   f. My family history and traditions are part of my life and work.
3. Why did you decide to pursue your special education teaching certification and master's degree?
4. Have you considered leaving the LBSI program at NEIU? What were the reasons you were considering leaving the LBSI program at NEIU?
5. What are some strengths of the LBSI program at NEIU?
6. What are some changes the LBSI program at NEIU can make to improve your experiences?
7. Items on a 4-point Likert scale from strongly disagree to strongly agree:
   a. Peers make assumptions about my competence based on their perceptions of my race. (9 respondents)
   b. Course instructors make assumptions about my competence based on their perceptions of my race. (9 respondents)
   c. I feel a sense of belonging at NEIU.
   d. Peers collaborate willingly with me.
   e. Course instructors make me feel a part of the classroom community.
   f. I sometimes feel that my contributions are not valuable to classroom discussions or activities
   g. In my time at NEIU, I have felt uncomfortable by the words or actions of my classmates due to my racial identity.

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