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***Examining General Education and Special Education Teacher Preparedness for
Co-Teaching Students with Disabilities***

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Abstract

It is imperative to understand how teachers are prepared for their role as co-teacher. The purpose of this study was to investigate how general education and special education teachers in one elementary school in Georgia are trained in the instructional practice of co-teaching and their perceptions on how prepared they feel to implement the method. A mixed methods approach was used and included a qualitatively-oriented survey and semi-structured interviews. Data collected in this study revealed that over half of all co-teachers at the elementary school had received some type of training on co-teaching and also felt adequately prepared to serve in the co-teaching role. Overall, participants reported positive perspectives on co-teaching despite there being challenges. The benefits of co-teaching noted a supportive and safe environment, instructional support for students and teachers, and confidence builder due to collaboration. The challenges reported included insufficient time for collaboration, inconsistent teaching schedules, and student behavior problems.

Keywords: co-teaching, teacher preparation, students with disabilities

***Examining General Education and Special Education Teacher Preparedness for
Co-Teaching Students with Disabilities***

Early on in the history of the United States, laws were made so that children with disabilities were often excluded from public education (Yell, 2016). As early as 1893 in Massachusetts, it was found that a child who was “weak in mind” could be considered a distraction to other children in the class and could, therefore, be expelled from the school. This view continued for decades and, even as recently as 1969, courts in North Carolina upheld this legislation that excluded students with disabilities from public education (Yell, 2016). In 1974, congressional findings revealed that “more than 1.75 million students with disabilities did not receive educational services” (Yell, 2016, p. 42). A pivotal change occurred in 1975 as President Gerald Ford signed into law the Education for All Handicapped Children Act (Public Law 94-142). With this law, children with disabilities were guaranteed a Free and Appropriate Education (FAPE) in the Least Restrictive Environment (LRE). Public Law 94-142 has been amended over the years and is now known as the Individuals with Disabilities Education Improvement Act (IDEA, 2004). Under the IDEA (2004), students with disabilities have the right to be educated in the LRE. This means that they are to be taught in the general education classroom alongside their peers to the greatest extent possible (Giuliani, 2012). Due to IDEA (2004), the trend of inclusion

has become very prevalent in public education throughout our nation. In a report to Congress, The U.S. Department of Education (2018) noted that 63.1% of students with disabilities spent at least 80% of their school day in a regular education classroom. Because of this need to educate students with disabilities in the least restrictive environment, many public schools have turned to the model of co-teaching to fulfill this requirement (Murawski & Lohner, 2010).

Today's classroom teachers are faced with educating a more diverse population of students than in previous decades (Friend et al., 2010). With the prevalence of inclusion of students with disabilities into the general education classroom, new models of teaching need to be considered (Campbell & Jeter-Iles, 2017). One of these models is co-teaching. Co-teaching is a coordinated instructional practice that involves two teachers simultaneously providing instruction in a general education classroom to a group of students with diverse learning needs (Beninghof, 2012; Cook & Friend, 1995; Friend, 2008). Co-teaching is not a new idea. However, the increase in the use of this model is on the rise across our nation (Scruggs & Mastropieri, 2017). With this increase in use comes the need for an increase in understanding how to successfully implement a co-teaching model.

One of the essential factors for successful co-teaching is teacher preparedness (Chitiyo & Brinda, 2018). Co-teaching teams need training, guidance, and time for planning. They need to understand how to co-plan, co-teach, and co-assess. If teachers are not well-prepared for co-teaching, then numerous problems can occur in the implementation process, such as complications in classroom management styles between co-teachers or one teacher becoming the leader and the other acting merely as an assistant (Ploessl & Rock, 2014). Therefore, it is imperative to understand how teachers are prepared for their role as co-teacher.

Based on consensus from the field of experts that a lack of teacher preparation can be a hindrance to successful co-teaching (Brendle et al., 2017; Brinkmann & Twiford, 2012; Chitiyo, 2017), we, one special education teacher and three university professors, focused our attention on one case of 11 teachers who had experience with the co-teaching model. As a result, the purpose of this mixed method study was to investigate how general education and special education teachers in one elementary school in Georgia are trained in the instructional practice of co-teaching and their perceptions on how prepared they feel to implement the method. In this focus school, co-teaching occurs at every grade level (K-5) and every year the school struggles to answer the question of which teachers will serve as the inclusion teacher. Some general education teachers are hesitant to take on this role; thus, the school finds it hard to get volunteers. Because the first author is also an employee at the research school and served in a co-teaching capacity, the first author held a vested interest in understanding how to improve co-teachers' experiences in order to establish and maintain effective co-teaching relationships. These relationships not only impact the teachers but also impact the students at the school. As a result, the study was both needed and significant in order to better understand the gaps that existed in teachers' training on co-teaching in this specific school context. The questions that guided this research project were:

1. What training do teachers receive on co-teaching?
2. How prepared do teachers feel in the use of co-teaching as an instructional model?
3. What do teachers see as the benefits and challenges to co-teaching?

Theoretical Framework

This study was guided by the theoretical framework that teachers need to be trained in the practice of co-teaching in order for them to feel confident in their abilities to successfully execute the role of co-teacher and meet the needs of all students within a co-taught setting. This study draws on the Theory of Self-Efficacy by Albert Bandura (1977). As the practice of co-teaching varies, the self-efficacy to co-teach and implement effective instruction may also vary.

Theory of Self-Efficacy

According to Bandura (1977), “an efficacy expectation is the conviction that one can successfully execute the behavior required to produce the outcomes” (p. 193). Bandura (1977) argued the level of a person’s belief in their own effectiveness directly correlates to how hard they will work to cope with any given situation. When a person has perceived self-efficacy, they tend to set higher goals for themselves and work harder to achieve those goals (Zimmerman, et al., 1992). In this study, researchers identified how teachers were trained for co-teaching and their confidence in their ability to serve in the co-teaching role. When a teacher takes on a role such as co-teaching, there is an ever-evolving relationship between both the co-teaching partners and the teachers and students. In order to navigate these relationships and feel successful, one needs to have confidence in themselves to work through challenges that are encountered.

Review of Literature

With the purpose to examine the training that special education and general education teachers receive regarding co-teaching and their perceptions on how prepared they feel to implement the teaching strategy, the literature review first examines the models of co-teaching, followed by a discussion on the benefits and obstacles found with this often-used method of teaching. The literature review then addresses teachers’ perceptions on their ability to implement co-teaching and their sense of preparedness.

Understanding Co-Teaching as an Instructional Model

Co-teaching offers a way for schools to meet inclusion mandates for LRE, as well as provide students with disabilities access to the general curriculum, making it an often-used model (Scruggs & Mastropieri, 2017). Co-teaching for this study is defined as a coordinated instructional practice that involves two teachers simultaneously providing instruction in a general education classroom to a group of students with diverse learning needs (Beninghof, 2012; Cook & Friend, 1995; Friend 2008).

There are six approaches to co-teaching: one teach-one assist, station teaching, parallel teaching, alternative teaching, team teaching, and one teach-one observe (Cook & Friend, 1995; Friend, 2007/2008; Friend & Bursuck, 2009). In the one teach-one assist model, two teachers are present during instruction, but one takes on the instructional responsibility while the other assists individual students as needed (Cook & Friend, 1995; Friend, 2007/2008). Station teaching involves co-teachers planning learning stations for students to rotate through, with the teachers providing instruction at two stations and the students independently completing the other stations (Cook & Friend, 1995; Friend, 2007/2008). In parallel teaching, lessons are co-planned by teachers and then each teacher delivers the same content to half the class (Cook & Friend, 1995;

Friend, 2007/2008). Alternative teaching involves one teacher working with a small group of students while the other teaches the rest of the class. The small group may be used for pre-teaching or re-teaching a skill, assessments, special interests, or to challenge students. Team teaching allows teachers to co-lead the class. This might be by holding a discussion where each teacher takes an opposing view, modeling how to ask questions, illustrating different approaches to solving a problem, or one teacher lecturing while the other demonstrates the concept (Chitiyo & Brinda, 2018; Cook & Friend, 1995; Friend, 2007/2008). The one-teach, one-observe model has one teacher leading instruction while the other takes data on a specific student or the whole class (Friend, 2007/2008; Friend & Bursuck, 2009). By utilizing these six strategies, co-teachers can meet the needs of those students with Individual Education Plan (IEP) goals while also tailoring lessons to meet the needs of the other students in the class (Friend et al., 2010).

Benefits of Co-Teaching for Teachers and Students

In addition to providing students with the Least Restrictive Environment, other potential benefits have been shown to exist in co-teaching for both teachers and students. Students and teachers have reported positive perspectives on co-teaching and feel the practice contributes positively to student behaviors (Campbell & Jeter-Iles, 2017; Hang & Rabren, 2009). Students with disabilities stated that their self-confidence increased, and they learned more in the co-taught classroom (Hang & Rabren, 2009; Keeley et al., 2017). Moreover, research has shown that the co-taught classroom offers an environment where students with special needs reported they felt connected (Friend, et al., 2010), accepted (Kohler-Evans, 2006), and they felt safe in an environment supported by two teachers (Gately & Gately, 2001). Fenty and McDuffie-Landrum (2011) found that teachers in co-taught classrooms develop a sense of comfort and confidence because they build upon both of their levels of expertise.

There are numerous benefits of co-teaching for the teachers and students (Brendle et al., 2017; Hurd & Weilbacher, 2017). Teachers like being able to individualize lessons more for students when co-teaching, and in turn, they are better able to meet their students' needs. Co-teaching offers more opportunities for small group work and re-teaching when two teachers are available. Students have a choice as to which teacher to go to for help, permitting students to connect to the teaching style of one teacher more than another. Hurd and Weilbacher (2017) have offered that an unanticipated benefit of co-teaching they found in their research was that the students who were initially shy at first came out of their shell and become more engaged in the classroom.

Obstacles to Successful Co-Teaching for Teachers

One of the biggest obstacles to successful co-teaching is the lack of teacher preparation for the practice (Brendle, et al., 2017; Brinkmann & Twiford, 2012; Chitiyo, 2017). Teachers often indicate that they feel they lack the skills necessary for successful co-teaching and many were not given any training in co-teaching practices (Chitiyo, 2017). They believe that initial, and on-going, training is necessary. Finding ways to best train co-teachers, however, can be a hurdle. One study found a potential solution to this issue. Ploessl and Rock (2014) utilized an online bug-in-ear technology to deliver eCoaching to co-teachers as they planned and taught co-teaching lessons. The eCoaching provided immediate feedback that included questioning, encouragement, instruction and corrections. Results indicated that all participants successfully planned and implemented more lessons using a variety of co-teaching models. Additionally,

student-specific accommodations increased in planning and usage throughout the study, indicating eCoaching provided effective training for teachers (Friend & Cook, 2010; Ploessl & Rock, 2014).

Co-planning is a key task in creating successful co-teaching teams which means that teachers need time to plan together. This can be an obstacle if co-teaching teams do not share a common planning time (Scruggs & Mastropieri, 2017). For co-teachers that lack a common planning time, web-based documents (such as Google docs) can be used so that both teachers can add notes to the plans, and read their partners' notes, as well as access them at any time (Scruggs & Mastropieri, 2017). However, even when teachers do share a common planning time, Brendle et al. (2017) found the time is not effectively utilized because they lack the training in how to co-plan. Therefore, not only do co-teachers need a common planning time, but they also need training in how to effectively use that planning time.

Another roadblock to successful co-teaching can be the classroom composition. Isherwood et al. (2013) conducted a qualitative study on one school district in Pennsylvania that included fifteen co-teaching teams that had implemented co-teaching. The results from content analysis found that the secondary teachers were not only dissatisfied with the lack of poor co-planning time, but the classroom composition further created dissatisfaction. The high school co-teaching teams found it difficult to effectively teach as students with disabilities comprised 40%-85% of the class in each team. At the elementary level, Isherwood et al. (2013) found similar dissatisfaction due to classroom composition. At the elementary level, only one classroom per elementary school was designated as the inclusion class. All students with an IEP were placed in that class and were supported by a co-teacher. Throughout the year, however, students in other classes qualified for special education services and they would have to be uprooted from their homeroom and moved into the inclusion class to receive services (Isherwood et al., 2013). As a result, the number of students to be served made it difficult for the co-teachers to meet the needs of all students.

One final obstacle is that co-teaching must be well-supported by the administration (Campbell & Jeter-Iles, 2017). The master schedule needs to be created to include common planning time for co-teaching teams. Administrators should also take into account the number of general education teachers the special education teacher is assigned to and keep the number to a minimum. This will allow time for co-planning and the building of a working relationship between co-teaching partners (Campbell & Jeter-Iles, 2017).

Teachers' Perceptions and Preparedness for Co-Teaching

Preparing teachers for instructing students with disabilities has become an area of focus for current teacher preparation programs (Gottfried, et al., 2019). In the past, studies have found that large percentages of teachers did not learn about co-teaching through university coursework (Brinkman & Twiford, 2012; Chitiyo, 2017). In more recent years, however, special education teacher preparation programs have begun to focus on aspects of co-teaching (Friend et al., 2010). Now, with new teacher licensure requirements, such as edTPA that are used in many states, general education teacher programs are also beginning to focus on best practices for meeting the needs of students with disabilities, including co-teaching practices (Gottfried et al., 2019). Because initial preparation for co-teaching in teacher certification programs is still in the early

stages and a large number of current teachers did not have university coursework for preparation, it is imperative that teachers are provided with high quality professional development programs regarding co-teaching (Friend et al., 2010).

Despite there often being a lack of teacher training for the role of co-teacher, teacher perceptions of co-teaching are often positive (Campbell & Jeter-Isles, 2017; Hang & Rabren, 2009). Teachers report that they have positive relationships with their co-teaching partners and feel the experience is valuable (Campbell & Jeter-Isles, 2017; King-Sears et al., 2014).

Summary

In order to meet the federal mandates of IDEA (2004), co-teaching is a widely used instructional strategy for students with disabilities. Although research has reported benefits to co-teaching, obstacles have also been identified. One clear challenge to effective co-teaching is a lack of teacher training. Many schools all over the United States are implementing this model; yet, it is not clear if teachers are trained in the practice before becoming a part of a co-teaching team. The literature has reported that teachers need time to plan together and if individuals' schedules do not allow for common planning time, then co-teaching teams may not be effective. Finally, a review of the literature has shown it is important to identify within co-teaching teams what is working well and what needs to be improved in an attempt to improve the co-teaching experience for both teachers and students.

Methods

This study employed a sequential mixed methods design using a qualitatively oriented survey followed by semi-structured interviews (quan→QUAL) (Creswell & Plano Clark, 2017). Mixed methods approaches are best suited for studying complex phenomena where each unique data source contributes greater nuance to the project as a whole (Greene, 2015; Poth, 2018; Shannon-Baker & Edwards, 2018). The purpose for mixing methods permitted data triangulation (Bryman, 2006; Creswell & Plano Clark, 2017; Johnson et al. 2007; Plano Clark & Ivankova, 2016). A qualitatively-oriented survey provided a diversity of responses on the topic of co-teaching (Jansen, 2010). Participants for the interviews were then recruited from the survey responses. Individual interviews provided space for teachers to freely discuss their feelings toward their level of preparation for, and confidence in, employing co-teaching strategies (Creswell, 2002). This study was approved through ethics board reviews by the university and the local school district.

School Context and Participants

This study took place at Endeavour Elementary School (pseudonym) located in a suburban county in north Georgia. This school has an enrollment of approximately 750 students. 15% of the student population at the school is students with disabilities as compared to 12% of other schools in the county as a whole. The percentage of students with disabilities at the school has increased from 7.9% since 2010. Inclusion is prevalent throughout the school.

The focus of this study was on elementary school teachers in order to gather information from participants with similar schedules and co-teaching partner situations. A typical case sampling strategy was utilized to survey and conduct interviews with participants who were currently co-

teaching at the same elementary school. This provided the researchers with participants who had similar experiences in terms of training opportunities available to them and further allowed the researchers to gain an in-depth understanding of their experiences (Patton, 2002).

The population included seven general education teachers and four inter-related, special education teachers who worked on co-teaching teams in kindergarten through fifth grades. The survey was sent via email to all co-teachers in the school and a 100% response rate ($n = 11$) was obtained. Three of the participants had co-taught zero to one year; four had co-taught two to four years; three had co-taught five to seven years; and one had co-taught more than eight years (see Figure 1). The follow-up interviews were optional for all co-teachers and five teachers participated in the interview process; three were general education teachers and two were special education teachers. In order to ensure confidentiality, all district, school, and participants' names were changed to pseudonyms.

Instruments

Survey

The survey (see Appendix A) was developed by the researchers based on questions from Howerter's (2013) Co-Teaching Questionnaire. In the development of the questionnaire, Howerter (2013) identified, through a review of literature, six common pillars in co-teaching: "co-teaching models, co-communication, co-planning and co-preparation, co-instruction, co-conflict resolution, and co-teaching strategies" (p. 107). These pillars guided her development of the 45-item questionnaire. The reliability of the questionnaire was checked by the team to ensure the paper was formatted correctly into Qualtrics and reliability was set at 100%. It was also pilot tested to ensure the online format worked properly.

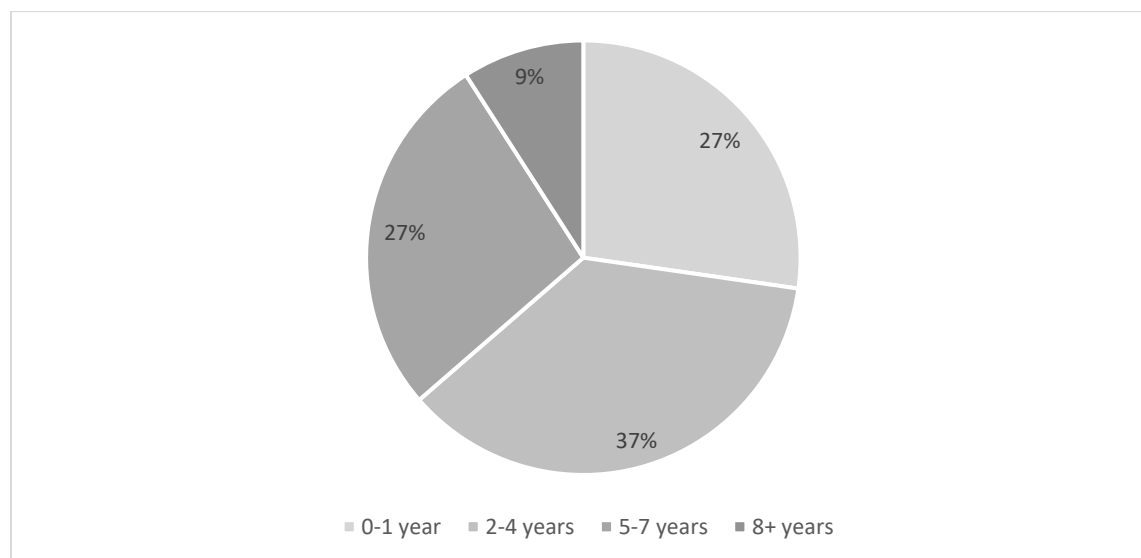


Figure 1: Distribution by the Number of Years for Co-teaching

For this study, the questions from Howerter's (2013) questionnaire were modified from a pre-structured answer format to an open-ended format. This enabled participants to give deeper insights into their perspectives regarding the subject of co-teaching and their training for implementation. The number of questions was pared down in order to focus on certain aspects,

such as training, that addressed this study's research questions. Questions were also developed based on the literature review conducted by the researcher. The revised questionnaire was submitted for expert feedback from a research methodologist. The survey was provided to participants in an online format using SurveyMonkey. It was available to participants for 10 days.

Interviews

Semi-structured interviews were conducted with participants after the survey data were collected. Interview questions (see Appendix B) were designed to gather deeper information about the benefits and challenges individual teachers perceive in their co-teaching experiences (Rubin & Rubin, 2012). The interview also provided participants the opportunity to elaborate further on their survey responses (Creswell & Plano Clark, 2017), such as on their training related to co-teaching and how adequate they felt that training was. Interview questions were developed by the researchers based on the literature review conducted and the benefits and challenges to co-teaching identified in the literature. Each interview lasted for approximately 45 minutes and were audio-recorded. The first author also kept field notes using a field journal. In the field journal, she noted markers to come back to at a later point in the interview. For this study, the definition of *markers* is a word or phrase mentioned by the interviewee about a separate topic from the given interview question (Leavy, 2017). These markers lead us to ask further questions which provided deeper insight and important information for the study.

Data Analysis

Survey questions 1a, 1b and 1c (demographic questions on grade level, years teaching, and months/years co-teaching) and Questions 2a and 2b (type of training on co-teaching the participants had received) were analyzed descriptively: ranges reported, mean years taught and co-taught, and amount of each type of training. The open-ended survey questions were then uploaded to the research software MAXQDA. All audio-recordings of interviews were transcribed and uploaded to MAXQDA.

Data from both the survey and interviews were integrated during the analyses. The open-ended data from the survey and interviews were first coded with attribute coding for data management, followed by descriptive coding to identify commonalities between both data sources (Saldaña, 2016). Next, in vivo coding was used to maintain the exact language used by the participants in both the surveys and interviews (Leavy, 2017; Saldaña, 2016). Emotion coding was done during the initial coding phase to identify teachers' underlying feelings towards co-teaching (Saldaña, 2016). In conjunction, the initial stage of analysis also included memo writing by the first author. "Memo writing involves thinking and systematically writing about data you have coded and categorized" (Leavy, 2017, p. 152). Memos were used to organize ideas and document coding procedures (Strauss & Corbin, 1990). All memos were written and kept within the MAXQDA program.

When initial coding was complete, a second cycle of coding focused on developing major themes based on how the codes from the data as a whole could be grouped together in order to best address the research questions (Saldaña, 2016). The themes were used to create meaning from the data and were compared to those found within the existing literature (Leavy, 2017). A

copy of the completed research paper was given to Queen County Schools (pseudonym) and the building principal at Endeavour Elementary School to share the needs of co-teachers in the building.

Results

The purpose of this research study was to investigate how general education and special education teachers in one elementary school in Georgia are trained in the instructional practice of co-teaching and their perceptions on how prepared they feel to implement the method. The results section presents the integrated findings from both data sets.

RQ1

Research question one asked: What training do teachers receive on co-teaching? In response to this question, 63.64%, or seven out of eleven, participants in the survey indicated that they had received training on co-teaching, while 36.36%, or four out of eleven, responded that they had not received any type of training on co-teaching. Of the seven participants who had received co-teaching training, the topics and breakdowns for those trainings were as follows: Models of co-teaching (85.71%), How to build a successful relationship with your co-teacher (100%), How to develop classroom rules and expectations with your co-teacher (57.14%), and Co-planning (planning lessons together as a team for your students) (71.43%) (See Figure 2).

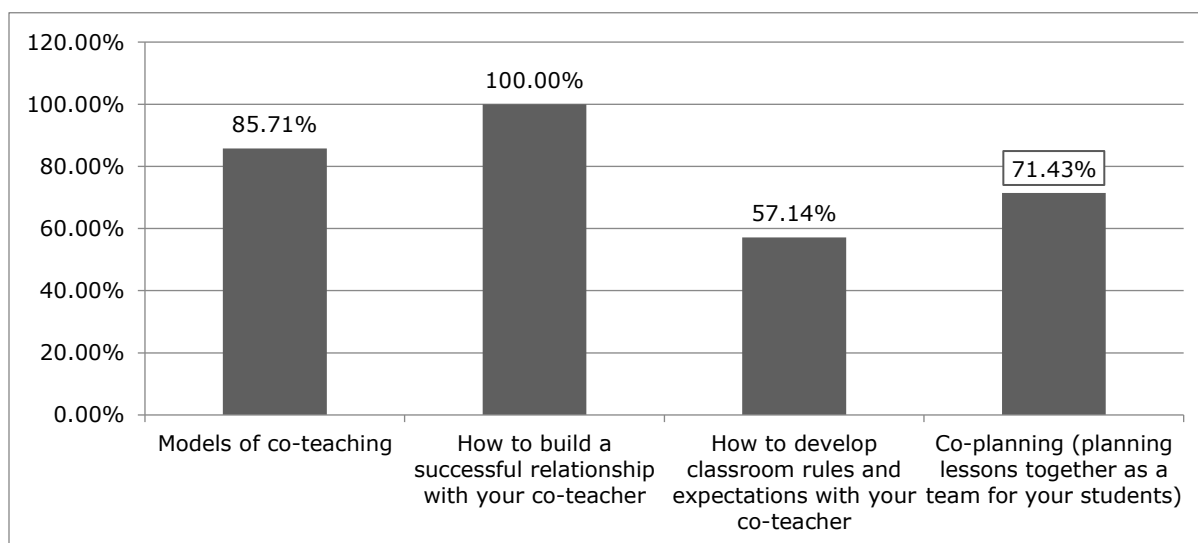


Figure 2: Percent of Participants Who Received Training Relevant to Co-teaching

RQ2

Research question two asked: How prepared do teachers feel in the use of co-teaching as an instructional model? Survey data indicated 63.64% of participants felt adequately trained to serve in a co-teaching role while 36.36% of participants did not feel they had been adequately trained. However, the findings did indicate that while some of the participants felt adequately and some did not, all participants (100%) had received co-teaching training via professional development provided by their school district and two of the teachers had also received co-teaching training in their undergraduate and graduate studies.

RQ3

Research question three asked: What do teachers see as the benefits and challenges of co-teaching? After careful analysis of the coding, the survey and interview data indicate there are several benefits of co-teaching for both students and teachers. The following themes emerged regarding the benefits of co-teaching: 1) supportive and safe environment, 2) instructional support for students and teachers, and 3) confidence builder due to collaboration. Based on the survey and interview data, participants' responses predominantly focused on the challenges for teachers in a co-teaching model. The following themes emerged regarding the challenges of co-teaching: 1) insufficient time for collaboration, 2) inconsistent teaching schedule, and 3) student behavior problems.

Benefits

Supportive and Safe Environment. Consistently named as a benefit of the co-teaching model was that two teachers in the room means more support for all students, both students with disabilities and without disabilities. Participants' responses noted that when students with disabilities are included in the large group and have access to the general education curriculum, they benefit from a safe environment provided by the support of two teachers. One survey respondent wrote, "The students are able to feel safe with a great learning environment to support all of the children's needs. This allows not just special education students to receive extra assistance, but all students in the classroom."

Another participant noted that by having two teachers in a classroom, students with special needs feel secure and have a sense of belonging because they have the support of two teachers. This finding was echoed by another participant who recorded, "Co-teaching enables students with special needs to feel accepted because they have the support of two teachers."

The participants also expressed that a benefit of a co-taught classroom was the extra support they received by working with an additional teacher. One participant wrote, "I have to admit I feel relieved by having the support of another teacher in the room to bounce ideas off regarding lessons or to just give me a break when I feel overwhelmed by a student's immediate needs."

Instructional Support for Students and Teachers. From data analysis, participants' responses provided further evidence to show that co-teaching is a benefit to students with disabilities due to the additional support they receive on instruction from two teachers in the classroom. The findings showed that co-teachers play on each other's strengths by having one teach a subject the other may not feel as comfortable teaching. Participants' responses indicated that students with disabilities hear different approaches to teaching the same topic which can help fill in gaps in their understanding. Chelsea, a co-teacher said, "I may do something one way, somebody may do something another way and if the kids just constantly hear it my way, and they're not getting the other way, then I don't think they benefit as much."

Another teacher noted in her survey response, "The students' greatest benefit of having two teachers is how they may deliver content differently. This helps reach all types of learners." This statement highlights the benefit of co-teaching due to the diversity of students in every classroom. Having co-teachers teaching about the same topic can help meet the wide range of needs that exist in a classroom.

Participants in the study also noted that it is easier to run small instructional groups when there are two teachers in the room. Brynn, a co-teacher stated, “My center times are more controlled and focused because there's two adults, two sets of eyes, lots more opportunities for conferencing.” This statement reinforces the premise that each teacher can run a different group, or one teacher can float between groups to give students assistance while the other teaches the lesson to a small group of students during co-teaching. Participants’ responses noted that co-teaching was especially helpful in classrooms with a larger number of students or in primary classrooms (kindergarten-second grade) where the students are less independent.

Confidence Builder due to Collaboration. For the special education teacher who works with multiple grade-levels, it can be a daunting task to know all the standards that exist in a particular grade level. This is where the collaboration between the general education teacher and special education teacher can provide support and tips on how to teach a specific skill. Findings from data analysis showed that the co-teacher relationship can boost a special educator’s confidence in teaching a subject or skill they do not feel strong in teaching, as well as boost the confidence level for regular education teachers who are unsure on how to reach all students’ needs. Responses indicated the collaborative nature of co-teaching allowed them the opportunity to bounce ideas off each other and feel more confident on how best to approach a new lesson. One survey respondent wrote,

It is great to have someone who can offer me advice on how to best support the students in my class who have learning differences. It is also great to have someone else who can notice other students who might need help. We also are able to share resources and ideas for lessons and feel more confident in what we were teaching.

Another general education teacher noted that her special education co-teacher is able to break things down into smaller pieces for the kids to be able to understand. [She felt that this was not a strength for her as a teacher, and therefore, she appreciated that her co-teacher was able to assist with this.]

Challenges

Insufficient Time for Planning. Regarding the challenges co-teachers face, insufficient time for planning and collaboration together was a theme that emerged from data analysis of the survey and interviews. Participants’ responses indicated that the lack of time leads to unequal sharing of responsibilities and lesson planning. These expressions highlighted how one teacher, usually the general education teacher, will plan the lessons to be taught and the special education teacher will make a separate plan for the students with disabilities based on that lesson or modify the assignments in real time in the classroom. In the survey, one teacher wrote,

One of the challenges of my co-teaching position is that we never have time to plan together. We do not have time to collaborate on lessons or to discuss next steps for students. It would be very helpful if teachers who were participating in co-teaching had a dedicated time on a regular basis, even if it was just a couple of times a month, to collaborate.

Participants in the study noted that if they had more planning time together, they could further discuss students' needs and better plan the next instructional steps to take. Participants also noted that more time to plan would permit them to differentiate lessons to a greater degree and as one participant stated in the interview, "We need more time to collaborate and to talk about the lessons to a greater extent."

Inconsistent Teaching Schedule. From data analysis, one theme that emerged was the inconsistent teaching schedule. One participant shared that her schedule had been changed at least four times during the academic year because a student in a different grade level needed more support. As a result, the special education co-teacher's schedule had to change which in turn, meant that the special education co-teacher then had to come to her class at a different time of day for their co-teaching segments. This schedule change required the regular education teacher to shift her teaching times of various subjects to be in compliance with the student's IEP support segments.

Student Behavior Problems. Participants expressed frustration with the difficult behaviors they have had to deal with because of students in the co-taught setting. Several participants shared that "some days are easier than others," and one participant shared in the interview that some teachers are reluctant to participate in co-teaching because they know they will get the "low kids." Other participants noted that learning time is often lost due to behavior issues which impact the other students in the class. Candace stated,

Our children with emotional needs need to be pulled out or we have to evacuate the other students in the classroom which hinders everyone's learning at that point.... We have all faced this this year in the class and it not only affects us and my class, but it affects my teammates too because they have to bring 30 more kids into their class and then it's one teacher with 60 kids. And there's not any learning that can take place at that point.

Discussion of Findings

The major themes found in this study reflect the current literature on co-teaching. This study found that over half of all co-teachers at the elementary school had received some type of training on co-teaching. All co-teachers shared that their school district had provided them optional training during the academic year and most of them felt well-prepared to serve in the co-teaching role. Overall, participants' comments reflected Hang and Rabren's (2009) study which reported positive teacher perspectives on co-teaching. These comments included quotes such as "It's been a really great experience for me" and "I love it. It works beautifully for us." Campbell and Jeter-Iles (2017) stated that educators in their study viewed the co-teaching model as valuable but believed certain practices such as common planning time were needed. Participants in this study mentioned that the positives of co-teaching outweigh the negatives and although they would like more time for collaboration, many expressed that they desire to continue working in a co-teaching role. When examining these findings through the lens of Bandura's (1977) self-efficacy theory, the teachers in this study felt well-prepared to serve in the co-teaching role and therefore persevered through the challenges encountered to find the positives of co-teaching. This high perceived self-efficacy potentially pushes them forward to continue serving as a co-teacher and strive to better themselves each year.

A supportive and safe environment, instructional support for both students and teachers, and confidence builder were found to be themes in this study. The participants expressed they felt students with disabilities learned more in a co-taught classroom because they had the opportunity for additional support. The participants also felt relieved by having another teacher in the room to bounce ideas off regarding lessons or just give them a break when they felt overwhelmed by a student's immediate needs. Subsequently, the findings of the current study align to studies conducted by Brendle et al. (2017), as well as Hurd and Weilbacher (2017). Both studies found the theme of extra support for both teachers and students were prevalent in co-teaching classrooms. The participants also stated that students with special needs felt safe in a co-taught classroom with the assistance of two teachers and they developed a sense of belonging which aligns to the findings of Gately and Gately (2001) who found that students with special needs felt safe in an environment supported by two teachers.

The participants also expressed they felt students with disabilities learned more by being in a co-taught classroom because of the opportunity for additional one-on-one help and the opportunity to receive instruction from different approaches with two adults available. The findings showed that co-teachers play on each other's strengths by having one teach a subject the other may not feel as comfortable teaching (Hurd & Weilbacher, 2017). The participants also felt it was a confidence builder to have another teacher in the room to collaborate on teaching ideas. This finding is supported by Fenty and McDuffie-Landrum (2011) who found that teachers in co-taught classrooms develop a sense of comfort and confidence because they build upon both of their levels of expertise.

In this study, a lack of time for collaboration was found to be a challenge for co-teachers which parallels Scruggs and Mastropieri (2017) report that not having a common planning time for co-teachers can be a roadblock to success. In order for a co-teaching relationship to flourish, co-teachers need time together to plan and talk through lessons as well as identify how best to address students' needs. Brendle et al. (2017) noted that co-teachers in their study discussed how to present a lesson right before class began. Two co-teachers in this current study indicated they often modify lessons to accommodate students' varying needs "on the fly" during class time because they do not have time to plan together. Other teachers expressed that the general education teacher typically does the planning and the special education teacher modifies for her students as needed, but they do not co-plan together due to a lack of time which was also reported by Brendle et al. (2017).

From data analysis, one theme that emerged was the inconsistent co-teaching schedule. One participant noted that her schedule had changed multiple times to accommodate the special education teacher's schedule which was frequently changed to meet the needs of other special needs students in different grade levels. Campbell and Jeter-Iles (2017) have stressed that co-teaching must be well-supported by the administration and master schedules must permit common planning time for co-teaching teams. Inconsistent co-teaching schedules, not only leads to poor co-planning, but also limits the working relationship between co-teaching partners.

The theme of student behavior problems emerged as a challenge to co-teaching in this study which is similar to Isherwood et al. (2013) who found that class composition can pose difficulties to co-teaching classrooms. One of the participants in this study discussed in her interview that some teachers do not want to take on a co-teaching role because they are afraid they will get the “low kids” or the ones with difficult behaviors. She also expressed that often students who do not have an IEP, but are academically low, are placed in a co-taught classroom because there are two teachers. This can lead to a high number of students in a class who are academically low performing. Considering teachers are faced with high stakes testing, this can create an extra roadblock to getting teachers to want to serve in a co-taught role.

Limitations of the Study

Because this study took place in only one elementary school, the study is limited in its findings. Although the results have the potential to benefit the co-teachers at the school where the study was conducted, the results cannot be generalized across other schools because they potentially have different co-teaching schedules and dynamics of co-teaching teams. Given more time to complete the study, the researchers could widen the participant group to include general education and special education teachers throughout the county in order to illuminate the perceptions of co-teachers across the district. This would allow the researchers to analyze if the identified themes persist across the county. Moreover, the participants had the option of participating in the follow-up interview. Therefore, it is possible that only those teachers with a positive view of co-teaching volunteered to be interviewed.

Implications for Practice

The results of the study provide an opportunity for principals to reflect on how to better support the teachers in the building who serve in a co-teaching capacity. This might include making common planning times a priority for co-teachers or adding some incentives such as extra planning time for those teachers that serve in a co-teaching role. The findings of this study further imply that the distribution of students with disabilities could be equally distributed across classes in a grade level, rather than having only one co-taught classroom per grade. Moreover, the results of this study imply that co-teachers lack skills on behavior management and administrators need to provide co-management training to address student behavior issues.

This study also provides school systems beneficial feedback regarding co-teaching training that has recently been incorporated into professional development days. Teachers in the study felt positively about the trainings they had attended. This will potentially encourage schools to continue and expand the trainings available to teachers on this subject. Finally, the findings of the current study suggest that teacher education programs should consider the merits of co-teaching for certification-seeking students. Integrating co-teaching into field experiences would be advantageous for preservice teachers as part of their training in order to be better prepared for their own inclusive classrooms.

Recommendations for Future Research

In future qualitative studies regarding co-teaching, the researcher should consider making participation dependent upon both completion of the survey as well as a follow-up interview. This would ensure a deeper understanding of all participants' views as it was found in this study that the interviews yielded more in-depth answers to questions than the survey. More emotions could also be analyzed based on the answers given verbally by the subjects in the interviews.

Future studies could also be expanded to include elementary level co-teachers from across the entire county. This would allow comparison between schools to see if the major themes found in this study hold true across the district. It would also provide further insight into if the district level co-teaching training has been attended, and found beneficial, by teachers throughout the county.

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APPENDIX A

The following survey is designed to gather information about how you were trained for your co-teaching position, and your perceptions on how prepared and successful you feel in the use of co-teaching as an instructional model for students with disabilities. There is no right or wrong answer. Please provide any details that might help explain your thinking. Note that any identifying information will be removed to protect your confidentiality.

Please provide your email address in order to be entered into a random drawing to win a \$20 Amazon gift card (free response).

1. Demographics:
 - a. What grade level(s) do you currently teach?
 - b. How many years have you been teaching?
 - c. How many months/years have you been co-teaching?
2. Training related to co-teaching:
 - a. Have you received training on co-teaching? [If they respond yes, they will be given the next questions in this section. If they respond no, then they will be taken to the next section.]
 - b. Have you received training on any of the following? (Check all that apply)
 - i. Models of co-teaching
 - ii. How to build a successful relationship with your co-teacher
 - iii. How to develop classroom rules and expectations with your co-teacher
 - iv. Co-planning (planning lessons together as a team for your students)
 - v. Other [please identify the focus of the training you received]
 - c. Where did you receive the above-mentioned co-teaching training (e.g. undergraduate program, graduate program, professional development from school or conference)?
 - d. Do you feel you are adequately trained to serve in a co-teaching role? Please describe your feelings on this.
3. Benefits of co-teaching:
 - a. What benefits do you gain from working in a co-teaching position?
 - b. How do the students in the classroom benefit from being in a co-taught classroom?
4. Challenges of co-teaching:
 - a. What challenges do you face working in a co-teaching position?
 - b. What challenges do the students have being in a co-taught classroom?
5. Needed training and support for co-teaching
 - a. What would help you be a better co-teacher?
 - b. What further training, if any, would you like to have on co-teaching?
 - c. Are there any areas regarding co-teaching that you would like more support? If so, who can give you that support?
 - d. You are encouraged to take a few moments and offer insights or reflections on this survey that you would like to expand on or that were not addressed.

APPENDIX B

The purpose of the interview is to gather further information and clarification about how general education and special education teachers are trained in the instructional practice of co-teaching as well as their perceptions on how prepared and successful they feel in the use of co-teaching as an instructional model for students with disabilities. Below are the types of prompts that might be used during the interview, but the wording may be changed, or questions added, depending on the nature of our discussions.

- *Before recording, inform the participant that I would like to audio-record the interview. If they agree, do a test of the audio recording to make sure it is working properly. If they decline to be audio recorded, take only hand-written notes.*
- Before we get started, I would like to have you re-affirm your consent to participate in the interview stage.
 - The purpose of the interview is to gather further information and clarification about how general education and special education teachers are trained in the instructional practice of co-teaching as well as their perceptions on how prepared and successful they feel in the use of co-teaching as an instructional model for students with disabilities. The interview will take approximately 60 minutes. I would like you to have the opportunity to pick your own pseudonym for us to use to protect your privacy. What would you like to be referred to as in this study?
_____ *(write pseudonym chosen here)*
Once the interviews have been transcribed and transcriptions verified, audio files will be deleted.
 - Do you consent to being interviewed today? *If yes, continue the interview. If no, stop the interview.*

Questions to ask:

1. Did you volunteer to be a co-teacher or were you assigned the position?
2. *Ask them a question about their response to the survey question on the formal training they received.*
3. *Ask them a question about their response to the survey question about how adequately trained they feel to co-teach. For example, I might ask them to elaborate on what they wrote there.* Is there further training/information you would like to receive about co-teaching?
4. Do you and your co-teaching partner have a common planning time?
 - a. If so, how often, and how do you collaborate?
 - b. If not, do you feel it would be beneficial? Why or why not?
5. What are some of the positive aspects you see about co-teaching?
6. What are some of the challenges you've faced as a co-teacher?
7. What are your overall feelings toward the experience of co-teaching? Please explain.
8. If someone was asked to serve in a co-teaching role and they weren't sure about doing it, what advice would you give them?
9. Is there anything else you would like to share with me about co-teaching that would be helpful for my study?
10. Do you have any questions for me?
Thank them for participating and discuss giving them their \$10 Target gift card.

“I’m not Prepared”: Experiences of Professionals Working with Students with Disabilities and Co-occurring Mental Health Disorders

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Abstract

Despite policies providing resources to students with disabilities (SWD), high school and college SWD are diagnosed with co-occurring mental health disorders (D/MH) at higher rates than their peers without disabilities. As these adolescents transition into young adulthood, education professionals become increasingly important in providing support and resources. As such, the purpose of this study was to examine high school and higher education professionals’ perceptions related to factors exacerbating mental health among students with D/MH and barriers in supporting students with D/MH. Using a basic interpretive approach, researchers analyzed data from interviews and focus groups. Participants identified (a) missed diagnosis and unmet needs, (b) academic and social pressure, and (c) high school transition as factors exacerbating student mental health needs. They identified (a) professional tension, (b) limited training and professional development, and (c) structural barriers in schools as barriers limiting ability to support students with D/MH. Implications for practice and future research are discussed.

Keywords: disability, mental health, young adult, college, high school

“I’m not Prepared”: Experiences of Professionals Working with Students with Disabilities and Co-occurring Mental Health Disorders

High school and college students with disabilities (e.g., a person who has a physical or mental impairment that substantially limits one or more major life activities, has a record of such impairment or is regarded as having such an impairment; Rehab Act of 1973) experience co-occurring mental health disorders such as depression, bipolar disorder, and generalized anxiety disorder at higher rates than their peers without disabilities (Blake, 2017; Poppen et al., 2016). The impact of co-occurring mental health disorders often become more significant as children with disabilities enter adolescence and young adulthood (White et al., 2010) and may result in challenges with executive functioning, social interactions, academic achievement, self-regulation, and setting and following daily schedules (Eddy et al., 2015; Pugliese & White, 2014). For some high school and college students with disabilities and co-occurring mental health disorders (D/MH), such challenges result in dropping out of school, experiencing difficulty finding and maintaining employment, and trouble developing meaningful relationships (Anastopoulous & King, 2015).

Secondary and higher education policies are paramount to supporting students with D/MH. The Individuals with Disabilities Education Act (IDEA; 2004) is a federal education law that

supports eligible students with D/MH in receiving an Individualized Education Program (IEP) throughout elementary, middle, and high school (IDEA, 2004). However, for individuals with disabilities transitioning to postsecondary education, IDEA no longer applies. As students with D/MH enter higher education they may receive services through Section 504 of The Rehabilitation Act (Section 504; 1973). Section 504 is a federally mandated civil rights law which serves to protect students with D/MH by requiring institutions to provide services and accommodations through a university disability support office.

Despite these laws and provisions, students with D/MH consistently experience diminished outcomes compared to their peers with and without diagnoses, including diminished graduation and completion rates, and fewer employment opportunities (Bureau of Labor Statistics, 2018; Mader & Butrymowicz, 2017; National Center for Education Statistics, 2019). The unique barriers and challenges students with D/MH experience in higher education (e.g., social isolation, executive functioning challenges) may contribute to these disparities. Specifically, a lack of research-based interventions to supporting students with D/MH contributes to these barriers (Francis et al., 2017).

While there is a growing body of work related to mental health support among high school and college students, there is limited research specifically focused on improving the mental health of students with D/MH (Al-Yagon, 2015; Poppen et al., 2016). Specific gaps in the literature relate to immediate and long-term outcomes of well-being interventions (e.g., mindfulness, exercise, peer social support) (Anastopoulos & King, 2015; Francis et al., 2018) as well as family support for students with D/MH (Al-Yagon, 2015). Additionally, existing research must be implemented by professionals with clinical licensures (e.g., clinical psychologists, social workers; Francis et al., 2019), making it inaccessible to high school and higher education professionals.

As a result, professionals working in high school and higher education settings report feeling unprepared to support students with D/MH in developing meaningful accommodations and coping strategies. This is problematic, as high school and higher education students with D/MH are expected to develop self-determination and advocacy skills, and begin to take responsibility for managing their own lives, including their disability and mental health-related needs (Francis et al., 2020).

For students with D/MH, unmet needs and growing expectations for independence require ongoing family support and guidance (Francis et al., 2020). As a result, while students with D/MH are expected to transition to the role of self-advocates, family caregivers are simultaneously expected to shift their role from advocates for their adolescents (e.g., making decisions for students) to advisors for their young adults (e.g., making decisions *with* students or guiding students to make decisions; Francis et al., 2017). However, this transition is stressful and challenging for family caregivers of students with D/MH (Francis et al., 2020; Schiltz et al., 2018). In particular, parents note that supporting the mental health of their adolescents and young adults with D/MH is challenging and that unaddressed mental health needs are exceedingly detrimental to the overall family quality of life (Francis et al., 2020). However, professional guidance and support, including the guidance of education professionals, can ease family stress (Francis et al., 2017).

As adolescents transition into young adulthood and families transition from advocates to advisors for their young adults, the education professionals who work with these students become increasingly important in providing support and resources such as referrals to school-based services, facilitating social supports, and helping students secure accommodations (Grogan, 2015). However, adolescents and young adults with disabilities have described the failure of high schools and universities to provide adequate mental health support for individuals with disabilities (Francis et al., 2019).

For that reason, examining the perceptions of high school and higher education professionals working with high school and college students with D/MH provides potential to better understand existing mental health barriers, resources, and supports for students with D/MH, thus identifying viable solutions and implications for practice. Therefore, the purpose of this study was to examine high school and higher education professionals' perceptions of (a) factors exacerbating mental health among students with D/MH and (b) barriers experienced in supporting students with D/MH.

Method

Two white, English-speaking female special education faculty members served as principal investigators for this study. The investigators took different approaches to recruit participants, including convenience sampling, purposeful selection, and snowball sampling. All interested participants were offered the option to engage in a private interview or a focus group with other high school or higher education participants, respectively, to increase participant level of comfort sharing information (Cresswell, 2009).

High School Recruitment

High school recruitment involved convenience sampling and purposive selection, as the investigators sent recruitment emails to high school teachers and administrators with whom they had previous discussions regarding the importance of adolescent mental health. The recruitment email included the purpose of the study, contact information for the primary investigators, and a link to a confidential Doodle poll that the investigators used to schedule interviews or focus groups (depending on participant preference indicated on the poll). The investigators also used snowball sampling by encouraging high school participants to distribute the recruitment email to other high school professionals with experience working with adolescents with D/MH. However, no additional high school professionals completed the Doodle poll.

Higher Education Recruitment

The principal investigators recruited higher education professionals via convenience sampling by selecting one public university and one community college located in the mid-Atlantic region of the U.S. based on existing relationships with the directors of Disability Support Offices (DSO) at these institutions. These DSO "gatekeepers" engaged in previous research activities with the principal investigators related to college students with D/MH (i.e., distributing research information to student listservs). As a result, they were familiar with the needs of young adults with D/MH and had access to other higher education professionals who may be willing to participate.

For this study, the university DSO director identified four departments that had the largest number of students registered with the DSO (i.e., departments of computer science, nursing, social work, and psychology). The investigators used this information to email university department chairs, asking them to distribute a recruitment email to department faculty. Similar to high school recruitment, the email included the purpose of the study, contact information for the primary investigators, and a link to a confidential Doodle poll that the investigators used to schedule interviews or focus groups. Two department chairs agreed to distribute the email via department listservs. The investigators sent a reminder email, but did not receive a response from the remaining department chairs. Finally, the university DSO director agreed to distribute a recruitment email to other DSO staff members. The community college DSO director was unable to provide information on the highest distribution of students registered with the college DSO across academic programs. However, the director agreed to distribute the recruitment email to other DSO and university life staff.

Participants

A total of 13 individuals participated in this study. Seven higher education participants completed the Doodle poll, ($n = 3$ community college staff and $n = 4$ university staff), indicating their desire to participate in a focus group. Of the 15 high school professionals the investigators contacted, seven completed the Doodle poll to participate (one email was undeliverable). However, one individual later excused herself from the study due to extensive administrative responsibilities, leaving six remaining high school professionals.

High school participants primarily served as special education teachers, with the exception of two administrators. The length of time participants reported working in their current positions ranged from one to 12 years. All participants reported their gender as female, their first language as English, and their race/ethnicity as White/Caucasian.

All higher education participants served administrative roles at their institutions. Such roles included director of service offices, disability service counselors, and directors of disability-specific programming. The length of time participants reported working in the current position ranged from two to 10 years. Six of the seven participants reported their gender as female, three reported their race/ethnicity as White/Caucasian, one reported Hispanic or Latinx, one reported Black/African American, and one reported Multiple Races or Ethnicities. One participant reported their first language as Spanish, while the rest reported English.

We held three focus groups, one focus group consisting of four high school professionals from four high schools near the university, one focus group consisting of four participants from the university, and one focus group consisting of three participants from a nearby community college. We also held two interviews with high school teachers from two different schools (one preferred to meet one-on-one and one was unable to make the focus group).

Data Collection

The data collection and analysis team consisted of the two principal investigators and a white, English-speaking female doctoral student with a social work background studying education policy. Seeking to understand the lived experiences of professionals working with students with D/MH, the team used a basic interpretive approach (Patton, 2002) to conduct and analyze interview and focus group data. Focus groups were conducted in-person to build rapport and

grasp non-verbal communication (Opdenakker, 2006). Individual interviews were conducted via phone at the preference of participants. Focus groups were conducted in a private room on the principal investigators' university campus and phone interviews were conducted in a private office on the investigators' university campus. Focus groups and interviews were recorded with participant consent. Interviews lasted an average of approximately one hour, while focus groups lasted an average of approximately two hours. The investigators provided refreshments during focus groups, but did not otherwise incentivize participation.

The principal investigators began focus groups and interviews by reviewing the purpose of the study, including risks and benefits, prior to seeking written consent. They utilized a semi-structured interview protocol, developed from previous research with students with D/MH (Francis et al., 2017; Francis et al., 2019). The protocol included questions related to (a) professional background, (e.g., "Tell us about your work setting and students you work with."); (b) professional experiences supporting students with D/MH, (e.g., "Can you describe your experiences providing or observing support for students with disabilities and mental health disorders at school?"); (c) effective mental health strategies, (e.g., "Can you discuss successful strategies you have used with your students, or heard about others using?"); (d) barriers to providing mental health support, ("Have you experienced barriers to providing effective mental health supports to students with disabilities and mental health disorders?"); and (e) ideal mental health support, ("What would ideal mental health support look like for students with disabilities and mental health disorders?").

Focus groups and interviews were facilitated by one principal investigator, while the remaining researchers took field notes about the discussion, including nonverbal cues, major themes that emerged, and participant questions. The research team concluded focus groups and interviews with member checks by utilizing field notes to review major ideas recorded by the co-facilitator. During this time, the facilitators invited participants to clarify or expand on any of the themes presented. In addition, the research team convened after each focus group and interview to discuss and researcher memos, including emerging themes.

Analysis

Focus group and interview recordings were professionally transcribed. Following transcription, the graduate research assistant cleaned the transcripts, reading line-by-line while listening to the original recordings. During this time, the assistant also de-identified and checked transcripts for accuracy and compared the transcripts to field notes and research memos. This process was designed to capture a general sense of the data and ensure the transcripts represented the context of participant information (Creswell, 2009).

The team engaged in basic thematic analysis (Merriam & Tisdell, 2016), beginning with open coding. During this stage of analysis, all team members independently read the same transcript and identified keywords and phrases, as well as descriptive categories. After individual analysis, the team reconvened to discuss instances when keywords, phrases, and categories converged or differed. This process facilitated the development of an initial codebook (Cresswell, 2009). To further develop and verify the initial codebook, the team read another transcript independently, using the codebook as a general guide. They again reconvened to discuss the relevance of subthemes under categories (e.g., if they were still relevant or could be collapsed), if new themes

or subthemes emerged, or if the original themes required editing (e.g., phrasing, definitions). During this process, the team developed rich descriptions for each category and subtheme so that additional transcripts could be recoded using a finalized codebook. The team utilized NVivo qualitative software (QSR International, 2020) to recode transcripts using the final codebook. The team also continued to meet weekly to debrief on analysis procedures and findings until all data were analyzed. During this period, the team did not identify new themes or categories.

Trustworthiness

The team employed several strategies to ensure trustworthiness of data collection and analysis. First, during the interview process, the team used open-ended questions to encourage participants to discuss their experiences freely and openly. During data collection, the research team recorded conversations and used field notes to conduct member checks with participants. Immediately following data collection, the team discussed initial themes and wrote research memos to enhance an understanding of the data (Wolcott, 1990). Furthermore, during data analysis, the research team ensured accuracy of data by comparing written transcripts to interview recordings and comparing information to field notes and memos. Additionally, the research team engaged all three members in transcript analysis to promote a diverse view of emergent codes and themes and continued to meet weekly to review and discuss interpretations and potential biases (e.g., experiences with mental health, experiences with school professionals; Patton, 2002) until all data we recorded with the finalized codebook.

Findings

Participants described the growing prevalence of mental health needs among high school and college students with disabilities and identified factors that contributed to or exacerbated poor mental health. Generally, participants observed (a) student “anxiety, depression skyrocketing up,” (b) that “there are so many kids with 504s and things for anxiety,” and (c) an increase in suicide: “... over the past four years that I taught there I think we had like three kids commit suicide.” This manuscript reports themes that overlapped among high school and higher education participants, including (a) perceived barriers that exacerbate mental health needs among students with D/MH and (b) barriers experienced by professionals in supporting students with D/MH.

Student Mental Health Barriers

Participants speculated several reasons why students with D/MH experienced detrimental mental health needs and outcomes, including three notable barriers: (a) missed diagnoses and unmet needs, (b) academic and social pressure, and (c) transition out of high school.

Missed Diagnoses and Unmet Needs

Participants described high school and college students with D/MH experiencing “an extra hurdle” going through school with co-occurring diagnoses. At the foundation of this extra hurdle was students not receiving proper mental health diagnoses. Participants cited “parental concerns and stigma” related to mental health, leading to many students “not coming in properly diagnosed around mental health” in high school and college. Similarly, participants reported that other professionals (e.g., teachers, school psychologists, school clinicians) often failed to acknowledge that possibility of a dual diagnosis. Rather, these professionals focused on a single

primary diagnosis such as autism or intellectual disability, dismissing that “there are some real physiological things going on:” “It can't be autism and this other mental health thing [sarcasm]. It can only be one or the other [sarcasm]. That's just not true!” As a result, participants indicated that professionals end up “addressing all of these other [disability] issues except the mental health component...there are so many students in our school that aren't getting service in the way they need.”

Participants reported that students with more significant support needs (e.g., traumatic brain injury, cerebral palsy) were more likely to be “written off” and not receive mental health services without the presence of strong family advocacy: “From the school I hear it's just the disability. But from the families, the louder ones...the ones...with a little higher SES and more time to devote to these thoughts and ideas, they are presenting it [mental health] as an idea. They're seeking out counseling opportunities outside of school.” On the other hand, another participant noted that “some of these kids, especially if they're high functioning, can kind of stumble through school... we're just trying to get them through their day because they're having a panic attack or whatever...” without formalized mental health support.

Academic and Social Pressure

Participants described how “so much [academic] pressure” from educators, families, and other students caused “kids to get so distressed over the pressure to succeed- in this [geographic] area especially.” Participants emphasized the affluent areas in which their students lived as a factor magnifying mental health needs due to the culture of achievement, and community pressure to succeed. One participant working in a high school discussed how public demonstrations of valuing achievement were particularly difficult for some students with D/MH:

At the graduation [ceremony] every year they do this thing where they have all the kids stand up that are a 4.0 GPA or higher. And that's great, but how about the kids that are maybe not as high achievers, but made big strides?

Participants noted that students internalized this achievement culture and “family pressure,” feeling that they fall short when not achieving the standards established in and celebrations. Participants stated that in elementary school, students are “so much more engaged and seem happier,” but as they age and learn about their “shortcomings,” they “just kind of feel hopeless” and “give up after a while.” Participants reported that “they just feel like they're never going to catch up and that's just adding more stress.”

One participant working in a high school observed that additional stress also manifested when students with D/MH compared themselves to their “Gen[eral] ed[ucation] friends around them doing well or making honor roll.” They agreed that this increased stress presented as “a little bit of an attitude thing” toward teachers because students feel like “what's the point?” Negative behaviors and stress also seemed to increase as students with D/MH came “close to graduation and probably think....what am I going to do next [after high school]?”

Mental health pressures for students with D/MH were also heightened by social pressures related to “struggles with sexual orientation and gender identity.” Participants reported that while some students are “more comfortable with [negotiating identities],” others “don't know how to express it or think their parents aren't going to accept them.” Pressures from these situations caused

students to feel especially “anxious and avoid school a lot.” Participants noted that educators sometimes served as a safe space for students to discuss their identities when they felt uncomfortable speaking to their families who were “trying to like funnel [students] into being what they wanted [students] to be.” Beyond sexual orientation and gender identity, participants indicated that some students just wanted “to express themselves in different ways” through music, clothing, or appearance (e.g., hairstyle, clothing). However, as students with D/MH made postsecondary decisions, one high school participant noted that “sometimes it does help them to get away from home a little bit” to find a space where they can explore their identity with greater freedom.

Transition Out of High School

Participants recognized that high school students with D/MH who attend higher education continue to internalize academic, social, and “family pressure to go to college,” causing increased mental health issues such as anxiety and depression. Typical stress associated with transitioning to higher education (e.g., navigating campus resources, adapting to college-level coursework, student loans, selecting a college) were especially stressful for students with D/MH who were the first in their family to attend college. Such uncertainty resulted in additional mental health barriers for many of these students as they “navigate these waters all by themselves and pay for stuff by themselves.” In these situations, participants noted that “sadly, the student usually ends up failing out [of higher education] because they just can’t keep up with the curriculum” and stress of school.

However, higher education participants indicated that DSO staff tried to support students through accommodations such as “priority registration...which is great because students who are taking certain medications for mental health may say...I can’t take a class before 11:00.” That said, participants described the importance of students having the ability to “talk about their disability, how it impacts them, [and] what helps” to ask for and receive appropriate accommodations in school (especially in higher education settings). Unfortunately, higher education participants noted that some students with D/MH did not “know why they received a certain accommodation in high school” or “expected to get the same accommodations [from high school] and they look a little different [in higher education].” Moreover, participants working with students in higher education indicated that students were frequently “surprised” that they had a dual diagnosis (“Oh I see you’re diagnosed with anxiety and depression. ‘No. I’m here for a learning disability.’”). When this occurred, higher education participants had to “do that whole grieving cycle that people go through when they are grieving.”

Barriers Experienced by Professionals

Participants identified barriers they experienced when attempting to provide comprehensive support to students with D/MH. These barriers included: (a) professional tension, (b) limited training and professional development, and (c) structural barriers in schools.

Professional Tension

One participant simply stated, “I’m not prepared. No one else is prepared either” - a sentiment shared by all participants (e.g., “We need more [college] courses in....mental health or counseling...because you’re dealing with that stuff all the time.”). While participants felt woefully underprepared to support the mental health needs of students with dual diagnoses, they

reported that school-based clinicians such as school counselors and social workers with training in mental health were rarely prepared to support students with D/MH due to the nature of their disabilities. Participants described a “huge disconnect” between mental health and disability services and the problematic nature of “arbitrarily assigning [school clinicians] to students,” given the need for them to know how to support co-occurring diagnoses. Further, participants became “frustrated” by varying levels of “buy-in” to support students with D/MH from school and clinical staff, as well as inconsistent responses to the mental health needs of students with D/MH.

This lack of preparation created tension among participants and school clinicians. Participants indicated that they “wouldn’t talk” to school clinicians because counselors and social workers “just deferred” students with dual diagnoses back to participants - particularly for students with significant support needs. As a result, participants referring students out for mental health support created a cycle that ultimately delayed or resulted in students never receiving needed mental health support. Further, high school participants reported insecurity approaching clinical staff with mental health concerns for students with disabilities: “I would never say I think [student with a disability] has depression or is depressed...I would never say that in my building to the clinical team, because I have no right. I'm not trained...yeah, I don’t think I’d be heard.”

This tension participants felt between themselves and school clinicians led to deep concerns about their ability to provide adequate support for students with D/MH. For example, one participant noted that “kids with emotional disabilities get more support, whereas the kids that have intellectual disabilities or autism [receive fewer mental health supports]” from clinical staff in school.

Limited Training and Professional Development

Participants desired professional development on how to identify and support students with D/MH: “You don't have training...there's no curriculum for you...you're just kind of put in that position and trying to do the best you can do.”). Participants described how previous college courses and professional training provided perfunctory information on how to react when students exhibit detrimental behaviors (e.g., removing the student from the classroom, counselor referrals). However, such training did not provide participants knowledge or instruction on how to proactively identify mental health needs or prevent student mental health crises: “We kind of wait until a kid is in crisis before we step in.” Further, one high school participant noted:

It's more reactive than proactive because something has to happen before there's like a significant plan in place or when the team convenes- like last year one of the students threatened another student. And we would do a threat assessment and then come up with a support plan. But there was really no proactive strategies being taught to the teachers of what to do. So it's definitely...it's more reactive.

Further, while professional development trainings in which they did participate addressed mental health disparities among students of “different races, different SES,” trainings never discussed students with disabilities (i.e., D/MH).

Professionals also described monotonous professional development: “It’s got to be more than a PowerPoint.” Professionals indicated that professional development about students with D/MH needed to include information on mental health strategies “and then how we can integrate it [into existing responsibilities]” to reduce feeling like the strategies are “one more thing” to integrate into their work.

Structural Barriers in Schools

Participants described structural barriers (e.g., school policies and processes) that hindered their ability to support students with D/MH. For example, high school participants expressed that current policies and practices to address ongoing behaviors they believe likely stemmed from mental health issues such as in-school suspension were ineffective “because if they’re removed from the situation, not only does it isolate them from the other students, but it....trains them to think I don’t have to deal with everyday life.” However, high school professionals also noted a bond between in-school suspension staff and students with D/MH. “[in-school suspension] teachers end up forming the strongest bonds with the most difficult students. Those are the strongest relationships you’ll see in the building.” These participants discussed that the in-school suspension space was intended to be a restorative setting rather than therapeutic, however, this is commonly the only space students with D/MH have that is a “safe place,” describing a gap in more effective service provision.

Similarly, one higher education participant noted that counselors were available for students but the “campus didn’t have mental health services.” These counselors assisted with academic planning, however, the mental health counseling provided was “just because they have the skills and care [about the student]...we referred out for all our [mental health] services.” High school participants also reported that they had counselors and social workers on staff to “handle the immediate threat” but that “not really doing therapy.”

Participants also noted a lack of systematic ways to facilitate collaboration across departments and disciplines (e.g., general and special education, DSO and residential staff) to provide the most effective support possible for students with D/MH. Unfortunately, participants also discussed multiple barriers preventing them from achieving such partnerships (e.g., lack of established time to collaborate, a lack of trusting relationships, misinformation about disability and mental health diagnoses).

Further, a lack of qualified school-based clinicians also emerged as a structural barrier among participants. As one high school participant noted:

We have one social worker, one clinical psychologist who's with us for four days and then two full time school counselors. So the school counselors divide up the grade levels and the social worker and the psychologist work with all grades...But a lot of these situations - like I'm orchestrating everything. So it's a lot on me as the administrator.

Along these lines and as previously discussed in a different context, other professionals stated that they were sometimes “hesitant” to discuss student mental health issues because existing referral services and procedures were disjointed and slow, due to a lack of planning time and resources (e.g., staff).

Participants highlighted an additional structural barrier related to academics. Specifically, a lack of “policies and practices” to ensure that students with D/MH received appropriate accommodations and modifications based on their disability and/or mental health disorder. For example, several high school participants needed mental health interventions that included accommodations and modifications for students with more significant support needs:

What if my guy [is] not talking? What if my guy is using a talker or just communicating mental health problems in a different way? How are we reporting that? How do I fill that out in a quick, easy form because we have a lot of the same programs that they roll out for the whole school, but what they roll out for the whole school in all classes is not really the same in a self-contained classroom... I don't know how to reach out for help if I don't have clear guidelines...

Further, higher education participants indicated that although many faculty were “willing to be lenient” in providing students needed accommodations, staff must first obtain permission from students to share information with faculty and many students with D/MH preferred not to disclose their disability, or, as mentioned, were unaware that they had dual diagnoses. While understanding and respecting this federal policy, many participants suggested that there should be additional systems or processes to address student needs in such scenarios.

Discussion

The purpose of this study was to examine high school and higher education professionals’ perceptions of factors exacerbating mental health needs among students with D/MH, and barriers professionals experience in supporting these students. Participants identified (a) missed diagnosis and unmet needs, (b) academic and social pressure, and (c) transition beyond high school as factors exacerbating mental health needs among high school and college students with D/MH. They identified (a) professional tension, (b) limited training and professional development, and (c) structural barriers in schools as barriers they experienced while attempting to support students with D/MH. Several of these findings reinforce existing literature.

Our findings indicate that existing policies and procedures reactively address students’ behavioral and mental health needs (e.g., in-school suspension, referring students to community mental health services), which has been shown to be less effective in shaping student behavior than preventive or proactive approaches (e.g., professional development to address student needs, reducing mental health stigma; Gonsoulin et al., 2012). Participants shared that high school students with D/MH frequently developed “bonds” with staff with whom they interacted during punishment, such as in-school suspension. Interestingly, seeking “bonds” was also seen in higher education, as professionals shared experiences of students with D/MH seeking emotional support from educators to discuss topics such as gender identity. These findings are consistent with literature sharing benefits of mentorship for students, including improved well-being, executive functioning and use of campus services and resources (Anastopoulos, & King, 2015; Francis et al., 2020). Unfortunately, participants noted a lack of formal avenues for mentorship and creating “bonds” for students with D/MH across high school and college.

Further, findings identified structural barriers such as lack of systems and procedures for professionals to support students with D/MH (e.g., school policies and processes), as well as too few knowledgeable disability and clinical professionals to provide adequate services. These findings reinforce literature documenting the perspectives of students with D/MH in which they identified a lack of school-based services equipped to address both their disability and mental health diagnosis (Francis et al., 2019; Jackson et al., 2017). Further, this is consistent with barriers, such as lack of clinician knowledge or expertise in disabilities such as autism, in which therapists are unable or unwilling to tailor approaches to support individuals with disabilities (Adams & Young, 2020). Whereas previous literature provides perspectives of students or parents (Adams & Young, 2020; Francis et al., 2019; Jackson et al., 2017), the findings of this study are unique as participants (i.e., high school and higher education professionals) identified lack of disability and mental health integration among *themselves* and colleagues (i.e., clinical professionals) serving students with D/MH. This perspective provides another vantage point toward a more holistic view of supporting students with D/MH.

Information about student-centered approaches was largely absent from participant discussions, which is somewhat incongruent with the intent and provisions of IDEA (2004) and Section 504 (1973). This may lead one to question the degree to which mental health is considered and/or prioritized in IEP or Section 504 plans across high schools and higher education. In addition, study findings also highlighted a lack of comprehensive cross-disciplinary preparation and collaboration to support students with D/MH. To this extent, Figure 1 illustrates (a) the gap in services that exists between participants (i.e., high school and college professionals) and clinical professionals and (b) the problematic cycle of referrals participants described between professionals with expertise in disability and professionals with expertise in mental health. These findings highlight a need for formalized multidisciplinary training and development for both groups of professionals so that they can bridge the gap and provide comprehensive support to students with D/MH.

Participants also shared their desire for professional development that addresses disabilities, mental health needs, and dual diagnoses, indicating that they did not feel prepared to support students with D/MH and lacked collaborative relationships with other professionals. Unfortunately, this finding is consistent with literature documenting the professional need for mental health training (Poppen et al., 2016).

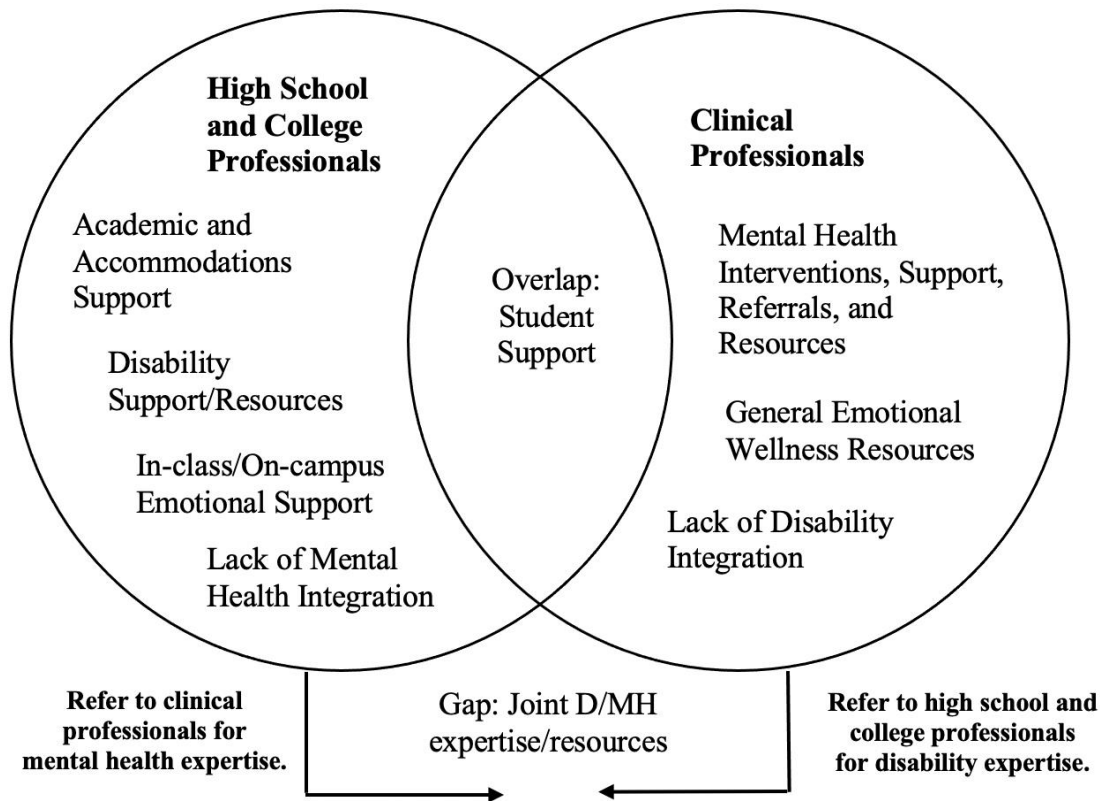


Figure 1. Gap in Services and Referral Cycle Between High School and College Disability Professionals and Clinical Mental Health Professionals

Professionals described how undiagnosed mental health needs prevented high school and college students with D/MH from receiving appropriate support and accommodations, especially in the absence of family advocacy. These findings are consistent with literature documenting the difficulty of individuals with disabilities acquiring appropriate mental health diagnoses and the importance of familial support (Francis et al., 2020; Wark, 2012). Further, the impact of pressure to excel in school on student mental health is well-documented (Clayson, 2015; Hubbard et al., 2018). The same is true of enhanced stress, anxiety, and depression among students with disabilities as they transition out of high school (Poppen et al., 2016). Existing literature documents the mismatch between traditional mental health intervention approaches and the specific needs of individuals with D/MH, thus exacerbating unmet needs among these students (Francis et al., 2020; Milligan et al., 2015).

Our findings contribute to the existing body of research in several ways. First, this study adds to a limited body of research focused on high school and college students with D/MH (Francis et al., 2019). The perspectives and experiences of professionals working with students with D/MH are a vantage point that provides a rarely seen, comprehensive view of factors and barriers that contribute to negative outcomes among these students in high school and college.

Secondly, existing literature documents the impact that family and community pressure have on student mental health, but this study affirms that students with D/MH are also impacted (perhaps

more so) by this pressure as they observe their “shortcomings” when they compare themselves to other students, “giv[ing] up after a while.” Additionally, given the importance of rights and services afforded to students with D/MH under IDEA (2004) and Section 504 of the Rehabilitation Act (1973), it was surprising that participants did not discuss IEP or 504 accommodations, services, or goals for students with D/MH, as these plans guide student outcomes, provision of services, and collaboration across multiple stakeholders (e.g., educators, providers, school clinicians, families).

Limitations

Although the goal of qualitative research is not to generalize across populations (Bogdan & Biklen, 2007), this study had a relatively small sample size with 13 fairly homogeneous participants (e.g., gender, race). This diminishes the ability to ensure the findings of this study are consistent with a larger sample of professionals working with high school and higher education students with D/MH. Additionally, while several aspects of the findings were consistent across the two groups, focusing on one of these groups and specific subgroups (e.g., department faculty, residential staff, high school counselors) would establish more focused data that could potentially yield more specific recommendations in high school and/or higher education settings.

Implications for Practice

This study resulted in numerous implications for practice. First, the findings suggest that school systems should consider structural changes (e.g., monthly co-led meetings between clinicians and other professionals) that would provide tiered levels of mental health interventions and support to students with D/MH. Secondly, high school and postsecondary professionals would benefit from professional development opportunities that include engaging and thought-provoking activities (e.g., problem solving, application activities, journaling, team building). All school personnel should participate in order to enhance cross-disciplinary knowledge and collaboration, thereby alleviating the tension described by participants.

Cross-disciplinary preservice coursework that focuses on supporting students with D/MH would enable professionals across disciplines (e.g., social work, higher education, special education, education leadership, counseling) to enter the workforce prepared to collaborate and provide meaningful support to students with D/MH. K-12 school systems should also integrate disability and mental health training information into orientation programs for incoming educators and staff. These trainings could be developed and/or presented in collaboration with community organizations such as mental health providers and regional Parent Training and Information Centers to bridge gaps between school systems and community resources. This type of school-community collaboration has the added benefit of easing some of the stress associated with the transition from school to adulthood, as students begin to learn about and access community resources prior to graduation.

High school and postsecondary professionals should consider infusing the principles of Universal Design for Learning into their work, to ensure that students with varying levels of support needs can access materials and activities (Kennette & Wilson, 2019). Systematic use of

practices that focus on multiple methods of representation, engagement, and expression would increase the level of support provided to students with D/MH.

Additionally, school systems should consider creating formal mentoring systems to facilitate more systematic and meaningful “bonds” between students with D/MH and school-based professionals in a positive, non-punitive approach. Schools may also consider developing peer-to-peer support groups for students, including those with D/MH, to offer a safe space to discuss issues such as gender, racial, and disability identities as well as other sensitive topics that adolescents and young adults commonly experience. These mentoring and peer support relationships could also provide support when students with D/MH encounter academic and social pressures

Finally, and most importantly, all intervention and support efforts must be developed in collaboration with high school and higher education students with D/MH. Student voice and leadership must be incorporated into all planning efforts in order to respect and honor the voices and perspectives of the students themselves.

Future Research

Although research demonstrates the importance of mental health among high school and higher education students (Oswald et al., 2017), there are limited details about the importance of mental health among students with D/MH (Francis et al., 2019). As a result, future research on student mental health should include students with D/MH, as well as the research-based practices that may work best for this group of students. Further, given the limited sample size of this study, future research should include a larger and more diverse sample of professionals to provide a better understanding of the nuances and unique perspectives of participants across geographic location and personal identities. Additionally, there is a need to study high school and higher education professionals separately to uncover the differences in experiences, and student support systems across these settings. High school and higher education settings are structured and governed differently (e.g., Individuals with Disabilities Education Act, Rehabilitation Act, Family Education Rights and Privacy Act), therefore future research focusing on the differing environments, policies and practices would allow for greater precision in practice and policy implications.

Professionals noted the pressure of students with D/MH to attend college and the particular stressors experienced by first generation higher education (e.g., navigating higher education systems, financial costs, decision-making). Given that first-generation students acquire greater student loans than their non first-generation peers (Furquim et al., 2017), future research should explore the financial burdens of higher education costs for students with D/MH and how this may apply additional pressure for students to succeed. Additionally, given the important role of family in students decision-making (Heifetz & Dyson, 2017), future research could explore family influence on college decision-making among students with D/MH and the influence of the decision-making process on student mental health.

Further research on the complex needs of high school and postsecondary students with D/MH and the specialized skills needed by professionals working with these students are needed.

Research including case studies, cross case comparisons, and intervention studies would provide a deeper understanding of the needs of and most effective supports for high school and postsecondary students with D/MH. Further, integrating the findings of studies exploring the perceptions of students, family, and professionals will provide a more comprehensive look at high school and college students with D/MH and show where parent and professional perceptions converge and diverge from the perspective of these students. Finally, future research should consider conducting an appreciative inquiry (Cooperrider & Whitney, 2005) at high schools and higher education that effectively address mental health needs among students with D/MH to learn about effective practices and to inform policies and solutions to barriers among professionals serving students with D/MH.

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I-CARE: A Scaffolded Instructional Approach to Teach Teachers and Staff Self-Care Practices within Juvenile Justice Facilities

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Abstract

Staff who work in juvenile justice settings frequently face high levels of occupational stress, secondary trauma, and burnout as a result of numerous stressors. Without recourse, these stressors can negatively impact staff well-being, and decrease staff self-efficacy and ability to implement treatment programming to the youth they serve with fidelity. One way to reduce staff levels of occupational stress and improve well-being is consistent use of self-care practices. It is critical to develop an effective approach to support the increase of self-care practices among staff in juvenile justice facilities. The I-CARE instructional approach, influenced by the self-regulated strategy development (SRSD) and multi-tiered system of support (MTSS) frameworks, is one such method for teaching daily self-care practices. We describe the I-CARE instructional approach and how it can be supported within juvenile justice facilities.

Keywords: staff self-care; I-CARE; juvenile justice; multi-tiered system of support, professional development

I-CARE: A Scaffolded Instructional Approach to Teach Teachers and Staff Self-Care Practices within Juvenile Justice Facilities

Teachers and staff (hence force referred to simply as staff) who work in juvenile justice facilities face numerous stressors related to their restricted work environment and the mental health needs of the youth they serve. Due to the unique staffing needs of facilities that require 24-hour a day staffing and the safety-first focus of juvenile justice facilities, staff may be required to work extended shifts to ensure there is adequate staff to manage the facility per policy. All staff within facilities are tasked with educating youth as they are charged with providing treatment and programming across all settings (e.g., classroom, on the unit). Juvenile justice facilities also often struggle with resources and personnel to provide a combination of behavioral, mental health, or educational services. Despite these challenges, staff are expected to address each youth's behavior, lead small group or one-on-one counseling sessions, or educational services during each shift. This is especially challenging due to the severe behavioral, mental health, educational, and social-emotional needs of youth in juvenile facilities, who are more likely than their general population peers to have experienced traumatic events and be diagnosed with mental health disorders (Underwood & Washington, 2016).

Characteristics of Youth in Juvenile Justice Facilities

Youth in juvenile justice facilities display severe behavioral, educational, social-emotional, and mental health needs. For example, youth in juvenile justice facilities are likely to have special education diagnoses of oppositional defiance disorder and attention-deficit/hyperactivity disorder which may result in disruptive behavior (Underwood, Phillips, Von Dresner, & Knight, 2006). Youth who frequently display disruptive behaviors are likely to struggle with social interactions and may engage in physical altercations with their peers and/or staff. Furthermore, many youth in juvenile settings may experience comorbid emotional/behavioral disorders.

Although estimates vary across settings, it is estimated that up to 70% of youth in juvenile justice facilities may meet the criteria to be diagnosed with a mental health disorder, and up to 25% those youth may experience mental health symptoms that are severe enough to impair their ability to function regularly (Shufelt & Coccozza, 2006). Of those youth who are diagnosed with a mental health disorder, 79% met the criteria for two disorders, and 60% met the criteria to be diagnosed with three or more (Shufelt & Coccozza, 2006). Mental health symptoms vary, but the most commonly experienced mental health symptoms include anxiety, depression, and post-traumatic stress disorder (PTSD; Underwood & Washington, 2016). Youth PTSD symptoms are common among youth in juvenile justice facilities and are most typically a result of exposure to violence; emotional, physical or sexual abuse; and witnessing domestic abuse (Abram et al., 2007; Branson, Baetz, Horwitz, & Hoagwood, 2017; Ford, Hartman, Hawke, & Chapman, 2008). Providing treatment services to youth with PTSD is further complicated by up to 93% of youth with PTSD also having at least one comorbid mental health disorder (Abram et al., 2007); and, as a result, staff who work with these youth face numerous professional and personal challenges.

Importance of Self-Care for Staff who Work in Juvenile Justice Facilities

As a result of working extended hours in close quarters with youth requiring intensive needs, staff working in juvenile justice facilities experiences high burnout, increased mental health needs, and secondary traumatic stress (Smith Hatcher, Bride, Oh, Moultrie King, & Catrett, 2011). One challenge faced by staff in juvenile justice facilities is secondary traumatic stress. Secondary traumatic stress occurs when staff who work with traumatized youth are indirectly traumatized as a result of their professional relationship (Smith et al., 2011). In a survey study of (PTSD) symptoms of 118 teachers and staff from juvenile justice facilities, Smith Hatcher and colleagues (2011) examined secondary traumatic stress by measuring the intrusive symptoms (e.g., psychological distress, intrusive thoughts about youth), avoidance symptoms (e.g., avoiding youth or locations, detachment from others, emotional numbing), and arousal symptoms (e.g., irritability, easily startled, difficulty sleeping) of staff. The researchers found that 81% met one diagnostic criterion from the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV-TR; APA, 2000), 55% met two, and 39% met all three. The high percentage of staff who work in juvenile justice facilities meeting diagnostic criteria indicates a strong need for them to participate in self-care instructional approaches for secondary trauma stressors and PTSD. Beyond the secondary traumatic stress from working with traumatized youth, other job-related factors also may increase staff stress and their likelihood to experience other mental health symptoms.

Left unaddressed, the stress and mental health challenges of working in juvenile justice facilities can negatively impact staff's mental and physical health, which in turn may have an adverse impact on their ability to deliver effective services to youth. This is crucial as youth who are referred for effective mental health services (e.g., implemented with fidelity), may be less likely to experience recidivism (Zeola, Guina, & Nahhas, 2017). Emotional exhaustion and fatigue can increase staff burnout, which in turn could potentially lead to staff spending less time getting to know the youth and becoming more directive when providing their behavior and mental health support, as opposed to being positively proactive (Salyers, Hood, Schwartz, Alexander, & Aalsma, 2015). Despite these known challenges related to well-being, staff often report that they do not know how to address their needs or have limited opportunities to participate in self-care instructional approaches. Leadership at juvenile justice facilities can help to close this gap by providing their staff with proactive self-care in a systematic and organized fashion on a regular and ongoing basis (Jolivet, Swoszowski, Kumm, Sanders, & Ansley, 2019).

At its most basic, self-care is defined as intentionally caring for one's health and well-being across the various domains (e.g., psychological, emotional, spiritual, physical). Providing continuous and ongoing self-care instructional approaches to staff who work in juvenile justice facilities has numerous potential positive impacts on staff and youth. For example, staff who participate in self-care and believe they have organizational commitment may experience less stress (Wells, Minor, Angel, Matz, & Amato, 2009). Staff burnout and low retention also may be mitigated by providing staff with the support and self-care that they require to meet the demands of a high-stress job. As a result, staff who experience less burnout may feel more self-efficacy and have more energy to provide youth with the intensive behavioral and mental health services that they require. Also, it is believed that youth are more likely to experience positive outcomes if staff have a sense of well-being (Blinder, Ansley Varjas, Benson, & Ogletree, 2017). Providing those services with efficacy may improve the safety and security of a juvenile facility, which has a cyclical effect of further reducing staff stress. Therefore, it is imperative that staff who work in juvenile justice facilities participate in continual and ongoing self-care instructional approaches.

How Can We Teach Self-Care to Staff?

The first step to improving the self-care practices of juvenile justice staff and addressing the issues with staff burnout and retention is to establish an effective model of professional development.

Effective Professional Development

Facility-wide self-care programs may enhance staff wellness and job performance (Jolivet et al., 2019). However, implementation of such initiatives will only be as effective as the professional development (PD) provided to staff. For many juvenile justice staff, PD is perceived as an imposition that adds to an already heavy workload (Blinder et al., 2017). Without their buy-in, the contents of the PD are less likely to evolve into new practices implemented during daily operations that lead to desired improvements (Guskey & Yoon, 2009) for both staff and youth. Thus, considerations for the contents and delivery of PD should be prioritized when promoting staff self-care, especially for those staff who work within juvenile justice facilities.

Relevance. Staff often report PD as irrelevant to their role or setting (DeMonte, 2013). To make PD effective, it must be meaningful to the participant and relevant to their job-related tasks (Desimone & Garet, 2015; McLeskey, 2011). PD providers can maximize the relevance of program content in several ways. Administrators can assess staff needs through surveys, focus groups, and other forms of feedback that solicit staff perspectives (Darling-Hammond, Hyler, & Gardner, 2017). Another strategy is to provide PD that includes options for personalization (Blinder et al., 2017). This would allow the PD participants to select and apply program components to their work.

Active learning. Just as educators recognize the importance of their students' active role in learning new methods, those who participate in PD can maximize their understanding of new information through active learning (Darling-Hammond et al., 2017). Instead of lecture-based instruction that demands participants "sit and get" the PD content, participants report greater motivation and engagement in hands-on or scenario-based tasks (Boston Consulting Group, 2014). Such active learning experiences also increase the likelihood that the PD will influence changes in staff practices (Darling-Hammond et al., 2017) back in the facility.

Adequate duration. Another common criticism of PD is that it is often presented in the format of a single workshop, thereby reducing the likelihood of implementing the PD contents (Guskey & Yoon, 2009). Single workshops require participants to learn new content in one session and independently implement new practices back in the workplace without supports. PD offered through an ongoing series; however, allows participants opportunities to practice new methods in between sessions and receive feedback from the PD facilitators. With ongoing practice and support, staff are more likely to make changes based on the PD (Darling-Hammond et al., 2017). While researchers have not defined a specific optimal dosage of PD, a meta-analysis of staff self-care interventions found larger effect sizes for programs with durations of at least one month (Iancu et al., 2018).

Conclusions about PD. To promote changes in practices, behaviors, and habits, facility administrators are challenged to provide PD opportunities for their staff. However, to effectively influence changes, administrators must consider the content and delivery of the PD. PD programs should include relevant content (Desimone & Garet, 2015; McLeskey, 2011), instruct through active learning tasks (Boston Consulting Group, 2014; Darling-Hammond et al., 2017), and unfold across a series of instructional sessions (Darling-Hammond et al., 2017; Iancu et al., 2018). For many juvenile justice facilities, managing ongoing in-service (e.g., those staff already employed) and pre-service (e.g., those staff newly hired) training across disciplines of staff can be daunting and complicated. PD organization, selection of topics, and logistics is often managed by the agency/facility training department for the benefit of all staff within an agency. We offer an instructional approach, I-CARE, which could be adopted by agency/facility leadership or their training department.

Using an Instructional Approach to Teach I-CARE to Staff

Our I-CARE instructional approach (Sanders, Jolivet, Kumm, & Ansley, 2019) is designed to meet the requirements of effective professional development to bring about meaningful change in the daily practices and overall well-being of staff working in restrictive settings. I-CARE stands for: I – Identify Self-Care Needs; C – Create a List of Strategies per Tier; A –

Acknowledge Your Strengths and the Positives; R – Reflect on Your Status; and E – Execute Your Plan. The I-CARE instructional approach uses two evidence-based practices: the self-regulation strategy development (SRSD) and multi-tiered system of supports (MTSS).

SRSD. SRSD, created by Karen Harris, is a well-known and highly effective method for delivering instruction and teaching new academic skills to students (Harris & Graham, 1999). The hallmark of SRSD is the combination of direct instruction with support in developing and using self-regulation skills (e.g., goal setting, self-reinforcement, self-monitoring, self-statements). The combination of instruction and self-regulation skills support learners as they acquire, utilize, retain, and generalize skills (Harris, Graham, & Mason, 2003). SRSD uses six, recursive stages to teach skills, beginning with establishing a purpose for learning the skill, modeling the skill, guided practice as participants practice the skill for the first time, scaffolded support with guided release of participant independence, and finally, independent practice and generalization of the skill. By following this model, the I-CARE approach establishes relevance for the skill, spans multiple sessions, includes guided practice, and scaffolded support of the skill which include opportunities for active learning for the juvenile justice staff. Therefore, SRSD serves as an impactful method for delivering PD and an appropriate model for delivering the I-CARE approach.

MTSS. Within I-CARE, participants create an individualized daily, self-care plan. To support the individualization and active learning tenets of effective PD, self-care practices are promoted through the MTSS framework. The MTSS framework includes universal practices completed for all (Tier I), targeted practices for some who need additional supports (Tier II), and intensive practices for few (Tier III). The same MTSS logic that is applied with youth in juvenile justice facilities can be applied to staff self-care to provide individualization and appropriate support based on need (Jolivette et al., 2019). Participants are taught to engage in preventative self-care practices (Tier I), targeted self-care practices (Tier II), and intensive self-care practices (Tier III) based on their current self-care needs (e.g., levels of stress; Jolivette et al., 2019). Through the tiering of self-care practices within a self-care plan, individuals can ensure they are receiving the appropriate level of support based on daily stress level and self-care need.

Overview of I-CARE

The I-CARE instructional approach consists of six sessions, with the content of each session building upon the previous and providing ongoing PD as staff increase their integration of self-care activities into their daily lives before, during, and after their shifts. Each session lasts 15 to 30 minutes and sessions can be repeated, as necessary, if participants need additional practice and support to master the use of the self-care skills. I-CARE uses a flexible schedule, where sessions can be held in different configurations based on facility schedules (e.g., consecutive days, every other day) to minimize programming disruptions. It is recommended that sessions one through three be provided either every day or every other day. It is recommended session four through six be spaced apart by at least two days to give staff time to practice using their self-care activities.

Session 1. The first session of I-CARE establishes the importance of integrating self-care practices into daily life and routines. Background knowledge and vocabulary (e.g., occupational stress, burnout) are reviewed. Staff self-report and reflect on their current self-care practices,

how their use of self-care (or lack thereof) impacts their well-being, and make a commitment to improving their self-care use through goal setting. An overview of the I-CARE mnemonic (Figure 1), I-CARE plans, and subsequent sessions also is provided.

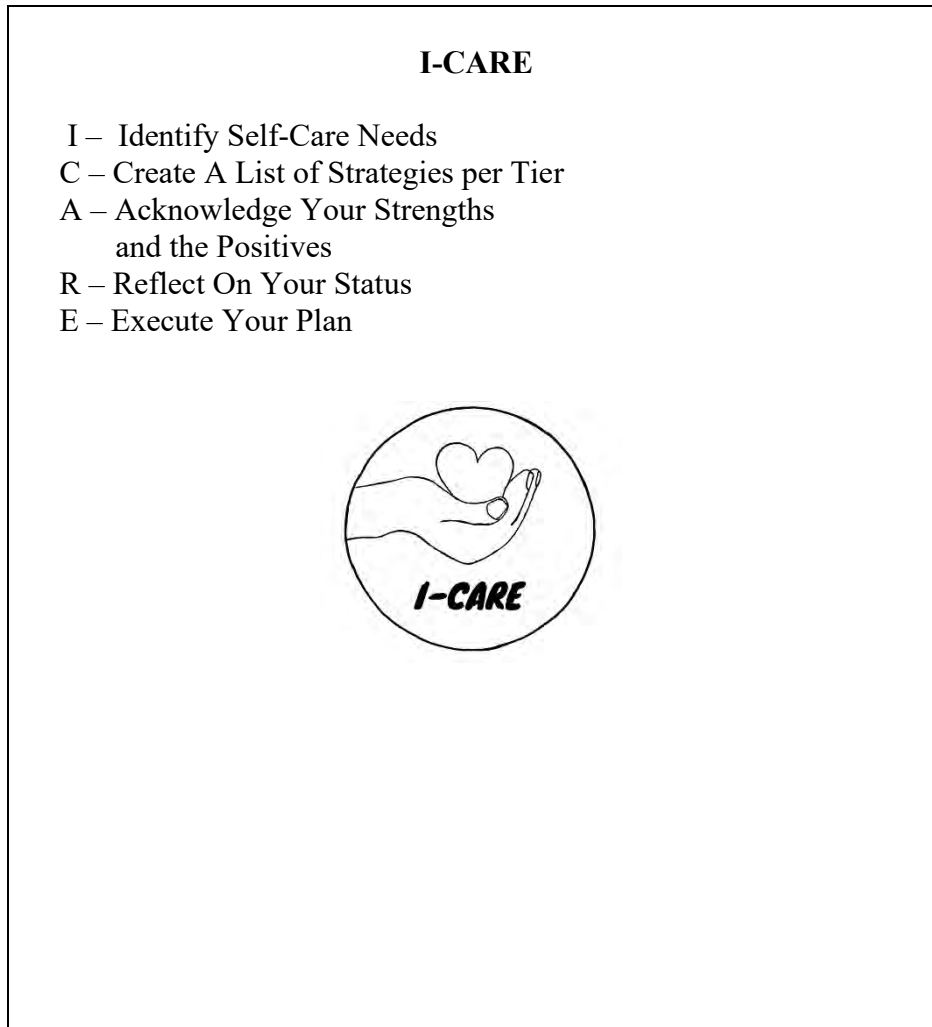


Figure 1. I-CARE Mnemonic

Session 2. The focus of the second I-CARE session is on a model of how to develop and use an I-CARE plan. The facilitator models how the I-CARE mnemonic can increase daily self-care activities, conducting a think-aloud through all five of the steps. Additionally, the facilitator models how to develop a daily tiered, self-care plan (see Figure 2), providing explanations and rationale for each choice on the self-care plan. To support participant engagement in self-care activities, the facilitator models how to use self-statements and self-reinforcement in relation to I-CARE.



My I- CARE Plan

Your I-CARE plan has three different levels. First, you will select two to three daily self-care activities. These should be activities that can easily be completed either before, during, or after your shift. Next, you need to choose two to three self-care activities to complete on days that you identify as more stressful than usual. Finally, you will choose two to three self-care activities for the few days where you are either very stressed OR when you have been experiencing high stress levels over multiple consecutive days.



Figure 2. I-CARE Plan Example

Session 3. During the third I-CARE session, staff develop their own I-CARE plan, choosing self-care activities to address their specific needs for each of the three tiers. Staff practice using self-statements and discuss how to use self-reinforcement when they successfully engage in the planned self-care activities. Staff are prompted to utilize their self-care plans daily between the current and next session.

Session 4. This session begins with the facilitator modeling how to reflect on self-care use, and how the I-CARE plan can be adapted and changed as necessary. Next, there is time for individual reflection on each individual's I-CARE plan, and progress towards self-care goals. Developing a peer network to support continued self-care use also is introduced. This session can be repeated as many times as necessary until staff are comfortable reflecting on self-care use and adapting and changing their I-Care plan.

Session 5. The main purpose of session five is to provide additional scaffolded support as the staff continue to use the I-CARE plan to support their use of daily, tiered self-care activities. Staff discuss ways in which their plan is working for them, how they can modify it if necessary, and strategies to continue to make self-care activities a habit. Session five can also be repeated until staff feel comfortable with their daily use of their self-care plan.

Session 6. The goal of the final session of the I-CARE approach is to promote and support the use of long-term self-care use per the tiered approach. Staff self-reflect on their improvements in daily, tiered self-care use and identify ways to continue using self-care in the future.

The I-CARE instructional approach utilizes effective PD strategies to increase the use of self-care activities of appropriate intensity, based on individual need. It's flexible, individualized nature makes it a feasible fit to address the health and well-being of staff within juvenile justice facilities.

Ways Agencies and Leadership Can Support the Implementation of I-CARE

With retention and attrition of juvenile staff, across disciplines, an ongoing issue, it is paramount that leadership across juvenile justice agencies and the individual facilities prioritize an instructional approach to meeting staff health and well-being needs. We offer suggestions anchored in the public health model and effective instructional principles, often already applied with the youth for treatment and programming, to realize the benefits of the I-CARE approach for staff.

For any instructional approach to be effective, such as I-CARE, it is necessary that the approach be a priority. Within a juvenile agency or facility, leadership can make this a reality by embedding the approach within their audit action plan objectives, mission, and/or strategic plan linked to staff retention and fidelity of treatment/programming delivery goals. Once prioritized as a need, systems can then be built in to PD calendars and daily operations. Systems within public health model multi-tiered systems of support generally mean "the mechanisms an agency puts in place to best support the staff charged with implementing" X, and X can mean any approach, strategy, or intervention (Jolivet, Kimball, Boden, & Sprague, 2016, pp. 43-44). There are many system examples juvenile justice agencies/facilities can employ that would support I-CARE implementation.

First, a purposeful PD plan where staff health and well-being needs are assessed a priori upon employment, continuously throughout employment, and after occurrences of incidents at the facility (e.g., youth-on-staff, self-harm, youth-on-youth). There are many self-care assessments available online and free of-charge that leadership can access (Table 1). This plan should be devised to match those needs for both pre-service and in-service staff with the sharing of the health and well-being strategies (e.g., self-care) strategies available through the agency/facility to all staff as a form of prevention (e.g., employer health and wellness program, safety plans, mindfulness activities; Jolivet et al., 2018). The PD plan should be offered throughout each year and be flexible to account for any unforeseen incidents within the agency/facility (e.g., a youth suicide, serious harm to staff) as well as a means to address the stress of staff who work in facilities which are understaffed resulting in unpredictable shift release, work schedules, and assigned responsibilities once at work. Just as important are those who would be providing the PD. The agency/facility will want to take full advantage of the expertise of their staff. For example, staff who are trained on specific self-care strategies should be the one's delivering the PD and for sustainability purposes such training can be videotaped or turned into a webinar/module for future use. Also, the agency/facility leadership can access community

partner expertise and resources (e.g., SEA or LEA personnel, university faculty, after-school organizations) who may be able to offer specific self-care strategy trainings.

Table 1

Self-Care Assessments Inventories and Resources

Organization	Website
National Alliance on Mental Health Illness: Education, Training, and Peer Support Center (NAMI)	https://www.nami.org NAMI has mental health resources and self-care assessment inventories.
Substance Abuse and Mental Health Services Administration (SAMHSA)	https://www.samhsa.gov SAMHSA has trauma-informed care research and resources, as well as self-care assessment inventories.
University at Buffalo, School of Social Work	https://socialwork.buffalo.edu/resources/self-care-starter-kit/self-care-assessments-exercises.html This website provides self-care assessment inventories, exercises and activities.
Collaborative for Academic, Social, and Emotional Learning (CASEL)	https://schoolguide.casel.org/focus-area-2/learn/self-care-and-re-energizing/ CASEL provides self-care activities and self-care assessment inventories.
National Center on Safe Supportive Learning Environments	https://safesupportivelearning.ed.gov/sites/default/files/Building_TSS_Handout_3secondary_trauma.pdf This self-care packet provides information on self-care, self-care assessment inventories.

Second, the agency/facility leadership can model and encourage staff to access such preventative self-care strategies. This may be done as part of regularly scheduled debriefings and meetings both facility-wide and department specific. For example, the person in charge of such meetings may have a standing agenda item related to I-CARE. Such agenda items may include time at the beginning or end of each meeting to engage in a mindfulness activity, a staff person sharing their use of a self-care strategy that helped them during their shift, or the entire group setting goals on how they would access and implement group or individualized self-care strategies. In one facility, each meeting begins with each person stating how they were feeling that day, what their goal was for their shift, what self-care strategy they would employ during that shift, and who

during that shift they would ‘lean-on’ to remind them to or reinforce them for use of that strategy. This facility reported improved staff camaraderie and morale, especially when leadership started this agenda item and staff saw them actually use the self-care strategy they were trained in and said they would use.

Third, the agency/facility leadership may task a staff member to be a self-care coach to oversee and reinforce the adoption of I-CARE implementation as well as to ensure there is a ‘menu’ of self-care strategies available. This staff may provide weekly and/or monthly updates on self-care strategies as reminders of their availability to all staff and to reinforce the adoption of I-CARE. In addition to having a point-person to oversee I-CARE, someone may be tasked with ensuring that a menu of strategy options for staff are available. For example, in one secure juvenile facility a member of the trauma team was selected to serve in this role. This staff member updates a bulletin board by the staff time clock with information on a self-care strategy, how it can be accessed/used, who also is using it, and how to incorporate it into their daily routine. In this facility, one example shared was a reminder of the agreement between the agency and a fitness center in close proximity of the facility where staff received bi-weekly access to a variety of classes (e.g., spin, yoga, weight training). This staff member posted the list of the available classes and the schedule each was offered, a few sentences of the benefits of each class, that to access the class staff needed to show their work identification card, a place to meet at the center to enter classes together, and what classes their peers participated in so that they had someone they knew there. In addition, this staff member started a competition between the facility departments (e.g., education vs. security vs. recreation) by setting goals for participation (leadership and staff from each department) and at the end of the month which ever disciplines met that goal, they received reinforcement. The reinforcements (e.g., facility ‘swag’ such as a new water bottle, lanyard for their ID card, close parking space) were made available by the facility leadership team. By tasking a specific person to keep all staff apprised of ways to address their self-care needs meant staff were consistently reminded of strategies available to them, encouraged to access them, and reinforcement was made available to those who took part. Also, usage of the self-care strategies was encouraged to be both independent and group, especially given the added benefits of working with a peer (e.g., Penedo & Dahn, 2005).

Fourth, agency/facility leadership may adjust policies and procedures to encourage on-the-job self-care strategy usage by all staff. For example, in many juvenile facilities trauma-informed yoga and meditation are offered to the youth by someone trained in those techniques as part of the daily or weekly schedule (e.g., in gym class, as part of recreation, as part of volunteer services on the weekends). This presents a cost-effective opportunity for the staff on shift and supervising the youth at that time to also participate. In several facilities, the local operating procedures were edited to include text that staff supervising youth during yoga, weight training, and recreation sports were allowed to participate alongside the youth. This was further encouraged by the staff member leading those activities. Staff anecdotally reported that a) they looked forward to those times in the schedule, b) it afforded them an opportunity to be more actively engaged in youth programming as compared to standing against a wall through the class, and c) it provided them to have ‘fun’ with the youth often leading to conversations related to social skills and mentorship. Staff participation is a means to prevent the feelings of stress and burnout or a means for staff to re-center if negative events had occurred earlier in their shift, just as are the benefits for youth. Also, such participation simultaneously allows staff to model the

use of self-care techniques for youth, other staff, and directly benefit themselves. Another example may be an agency/facility editing policies in terms of the schedule and content knowledge competencies of self-care strategies across the tiers. For example, the agency/facility may require all staff to attend/complete self-care modules as part of their on-going training, pass an assessment on the content, and then demonstrate said content on-the-job across time. A change in policy or procedure signals to staff that their on-the-job self-care strategy usage through the I-CARE approach is important.

In addition to system supports for I-CARE adoption and implementation, juvenile justice agency/facility leadership can continue to teach, model, and reinforce staff use of self-care strategies and implementation of I-CARE in other ways which include: a) on a monthly or quarterly basis, they can provide brief booster sessions on the I-CARE approach and/or specific self-care strategies. As part of these sessions, the approach/strategy should be taught and modeled through its review, examples of its use shared, and staff should be provided with an opportunity to share how and why they use it; b) on a frequent basis, especially soon after the adoption of I-CARE, staff should be reinforced for self-care strategy usage at any tier. Such reinforcement could include raffle tickets given to staff observed using self-care strategies by members of the agency/facility leadership. These raffle tickets then could be pulled during meetings whereby the staff member is further recognized publicly and may earn something extra (e.g., first to request a shift); and c) an ad hoc team comprised of staff from various disciplines may be assembled who have advanced training in self-care strategies (e.g., train the trainers). This team may help identify staff within the facility who could benefit from additional supports to access and/or use more targeted or intensive self-care strategies as well as encourage them to use the strategies before, during, and after their shifts.

It is well established the improving self-care practices among staff at juvenile justice facilities helps address staff burnout and retention, as well as to improve physical and mental health well-being. One of the biggest challenges is to design an effective method for providing initial and on-going PD on self-care, specifically designed for staff in juvenile justice facilities. The I-CARE instructional approach provides relevant, individualized, and intensive PD well suited to increase self-care practices, particularly for juvenile justice facilities and their staff. Improving self-care practices will not only encourage staff well-being, but will ultimately positively impact the youth served too.

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Increasing Pre-service Special Education Teacher Skills on Performance Feedback

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Abstract

Special educators are often placed in a collaborative leadership role, supporting others in implementing appropriate educational supports for students with disabilities across the educational environment. Furthermore, special educators are often seen as agents of change, often coaching peer-teachers to ensure best practices are being used to gain the most progress. This study investigated the impact of a training package focused on teaching performance feedback skills on the number of performance feedback statements made by 24 pre-service special education teacher majors during debrief meetings immediately following simulated teaching experiences. Results indicated that, prior to the intervention, participants gave their peers two and one half times more positive feedback than constructive and made themselves the focus of constructive feedback twice as often as their peers. Following the intervention, the number of constructive performance feedback statements given to peers increased while the number of positive performance feedback statements remained stable.

Keywords: performance feedback, peer feedback, teacher preparation, pre-service teacher, special education, Mursion, debrief meeting, inclusion, leadership, collaboration

Increasing Pre-service Special Education Teacher Skills on Performance Feedback

Teacher leadership has never been more important, especially for special education teachers who often find themselves in the role of collaborator and change agent for their schools as they seek to meet the needs of students with disabilities. Wasley (1991) once stated special education teachers must have “the ability to encourage colleagues to change [and] to do things they wouldn’t ordinarily consider without the influence of the leader” (Wasley, 1991; p. 23), which holds true even more so today. The way teacher leaders view themselves has changed over the past 20 years. Whereas, once teacher leaders viewed themselves as a master teacher who carried out the decisions of others to provide efficient and effective instruction, they now see themselves as much more engaged, taking on the roles of redesigner, reformer, and mentor (Silva et al., 2000) as they strive to use best practices to educate students with disabilities. Special education teachers need to be experts in instructional strategies and supports for students with disabilities as well as effective collaborators with the other professionals in the schools.

For many special education teacher leaders, providing best practices for students with disabilities, such as inclusive instruction, requires changing the way educational initiatives have traditionally been done and continues to be an area in which many educators struggle (Fuchs, 2010; Obiakor et al., 2012). Despite the federal mandate that students with disabilities are taught

in the least restrictive environment with their peers without disabilities to the maximum extent appropriate (IDEA, 2004), barriers still exist (Turnbull, 2003). Oftentimes inclusion of students with disabilities falls short because of a lack of appropriate resources or personnel, inadequate training of educators responsible for providing education for students with disabilities (such as critical leadership skills), lack of support from administration, or simply not having the time needed to provide the necessary supports while balancing teaching typically developing students (Fuchs, 2010; Santoli et al., 2008). These barriers become even more cumbersome for general education teachers when faced with including students with more significant behavioral or academic needs.

In a qualitative study conducted by Fuchs (2010) examining teachers' beliefs about current barriers to successful inclusion, the author noted most participants shared the view of inclusion as a positive initiative with benefits for both students with and without disabilities; however, inclusion in its current state was not favored due to their perceived inability to meet the demands inclusion places on a general education teacher and their classroom. This is not to say inclusion of students should be dismissed; conversely, ways in which special education teachers and general education teachers can work together to support students in inclusive environments should be identified. There are examples in the literature in which students from all ability levels have been successfully included and provided a rich academic experience (Carter et al., 2016; Collins et al., 2001; Hudson & Browder, 2014; Hudson et al., 2014). In most of these cases, the driving force behind this success was a strong collaborative relationship between the general education teacher and special education teacher.

This approach requires special education teachers to have the leadership skills to collaborate effectively with the other teachers and key personnel in their school to bring about necessary change. However, research demonstrates that many special education teachers often lack general leadership skills (Billingsley, 2007; Buell et al., 1999; Fuchs, 2010). Development of certain leadership skills, such as providing feedback to address barriers or enrich learning environments, is critical for special education teachers. To support students with more significant needs, it is imperative that a collaboration between the general educator and special educator be forged, as general educators rely heavily on the expertise of the special educator for understanding appropriate accommodations, modifications, communication needs, and overall ability to engage in an inclusive setting (McHatten & Parker, 2013).

DeMatthews et al. (2019) emphasized the importance of teacher leadership as essential to fostering inclusive environments for all students, including students with disabilities. Wenner and Campbell (2017) noted that teacher leaders are "uniquely positioned as collaborators with a capacity for modeling and refining content-specific instructional practices" (p. 140). This is especially true when considering the contextual factors that come into play within each unique learning environment. In particular, the ability of a special educator to provide meaningful peer feedback in relation to their specific content knowledge as part of the collaboration is critical (Da Fonte & Barton-Arwood, 2017). According to Sweigart et al. (2016), performance feedback has been very effective in improving a variety of teacher practices of in-service teachers, specifically related to promoting positive behaviors in educational settings. Furthermore, to successfully collaborate with their general education partners, it is necessary for special educators to be able to provide performance feedback to peers in a way that supports the general educators providing

effective inclusive experiences (Buell et al., 1999). Although research has demonstrated effectiveness for in-service teachers, empirical research examining ways for preparing pre-service teachers to provide optimal peer performance feedback is sparse.

There were earlier studies (Hudson et al., 2019; Hudson et al., 2018) that evaluated preservice teachers' perceptions of their own readiness to manage a special education classroom. In these studies, participants (pre-service special education juniors) were reluctant to give feedback to their peers during the debrief meeting immediately following the experience. As participants, each pre-service special educator taught a short lesson and, when they were not teaching, they observed their peers teaching. After everyone in the group had an opportunity to teach, the participants met as a group for a debrief meeting where the instructor asked guiding questions to encourage a discussion between participants about their experiences. Participants were encouraged to reflect on their own experience as well as what they observed of their peers' experiences. Though the content of these discussions were not formally evaluated, the investigators noted anecdotally that participants gave very little feedback to their peers (either positive or constructive). The limited feedback they shared was focused on themselves and not their peers. Developing communication skills in regard to giving and receiving feedback are important for collaborative teaching, yet minimal research was found to provide guidance for how to prepare pre-service teachers with these essential skills.

Given the importance of teacher collaboration in the field of special education, teacher preparation programs must find ways to embed training into their undergraduate teaching programs with a focus on providing specific performance feedback not only to themselves, but to peer teachers as well. Therefore, the purpose of this study was to evaluate the effect of a training package on the number and type of performance feedback statements made by pre-service special education teacher majors. The research question was:

- What is the effect of a training package on the number and type of performance feedback statements made by pre-service special education teacher students over a series of three debrief meetings following simulated teaching experiences?

Method

This descriptive study examined quantitative and qualitative data on performance feedback statements. The number of performance feedback statements were collected, placed under predetermined categories, and analyzed from videotaped instructor-led discussions with pre- and post-interventions. Additionally, statements made by participants of significance were selected to provide a deeper level of understanding. Data were collected during the 10-minute debrief sessions following three Mursion simulated teaching experiences.

Participants

Twenty-four undergraduate special education teacher candidates (i.e., participants) were included in the study. Participants were pursuing a K-12 teaching license in special education for students with mild disabilities ($n = 7$) or for students with moderate or severe disabilities ($n = 17$) and all were enrolled in a classroom management course as part of their course of study. In this course, the focus was learning and applying behavior management principles to support students with

disabilities who display challenging behavior across the academic setting. At this point in their academic careers, participants had completed approximately 30 hours of practicum experience in general and special education settings in which they were able to develop and teach lessons to students with and without disabilities. They had received feedback from K-12 practicum clinical teachers and university instructors. In addition, the preservice special education teachers were directed to engage in self-reflection throughout all practicum experiences, however providing feedback to peers in a formal manner had not been addressed. Participants' ages were between 20 and 24 years, two students were male and 22 students were female. The ethnicity breakdown for the 24 participants was as follows: 22 White ($n = 92\%$), one Biracial ($n = 4\%$), and one Black ($n = 4\%$).

Purposeful sampling was used to recruit participants. Students who were enrolled in two sections of the junior-level classroom management course (i.e., SPED 3004: Managing the Learning Environment) were included in the study. The purpose for selecting this group of students was the convenience of embedding the intervention within the current course programming and the need to develop skills in giving performance feedback to educators who are implementing behavioral supports for students with disabilities and behavior challenges.

Research Design

A descriptive study was used to examine quantitative and qualitative data on performance feedback statements. Data were collected in the form of performance feedback statements from participants, documented via videotape, during three debrief meetings held with participants and instructor immediately following the simulated teaching experience in the Mursion lab.

Participant statements were transcribed and coded by type of feedback. The first debrief meeting was conducted prior to the intervention, and the second and third meetings were conducted after the intervention. The independent variable was a one-hour intervention training package that included an instructor-made Microsoft™ PowerPoint presentation, a Lynda.com® module on providing feedback (i.e., *Communication in Teams: Providing Feedback*), and training handouts. The training was delivered to participants during a face-to-face class session as part of their curriculum. The dependent variable was the number positive and constructive performance feedback statements made by participants during Mursion debrief meetings. These statements were compared across sessions to evaluate the effect of the intervention.

Dependent Measure

The unit of measurement for this study was the performance feedback statements made by participants during the Mursion debrief meetings. Debrief meetings were captured on video recordings as part of the participants' Mursion teaching experience. A research assistant listened to the recordings and transcribed the discussions verbatim into a Microsoft™ Excel document, stopping and starting the video as needed to capture the words said on the audio. To ensure that transcriptions were complete and accurate, after transcribing a session, the research assistant listened to the session again while reading the transcription and, if needed, made changes to the transcribed document. From the transcription, a reviewer (second author) sorted the participant performance feedback statements into six pre-determined categories. Three categories related to positive feedback, operationally defined as statements or feedback related to the teaching performance as favorable (i.e., gives positive feedback to self, a peer, or the group) and three categories related to constructive feedback, operationally defined as statements or feedback

related to the teaching performance as needing improvement (i.e., gives constructive feedback to self, a peer, or the group). Since this intervention was developed to increase the abilities of participants to provide performance feedback, the three categories were pre-selected to examine any potential differences in providing performance feedback to self, a peer, or the group. Statements that did not contain feedback were not used. Once sorted, the number of statements for each type of feedback was totaled for each session and summarized in Table 1. In addition to sorting statements into these six categories, the reviewer also noted in a running tally whether the feedback discussed specific situations and/or focused on observable behaviors.

Table 1
Number and Type of Performance Feedback Statements Made by Participants During Mursion Debrief Meetings

Feedback Behaviors	Debrief Sessions		
	1	2	3
Gives positive feedback to self	2	0	0
Gives positive feedback to a peer	15	12	15
Gives positive feedback to the group	6	0	2
Gives constructive feedback to self	16	6	6
Gives constructive feedback to a peer	3	10	11
Gives constructive feedback to the group	5	0	4
Total	47	28	38

Mursion Lab

Participants engaged in three simulated teaching experiences in the Mursion lab, a specially designed room at the university. The Mursion experience was provided through a commercially available platform in which participants were able to interact with five middle school-aged avatars in a simulated classroom. Participants interacted with the avatar students in real time using a predetermined scenario that was selected by the instructors (e.g., establishing classroom expectations on the first day of class). A remote offsite interactor, who could see and hear the participants in the lab, controlled the avatars and displayed challenging behaviors for participants to react to as prescribed by the scenario. Participants experienced the avatars and their classroom virtually on a large monitor in the front of the room. The lab space was also set up to resemble a classroom. When teaching, a participant stood in the center of the room in front of the large monitor. When observing, participants sat at tables on either side of the room that faced toward the center of the room. Each participant was provided the scenario (e.g., reviewing classroom expectations) one week prior to the Mursion session in the lab. Participants prepared a lesson in advance and then completed the simulated teaching experience individually, while peers observed and took notes to use during the debrief meeting immediately following the Mursion session. After all participants' finished teaching, the instructor held a 10-min debrief meeting.

Materials

Video Recording. Mediasite, a video and audio recording technology platform provided through the university, was used to record the video and audio for each session. Following each session, the video file was sent to the instructors via email. The audio portions of the debrief meetings were used for data analysis purposes and portions of the videotaped sessions were shown to participants during class. Instructors used the examples to stimulate discussion and provide

specific feedback to participants as part of the training package, following the second session and prior to the third session. This provided an opportunity for instructors to model providing feedback, as well as provide guidance on feedback participants provided during the second session.

Mursion Teaching Scenarios. Participants engaged in three different teaching scenarios during their simulation activities in the Mursion lab. Most participants had no exposure to the Mursion mixed-reality simulation prior to this study, however three students had previously been exposed to the Mursion mixed-reality simulation through an activity as part of a course taken previously, different from the one presented. Small groups of students (i.e., 6-10) completed the sessions together, with each participant independently engaging in the simulation experience one at a time. Each participant spent 5 min teaching and observed their peers teaching for the remainder of the time for all three sessions. The avatars in the first session demonstrated few challenging behaviors and the level of challenging behavior increased with each session. For example, for the first session a behavior observed was student avatars falling asleep or being off task. The student avatars were easily redirected with minimal intervention from the participant. Example behaviors exhibited in the second Mursion session were texting in class after redirection or engaging in disrespectful verbal exchanges (e.g., “I don’t have to listen to you”), but still were able to be redirected with two to three redirects. In the third Mursion session, student avatars engaged in behaviors such as using foul language toward the teacher or refusal to comply, with multiple redirects or ignoring of the behavior necessary. Since the study was embedded in a course on behavior management, participants’ skill level, confidence, and demeanor when interacting with the avatars improved as the semester progressed, therefore the increase in behaviors exhibited by the avatars provided participants with a non-threatening, safe environment to practice behavior management skills, with the opportunity for feedback from peers and their instructor.

Prior to each scenario, participants were provided directions for preparing for the session. Participants were permitted to develop their own unique way of delivering instruction or leading the session. For the first scenario, participants were directed to be prepared to introduce the class members and reviewed basic classroom expectations (e.g., keep your hands and feet to yourself). For the second scenario, participants were directed to prepare to teach an alerting strategy in which avatar students responded to the teacher upon cue (e.g., eyes and ears on me). For the third scenario, participants were directed to prepare to teach a new academic skill to the avatar students (e.g., multiplication facts). Participants could bring materials or use the standing white board in their lessons, if needed.

Intervention

An intervention package including use of Lynda.com® (now called LinkedIn Learning), a power point presentation, and follow up session was used to train participants on how to identify and provide positive and constructive performance feedback to peer-educators. Lynda.com® is an online library of instructional videos that were available to faculty and students at the university where the research was conducted. For this study, a training module from the Lynda.com® library was used entitled, *Communication in Teams: Providing Feedback*. The training module included videos and handouts providing training on how to provide specific feedback based on observations. Participants were given the handouts to use for all Mursion simulated teaching sessions. The handouts and power point presentation are described below.

Handouts. Prior to implementing the Lynda.com® training module in class, participants were given handouts on feedback, including forms for collecting and organizing their observations and thoughts. The first was the “Situation-Behavior-Impact Feedback” graphic organizer (SBI; *Communication within Teams*, Lynda.com®) that included boxes to record details about the specific time, date, or location of the situation (i.e., S), observable behaviors without judgements or opinions (i.e., B), and the impact or result of the behavior observed (i.e., I). The second handout was the “After-Action Review” form (*Communication within Teams*, Lynda.com®) for reflecting on what happened, what worked well, what needed to be changed in the future, and key learnings. A third handout described observable feedback behaviors, including: specific, positive praise given; constructive criticism provided, discussed specific situations, focused on observable behaviors, included impact statements, and acknowledgement or response to receiving feedback.

Microsoft™ PowerPoint Presentation. A Microsoft™ PowerPoint Presentation was developed by the first author as a means to organize the presentation of the training modules provided by Lynda.com, materials from the modules, and procedures to be completed during the mixed reality sessions. Slides within the presentation included links to Lynda.com training module videos, as well as examples and descriptions of the handouts, guiding prompts, and other video examples.

Procedure

Mursion Session One. The first of three Mursion teaching sessions, lasting approximately one hour, was conducted in the Mursion lab during the designated class time and used a simulated teaching scenario as a platform for participants to provide performance feedback during the debrief meetings that followed. Participants were provided all the handouts (i.e., SBI Feedback graphic organizer) from the Lynda.com® training, however, they did not receive training on the use of the handouts until after the first Mursion simulated teaching session. Following the Mursion simulated teaching session, a 10-min group debrief meeting was held. The first guiding prompt focused on participants providing individual feedback related to positive classroom management interactions observed, the result of positive interaction, and potential changes or improvements. The second guiding prompt focused on participants providing individual feedback on classroom management challenges observed during the session, the result of the interaction, and potential changes or improvements. All participants had an opportunity to respond to the debrief questions. Following the group debrief meeting, the instructor completed the After-Action Review form which was shared with students during the next in-class session. The After-Action Review included a summary of feedback on participant performance collected by the instructors during the Mursion simulated teaching session. This session served as a baseline for the number of performance feedback statement provided, prior to intervention.

Performance Feedback Training. Following the first Mursion teaching experience, a one-hour training on providing performance feedback was given during the next designated class time. At the beginning of the training, participants were provided the SBI Feedback form, the After-action Review form, and the handout describing observable behaviors. Participants initially watched two short videos from the *Communication within Teams* module - Provide Feedback (3:49 min) and Structure Time for Reflection (3:51 min). Participants practiced completing the Observable

Feedback Behaviors handout while viewing the Providing Feedback video (this was used later during class discussions). Next, participants practiced using the SBI Feedback form as a guide while viewing a video clip displaying an individual engaging with another individual exhibiting problem behaviors. Then, the instructor led a class discussion about feedback behaviors observed and participants shared notes taken using the SBI form. Last, following the discussion, the After-Action Review was introduced, which participants completed based on the performance feedback provided in the class discussion. During this time the instructor provided guidance in completing the After Action Review through clarification, examples, modeling, and interactive discussion.

Mursion Session Two. Following the performance feedback training, participants engaged in the Mursion teaching session in the same manner as the first Mursion session, with the exception of the teaching scenario (i.e., teaching an alerting strategy) and an increase in behaviors exhibited by avatars. This session lasted approximately one hour. At this point participants had gained knowledge about behavior management strategies to be applied in a simulated experience. Once all participants had completed individual teaching simulations, the instructor prompted a group debrief session using the same procedures as in the first Mursion session.

Performance Feedback Training Follow Up. Between Mursion sessions two and three, the instructors also shared videotaped examples of the participants' teaching along with the After-Action Review to personalize the feedback for participants. This provided an opportunity for instructors to model providing feedback, as well as provide guidance on feedback participants provided during the second session. This session lasted approximately 15-min and was completed during a class within the following two weeks, during the designated class time.

Mursion Session Three. For the third and final Mursion session, all procedures for the second Mursion session were completed in the same manner, with the exception of two things. First, participants were prompted to consider the intervention review session and apply what they learned. Second, participants were directed to prepare to teach a different scenario (i.e., teaching a new skill) with behaviors escalated more than the previous session. Again, participants had continued to gain experience and knowledge about behavior management strategies, as well as become familiar with the Mursion mixed-reality experience. Specific discussions in class sessions following each session about addressing behaviors exhibited by the avatars also allowed for modeling and instructor provided feedback. This session also lasted approximately one hour in length.

Treatment Fidelity

Treatment fidelity data were collected throughout all three sessions using an intervention fidelity checklist (see Table 2) and a fidelity checklist for group debrief meetings (see Table 3). Each step of the intervention was checked for completion during the intervention session as well as during the group debrief meetings to ensure fidelity. Each debrief meeting was videotaped, which provided an additional manner in which researchers could ensure fidelity was implemented after the Mursion session.

Table 2

Fidelity Checklist for Intervention Delivery

1. Participants were provided with SBI Feedback form prior to video training.
2. Participants were provided After-Action Review form prior to video training.
3. Communication in Teams: Providing Feedback was presented to class
4. Participants were provided Observable Feedback Behaviors form and directed to look for these behaviors in the sample video.
5. Participants viewed video clip of sample video using SBI Feedback form as a guide.
6. Instructor led a class discussion about feedback behaviors observed and SBI feedback form notes.
7. After-Action Review form was reviewed by instructor with participants.

Note. SBI = situation, behavior, impact

Table 3

Fidelity Checklist for Group Debrief Meeting Discussions

1. Group debrief meeting was videotaped.
2. Group debrief meeting lasted 10 minutes
3. Each teaching candidate was provided an opportunity to respond to guiding questions.
4. Following the group debrief meeting, facilitator completed the After-Action Review form.
5. After-Action Review form was summarized by the instructor and shared with the teaching candidates during the next class session to provide positive and constructive feedback on their teaching performance.

Note. The After-Action Review form is from the Lynda.com® module, *Communication with Teams*.

Inter-rater Reliability

Six debrief meetings were transcribed, three from each instructor (i.e., session one, session two, and session three). Inter-rater reliability data were collected on two of the debrief meetings (i.e., 33%), session one for both instructors. For the purposes of calculating inter-rater reliability, statements from the debrief meetings were sorted by a second reviewer into the predetermined categories. Prior to the second reviewer conducting inter-rater reliability, the first reviewer trained the second reviewer. Training included sharing and explaining the coding categories and talking through examples of statements from a different session than was being compared. All questions regarding the coding procedure were answered.

The six coding categories included: gives positive feedback to self, gives positive feedback to a peer, gives positive feedback to the group, gives constructive feedback to self, gives constructive feedback to a peer, and gives constructive feedback to the group. Descriptive statements that did not contain any feedback were not coded or included. After the statements were sorted into the six categories, results were compared with the first reviewer's, category by category. For example, the number of statements sorted into the category *gives positive feedback to self* from the first and second reviewer were compared. An agreement was noted if the two reviewers had

the same number of statements in the category and a disagreement was noted if the two reviewers did not have the same number of statements in the category. When there was a disagreement, the two reviewers discussed the specific statements in the category and came to an agreement on the number of statements for that category. All disagreements had to do with a reviewer counting a single feedback statement as two statements rather than one. To calculate inter-rater reliability, the number of agreements was divided by the number of agreements plus disagreements and multiplied by 100 to obtain a percent of agreement for the number of coded statements for each category.

Results

Inter-rater reliability data were collected on 33% of the Mursion debrief session transcripts and the percent of agreement was calculated for the purpose of demonstrating the amount of agreement between two individual raters. Using a statement-by-statement comparison, there were 43 agreements and 9 disagreements, resulting in 83% inter-rater reliability. The disagreements were discussed between the raters until a consensus was reached. Because a statement might be counted differently after consensus was reached, (e.g., a statement might be divided into two separate statements or vice versa), the total number of statements used to calculate inter-rater reliability was different from the data in Table 1 for session one.

A total of 113 performance feedback statements were coded. The number of performance feedback statements by type of feedback are summarized across sessions in Table 1. Data from session one was collected before the intervention. Participants made nearly the same number of positive performance feedback statements ($n = 23$) as constructive ($n = 24$), however the positive feedback statements were overwhelmingly given to peers ($n = 15$) or to the group ($n = 6$), while the majority of constructive feedback statements were made about themselves ($n = 16$) compared to peers ($n = 3$) or the group ($n = 5$). Data from sessions two and three were collected after the intervention. In session two, more constructive feedback statements ($n = 16$) were made by participants than positive ($n = 12$). All the positive feedback statements were provided to peers, while the constructive feedback statements were divided between peers ($n = 10$) and themselves ($n = 6$). In session three, the constructive feedback statements ($n = 21$) once again outnumbered the positive feedback statements ($n = 17$). Participants focused their positive feedback on their peers ($n = 15$) and the group ($n = 2$) while their constructive feedback was divided between peers ($n = 11$), themselves ($n = 6$), and the group ($n = 4$). Overall, positive performance feedback statements remained stable across the three sessions; however, the number of constructive performance feedback statements to peers increased across sessions. Also, the total number of performance feedback statements varied across the sessions. The greatest number of performance feedback statements were made during session one before the intervention ($n = 47$), the least number of statements were made during session two ($n = 28$), and, during session three, 38 performance statements were made.

Several statements of significance were made that may contribute to a better understanding of the overall impact and experience related to the intervention. Prior to the intervention, when prompted by instructors during the first Mursion debrief meeting, participants made over two and one half times more positive feedback statements than constructive (i.e., 21 to 8) to their peers, either individually or as a group, as these examples illustrate:

I thought you gave students autonomy a lot and you let them choose. I loved how you let them choose the rules. It wasn't just all your rules, you let them give input and I really thought that was good because giving students that autonomy, that's going to make them want to learn and be prepared and want to learn from you. So, I really liked that.

Before the intervention, participants gave themselves twice as much constructive feedback as their peers (i.e., 16 to 8), as these statements illustrate:

Um, I think well at least for me, one thing that like I need to work on for Mursion next time is waiting for their response because it's delayed a little bit so even when you start to speak, they're probably already in the act of responding. I think I could've said okay, well write. I'll give you time to write. I should've given her time to write the rules, then look up at me.

I think I want to work on my confidence, like right when I walk up, I feel like I was stuttering and I don't know. I think that right away could make you look kind of like a certain way to the students, like they could break your focus something, I don't know. And it's not that I want to work on like being sterner, it's just like [I want to have] more confidence.

Also, prior to receiving the intervention, even when specifically asked to give constructive performance feedback, participants preferred to critique their own performance rather than their peers', as illustrated in this example:

Okay. Um, I think maybe it was just a simulation thing and we just didn't know wait time is challenging for maybe all of us. We didn't know how long it was going to take for them to reply so maybe, I know I did it. I just jumped into my next thing, but somebody had something to say so I kinda talked over them. But wait time is just a challenge.

Lastly, prior to the intervention, participants mixed constructive performance feedback given to peers with positive feedback, as illustrated in these examples:

Good. Um, and then my thing was for [peer]. I loved your game and how it was like very interesting, but I feel as you get to that fifth person and they have to repeat ... their name and what it starts with and ... that's pretty tough for a fourth or fifth grader. So maybe just them repeating the one that's the person before them and that's it instead of just doing the whole thing ... it was still a great engaging activity and something you definitely could do with fourth graders. But I just feel ... I couldn't even remember all five of those, but everything else was perfect.

I think the situation with [peer] that when Will [an avatar] fell asleep, I think she handled it really well, but maybe also like he said he was really tired, maybe pulling him aside and making sure he's okay, see if anything happened, [find out] why he didn't get enough sleep or why he was tired. That would have been better.

And I guess what she was saying, like [avatar] was sleeping. Just make sure you call attention to that. You are scanning the room and calling attention to that. Everything else was great, but just know that while you are teaching other students might not be paying attention.

After the intervention, participants continued to give positive performance feedback statements but focused all their positive performance feedback statements on their peers rather than themselves (i.e., 12 to 0 in session two and 17 to 0 in session three). Participants also gave more constructive performance feedback statements to their peers than themselves. The number of constructive performance feedback statements given to peers regarding their performance increased from 8 to 10 to 15 over the three sessions. These data indicate that, after the intervention, participants were more willing to give their peers constructive feedback than before the intervention, as these statements illustrate:

Well, for me personally, when they were talking about the superheroes and stuff, I know it is important to give them that time to talk about things that they want but know when to redirect it. I feel like I may have let them talk about it a little too long before redirecting so I may try to cut it a little sooner but still give them that chance to express themselves and talk about their interests and stuff.

The only thing that I would say to change or improve would be maybe smile more because you are a little bit intimidating. Maybe that's a good thing, I don't know, but I don't know if it is just a Mursion nervous thing but maybe be a little bit relatable or like friendly, but it was really good, really good instruction.

I think you could have maybe gone over the topic a little more, like the attention getter a little more. Well, the students were confused, but you quickly [adjusted and] were like maybe it would be easier for you to raise your hand. Some teachers would be like my way or the highway type of attitude, but you were like yeah, if that is easier for you, we can do it that way.

As the researchers sorted performance feedback statements into categories for analysis, they also noted if the statement discussed specific situations and whether the statement focused on observable behaviors. In reviewing these data, it seems that most participants discussed specific situations in their performance feedback statements, as these examples illustrate:

I am going to do [peer]. I like that you connected with the students. One of them said ... that you connected with [avatar] in saying that you liked something that he liked as well. I think you also did it with [avatar] as well. But, just noticing that you and him and you and the other student [avatars] all connected and are all the same and you do the same things they do and you like the same things they like, I think it helped you become more personable.

I guess [peer], you had the kid on his phone and then the other student went on his phone and then she fell asleep. So, I guess maybe being more observant as you are speaking to

them. Just constantly scanning back and forth to see what they are doing would allow you to kind of catch it a little bit faster so that it doesn't spiral.

I'll talk about I liked the way [peer] used everybody freeze, all eyes on me. I thought he had a really good strategy that he chose and also the way he introduced and structure, it seems like he followed an outline.

Much of the performance feedback given by participants also focused on observable behaviors rather than opinions and judgements, as this statement illustrates:

I also really liked [peer] when you were asking them about different types of fiction and they were like, "there is no creativity anymore," and you turned that behavior into, "Well if we get through this lesson we can write our own fiction," and then it turned their complaints into motivation for them to behave again and I thought that was really effective.

However, other participants struggled giving performance feedback that was focused on observable behavior, such as this example:

It shows that like as students they are on the same level and they agree and this new student coming in can see the respect that they have and the understanding for the rules, I guess. They were very positive, like when they were talking to each other like you could tell they were close, kinda like got along, like they already liked each other 'cause they were like liking the same things and they were like talking about them and kind of like boosting each other. I just thought that was kind of a positive interaction.

Discussion

Special education teacher leaders are needed today to forge collaborative relationships with general education teachers and other key personnel in schools to provide meaningful and productive inclusive experiences for students with disabilities (Da Font & Barton-Atwood, 2017; Obiakor et al., 2012). Although many special educators may not see themselves as leaders, the role of a special educator requires leadership qualities in order to collaborate and/or consult across a number of contexts (Billingsley, 2007). Providing specialized knowledge in this manner to facilitate the support of individualized student needs is foundational in the success of any student with a disability, yet pre-service teachers often fall short in terms of leadership preparation when entering the field.

This study used a training package that included a module and handouts from Lynda.com® focused on giving feedback and an instructor-made Microsoft™ PowerPoint presentation to teach pre-service special education teachers to provide performance feedback to their peers, an important skill for teacher leaders. It was noted anecdotally in previous research (Hudson et al., 2019; Hudson et al., 2018) that during Mursion debrief meeting discussions, participants were reluctant to give feedback of any kind, be it about themselves or their peers. This study used the debrief meetings to encourage participants to reflect on their own teaching performance as well

as the performance of their peers' and articulate performance feedback based on what they saw and experienced.

The total number of performance feedback statements varied across sessions (see Table 1). Session one had the most performance feedback statements ($n = 47$) while the second session had the least ($n = 28$). The third session had 38 performance feedback statements, an increase of 10 from session two. These differences may have been caused by the fact that in the first session, before receiving the intervention, participants had few skills in giving constructive feedback to their peers about their teaching performance and, when asked to give constructive feedback, they preferred to give it to themselves. It is also possible that participants were unaware that they tended to give few constructive feedback statements. After the intervention, though, the number of performance feedback statements fell by 40%, from 47 to 28. These data indicate that participants were more hesitant to give performance feedback statements than in the first session. The length of time for the debrief meetings and the guiding questions asked did not change across sessions, so these do not explain the decrease in the number of statements made during session two. The authors speculate that this hesitancy could be due to the phase of learning the participants were experiencing (i.e., acquisition) because participants had been taught how to provide feedback to their peers between sessions one and two and were struggling to apply what they have learned to their practice.

Researchers were also interested in the quality of the participants' feedback statements. Specifically, researchers wanted to know if participants utilized other important skills taught in the course, including whether they discussed specific situations in their feedback statements and whether they focused their feedback on observable behaviors, without subjective judgments or opinions. By the third debrief meeting, participants provided more constructive feedback statements to their peers than in session two, which could mean that participants were beginning to demonstrate some fluency of their newly acquired skills. As with any newly acquired skill, providing opportunities for practice not only helps build fluency, but confidence as well. Providing multiple opportunities in authentic environments is recommended in order to build important teacher skills (Leko et al., 2015).

The importance of special educators having the ability to identify observable behaviors is well-known. Not only is the ability of special educators to identify and articulate observable behaviors to others a critical skill for special educators to develop in general, it is also a necessary component for providing performance feedback. This intervention provided multiple opportunities to practice both of these skills in a simulated classroom setting, which led to growth across both skill sets.

Limitations and Future Directions

The results of this study should be interpreted with these limitations in mind. First, the intervention was implemented by two different instructors in different sections of the same course, so it is possible that the intervention package could have been implemented differently across the two sections, which may have affected the results. However, this limitation was mitigated by both instructors following a fidelity checklist for delivering the intervention package and engaging in discussions during the debrief meetings (see

Tables 1 and 2). Additionally, both instructors covered the same content during their courses and participated in course-alike meetings before classes began.

Secondly, it is possible that some data were not captured from the debrief meetings. However, the use of audio recordings from the videotaped sessions makes this limitation highly unlikely. Additionally, after transcribing each session, the written transcription of the debrief discussions was checked for accuracy using the audio recordings. All debrief meetings were limited to 10 minutes so that the opportunity for data collection was the same across sessions.

Thirdly, the research design itself may be open to numerous threats to internal validity. It is possible that participants experienced an increase in maturity over the duration of the study, as well as became more comfortable with the mixed reality experience, leading to potential inaccuracies in intervention contributions. Additionally, the level of problem behavior presented by the student avatars and varied teaching expectations across sessions had potential to impact the performance feedback statements. Although these factors pose a threat in regard to the validity of the intervention, a feature of the intervention package was the opportunity to hone performance feedback skills through opportunities for practice, which were provided through the repeated mixed reality Mursion sessions.

Suggestions for Practice

The intervention package used in this study was easily embedded by instructors during face-to-face class meetings. Instructors often seek ways to improve leadership skills of their students, yet may lack the time and resources to do so. This intervention package took a relatively short period of time (approximately two 1-hour class periods and two 1-hour sessions providing opportunities to provide performance feedback) and led to an impact on participant leadership skills that has the potential to continue to develop, using the information provided within the module as a springboard for application in future settings. Moreover, given the handouts provided were developed for general use, they can be used across a variety of applications in the future, leading to generalization of the skill.

In addition, the intervention served as an effective tool for acquiring skills in giving constructive performance feedback to peers about their teaching. As illustrated in Table 1, during session one's debrief meeting, very few constructive performance feedback statements were made by participants to their peers. Instead, participants chose to give themselves constructive feedback instead. Following the intervention, however, participants provided more constructive feedback statements in the second and third debrief meetings.

While best practices for providing enriching practicum experiences involve placement in "real" schools, the mixed-reality Mursion experience allowed participants to practice behavior management skills in a safe environment, where inappropriate behaviors could somewhat be controlled as students increased skill level. Additionally, the Mursion simulated teaching sessions and debrief meetings were already part of the course and offered a rich environment to discuss and provide feedback to participants while their teaching experience is still fresh. However, if a Mursion lab is not available for teacher training, simulated role-play activities with debrief meetings can be conducted in the classroom. Role-play experiences are simulated

realistic situations that provide opportunities to interact with other people in a managed way in a supported environment (Hidayati & Pardjono, 2018; Rao & Stupans, 2012) and can be as effective in training pre-service teachers with certain skills as the Mursion lab. For example, Hudson (in press) evaluated simulated role-play experiences in the Mursion lab and the university classroom with undergraduate special education majors and found that high-quality role play activities in both environments had a similar effect in training participants to implement the constant time delay procedure to teach vocabulary words with fidelity.

Conclusion

Research has demonstrated the need for inclusive educational experiences for all students with disabilities, as well as the feasibility to do so with appropriate supports in place. In order to ensure appropriate supports are in place, collaborative relationships between special and general educators are critical. Furthermore, the role of the special educator in these collaborative relationships requires performance feedback to be shared with peer-educators who are partners in providing much needed inclusive experiences for students with all levels of need. This study used an intervention package to promote performance feedback (positive and constructive) for participants. Prior to the intervention, participants gave nearly the same number of positive performance feedback statements as constructive, but most of the constructive feedback was focused on their own teaching performance rather than their peers' performance. After the intervention, the number of constructive performance feedback statements made by participants regarding their peers' teaching performance increased while the number of positive performance feedback statements remained stable across all sessions. Thus, participants were able to improve upon the much needed communication skills of providing effective performance feedback, which can be applied in future educational settings, facilitating positive inclusive experiences.

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Using Video Self-Monitoring to Improve Teacher Implementation of Evidence-Based Practices for Students with Autism Spectrum Disorder

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Abstract

Video self-monitoring, a form of self-coaching, is a method of professional development for teachers. Reinforcement is an evidence-based practice for students with autism spectrum disorder (ASD), and it is applicable in a variety of educational settings. Using a multiple baseline across participants design, we evaluated the effects of video self-monitoring on teacher implementation of reinforcement. Four certified special education teachers participated in this research, all of whom taught students with ASD. In our investigation, special education teacher participants used video self-monitoring in each of their four, self-contained classrooms and implementation fidelity of reinforcement was measured. Results were mixed, showing video self-monitoring increased teacher fidelity of reinforcement to some extent, yet high fidelity was not achieved by all four participants. Nonetheless, this study extends current literature on video self-monitoring as used by teachers. Based on our findings, we offer implications for research and practice.

Keywords: video self-monitoring, self-monitoring, autism spectrum disorder, evidence-based practices, teacher performance

Using Video Self-Monitoring to Improve Teacher Implementation of Evidence-Based Practices for Students with Autism Spectrum Disorder

Over the past two decades, research for individuals with autism spectrum disorder (ASD) has had a strong emphasis on the identification and application of evidence-based practices (EBP; National Autism Center, 2009; National Autism Center 2015; National Research Council [NRC], 2001; Wong et al., 2014). Research suggests selecting and implementing individual EBPs with children with ASD yields positive results in addressing their needs (Boyd et al., 2014). Yet, the identification of EBPs for those with ASD is not enough. If students with ASD are to benefit from EBPs, teachers must implement them with fidelity (Simonsen et al., 2013). Fidelity, specifically implementation fidelity, is the ability to implement a practice while including the crucial features from the research of that practice with consistency and accuracy (Hager, 2018). In practice, EBPs must be implemented with fidelity to achieve the efficacy observed in research settings (Cook & Odom, 2013; NRC, 2001; Oliver et al., 2015). Without appropriate attention to fidelity of implementation, students may not receive the features of an EBP that are critical in order for it to be effective. To ensure educators meet the needs of students with ASD, it is crucial they have the firsthand knowledge and skills required to implement EBPs with fidelity in the classroom (Marder & deBettencourt, 2015).

Stansberry-Brusnahan and Collet-Klingenberg (2010) indicated teachers may not be receiving sufficient training in EBPs for students with ASD to successfully replicate the practices in their classrooms. Correspondingly, many educators have reported they do not feel adequately prepared or trained to implement EBPs when teaching students with ASD (Hendricks, 2011). The responsibilities and expectations for special education teachers are immense and expanding. Special educators are required to have knowledge and skills to deliver a variety of content while working with an increasingly diverse group of students (Smith et al., 2010) and students with ASD display unique learning profiles (Hendricks, 2011; Swanson, 2012). In addition to these challenges, it is not uncommon for teachers to adapt practices, use only portions of a practice, or even abandon the practice all together (Oliver et al., 2015). Making such changes to an EBP can affect fidelity of implementation which, in turn, can affect student outcomes.

Reinforcement is one example of an EBP that has been found to be effective for students with ASD (Wong et al., 2014). Reinforcement is defined by its outcomes. In other words, when contingent presentation or removal of a stimulus, such as an item, event, or activity, increases or maintains the likelihood of a behavior occurring again in the future, reinforcement has occurred (Cooper et al., 2020; Wong et al., 2014). When that stimulus is presented or given to a student, that is positive reinforcement. Reinforcement can be part of or paired with many other EBPs, such as differential reinforcement, extinction, functional communication training, modeling, prompting, self-management, and task analysis (Wong et al., 2014). Cooper et al. (2020) stated reinforcement is “the most important principle of behavior and key element of most behavior change programs” (p. 36). As an EBP, reinforcement also has a large amount of research to support its use with students with ASD including those from 0-22 years of age; the review by Wong et al. (2014) included over 40 studies used to determine reinforcement as an EBP for those with ASD. Thus, reinforcement is not only an effective strategy, but it is versatile in that it can be used across ages and settings.

Historically, in order to learn and improve implementation of strategies, in-service teachers have relied on their school districts to provide professional development (PD; Saccomano, 2013) and many school districts offer PD training opportunities to their teachers on a variety of topics. However, didactic training, or a “train and hope” methodology, while popular and probably time-efficient for PD in schools, is rarely effective in changing behavior, especially in terms of generalizing skills beyond the training (Oliver et al., 2015; Rispoli et al., 2017; Stokes & Baer, 1977) and are targeted to application. Morin et al. (2019) aptly stated, “It is critical to provide professional development that not only increases teacher knowledge but also supports the transition from knowledge to instructional practice with high fidelity of implementation” (p. 4). School leaders must identify effective and efficient means to improve the efficacy of teachers working with students with ASD in implementing EBPs in the classroom (Simonsen et al., 2013).

While more effective means of PD have been found (e.g., performance feedback, coaching), these are often challenging for school districts to implement with any regularity or duration because of their associated costs (Simonsen et al., 2013). Given the limited resources of money, time, and specialized expertise available in school districts, there is a critical need for simple and

easy-to-implement strategies for teachers in order to increase the application of EBPs in the classroom (Mouzakitis et al., 2015; Simonsen et al., 2013).

Self-Coaching

From the adult learning perspective, self-coaching is a self-directed model of learning based on such theories as andragogy, experiential learning, and reflective practice (Ives, 2008). Self-coaching involves learners in the process of their own assessment and allows them to foster a deeper awareness of their performance and current level of knowledge, while simultaneously making them (learners) aware of skills that may need improvement (Harrison, 2010). Based on their meta-analysis, Dunst et al. (2010) found self-assessment and reflection to be the two most effective strategies for improving adult learning. Sharpe et al. (1996) stated teachers “need to primarily rely upon accurate self-evaluation skills to improve their use of effective instructional practices” (p. 297). Further, Mouzakitis et al. (2015) suggested teachers may be the most effective change agent when it comes to their own performance. Considering the limitations of funding and time commonly seen in the public schools, self-coaching may be a flexible, cost-effective strategy to help teachers improve their implementation techniques and ultimately, increase student outcomes. While multiple methods and strategies could be used in self-coaching, self-monitoring is an EBP that can aid in changing teacher behavior (Simonsen et al., 2013).

Self-Monitoring

Self-monitoring includes two components: self-observation and self-recording of the behavior (Allinder et al., 2000; Bishop et al., 2015). After completing these two tasks, data analysis can allow the teacher to make decisions about their own behavior to improve their performance (Rispoli et al., 2017). Self-monitoring has been shown to be effective for teachers to improve their implementation of instructional strategies, such as increasing verbal praise and behavior specific praise, as well as improving embedded learning trials (Bishop et al., 2015; Cook et al., 2017; Rispoli et al. 2017). Self-monitoring may provide many additional benefits to teachers, including improvement in performance, increased procedural integrity, and the ability to self-evaluate, as well as reductions in inaccurate perceptions of performance and teacher resistance (Plavnick et al., 2010; Sharpe et al., 1996). Self-monitoring has been applied and shown to be effective with teacher behaviors in a few instances, such as implementing curriculum-based measurement, improving praise statements, improving the implementation of behavior intervention plans, increasing the embedment of learning trials, and increasing the number of opportunities for students to respond though many of these studies package self-monitoring with other interventions, such as performance feedback (Allinder et al., 2000; Bishop et al., 2015; Kalis et al., 2007; Mouzakitis et al., 2015; Oliver et al., 2015). Additionally, self-monitoring has been socially validated as a strategy for both in-service and pre-service teachers to use in the classroom (Hager, 2018; Kalis et al., 2007; Saccomano, 2013; Tripp & Rich, 2012).

Self-monitoring can take various forms including checklists, audio review, and video self-monitoring. Each of these forms have been studied to some extent. However, with checklists it can be challenging to ensure data from the teachers are accurate unless direct observation occurs during the self-monitoring process and observations from others can impact behavior regardless of intervention. Delays in completing the self-monitoring checklist can also affect accuracy because teachers have to remember their behavior. Audio self-monitoring assists with teachers

remembering their behavior to complete the self-monitoring, but audio recordings may not capture all of the relevant content. Video self-monitoring is an evidence-based strategy that can allow teachers to reflect on their own practice and improve the fidelity of their implementation (Hager, 2018; Morin et al., 2019; Lylo & Lee, 2013). It is useful because of its flexibility and because it addresses some of the disadvantages of checklists and audio review.

Video self-monitoring can align with educators' needs, provide for professional development in authentic settings, and allow teachers to review their video multiple times in order to analyze their behavior (Morin et al., 2019). Importantly, the use of video to reflect can result in improved performance (Tripp & Rich, 2012). Watching videos of one's own performance allows for noticing details that may not have been apparent in real time or when reflecting from memory (Tripp & Rich, 2012), such as with self-monitoring checklists. Video self-monitoring has been shown to be effective with teachers. Specifically, Kalis et al. (2007) found a very strong effect size (0.9230) when video self-monitoring was used for the purpose of increasing behavior-specific praise provided by teachers. Video self-monitoring enables teachers to fully attend to the instruction without having to take data in real time, and provides the opportunity to view the video multiple times (Hager, 2018). Consequently, teachers can see and reflect on the target teaching behavior and shape future implementation of that behavior. Video self-monitoring, as a form of self-coaching, is a potentially low-cost, yet highly effective and efficient method of professional development resulting in minimal classroom disruptions for teachers to gain information about and improve their implementation of EBPs (Hager, 2018; Kalis et al., 2007; Oliver et al., 2015; Sharpe et al., 1996; Simonsen et al., 2013; Tripp & Rich, 2012).

Despite the positive reports of self-monitoring, and specifically video self-monitoring, the results have so far been limited by three factors. The first limitation is a paucity of research focused specifically on improving teacher implementation of identified EBPs using self-monitoring procedures, particularly research that has focused on improving teacher-implemented EBPs to support students with ASD. The second limitation is that much of existing research has paired self-monitoring procedures with other interventions, such as performance feedback; thus, the effects of self-monitoring are not measured in isolation. The third limitation is verbal praise has frequently been the measured dependent variable when implementing teacher self-monitoring. Therefore, it is worth exploring other skills using this strategy, including other types of reinforcement, such as the delivery of tangible reinforcers. Finally, given the improvements in availability and ease of use of technology, some of the previous barriers to implementation in the classroom have been removed, meaning this strategy may be even more appropriate to use in classrooms than ever before.

Our investigation addressed the following research questions:

1. What is the functional relationship between video self-monitoring and teacher performance of the implementation of a task analysis for delivery of tangible reinforcement (an identified EBP for students with ASD)?
2. How do teacher self-ratings on a provided task analysis compare to those of an outside observer when using video self-monitoring?
3. Do teachers perceive self-monitoring as a socially valid, viable option for improving their own practice?

Method

Setting

The study occurred in four self-contained, special education classrooms in a mid-sized, suburban school district that contained ten schools with approximately 8,000 students. Each participant was employed and taught in a different school within this school district. In the four participating classrooms, only students receiving special education services attended the class. All four classrooms included at least 50% (range 50% to 100%) of students who had an educational label of autism. The internal review board (IRB) at the researchers' university approved this study and consent for participation was obtained from all participants prior to initiating the study and pseudonyms were assigned to maintain anonymity.

Participants

In order to recruit participants for this study, an e-mail was sent to two special education directors known by the first author explaining the study, the purpose, and the requirements for participating. The special education directors sent out the information to their special education teachers and teachers were asked to e-mail the first author if interested in participating in the study. Eight teachers responded initially. The first author met with the teachers to explain the expectations of the study, at which point, three declined to participate due to time constraints and a fourth teacher declined stating they did not want to appear on video. The remaining four participants were all female teachers who taught in a self-contained, special education classroom. All four teachers were fully licensed in special education by the state department of education. Please see Table 1 for participant characteristics.

Table 1

Participant Characteristics

Teacher	Education	Experience	Grade Level Taught
Ms. Allen	Master's in Special Education	9 years	7 th grade
Ms. Baxter	Bachelor's in Special Education	5 years	Pre-School
Ms. Collins	Master's in Special Education	16 years	9-12 th grade
Ms. Davidson	Bachelor's in Special Education	3 years	K-4 th grade

Research Design

A multiple baseline research design across participants was used to evaluate the effects of video self-monitoring on special education teachers' implementation of reinforcement (Ledford & Gast, 2018). A multiple baseline design allows for demonstration of a functional relation as it provides for experimental evaluation by controlling for extraneous variables through the sequential introduction of the independent variable to different participants at different times (Ledford & Gast, 2018). The conditions of the design were (a) baseline, during which data were collected on the dependent variable prior to any intervention, and (b) intervention, during which participants implemented the intervention of video self-monitoring. Maintenance was an intended third condition for all participants, but due to unforeseen statewide school closings for the last three months of the school year, maintenance data was only obtained for one participant.

Independent Variable

The independent variable was video self-monitoring with the use of a task analysis for providing tangible reinforcement (See Table 2 for task analysis steps). The implementation of the independent variable was the teacher reviewing the provided task analysis prior to implementing tangible reinforcement during instruction, videotaping their use of reinforcement during instruction, reviewing their own video, and scoring themselves on the provided task analysis. Scoring included the teacher indicating yes, they did the step as described or no, they did not do the step as described.

Video Procedures

Teachers in this study utilized individual school district-issued iPad® devices to record sessions. Three of the teachers used tripods and one teacher, Ms. Davidson, had another staff member hold the iPad® to record her sessions. First, using the camera app on the iPad®, teachers video recorded themselves implementing reinforcement in the classroom. Second, the teacher uploaded the video to a restricted-access file in a secure, cloud-based, software program, Box, which allowed only the teacher and researchers to view the videos. Teachers were required to upload their videos after each day they completed a recording to be viewed by the researchers. Third, teachers viewed the uploaded recording and simultaneously evaluated their performance by using the task analysis form provided by the researchers within one day of video recording. Task analysis forms were either printed and completed using paper and pencil or they were completed electronically in Microsoft Word. Paper and pencil data sheets were scanned by the participants and all data forms were uploaded to Box as well. Observers viewed the videos on their laptop computers.

Dependent Variable

The dependent variable was the percentage of steps in the implementation of a task analysis for tangible reinforcement as recorded by the research team. Reinforcement was chosen because of its versatility for ages and settings as well as its importance and effectiveness (Wong et al., 2014). As seen in Table 2, the task analysis included 10 steps. The task analysis was created by the researchers and tested for validity using two methods: executing the task ourselves and obtaining expert input (Cooper et al., 2020). Expert input was obtained by having three professionals who were educators as well as behavior analysts review the task analysis and provide feedback. Feedback was incorporated and the task analysis sent back to each, at which point all three agreed it was an appropriate and complete task analysis. Each teacher also recorded their own data. While this was not used for making decisions for the study, these data were collected and analyzed.

Table 2

Task Analysis for Reinforcement

Step	Description
1	Gain student's attention
2	State target behavior to student in manner he/she understands
3	Have at least 3 potential reinforcers available
4	Ask student to choose what he/she would like to earn
5	Set chosen reinforcer in view of student but out of reach
6	Set non-chosen reinforcer options out of sight of student

7	Ensure student is attending
8	Provide SD for target behavior
9	Watch student for target behavior performance
10	If student performs target behavior, immediately provide agreed upon reinforcer to student

Data Collection

Following the same evaluative protocol as teachers, two independent observers coded performance data across all three conditions using the provided task analysis (See Table 2). Sessions were coded by the primary data collector within 24 hours of a session being uploaded. Sessions lasted between 3-12 minutes, terminating when the first occurrence of positive reinforcement in the form of a tangible reinforcer was delivered to the student. Participants completed approximately 3-5 sessions per week. While participants collected data on their performance on the task analysis to self-evaluate their performance, decisions for the study were based on the researchers' data collection (See Figure 1). Each teacher calculated their own performance by marking "yes" or "no" to each step. Teachers then added the number of steps they marked as "yes" and divided by 10 (the total number of steps), and multiplied by 100 to obtain a percentage for their performance. Teachers were provided with verbal instruction on how to calculate their own percentage and each task analysis data sheet completed provided visual reminders for the steps to complete this process. Prior to implementation of the intervention, participants were encouraged to ask for clarification on anything in the task analysis they did not understand.

Baseline

During baseline procedures, participants were asked to video record themselves completing their typical classroom instruction, during which they would deliver positive reinforcement, an EBP that has been shown to be effective with students with ASD (Wong et al., 2014). They delivered tangible reinforcers, based on what they knew about reinforcement at that point. Participants were given no additional directions and did not have access to the task analysis at this point. Participants reported they were familiar with positive reinforcement prior to initiating baseline. Because participants were teaching at different grade levels, instructional activities were not prescribed but rather representative of a typical instruction period for that teacher. Recorded baseline sessions were uploaded by the teachers to Box (See Figure 1) after each day recording occurred. The baseline condition continued until dependent measures were stable or were presenting a decelerating trend direction (Horner et al., 2005).

Intervention

During intervention, a task analysis was provided to participants for the provision of positive tangible reinforcement (See Table 2). Introduction of the independent variable of video self-monitoring using the reinforcement task analysis was staggered across participants. At the onset of the intervention condition, participants followed a specific protocol. First, they were instructed to review the task analysis immediately prior to each session. Next, teachers were instructed to video record a session of their typical instruction with a student with ASD where they could occasion an occurrence of contingently providing a tangible reinforcer to a student by having the student engage in a teacher-determined behavior. Because the intervention for the teacher was done during typical instruction, the student behavior was not defined by the researchers. Finally,

and once the session was complete, participants viewed their video by the end of the day and simultaneously evaluated their performance using the same task analysis they reviewed prior to implementation. Participants submitted the video of the recorded session and their completed task analysis to the research team through Box after each video session. Fidelity of implementation was addressed by the first author asking each participant if they followed each step of the protocol for implementation after each session. All participants reported they did implement the intervention as directed.

The recorded sessions were used by the research team for data collection purposes only. No training on reinforcement occurred for participants and no additional interventions or feedback from the researchers were included in this study. Because this study aimed at determining whether the sole use of video self-monitoring alone could improve teacher practice, a preset criterion was not an ideal measure. Instead, stability over five consecutive sessions, as measured by independent observer data, determined criterion for each participant. The primary data coder for the research team scored videos within 24 hours of being uploaded in order to facilitate decisions about the intervention by the research team (e.g., when to move from baseline to intervention or when the criterion of five stable data points were met).

As mentioned above, a follow-up probe was planned for each participant at six weeks post-intervention. However, due to unexpected school closings throughout the state due to COVID-19 for the final three months of school, we were only able to obtain maintenance data for one teacher.

All four participant were asked to complete a social validity questionnaire at the end of the study. Questionnaires consisted of five questions. Two questions used a 5-point Likert-scale with 1 being the lowest and 5 being the highest. The two questions were: a) how well did they like using video self-monitoring? and b) how effective did they find video self-monitoring in improving their practice? There were three additional narrative questions asked. Participants were asked if they found doing the video self-monitoring worth their time. Each participant was also asked if they would like to learn another instructional practice using this same method. Finally, each participant was asked if they would recommend others use video self-monitoring to learn how to implement a new instructional practice.

Interobserver Agreement

Sessions across all conditions were recorded using the iPad® video recording app and uploaded to a secure platform, Box, which could only be accessed by the teachers and the researchers. The primary observer, the third author, was a graduate student in a speech language pathology program. The secondary observer, the first author, was university faculty in the special education department. Both observers completed their data collection separately using the same task analysis used by participants to code the presence or absence of each step of the task analysis. Interobserver agreement (IOA) was calculated across teacher performance data for a cumulative total of 54% of sessions, ensuring reliability across all conditions (Horner et al., 2005). Sessions were chosen to ensure equitable distribution across conditions but were randomly picked within the conditions. IOA was calculated across 53.4% of baseline sessions (range 50-61.5%) and 55.6% of intervention sessions (range 50-54.5%). IOA was measured by dividing the total number of agreements by agreements plus the number of non-agreements, and multiplied by 100

(Cooper et al., 2020; Ledford & Gast, 2018). In all, IOA across performance data was 98.9% (range: 97.8-100%). Individual participant reliability data were as follows. IOA for Participant 1, Ms. Allen, was 100%; for Participant 2, Ms. Baxter, it was 98.6% (range: 90-100%); for Participant 3, Ms. Collins, IOA was 100%; and for Participant 4, Ms. Davidson, it was 97.8% (range: 90-100%).

Results

A visual analysis of the data was performed to determine evidence of a functional relationship between the independent variable: video self-monitoring, and the dependent variable: fidelity of reinforcement, as measured by the task analysis. Results showed all four participants increased their level of performance, but the amount of growth varied across participants. Two participants' mean baseline levels were below 10% and both of these participants increased their levels of performance to a stable 40%. In contrast, the other two participants' mean baseline levels were 23% and 30%, and their performance increased to mean levels of 74% and 90% respectively. Figure 1 shows the percentage of steps of the task analysis completed correctly across baseline and intervention conditions. As depicted in Figure 1, a functional relation was demonstrated as all four participants showed increased performance in completing the steps of the task analysis as well as stability of performance as a result of the introduction of the independent variable. However, the increased levels of performance reached high levels of fidelity for only two of the four participants. The x-axis represents the instructional sessions and the y-axis represents the percentage of steps on the reinforcement task analysis completed correctly by each participant. Self-reported data during intervention for all four participants was high with means for the participants ranging between 66%-100%. As the study was trying to determine if an increase in performance levels would occur as a result of the video self-monitoring intervention, a functional relation was found through the visual analysis given all four participants increased their levels of performance with the implementation of the independent variable. A detailed description of each participants' data, including their own self-reported data, follows.

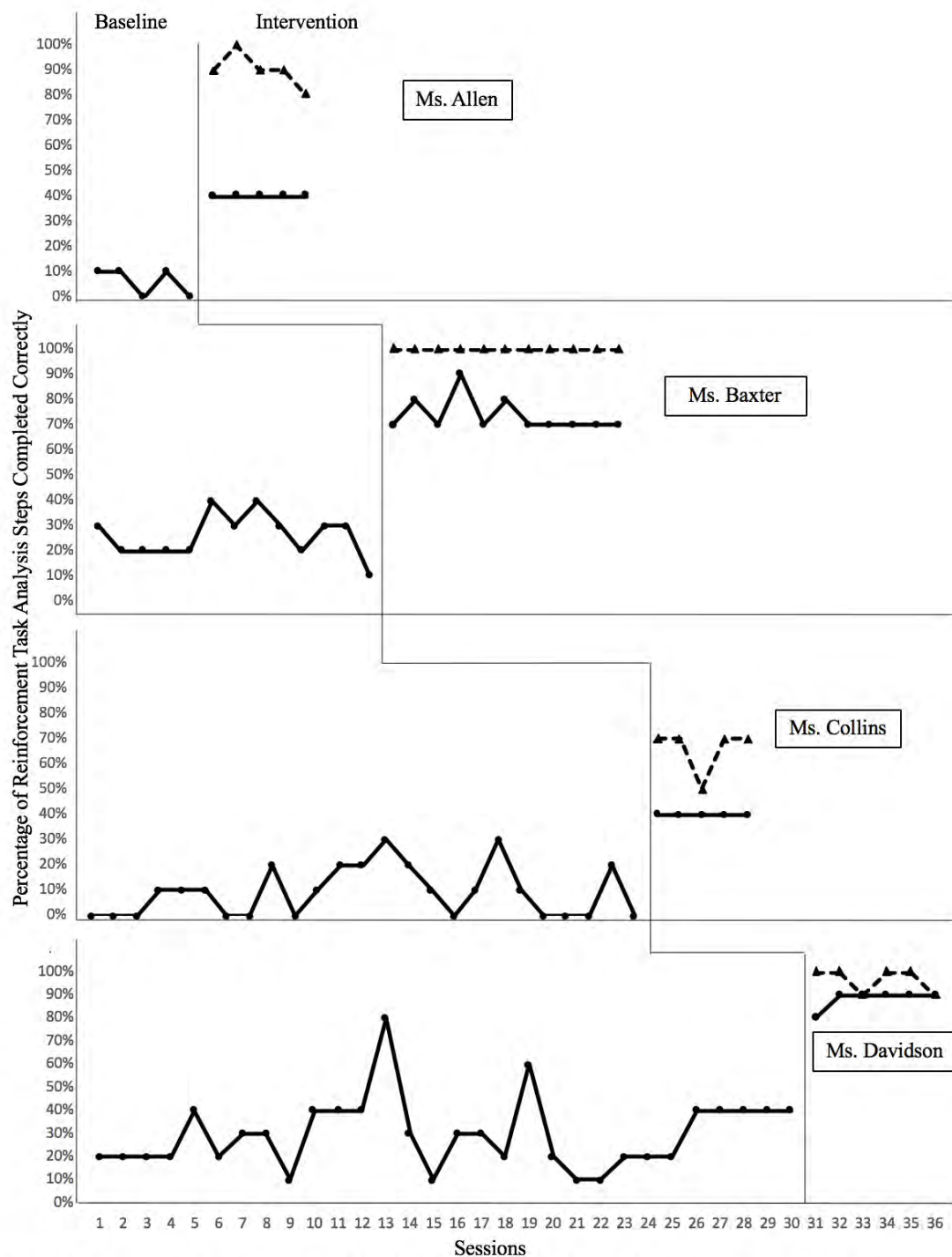


Figure 1. Percentage of reinforcement task analysis steps completed correctly across teacher participants. Note. Closed circles represent coded teacher performance and closed triangles represent self-reported teacher performance.

Figure 1: Results of Implementing Video Self-Monitoring Across Participants

Participant One: Ms. Allen

Ms. Allen's mean performance level across the baseline condition was 6% with low variability (range: 0-10%). The immediacy of effect was 37% and the mean performance level across intervention sessions remained stable with no variability at 40%. Further, there were no overlapping data points. As depicted in Figure 1, Ms. Allen's self-reported scoring during the intervention condition differed from data collected by observers. The self-reported median performance level across the intervention condition was 90% (range: 80-100%); thus, there was a discrepancy of 53% between performance as coded by the researchers and what was self-reported by the participant. Ms. Allen did complete the six-week follow-up and scored 40% during this probe.

Participant Two: Ms. Baxter

Ms. Baxter's mean performance level across the baseline condition was 23% (range: 10-40%). The immediacy of effect between baseline and intervention conditions was 50%. The mean performance level across treatment conditions was 74% with low variability (range: 70-90%) and there were no overlapping data points. Ms. Baxter met criteria with five stable data points of 70%. Interestingly, Ms. Baxter's self-reported performance was 100% with no variability across the entire intervention phase (See Figure 1); revealing a discrepancy of 26% between self-report and coded performance data.

Participant Three: Ms. Collins

The mean performance level across the baseline condition for Ms. Collins was 9% (range: 0-30%). The immediacy of effect was 33% and the mean performance level across intervention sessions remained stable at 40% with no variability or overlapping data. In contrast, Ms. Collins' self-reported data revealed a mean performance level of 66% (range: 50-70%), which is a discrepancy of 26% compared to coded performance data.

Participant Four: Ms. Davidson

Ms. Davidson's mean performance level across baseline sessions was 30%, and baseline data revealed high variability (range: 10-80%). Nonetheless, the immediacy of effect between baseline and treatment conditions did demonstrate a change in level of 57% and low variability was observed (range: 80-90%) after the introduction of the independent variable. The mean performance level during the treatment phase was 88% with low variability (range: 80-90%) and Ms. Davidson met criterion of five stable data points of 90%. The percentage of non-overlapping data (PND) points was 83.33%. The mean performance level of self-reported scores for Ms. Davidson was 97% (range: 90-100%), revealing a difference of 9% between self-reported data and coded performance.

Social Validity

All four participants completed the social validity at the end of the study. The first question: how well did participants like using video self-monitoring in improving their practice, yielded a median score of three across participants (individual scores were 3, 3, 4, 3, respectively). For question two: how effective did participants find video self-monitoring in improving their practice, yielded a median score of four (individual scores were 4, 4, 4, 3, respectively). For the narrative questions, all four participants indicated yes, they found doing video self-monitoring worth their time. Ms. Allen expanded saying she "found it helpful to look at [her] techniques and

skills and to evaluate how [she] was doing things.” Ms. Baxter did share she thought it could have “been improved if [she] got a chance to monitor things [she] thought [she] really needed help with.” Each of the four participants also reported they would like to learn another instructional practice using this same method and all four again reported yes. Finally, each participant indicated yes, they would recommend others use video self-monitoring to learn how to implement a new instructional practice.

Discussion

The purpose of this study was to measure the effects of video self-monitoring on the level of implementation of reinforcement, an EBP shown effective with students with ASD (Wong et al., 2014). Results from this study showed all four participants increased their implementation of reinforcement to some extent when provided with a task analysis and directed to video record, watch, and score their own performance. While a functional relation was observed with all four subjects, fidelity of implementation did not reach 100% for any of the four participants. This study adds to the literature because it adds to the limited number of studies published on teacher use of video self-monitoring as well as the focus on EBPs for teachers who support students with ASD. Additionally, this study isolated the independent variable of implementing video self-monitoring, which procedurally consisted of a task analysis, without additional practices, extending the literature base specific to measuring the effects of video self-monitoring.

Two participants, Ms. Allen and Ms. Collins, implemented reinforcement with the lowest levels of fidelity during baseline conditions. Correspondingly, although they increased their levels of performance to 40% during treatment conditions, they immediately stabilized at that level. While a performance level of 40% does not reach the levels of fidelity we would like to see, this may indicate further interventions are needed to improve their skills at implementing the steps of reinforcement defined by the task analysis. Additionally, the biggest discrepancy between self-reports and independent observer data was evidenced in these two participants. In contrast, Ms. Baxter and Ms. Davidson, both of whom showed higher levels of performance during baseline, also showed the most growth during the intervention condition. Further, although self-reported performance did not correspond with observer data, they were less discrepant in comparison to Ms. Allen and Ms. Collins.

There was notably room for improvement in terms of improving the implementation of reinforcement for all participants; yet, as a result of the video self-monitoring interventions, all four participants demonstrated some improvement and maintained low variability during the treatment condition. It is plausible the two participants who displayed the higher percentages during intervention, Ms. Baxter and Ms. Davidson, already had more of the behaviors of the task analysis in their behavioral repertoire, meaning they already knew how to perform the behavior but may not have been doing so or may not have been doing so consistently. In the social validity questionnaire, Ms. Baxter did share she thought it could have “been improved if [she] got a chance to monitor things [she] thought [she] really needed help with.” This is an interesting point that may relate to the discrepancy between their perceived implementation of the practice and the scoring from the researchers.

Alternatively, the two participants who only reached 40% during intervention, Ms. Allen and Ms. Collins, may not have as many of the behaviors associated with the task analysis in their repertoire, meaning they did not know how to do the skills and require additional training on the steps they did not complete. Video self-monitoring was not enough to improve fidelity to high levels and further intervention would be needed to improve fidelity levels. Yet this finding is potentially important because it could assist administrators in determining where to target training and coaching opportunities. Another factor that may have contributed to the lower levels of implementation could be a difference between elementary teachers (Ms. Baxter and Ms. Davidson) and secondary teachers (Ms. Allen and Ms. Collins). However, this is a small sample size and further research would be needed to determine which factors, if any, were impacting the results.

Not surprisingly and in line with previous studies (Rispoli et al., 2017), participants scored themselves higher on their own performance than the researchers scored them. It is possible then to consider the teacher may not have known how to perform the step correctly despite believing they could do so. The findings of this study do not examine why there is a discrepancy between the researcher scores and the teachers' scores, but future studies may look at increasing reliability of participants' observations with those of an outside observer. However, despite the discrepancy between the researchers' and participants' scoring, increases in performance were still observed for all four participants. Follow-up studies may consider comparing video self-monitoring condition with a video self-monitoring combined with a training model to improve teacher accuracy.

All participants reported liking using video self-monitoring and felt it was effective in improving their practice of reinforcement. All four participants also reported they would recommend it to other teachers to use in order to learn new instructional practices supporting that video self-monitoring is a socially acceptable intervention for teachers to learn or improve upon an instructional practice.

Limitations

The first limitation of this study was the use of the task analysis as the scoring mechanism. During baseline, participants were not given the task analysis so as to not influence their baseline behavior. During intervention, participants were asked to video and score their own performance and so were given the task analysis as part of the procedures. Because of this, it is impossible to determine the effect of having the task analysis on their behavior versus the effect of the video self-monitoring without the task analysis. A second limitation relates to the fact that teachers were aware prior to baseline that the skill being targeted was reinforcement. It is unknown whether this affected the participants' baseline performance. A third limitation is that this study was conducted with teachers who teach in self-contained settings which may limit the generalizability to other teachers. Additionally, because of their willingness to volunteer to be in the study, the teachers included in this study may be more motivated to improve their skills in implementing EBPs than teachers who may not agree to participate in such a study. The lack of student data is another limitation. The study did not control for the students with whom teachers implemented reinforcement. A final limitation was the lack of follow-up data. While the original plan for this study was to include a six-week post-intervention follow-up probe, statewide school

closings prohibited obtaining three of the four follow-up probes. Because of the inability to obtain this information, conclusions about lasting effects cannot be made.

Implications for Practice and Future Research

This article identified three important factors for the purpose of this study. First, this study measured the effectiveness of video self-monitoring without being part of a treatment package and without the use of additional interventions, such as performance feedback. Second, this study explored an EBP that goes beyond providing verbal praise. Finally, the implementation of video self-monitoring was able to be done relatively easily given the technology was already available to the teachers and the teachers did not require any training on how to use the technology. One consideration about video self-monitoring is if teachers already have many of the required skills for a particular practice prior to intervention, but are inconsistent in their implementation, video self-monitoring may be very effective. However, future research should focus on implementing video self-monitoring with other EBPs beyond reinforcement. Additionally, future research should look to other populations of teachers, such as special education teachers who teach in general education settings or general education teachers. Looking at systematically pairing video self-monitoring with other interventions would be beneficial to determine how to continue to improve the fidelity of implementation of EBPs while still focusing on interventions that are low-cost in terms of money, time, and expertise.

Conclusion

Kalis et al. (2007) reported “self-monitoring is a nonintrusive intervention, easy to implement, allows for immediate feedback, and can be effective in changing behavior” (p. 26). The benefit of not having to rely on outside expertise reduces the time it takes to begin implementation as well as potentially improving fidelity or at least a teacher’s willingness to continue implementing the intervention (Kalis et al., 2007). The purpose of this study was to isolate video self-monitoring as the independent variable and while high levels of fidelity were not seen across participants, change in behavior did occur and thus future research is warranted to determine what factors may impact how effective video self-monitoring is without other, paired interventions.

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***Understanding How Individuals Overcome Their Dyslexia:
Struggles, Turning Points in Life, and Advice***

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Abstract

Dyslexia is a neurological condition in the brain that causes individuals to experience difficulties in reading. It exists around the world and affects about 20% of the population in the United States. Yet, many still go through their early education, either undiagnosed or not receiving the proper instructional support to be successful. In the present study, we conducted a mixed-method study of 116 stories of people who overcame their struggles with dyslexia by analyzing interview data via *Understood.org*. We synthesized the data by answering three questions designed to reveal their dyslexia struggles, turning points in life when interviewees used dyslexia to their advantage, and advice from their personal experiences to encourage others with dyslexia. Learning from their stories will inspire students with dyslexia and help educators identify ways to support this group of students. Implications for educational practices and future research are discussed.

Keywords: dyslexia, interviews, *Understood.org*, mixed method research design

***Understanding How Individuals Overcome Their Dyslexia:
Struggles, Turning Points in Life, and Advice***

Dyslexia is a neurological condition in the brain that causes individuals to experience difficulties in reading. Dyslexia exists globally, regardless of culture, language, and intelligence (Singer, 2008). In the United States (U.S.), dyslexia affects 20% of the population, and it represents about 80% of those who have learning disabilities (The Yale Center for Dyslexia and Creativity, 2020). To ensure educational services for students with dyslexia, legislators started to address the issue through state education laws, explicitly focusing on dyslexia awareness, teacher training, screening and diagnosis, interventions, and accommodations. As of 2020, 46 states have passed

dyslexia laws to ensure that students with dyslexia receive instructional support regardless of their eligibility for special education services under the Individuals with Disabilities Education Act (National Center on Improving Literacy, 2020).

Research shows that students with dyslexia struggle in school because they have difficulties reading words, decoding and manipulating sounds, word retrieval and rapid automatic naming, comprehension, and writing (International Dyslexia Association, 2020). Although students with dyslexia encounter similar academic-related challenges, their affective factors vary significantly (Burden & Burdett, 2007). Students who overcome their dyslexia tend to possess high self-efficacy, self-discipline, and self-esteem. In contrast, students who do not understand why they are struggling grow to develop learned helplessness and negative emotions such as pain, hurt, embarrassment, and fear (Nalavany, Carawan, & Rennick 2011). In this sense, labeling from diagnoses does not necessarily lead to negativity. When students know why they struggle, they can advocate for themselves and identify effective ways of learning. Deconstructing the labeling of dyslexia allows people to reconstruct the meaning of dyslexia in both personal and political levels (Riddick, 2000). Without this process, students may continue feeling overwhelmed and pressured when learning with high-achieving students (Kormos, Sarkadi, & Csizer, 2009). They may even feel isolated and excluded in school, and experience being teased or bullied (Humphrey, 2002). These feelings of distress and failure in school can lead them to develop emotional problems such as low self-esteem, which negatively impacts their self-development and academic achievement (Burden & Burdett, 2005; Gibson & Kendall, 2010). For example, many secondary school students with dyslexia do not believe they will go to college due to the amount of reading and writing assignments (Ingesson, 2007). Parents and teachers need to take action earlier and be aware of students with dyslexia's negative feelings and how those feelings impact their behavior (Burden, 2008; Shaywitz & Shaywitz, 2020).

Because one's sense of identity is inevitably affected by society and culture, continuing to explore how students with dyslexia suffer will help these students develop a more positive sense of identity as well as aid in educating their communities. A sound support system in school can make a difference. Such a plan includes protecting students from bullies and establishing clear and well-structured classroom and home environments to reduce students with dyslexia's stress. Parents and teachers also need to consider coping skills and social-emotional support to promote an inclusive learning environment and increase students' self-esteem (Singer, 2008). Other external factors like teachers' attitudes, student-teacher interactions, and child-parent relationships will also contribute to students with dyslexia's engagement and success (Kormos et al., 2009). Highly accomplished people with dyslexia often have internal factors like pursuing passionate interests and gratitude for their parents (Fink, 2002).

One way to help students with dyslexia sustain their passion is to observe many positive examples. Learning from the success stories of people with dyslexia can motivate students with dyslexia and help educators identify ways to support their students. The three research questions guiding the present study are:

1. What *struggles* did the interviewees with dyslexia experience in school?
2. How did the interviewees overcome their dyslexia? That is, what were their *turning points*?
3. What *advice* did the interviewees offer to others with dyslexia?

Methods

Data Collection Procedures

There were 116 interviews, both in print and videos, of people with dyslexia collected and published by *Understood.org* (<https://www.understood.org/>). *Understood.org* is a non-profit organization providing resources, tools, support, expertise, and communities to individuals with disabilities and those who work with them. *Understood.org* partners with over 15 nonprofit organizations such as the National Center for Learning Disabilities, Learning Disabilities Association of America, Reading Rockets, CAST, and Oak Foundation. The website provides a plethora of information, including hundreds of in-print and video interviews from people and children with dyslexia. Despite the rich database, there is little research on synthesizing these interview data to inform educational practices and research studies. Our study is the first to give voice and meaning of these interviews on dyslexia through a systematic procedure.

We consider that there are several merits of using public data. Using such data allows other researchers to examine our research's validity because they are widely accessible. Second, the rise in popularity and corpora use in the government and leading nonprofit organizations' databases highlights data collection procedures' efficiency, reliability, and impartiality. Additionally, public data use may minimize systematic errors caused by the research design itself and reduces the risk of random errors resulting from bias. Additionally, with most states having education laws for dyslexia in place, our population of interest is the population across the country, not a sample in local communities.

Our analysis of the vast plethora of interview data is across ages, gender, education, ethnicities, career, and states. The interviewees also included international students, scholars, and immigrants. There were 65% male and 35% female interviewees. Their experiences gave readers a broader perspective of the similarities in their characteristics, regardless of their demographics. The 116 interviews involved famous people (64%, $n=74$), adults (23%, $n=27$), and kids (13%, $n=15$). Specifically, we grouped their career types into celebrity (22.4%, $n=26$), student (21.6%, $n=25$), entrepreneur/business person (15.5%, $n=18$), social media worker (13.8%, $n=16$), artist (11.2%, $n=13$), governor (6.9%, $n=8$), teacher or professor (4.3%, $n=5$), and military (0.1%, $n=1$). Missing information about the interviewees' careers was 3.4% ($n=4$).

Data Analysis Procedures

Through mixed methods (Creswell & Guetterman, 2018), our study provides generalizable data and a deeper understanding of individuals with dyslexia. The steps of our data analysis procedures were: (a) identifying all interviews on dyslexia from *Understood.org* for analysis, (b) compiling the qualitative data and entering them into MAXQDA, a qualitative analysis software, (c) reading and rereading the responses to begin the open coding process and develop a draft code-book, (d) coding the responses when the interviewees used the themes, and (e) conducting both qualitative and quantitative content analyses. No interviewee was double-coded on each point in his or her interview. The themes were coded once, even if the interviewee might use the same point in their responses multiple times. In this way, we obtained accurate information about how many different interviewees discussed the same themes regarding their struggles, turning points, and advice to others, respectively. Lastly, we resolved disagreements on coding through

multiple revisits of the data, discussions, and adjustments to the code-book. The qualitative data were quantified to give an overall summary of the frequency and percentage.

Results

We grouped the results into three sections aligned with our research questions: struggles with dyslexia, turning points, and advice to students with dyslexia and people who work with them. Table 1 shows a summary of the frequency and percentage of the responses.

Table 1

A Summary of the Interviewees' Struggles with Dyslexia, Turning Points, and Advice to Others

Struggles	Frequency	Percentage
Struggles with reading	75	65%
Negative emotions	46	40%
Unsupportive school environments	30	26%
Peer pressure and bullying	17	15%
Cover-up strategies to hide dyslexia	15	13%
Turning Points	Frequency	Percentage
Turning passions into careers	97	84%
Having a supportive family, teachers, and mentors	65	56%
Developing creative coping skills	62	53%
Possessing a positive attitude	46	40%
Being diagnosed and getting interventions/ new identity	28	24%
Advice to Others	Frequency	Percentage
Uplifting advice (e.g., self-advocacy, positivity, confidence)	43	37%
Family advice (e.g., being understanding and supportive)	23	20%
Academic advice (e.g., resource, diagnosis, quality teachers)	13	11%

Struggles with Dyslexia

The finding indicates that the interviewees with dyslexia struggle in many aspects across learning, environments, relationships, emotions, and behavior.

Struggles with Reading. About 65% of the interviewees ($n = 75$) expressed that school was hard for them. It was difficult for them to read, write, and/or pay attention in school. They often felt overwhelmed and did not understand what messages people or texts tried to convey. Because dyslexia makes it more difficult to read and understand what they are reading, it takes someone with dyslexia much longer to learn to read or read something than a peer who does not share the same learning disability. Many interviewees mentioned how much more time it would take them to complete their work or how they would need to find alternative methods to complete tasks. Some used visual interpretation, support from another person, audio assistance, or read information repeatedly to understand.

For example, Anya Wasko, a special education teacher, stated, “Because of my challenges, it took me much longer to finish my homework than other kids.” Similarly, Kenny Johnson, an American actor, not only spent more time than those around him on a task but would take notes as he started to comprehend what he was reading after reading it multiple times. In his interview,

he stated, “Something somebody might spend 40 minutes on, I will spend like maybe 25 to 30 hours on. I had no idea what I read so I would read it again and I would start taking notes on little things that I kind of understood.” Gavin Newsom, Governor of California, said that he never felt comfortable with his dyslexia, and he had to overcompensate for it. He said in the interview that “giving a speech is really a challenge...for every minute I give a speech, there is close to an hour of preparation...for a 30-minute speech, imagine 30 hours of trying to do it.” Stan Gloss, an entrepreneur, spoke to the feeling of having to work harder than peers for less desirable results. He said, “I did three times the work of my classmates to get a C grade. My hard work did not pay off in school-but it would later in business.” These personal stories show how much more time and effort people with dyslexia had to use to succeed in school than their peers.

Unsupportive school environments. About 26% of the interviewees ($n = 30$) said that their school experiences were negative without having resources or knowledge about learning differences. Teachers and administrators had low expectations for students with dyslexia and viewed them as lazy or not motivated. Fourteen of the interviewees shared that they had experiences of quitting schools, transferring to a different school, or receiving education at home. For example, Cher dropped out of high school in her junior year, feeling very discouraged. She said, “I couldn’t read quickly enough to get all my homework done and for me, math was like trying to understand Sanskrit...My report cards always said that I was not living up to my potential.”

When teachers have not equipped themselves with knowledge and skills to work with students who have dyslexia, they may get frustrated by students’ poor performance and keep them from succeeding. When this frustration manifests in their behavior and spoken language, it can have a long term impact on students’ emotions. For instance, Kenny Johnson said, “I remember the teacher getting really angry at me because I wouldn’t open the book. She would say, ‘Kenny!’ And I’d go up, I’d look down and I didn’t know what was on the page. So she would say, ‘Read.’ And I’m like, ‘I can’t do this.’ She would go, ‘Read it.’ Literally, I can’t, I can’t. And she goes, ‘If you don’t read this, I want you out of this class right now and don’t come back.’ And so I just shut the book and walked out.” Stan Gloss, a CEO of a multi-million-dollar company, also shared: “At school people labeled me as ‘stupid’ and ‘lazy,’ and they told me to ‘just try harder.’ I was trying as hard as I could. My schools didn’t understand how I learned, so I could not get the help I needed...I got turned down by every college I applied to because my SATs were too low.” Likewise, Ahmet Zappa, a children’s book author, shared how dyslexia made school isolating. “I felt like I was the only kid in the world who couldn’t do my own work. Reading was just an impossibility and reading out loud was the most embarrassing thing,” he says. Ahmet had to leave his school in eighth grade to be homeschooled by his parents.

Furthermore, Max Brooks, an American actor and author, realized that he was struggling but not because of laziness. He tried to pay attention in school, did his homework, and studied, but his marks did not reflect his efforts. Brooks recounted a teacher who had once said to him, “You can do it. You just don’t want to do it.” Most of the frustration to these interviewees in school came from having teachers who did not know what dyslexia was and asked them to do things like reading aloud in public.

Peer pressure and bullying. A number of the interviewees (15%, $n = 17$) expressed their

experiences explicitly with bullying for having dyslexia. They experienced peers laughing or snickering at them, such as Brad Sopel, a professional Canadian hockey player. Others bullied and labeled him the “dumb athlete,” and peers laughed when he read aloud. He tried avoiding reading as much as he could. In his interview, he stated, “School was a nightmare for me. It was literally the last place I wanted to be. I was asked to read...I started sweating...I was guessing at words...and you hear kids laughing and snickering and trying to figure out what I am reading, or what is going on. It still plays in my head, you know, these many years later.” Others were called names or mocked in other ways. For example, Steven Spielberg, a famous film director, was bullied in school and felt like a “nerd” and “outsider.” He did not perform well in school and was not good at sports. For Spielberg, those characteristics combined meant he was “an easy target for bullying.”

Another example is from journalist Byron Pitts, who could not read at 12 years old and doctors told his mother that he had an “intellectual disability.” Byron spoke about being bullied, saying, “Words like dummy and stupid followed my name, followed me around. I didn’t know what self-esteem meant at the time, but I didn’t have much of it.” Bullying caused lasting pain to these interviewees with dyslexia. No matter how much time goes by, interviewees remember others bullying them when they were in school. Cody Trine, a high school student, said, “My biggest challenge was having to deal with the people. They made fun of you every day at school or called names when you were reading in class.”

Negative emotions. With the experience of adverse school environments and peers, it is not a surprise that many interviewees developed negative emotions toward themselves (40%, $n = 46$). The terms interviewees used to describe their feelings towards school experiences included feeling less, not smart, embarrassed, ashamed, anxious, afraid, terrified, scared, nervous, frustrated, sad, angry, self-doubt, low confidence, low self-esteem, and unlikely to be successful. They expressed feelings of embarrassment and low self-confidence when working amongst their peers who did not have dyslexia. For instance, American actress Lorraine Bracco shared, “I hated school because I felt really dumb...It was a huge struggle...Whenever I was called upon to read aloud, I was anxiety-ridden...I was a disaster. There was paper and pencil and nothing made sense.” Octavia Spencer, Oscar Winner, also shared, “I was paralyzed with fear because I kept inverting words and dropping words. I didn’t want to be made to feel that I was not as smart as the other kids—because I know that I am a smart person.” She remembered how terrified school was, especially when teachers called on her to read aloud in front of the class.

Cover-up strategies to hide dyslexia. Many interviewees (13%, $n = 15$) shared that they tried to hide their dyslexia in school and at home by acting out or lying under social norm pressures. For example, Lena McKnight, a dyslexia advocate, shared her school experience and said, “I would make some type of big joke, or just probably end up being a little rude to the teacher. I got suspended a lot, and I couldn’t really express that, you know, I don’t understand. I’m acting this way so I can take the pressure off of myself. It was real tough, but I felt like I did a good job covering it up because no one ever knew that I was really hurting.”

Another example is Brad Falchuk, who uttered, “I really did keep my school life and my home life very, very separate. I didn’t have my parents come to assemblies or to school events...I just tried to keep it as separate as possible because I was afraid that they would hear something that

would somehow break their image.” Anderson Cooper, an American television journalist, recalled: “I would just pretend to read it, because I had trouble reading and making sense of words, in particular, letters...I tried to hide it when I was a little kid. I remember at the time being concerned that other people would find out about it.” Erv Carpenter, co-founder and Executive Director of the Wisconsin Institute for Learning Disabilities/Dyslexia (WILDD), said that “Being a bad kid was my way of getting past the ridicule.” Without getting any help for his dyslexia, he continued acting out and ended up getting in trouble as a juvenile delinquent.

Turning Points in Life

To answer the second research question, “What are the *turning points* of those who overcome their dyslexia?” the researchers wanted to discover when or what created the catalyst, or “aha” moment when it became evident they had dyslexia. After analyzing the interview data, we found five primary reasons that led these interviewees to successful lives despite dyslexia: Taking advantage of campus resources, having supportive parents and mentors, possessing a positive attitude, developing creative coping skills, and turning a passion into a career.

Being diagnosed and getting interventions/new identity. Many interviewees with dyslexia said their difficulties stemmed from not understanding the cause of their learning difficulties. For some, their diagnosis did not occur until much later in life. As a result, they felt unintelligent or questioned why they could not retain the information they struggled to acquire. Even with all of their successes in life, the trauma of what they experienced in childhood remained. It wasn’t until they received their diagnosis that everything made sense and they began to appreciate how much they overcame despite their struggles, said by 24% of the interviewees ($n = 28$). Understanding their learning difference with a dyslexia diagnosis helped the interviewees gain perspectives and respect for their strengths and weaknesses. They spoke about the knowledge of having dyslexia helped them understand themselves and how they could use this new information to adjust their mindset about learning. For example, after actress Jennifer Aniston discovered she had a learning disability and had a new understanding of herself. “The only reason I knew [that I had it] was because I went to get a prescription for glasses ... I had to read a paragraph, and they gave me a quiz, gave me 10 questions based on what I’d just read, and I think I got three right.” The revelation was “life-changing,” says Aniston in the interview. When she was young, she was not a good student because of her undiagnosed dyslexia issues. She just thought she “wasn’t smart” and “couldn’t retain anything.” But with the discovery came a new knowledge of herself, “I felt like all of my childhood traumas, tragedies, and dramas were explained.” Her struggles in school pushed her to develop “innate” humor. She was able to turn her wit into making friends and eventually into a successful acting career.

Another example is Yimeng Cui, a graduate student who came from China to study at a school for visual arts in the U.S. She stated that she felt “relieved” when specialists told her she had dyslexia. “I struggled for a long time with no answers. I want to know I have it, and then everything makes sense. When asked why she needed to know after being a successful student, she replied, “It is for me. It helps me understand myself better.” She also mentioned the desire for their families to understand that something is causing their learning challenges and that they had a reason that learning took them longer to accomplish. Yimeng described it this way, “I am really happy to share the news that I have dyslexia. I would be able to tell my mother, my father, and my sister that this is why I was struggling in school.” Brad Falchuk also described

understanding at a young age that he knew something was keeping him from meeting his parents' expectations. The fear of disappointing them made him hide the struggles he had in school from his parents. He said, "My parents had an image of me, which was that I was a certain level of intelligence and had a certain level of ability." Like Yimeng, he too learned of his diagnosis in college. "To me, the biggest issue with a learning disability is when it goes undiagnosed. Again, all of these side effects are that you give yourself an identity, and that identity goes into everything you do." He then goes on to say after he found out he had dyslexia, "And just that relief and that act of self-forgiveness really made a huge difference. Like I said, I was no longer identifying as somebody that wasn't bright, I was identifying as somebody who had a way of seeing the world different."

Identity plays a huge part in how people with dyslexia see themselves and their diagnosis. Before receiving a diagnosis, they felt labeled as dumb and they would hide their struggles to avoid rejection from peers, teachers, and parents. After the diagnosis, they better understand themselves and their unique view of the world. Mario Ornelas, a chef and a Hispanic college student, summed it up best, "It is important to get a professional diagnosis and know what you are working with and how to help yourself so that you can live happy and it is never too late."

Having supportive family, teachers, and mentors. About 56% of the interviewees said that having advocates to get the right support for them and knowing their identity of possessing dyslexia is crucial in overcoming dyslexia. Their advocates (family, teachers, mentors, etc.) believed in their ability and provided opportunities to showcase their talents. Advocates helped them find their strengths and weaknesses and learn how to self-advocate. They also introduced the interviewees to programs to support their needs outside of the classroom setting. Elijah Ditchendorf was one of those students that appreciated a teacher who saw his talent and intervened. Elijah said, "...I started seventh grade just in the normal science class and accelerated math. Midway through the year, my math teacher Mr. Anderson noticed that I was one of the top kids in the class. And I was always asking questions, and I was always trying real hard. And he asked me one day, he said, "Why aren't you in accelerated science?" And I just said, "They didn't think I was smart enough." The next day my schedule was changed. I'm really grateful for Mr. Anderson and I'm grateful for teachers like him. If he never would have put a good word in for me, how different, you know, everything might have turned out. I know I'm not alone." Elijah went on to receive a full scholarship to study nanorobotics.

Another example from Max Brooks, author of *The Zombie Survival Guide*, described how his mother played a crucial part in advocating and recognizing his strengths by learning how to adapt his learning and foster his creativity. "My mom understood me best and empathized with me. My mother made sure that all my tests were untimed, that was a huge one. She made sure that all my books were recorded onto audiobooks... she made sure that my teachers were aware of my situation..." Like Max's mom, the interviewees often discussed how parents played a crucial role in either fostering their talents or ensuring that they received the proper support in school. Having parents who took an active part in their struggles with dyslexia was necessary for their self-esteem and acceptance that they had dyslexia.

Armoni Coppins, an NFL football player, credited a community program with his success in improving his academic goals. The program offered one on one intensive therapy in reading and

writing, which helped him move from a fourth-grade reading level to reading on grade level by eleventh grade. On the other hand, as a student, Jack Owens used his love for technology to help other students learn how to use assistive technology. He said, "I'm just glad they recognized that I had a knack for this and that they are willing to use me as a resource." Jack even spoke in front of his school board to discuss how important and necessary these supports are for all students in the classrooms and help them with organization, reading, and writing. Jack didn't stop there. He and his sister started a group called "More Than Dyslexics" to give middle school and high school students a platform to socialize with people like themselves.

Possessing a positive attitude. Having the right attitude and the willingness to put in the extra effort to learn was another critical factor in many interviewees' success with dyslexia (40%, $n = 46$). With knowledge and support, they no longer felt trapped by the fear of failure. Instead, they discussed how deficiency was a significant motivating factor to keep learning and strive to achieve their goals. Viewing dyslexia positively rested on accepting their diagnosis, purpose, and seeing their dyslexia as a gift rather than a curse. For example, Henry Winkler, author and actor, explained it this way, "Your grades do not define how brilliant you are. Good thinking and a good thought is why you are smart." Lawrence Guy, a football player for the New England Patriots, had this to say, "It is not a curse, it is just a different way of learning." Ari Emanuel, a talent agent, talked about the struggle with dyslexia, which led him to realize how to manipulate his understanding of his weaknesses to help him achieve his work goals. He said, "I never used it as a crutch... it taught me how to organize people and bring the right people around me... I know there are certain things I'm good at and I'm not worried that somebody else is better than me." These examples illustrate the interviewees' positivity. They view dyslexia as a difference, not a disability.

Developing creative coping skills. About 53% of the interviewees ($n = 62$) shared how they used their creative coping skills to overcome dyslexia and get through difficult days. Humor, acting, drawing, memorizing, crafting, music, technology, resilience, and problem-solving are a few coping skills. As Max Brooks, an author and screenwriter, shared, "creative thinking is the most important thing... it made me an independent thinker; it made me a problem solver whenever there's a problem that comes along solving problems is all I know because my whole life has been a problem so I'm not one of those people that freezes when a challenge comes my way. I didn't understand anything the first time I read it or was told to me so I had to study it again and again and again and therefore I understood it on a much deeper level." Dav Pilkey, a children's book author, always imagined that reading gave him superpowers. "...One of the superpowers I am most grateful for receiving is the power of inspiration. These comics and illustrated stories inspired me to make my own comics and stories," he said. Gavin Newsom expressed that dyslexia helped him develop the capability of handling stress and adversity, memorizing things remarkably, finding different routines to overcompensate, and using underlining to enhance attention.

Turning passions into careers. An overwhelming number of interviewees could find their inner desires and turn those passions into their jobs (84%, $n = 97$). For Dave Pilkey, Ahmet Zappa, and Rossie Stone, their discovery of comic books was the catalyst. Comic books became a visual way to understand their world and academics. Each of them had artistic abilities and used illustration and writing to enhance their learning, social belonging, and later in life, it became

their profession. For example, Rossie Stone used his talent to create notes in the form of comic books to study in school. He then turned this into a business by making academic lessons in comic books for students worldwide. Rossie Stone spoke, "I'm always doodling in class. It started off by just me, for my history exam, just doing Post-It notes where it was a bit more visual. And what I did write down I used colors, and turned the title for each card into a picture. And then I started doing it for English. I made a drawing out of the Shakespeare quotes... I drew a picture of a man with a bulging head full of scorpions and like, coming out of his ears and stuff. ...It was fun to make, and weirdly it was even more fun to read. Finding that I could understand the information this way...I wanted to help other people who might have struggled like me." John Hoke, Nike chief designer, also shared, "I'm dyslexic, so my first real language was drawing...Even at the youngest age I can recall, I wasn't necessarily interested in the essay or the text, I was graphically designing the header. I doodled everything. That was the way I communicated." Luz Rello, a European Young Researchers Award winner, talked about how she recognized that dyslexia was instrumental in her research and how it was the driving force behind her work ethic, "There are certain things that dyslexia has given me. You are used to working hard, and this is something that you bring with you all your life." These interviewees demonstrated their incredible talent, creativity, and determination. Discovering their passions helped them develop the confidence that they were good at something.

Advice to Others with Dyslexia

At the end of the interviews, the interviewees offered advice to students with dyslexia, school, and parents. The suggestion was personal and came from their own life experiences. We categorized their advice into three areas: uplifting, academic, and family advice.

Uplifting advice. About 37% of the interviewees ($n = 43$) encouraged those with dyslexia to uplift themselves. Interview data showed that the top recommendation for those with dyslexia is (a) acceptance and knowledge of who they are as a person, (b) learning to embrace their learning style, (c) understanding their strengths and weaknesses, and (d) not allowing frustrations and failures to limit their view that failure is part of the learning process.

Interviewees acknowledged these attributes as contributing factors in their success. At least four interviewees explicitly mentioned the importance of not being afraid of making mistakes and learning from those mistakes. Carmen Agra Deedy, an author, shared, "You have to learn to trust yourself. Learn everything. Everyone has something to teach you. Everything is interconnected. And you have to trust that whatever process your brain has for acquiring knowledge makes you your own self. Everyone has some kind of gift. At the end of this life, you are not going to care about all that you have achieved; you will only care if you have been happy."

Silvia Ortiz, a teen with dyslexia, said, "It is not an excuse to stop trying. A learning disability is a challenge and it will be really difficult at times. Sometimes it will get you down, but it can be overcome and with the right strategies and the right people to help you along the way, there is nothing you can't do. You have to have a support system." Patricia Polacco, a children's book author, encourages kids to have faith in themselves. "What I'm advising children to do is to realize that they are gifted, that every single kid is, but the human dilemma is we don't open our gifts at the same time." She said, "Some of us take much longer to open the gifts, but they're there and I promise them the gifts are there." Kenny Johnson shared, "There is no one way of

doing anything, so don't let anyone make you feel bad because there are a lot of people who don't understand people who are different or who have what others labeled as a learning disability. It's not really a learning disability, it's just a different way of looking at life. And there's no perfect way, so don't feel bad about yourself...you'll find your way if you just keep going forward."

Academic advice. About 11% of the interviewees ($n = 13$) gave academic advice. The interviewees stated that when teachers tailored reading to meet their unique needs, they made significant progress. Building relationships with teachers were instrumental in changing the narrative of how some students with dyslexia faced barriers in school. Sarah Maloney, a filmmaker, shared her experience of how one teacher made a difference for her. "I couldn't read, and no one was showing me the attention to like get me to the point where I, you know, could even figure out what was going on until I ended up in Eso's class." Ms. Eso recalled how she discovered Sarah's dyslexia, "Sarah wrote tirelessly, and I passed by and I noticed that I couldn't decipher anything she wrote. And I stopped in and I said, 'Oh, can you read the story to me?' And she read it, and it was this incredible, engaging story." Sarah felt safe and that Ms. Eso cared about her students. "I think that year with Eso showed me that I could have access to education even as someone who thinks differently...I do think the most important thing that both you guys [her teachers] did was put me first. You always check in with me, and I felt in charge of what was happening. Or, if not in charge, at least on par with both you guys. You weren't making decisions, like, behind closed doors, and that I was part of the decision-making process."

Being a strong advocate for students is another area that interviewees want teachers to adopt and understand. Educators need to take action when teachers and parents do not recognize students for their strengths, end up in the wrong classes, or do not receive support. Helping students in this way could be the very thing that changes the trajectory of students with dyslexia's lives and learning difficulties. For students like Elijah Dtichedorf and Sarah Maloney, they might have never explored or nurtured their talents if it had not been for teachers intervening and advocating for them. Their teachers supported them in taking a more challenging science class or introducing them to a creative writing class, which turned them into successful students who adapted their learning differences through those talents.

Family advice. About 20% of the interviewees ($n = 23$) advised about the importance of family supports. The interviewees said parents should teach their children how to advocate for themselves because it will increase their confidence. They stated advocacy is also important to address the need and access to additional supports. For example, Ella Griffith-Tager, an 11-year-old student, discussed how her diagnosis helped her understand the importance of sharing it with others. She said, "My parents taught me how to be a self-advocate. I started standing up for myself. One of the ways I did it was telling people what dyslexia was, so they understand more."

Students need to voice their experiences with dyslexia in the hopes that it would not only help others understand they are not alone but also encourage others to be less inclined to hide behind their learning differences. Many expressed that hiding behind their diagnosis only leads to more suffer and shame. Lola Alvarez, a mom to a son who also has dyslexia, hid it for years until specialists diagnosed her son. She described revealing her secret as a relief. With that relief, she realized her purpose, "I think it's very important too that as a Mexican woman, I reach out to my

community, not only here in the United States, but also in Central and South America. You have to stand up and speak up and say what you think would be important for your own culture...I didn't want my children who have learning differences to be ashamed of themselves. And how can I inspire my kids if I was ashamed of it?"

In the examples about advocacy, perhaps the one that best sums up the power of advocating for the needs of those with dyslexia and raising awareness at the highest level is that of April Hanrath and her daughter Jocelyn. April is a mom who had no idea what dyslexia entailed or how to help her daughter. She did the research and tried everything possible until she found what strategies helped Jocelyn learn. Through their experience, April realized she wanted to raise awareness of the needs of children like Jocelyn. In her speech to the U.S. Senate Committee on dyslexia in Washington D.C., she shared their story and the struggles Jocelyn had with dyslexia. Here is what April said in her meeting with the committee: "Through my testimony, I hope you will hear three messages come through loud and clear. First, it is critically important to identify learning disabilities like dyslexia in early elementary school. Second, we must support general and special educators by giving them training about dyslexia and learning disabilities. Third and most importantly, all of us must have high expectations for students with dyslexia."

The interviewees advised parents to be diligent in educating themselves on their child's specific learning needs and finding curriculum, strategies, and accommodations that serve their child's needs. In understanding their child's learning abilities, parents were encouraged to exercise understanding regarding their learning efforts and how patience was vital. Laura Schifter, a Harvard graduate and author, shared how her diagnosis helped her parents understand why she struggled. Knowing her learning difficulties had a name helped her understand herself better as well. Her parent's high expectations for her and providing the support she needed helped her reach her goals.

Parents should not be afraid to let their children struggle and resist the need to relieve their discomfort. Brad Falchuk expressed how he reached this idea while watching his child cope with her dyslexia, "...that struggle and the ways in which they're experiencing life, is actually going to be the best part of them, and the most special part of them in many ways. Celebrate it, and to let them have that, and to not try and fix it right away, and not try and jump right in and stop it. Let them have that particular struggle because that's where they are going to learn about who they are, and that's where amazing things are going to come from." Furthermore, parents' advocacy fosters people's understanding of dyslexia, so they know how to use their children's strengths to support them, develop a strong work ethic, and even turn those strengths into their future careers. Gabrielle Rappolt-Schlichtmann, who became a neuroscientist, had parents who fostered her interest in space. Her mom noticed her obsession with the space shuttle Challenger's explosion and that she was watching every news report she could about the Challenger. She decided to engage her with movies about flying and space. Her parents sent her to space camp, where Gabrielle said it was enjoyable to learn about space in an atmosphere where the focus was hands-on learning. Her advice to parents is: "Parents can really help their kids to re-engage and reinvest in their own learning. It doesn't have to be, you know, NASA and the space program, or anything academic. It could be, you know, your kid's really into video games and like, oh, maybe they'd be interested in doing an after school coding program where they're building video games, you know? Connecting them further and then giving them the freedom to really engage in

that in an open way to grow their learning in that area.”

Discussion

This study provides, for the first time, needed extensive qualitative data from interviews of successful people with dyslexia. Researchers methodologically analyzed the interviews for themes and the themes to emerge were struggles, turning points, and advice for people with dyslexia.

Turning Struggles into Success

Research has identified the deficits in people with dyslexia, including a lack of phonemic awareness, letter-sound knowledge, and rapid automatized naming. The underlying oral language skills are a strong predictor of reading comprehension (Hulme & Snowling, 2016). The first theme emerging in our study confirms that most of the interviewees experienced difficulties in learning due to their reading development differences. Not being able to decode print adversely impacted their fluency, reading comprehension, and overall educational performance. However, many interviewees did not let dyslexia define them. As a result, they explored creative ways to overcompensate dyslexia and eventually led them to a different way of success. Cockcroft and Hartgill (2004) found that many children with dyslexia have higher than average creativity. Thus, teachers should draw on their students’ creative abilities and tap into their potential when designing lessons. In addition to ingenuity, the research found that highly accomplished people with dyslexia are passionate about their pursuits (Fink, 2002). Because of their passion, they were willing to work harder and persevere through struggles. Therefore, teachers should identify and capitalize on the talents of their students with dyslexia through interventions and accommodations tailored to students’ interests.

Another struggle found in the present study is that many interviewees did not have a supportive learning environment in their K-12 schools. They suffered when their teachers did not understand dyslexia. Our findings are aligned with the existing literature is aligned with our results that teachers have “misconceptions” about the characteristics of dyslexia, such as viewing students as lazy or not motivated (Washburn et al., 2017). These misconceptions could potentially create a toxic learning environment for these students due to teachers’ low expectations. Some students may also see their teachers’ low expectations for those with dyslexia as an opportunity to bully their peers. The third theme of struggles discovered in our study indicates that over 75 interviewees had been teased and bullied by school peers. Their peers made fun of them, particularly when they were called on to read in front of the class. We urge teachers and parents to pay close attention to the bullying issues about children with dyslexia.

Internal and external struggles often lead students with dyslexia to develop negative emotions. Many interviewees in the present study went undiagnosed and did not know why they could not do well in school. They reported adults seeing them as lazy, which led them to develop negative emotions such as self-doubt and low confidence. One turning point in many of the interviewees was to obtain a diagnosis, which gave them an explanation for why specific tasks were so difficult for them and why they could not perform at the same level as their peers. Also, having a diagnosis meant they could educate themselves about dyslexia, self-advocate, learn how to cope with it, reach out for support, and discover ways to read better. Our study acknowledges the need

for a dyslexia diagnosis as early as possible because it will allow for earlier action to be taken and lead to the development of students' self-esteem and motivation for learning.

Furthermore, the interviewees with dyslexia shared how self-advocacy helped them obtain the support they needed to succeed. Research supports self-advocacy associated with students' academic success (Gibson & Kendall, 2010; Kirwan & Leather, 2011). Through advocacy work, students with dyslexia help their teachers and peers understand what dyslexia is and that people need different learning avenues. Like others, they possess a higher level of thinking skills. Although dyslexia may make reading difficult, it does not stop them from doing great things in their lives.

One theme emerging in the interviewees' struggles is that they tried to hide their dyslexia to avoid negative connotations. These actions included pretending to read, acting out, disconnecting from school life, and preferring to be punished by their bad behavior rather than reading abilities. Our study has shed some light on this problem when children do not know how to deal with their dyslexia and when society lacks awareness of dyslexia.

Advice from the Interviewees

The first theme under advice was having an uplifting spirit. Individuals with high self-esteem, confidence, and academic success often view dyslexia as a difference in thinking or learning style rather than a disability (Soni, 2017). The interviewees' advice was to focus on strengths, learn about self-advocacy, and coping skills at a young age. People with dyslexia should never be discouraged by people's judgment and just keep exploring their path.

The next theme under advice was about academia. Teachers are a vital influencer of the academic achievement and self-esteem of students with dyslexia (Gibson & Kenall, 2010; Glazzard, 2010). Glazzard found students with dyslexia who have poor relationships with their teachers suffer in motivation and self-esteem. As a result, teachers must build a positive relationship with their students. To create the connection, teachers need in-depth knowledge and awareness of dyslexia to accept differences in their students and adapt their teaching to their strengths. For teachers to have a deep understanding of dyslexia, districts need to provide ongoing professional development and emphasize evidence-based practices. In turn, teachers should share evidence-based practices with parents to support children in the home. The interviewees stressed the importance of collaboration across teachers, families, and communities.

The interviewees also pointed out that children with dyslexia should be encouraged to participate in extracurricular activities and explore their passion. Parents can stimulate their children with dyslexia intellectually by acknowledging their interests, planning family activities around them, and integrating academic and social skills into the activities. Another theme was self-advocacy. Research shows that successful students with dyslexia learn self-advocacy at a young age and use their understanding of dyslexia to succeed (Soni, 2017). Based on our findings, we highly recommend that intervention for students with dyslexia should include , instructional, social, and emotional support. Identifying communities to share experiences and resources will further expand the efforts made by schools and families.

Implications for Educational Practices

The implications of our study are threefold. We found results that impact teachers, families, and children with dyslexia. Teachers need to build positive relationships with their students with dyslexia. They should identify and capitalize on the talents of their students with dyslexia through interventions and accommodations tailored to students' interests. To find students' expertise, we recommend teachers conduct interest inventories and conferences with their students and parents to determine those strengths and interests. Our study found teachers should pay close attention to the bullying in their classes. We suggest teachers listen for and act on any instances of bullying within their classrooms. Furthermore, teachers should educate their students on learning differences and inclusion.

Early childhood teachers also need to recognize reading disorders and refer students for dyslexia evaluations as soon as possible. Districts need to provide dyslexia screening and professional development for early childhood teachers so students can receive the diagnosis as early as possible. Once a specialist diagnoses a student with dyslexia, teachers can focus on the strengths and teach self-advocacy as well as coping skills to students with dyslexia at a young age. Furthermore, teachers need to attend ongoing professional development that emphasizes evidence-based practices for dyslexia. Evidence-based practices should focus on social-emotional support as well as phonological awareness. Once they find an evidence-based approach that works for a student, teachers should share that practice with their families. Our research found evidence that successful individuals with dyslexia have strong collaborations between teachers, students, their families, and the community.

Our research found families need to collaborate with their students and teachers. Parents are encouraged ask for evaluations for dyslexia as soon as they notice their child struggling to read. Once diagnosed, parents can teach their children to advocate for themselves. Parents need to pay attention to their children's social-emotional well-being and watch for signs of bullying. It is beneficial that parents acknowledge their student's interests, plan family activities around them, and encourage their children to join extracurricular activities to capitalize on their strengths and interests.

For students with dyslexia, the interviews of 116 people with dyslexia make it clear that dyslexia is a learning difference, not a deficit. Dyslexia may make reading challenging, but with coping skills like creativity, visual aids, and audiobooks, students with dyslexia can still enjoy reading like their peers without dyslexia. It is also essential to learn self-advocacy. As one of the interviewees mentioned that not all people know what dyslexia is and how to accommodate those with dyslexia. Students who let teachers know how they can better assist them in learning and keep moving forward will reduce negative emotions and acting out.

Limitations

Our study has several limitations. First, the interview data collected by *Understood.org* did not disclose the severity of the dyslexia of these interviewees as well as detailed information about each of the interviewees' living environments. Some interviewees could have had mild dyslexia while others were more severe. With different resources and supports at home and in school, all factors could impact the interviewees' struggles, turning points, and advice to a different extent.

Furthermore, the voices of those who possess negativity toward their dyslexia and have never overcome dyslexia in their lives may not have been collected by *Understood.org* when considered as less inspirational stories. Future research could collaborate with *Understood.org* and conduct follow-up studies to create a broad knowledge base. Exploring how interviewees' backgrounds and how the measures of their dyslexia diagnosis are related to their responses will inform educational practices and future research more specifically.

Conclusion

Given state and national efforts to address dyslexia within legislation, policy, and procedure from identification to implementation of special-designed instruction, our study offers timely and valuable information from 116 individuals with dyslexia to inform educational policy and practice. Based on the findings, we make two recommendations. First, policymakers and teachers need to understand the struggles of students with dyslexia and have measures in place to protect the dignity and educational rights of these students. Second, learning from the experiences of individuals who successfully overcame their dyslexia and heeding their advice will ensure teachers have the skill set necessary to uncover the potential of students with dyslexia.

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Special Educators' Perceptions of High-Leverage Practices

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Abstract

The most effective way to improve the performance of students is to improve the practice of their teachers (McLeskey & Brownell, 2015). Teachers must provide highly effective, research-based instruction responsive to the unique needs of students with disabilities for quality outcomes to occur. High-Leverage Practices (HLPs) were developed by the Council for Exceptional Children (CEC) as a list of research-based practices that special educators should be able to successfully implement. A mixed methods design was used to investigate the perceptions of special educators who teach in Hawaii regarding HLPs in the area of instruction. Outcomes indicated that special education teachers in Hawai'i perceived themselves to be knowledgeable and skilled in the majority of the HLPs, however there were numerous barriers preventing them from implementing the practices on a regular basis.

Special Educators' Perceptions of High-Leverage Practices

The number of students with disabilities (SWD) educated in inclusive settings is increasing, with an estimated 60 percent or greater spending 80% or more of their day in general education classrooms (Digest of Education Statistics, 2017). However, their overall academic performance remains less than desirable (Florian & Rouse, 2014). Researchers and educators agree the effectiveness of the teacher is the most important factor in predicting student outcomes (McLeskey et al., 2018; Windschitl et al., 2012). They also agree that teachers have a significant influence on their students' lives (Martin-Raugh et al., 2016). Therefore, the instructional choices a teacher makes has a direct impact on academic outcomes of SWD. For SWD to reach their full potential, teachers need to choose the most effective instructional practices and incorporate them into their teaching (Farley et al., 2012; Torres et al., 2012).

By the time SWD are identified as having a disability, they are already achieving below grade level in one or more academic subjects. Therefore, these students require the most effective practices available to make progress. To be effective when teaching students with disabilities, special educators need to be knowledgeable not only about general education curricula and standards; they also need to be knowledgeable about research-based practices. Researchers have identified a variety of evidence-based practices (EBPs) that have proven to be effective in increasing academic achievement and behavior (Cook & Farley, 2019). Yet the most effective instructional practices are all too often not used in classrooms, despite dissemination of EBPs through textbooks, research articles, government agency reports, and professional development.

Special educators are under increasing pressure from parents and administrators to improve outcomes for students with disabilities (SWD) with less time than ever before because of rising caseloads with subsequent paperwork requirements (Cancio et al., 2018). Because of teachers' limited availability of time (Konrad et al., 2019), they may be inclined to try popular quick-fix methods that are easy to implement. As a result, there is an underutilization of research-based practices, and achievement outcomes for SWD continue to be an issue (McLeskey et al., 2018).

In 2010, the National Council for Accreditation of Teacher Education (NCATE) published a highly influential document titled *Transforming Teacher Education Through Clinical Practice: A National Strategy to Prepare Effective Teachers*. That report suggested teacher preparation programs move away from the status quo of the loosely connected, often segregated connection between academic preparation and fieldwork and develop programs fully integrated, which are grounded in fieldwork and intertwined with academic coursework. New accreditation standards for teacher preparation programs now place more emphasis on clinical practice that is of high quality and effective. These accreditation changes are the result of dialogues occurring among teacher educators regarding improvements necessary in teacher preparation programs. Because student learning is reliant on what takes place in the classroom, teacher preparation programs should focus on ensuring that preservice teachers are specifically prepared for the work they will do as teachers in the classrooms (McLeskey & Brownell, 2015).

There are concerns among teacher educators that university preparation is not always generalizable to the classroom. Much of the coursework involves theory, reflection, and investigation instead of practice teaching (McLeskey et al., 2019). According to Grossman and McDonald, "University-based teacher educators leave the development of pedagogical skill and the interactive aspects of teaching almost entirely to field experiences, the component of professional education over which we have the least control" (2008, p. 189). Moreover, there is a concern regarding the lack of a professional curriculum for teacher education, which leaves what the teacher candidates learn primarily to chance (McLeskey et al., 2018). Teaching is complex work, and teacher candidates are not always explicitly taught ways to implement effective teaching practices skillfully, nor given ample opportunities to implement the effective teaching practices taught in the methods courses (McLeskey et al., 2019).

Because of these concerns, many teacher preparation programs are undergoing a shift from the theoretical concepts of teaching to purposefully identifying a core collection of practices upon which teacher education can be built (Brownell et al., 2019). Programs are moving toward novice teachers having multiple opportunities to implement these practices in field-based settings (Kang & Zinger, 2019). This shift centers around systematically preparing teachers with a fundamental collection of high-leverage practices (HLPs). HLPs are "practices that are essential to effective teaching and fundamental to supporting student learning" (McLeskey et al., 2018, p. vii). They have been identified by multiple education disciplines, including elementary education, mathematics, science, foreign language, and special education. The idea behind this shift involves preparing novice teachers to implement a set of core practices allowing for multiple opportunities in field-based settings in which to do so (Kang & Zinger, 2019).

In 2014, the Council for Exceptional Children's (CEC) Board of Directors accepted a proposal to develop a set of HLPs for special education. Participants of the HLP team included

representatives from the Professional Standards and Practice Committee (PSPC), CEC's Teacher Education Division, the Collaboration for Effective Educator Development, Accountability, and Reform (CEEDAR), CEC Staff, and the Council for Chief State School Officers (McLeskey & Brownell, 2015). In 2016, 22 HLPs were approved by the CEC Board, and the writing team published a report containing extensive descriptions of the practices with research and policy support.

The HLP writing team went through an iterative process to identify, solicit feedback, and prioritize teaching skills for special educators. By soliciting input from an initial group of special educators, the writing team helped initiate investment in the HLPs, an issue that has historically plagued the implementation of EBPs. Twenty-two HLPs were identified, divided into the four categories of collaboration, assessment, social/emotional/behavioral, and instruction. While all categories are essential, in this study, we focused on the HLPs in instruction, located with their definitions in Table 1.

Table 1

High Leverage Practices in Instruction (McLeskey & Brownell, 2015)

<u>High-Leverage Practice</u>	<u>Definition</u>
1. Identifying and prioritizing long and short term learning goals	Developing appropriate instructional goals that are aligned with standards and design instruction that enables all students to reach those goals, regardless of their learning challenges
2. Systematically design instruction toward a specific learning goal	Setting clear goals, logically sequencing skills, and helping students make connections
3. Adapting curriculum tasks and materials for specific learning goals	Making content accessible for a range of diverse learners
4. Teaching cognitive and metacognitive strategies to support learning and independence	Teaching steps within cognitive strategies, supports development, and provides examples and non-examples
5. Providing scaffolded supports	Supports provided to enable students to solve problems or achieve goals that could not be done without assistance, with teachers gradually releasing or transferring responsibility to the students as they become more capable
6. Using explicit instruction	Guiding students through the learning process with clear statements about purpose, expectations, instructional target, and supported practice with feedback

7. Using flexible grouping	Purposefully using small groups of same or mixed ability, pairs, whole-class, and individual instruction
8. Using strategies to promote active student engagement	Increasing opportunities for student response, increasing time on task
9. Using assistive and instructional technologies	Evaluating student needs for technology, using technology within content-area instruction, and using UDL
10. Providing intensive instruction	Using individualized instruction, determined by data, and increasing in intensity as needed based on individual student need
11. Teaching students to maintain and generalize new learning across time and settings	Choosing strategies for maintenance and generalization at the beginning of teaching new academic and/or social skills and purposefully and systematically building them into the program rather than assuming it will automatically occur
12. Providing positive and corrective feedback	Providing specific feedback with key information about progress toward a learning goal, to guide student learning and behavior, while increasing motivation, engagement and independence.

Explicitly teaching about and providing opportunities to practice HLPs within teacher preparation courses would require teacher education programs to develop coursework and field experiences that focus on systematically prioritizing and attending to the candidates' acquisition of those practices (Brownell et al., 2019). A complete restructuring of many of the special education teacher preparation programs could be necessary. Such a restructuring would come with multiple challenges, including contextual and content considerations, as well as field experience considerations, so it was important to start by investigating current special educators' knowledge, skills, and opportunities for implementation regarding the proposed HLPs.

Purpose and Research Questions

The purpose of this study was to conduct a survey of special educators in Hawai'i to gauge their perceptions of the HLPs in the area of instruction. In this study, we addressed the following research questions:

1. How do special education teachers perceive their knowledge of HLPs in instruction?
2. How do special education teachers perceive their skills in implementing HLPs in instruction?
3. How do special education teachers perceive their opportunities to implement HLPs in instruction?

Methods

We used a concurrent embedded mixed methods design of simultaneously collecting both quantitative and qualitative data during one data collection phase (Creswell & Clark, 2017) with

quantitative data guiding the project and qualitative data embedded within to provide a supportive role. The data collection instrument was a survey that consisted of items that were rated numerically followed by open-ended questions that asked participants to explain some of their responses.

Participants

To investigate special education teachers' perceptions of HLPs, a purposive convenience sample of special educators teaching in Hawai'i were recruited. To identify potential participants, we emailed an explanation of the study and the survey instrument to principals, special education administrators, and special educators across the state of Hawai'i. They were asked to either forward the survey to their special education teachers or to encourage teachers to participate by getting the survey directly from the first author (Fowler, 2009). Those who completed the survey were asked if they knew of any other potential participants. Criteria for selecting teachers included (a) a valid special education teaching license, (b) experience teaching students with disabilities, (c) current teaching in a special education position, and (d) residence in Hawai'i. To determine the response rate, the contacts were asked to provide the number of teachers they sent the survey. This process resulted in a total of 168 potential participants. Strategies used for a positive response rate included pre-notification, reminders, a 15 minute or less survey completion time, communication of importance, and the opportunity for survey feedback (Baruch & Holtom, 2008). Ninety surveys were returned, which was a 54% response rate.

Instrumentation

A survey instrument piloted by Cook and Simpson-Steele (2018) used to investigate preservice teachers' perceptions of their beliefs, skills, and practices with HLPs in their teacher preparation program was modified for use with practicing teachers. Modifications included changing the wording of the prompts to make them more applicable for practicing teachers, rather than the original wording for preservice student teachers. Moreover, multiple open-ended questions were added in an attempt to gain deeper understanding of the survey participants' responses.

Four experts in the field of special education reviewed the survey instrument to identify whether instructions or questions lacked clarity. These experts either held a doctoral or master level degree with a specialization in special education, as well as 10+ years teaching in the field of special education. The primary goal of the expert review was to reveal any problems with the survey instrument (Willis & Lessler, 1999). The survey instrument was revised based on feedback received.

After receiving approval from the University's Committee on Human Studies, a pilot-test was administered to ten special educators seeking their feedback on ease of access, clarity, and time to complete. Small changes were made, to include rewording a question and ensuring one submission only per participant. The third survey iteration was published in Qualtrics and distributed to the study participants.

The resulting survey consisted of three tables, each listing the HLPs in the area of instruction with a Likert scale response format. Each table corresponded to a research question, resulting in a table for knowledge, a table for skill, and a table for opportunities to implement. One

disadvantage of using survey methodology in general is that the participant did not have the opportunity to expand on a response given (Fowler, 2009). To address this disadvantage, open-ended questions were generated based on the answers given to the questions. This was accomplished using conditional branching, also known as skip logic. Follow-up questions were generated if the participant answered that he or she was skilled in an HLP but had little opportunity to implement. The number of open-ended questions generated varied depending on each participant's answer.

Data Analysis

For quantitative data, frequencies and percentages for participants' responses regarding knowledge, skills, and opportunities to implement the HLPs were calculated using Statistical Package for the Social Sciences (SPSS, version 26). Odds ratios were used to compare the potential influence of pathway to licensure and classroom setting on knowledge, skills, and opportunities to implement any of the HLPs.

Qualitative data consisted of teachers' responses to open-ended items generated if they indicated they were skilled in a HLP but did not have opportunity to implement. The qualitative data were analyzed using a three-step coding scheme recommended by Strauss (1987) and Strauss and Corbin (1998). We first engaged in open coding by reading through responses to all open-ended questions to begin identifying commonalities and providing initial labels for similar comments. Throughout the process, notes were used to help create and maintain organization as labels were created. Initial categories and subcategories were noted and labeled. The second phase of coding, axial coding, was conducted by laying out the labels and determining connections and duplications. This step in coding allowed us to refine the characteristics and properties of the categories. The refined categories were combined to form clusters which became our themes. Selective coding involved analyzing all the comments and assigning them to themes and subthemes. At this point, we also selected comments that best represented the nature of that theme.

Results

Demographics of the Participants

Table 2 shows the participants' demographics. Of the 90 participants, 54 taught elementary school, 33 taught in secondary schools, and three taught in preschools. Forty-one of the participants (46%) had zero to five years of teaching experience, 21 (23%) had six to ten years, 18 (20%) had 11 to 20 years, and ten participants (11%) had more than 20 years of teaching experience. Participants reported various pathways to special education licensure from training at a university at the baccalaureate, post-baccalaureate, and master's level or graduating from an alternative licensure program. Those licensed through an alternative licensure program included Teach for America and adding licensure through successful completion of the Special Education PRAXIS plus required years of teaching as an unlicensed special educator. Because the settings of special educators can be so varied based on the school site, the participants were asked to choose all that apply, with the 90 participants selecting a total of 117 settings.

Table 2

Participant demographics

Experience		Pathway to Licensure		Classroom Setting		Grade Level	
			N		N		N
0-5	41	Bachelor's	30	Inclusion	44	Preschool	3
6-10	21	Post-Baccalaureate	18	Resource	40	Elementary	54
11-15	9	Master's	30	Fully Self Contained	23	Middle/Intermediate	14
16-20	9	Alternative	12	General Education	10	Secondary	19
21-25	6						
26-30	1						
30 +	3						

Research Question 1. How do special education teachers perceive their knowledge of HLPs in instruction?

Table 3 shows the results of participants' knowledge of, skill level of, and opportunities to implement HLPs. Ninety-four percent (94%) reported that they were moderately or very knowledgeable in *providing positive and corrective feedback* (HLP 12), 93% reported that they were moderately or very knowledgeable in *identifying and prioritizing learning goals* (HLP 1), and 91% reported they were moderately or very knowledgeable in *systematically designing instruction toward a specific learning goal* (HLP 2).

Forty percent of the participants reported being not knowledgeable or only slightly knowledgeable in *using assistive and instructional strategies* (HLP 9), 36% reported being not knowledgeable or slightly knowledgeable in *teaching cognitive and metacognitive strategies to support learning and independence* (HLP 4), and 24% reported being not knowledgeable or slightly knowledgeable in *teaching students to maintain and generalize new learning across time and settings* (HLP 11).

Table 3

Responses to Knowledge, Skill Level, and Opportunities to Implement (percent)

	To what extent are you knowledgeable in:				To what extent are you skilled in:				To what extent do you have opportunities to implement:			
HLP in the area of Instruction	Not Knowledgeable	Slightly Knowledgeable	Moderately Knowledgeable	Very Knowledgeable	Not Skilled	Slightly Skilled	Moderately Skilled	Very Skilled	Never	Rarely	Sometimes	Often
1. Identifying and prioritizing learning goals.	0	6.7%	57.8%	35.6%	0	12.2%	55.6%	32.2%	0	5.6%	26.7%	67.8%
2. Systematically designing instruction toward a specific learning goal.	0	8.9	55.6	35.6	0	16.7	51.1	32.2	0	7.8	33.3	58.9
3. Adapting curriculum tasks and materials for specific learning goals.	0	10	46.7	43.3	0	14.4	50.0	35.6	1.1	4.4	34.4	60.0
4. Teaching cognitive and metacognitive strategies to support learning and independence.	3.3	33.3	44.4	18.9	3.3	34.4	44.4	17.8	2.2	15.6	40.0	42.2
5. Providing scaffolded supports.	0	12.2	40.0	47.8	0	15.6	43.3	41.1	1.1	2.2	22.2	74.4
6. Using explicit instruction.	0	10.0	32.2	57.8	0	13.3	41.1	45.6	1.1	2.2	17.8	78.9
7. Using flexible grouping.	0	12.2	43.3	44.4	1.1	21.1	45.6	32.2	3.3	13.3	41.1	42.2

8. Using strategies to promote active student engagement.	0	14.4	47.8	37.8	0	13.3	47.8	38.9	1.1	4.4	30.0	64.4
9. Using assistive and instructional technologies.	4.4	35.6	40.0	20.0	8.9	38.9	35.6	16.7	10.0	21.1	42.2	26.7
10. Providing intensive instruction.	3.3	20.0	36.7	40.0	5.6	20.0	37.8	36.7	7.8	10.0	35.6	46.7
11. Teaching students to maintain and generalize new learning across time and settings.	1.1	23.3	51.1	24.4	3.3	27.8	45.6	23.3	3.3	10.0	46.7	40.0
12. Providing positive and corrective feedback.	0	5.6	36.7	57.8	0	7.8	47.8	44.4	1.1	4.4	18.9	75.6

Research Question 2. How do special education teachers perceive their skills in implementing HLPs in instruction?

As shown in Table 3, Ninety-three percent reported they were moderately or very skilled in *providing positive and corrective feedback* (HLP 12), 88% reported that they were moderately or very skilled in *identifying and prioritizing learning goals* (HLP 1), and 87% reported they were moderately or very skilled in both *using explicit instruction* (HLP 6) and *using strategies to promote active student engagement* (HLP 8). This was slightly different than the HLPs reported as knowledgeable.

Participants self-reported being less skilled in the same HLPs that they were less knowledgeable in. Forty-eight percent of the participants reported being not skilled or only slightly skilled in *using assistive and instructional strategies* (HLP 9), 38% reported being not skilled or slightly skilled in *teaching cognitive and metacognitive strategies to support learning and independence* (HLP 4), and 31% reported being not skilled or slightly skilled in *teaching students to maintain and generalize new learning across time and settings* (HLP 11).

Odds Ratios for RQ 1 and RQ 2, knowledge and skill

Table 4 shows the odds ratio and significance for knowledge and skill as predicted by participants' pathway to licensure. Odds ratios were calculated for classroom settings to investigate if there were associations to knowledge, skills, and opportunities to implement HLPs. Odds ratios are reported by stating which category was reported as highest compared to the other three categories combined. In other words, when odds ratio were calculated for knowledge, with alternative licensure as the control group, the results indicated that teachers who went through a post-baccalaureate program were approximately eight and one-half times (OR=8.64) more likely to report being very knowledgeable and five and one-half times (OR=5.51) more likely to report being very skilled in *identifying and prioritizing learning goals* as well as (b) four and one-half times (OR=4.52) more likely to report being very knowledgeable in *teaching students to maintain and generalize new learnings across time and setting* than the other categories combined.

Teachers who went through a traditional bachelor's, post-baccalaureate, or master's program for licensing were *all* more likely to report being very knowledgeable (in comparison to other three categories combined) in *using explicit instruction* than teachers who were licensed through alternative pathways (OR=5.64, 8.76, and 4.65 respectively). In addition, teachers who went through a master's program were approximately four times (OR=3.99) more likely to report being very skilled in using strategies to promote active student engagement than other licensure pathways.

Table 4.

Odds Ratio and Statistical Significance for Knowledge of HLPs and Perceived Skills as Predicted by Licensure Pathway

HLP in the Area of Instruction	B.Ed	Post-Bac	Master's	B.Ed	Post-Bac	Master's
	Knowledge of HLPs			Perceived Skills		

	Odds Ratio	Sig. .	Odds Ratio	Sig. .	Odds Ratio	Sig. .	Odds Ratio	Sig. .	Odds Ratio	Sig. .	Odds Ratio	Sig. .
1. Identifying and prioritizing learning goals	3.07	.16	8.64	.03	3.19	.16	1.3	.72	5.51	.04	1.72	.46
2. Systematically designing instruction toward a specific learning goal	1.31	.72	2.64	.24	0.95	.94	.88	.85	1.63	.53	.73	.65
3. Adapting curriculum tasks and materials for specific learning goals	1.07	.92	1.30	.75	1.43	.62	.57	.40	1.14	.87	1.14	.85
4. Teaching cognitive and metacognitive strategies to support learning and independence	2.03	.30	2.94	.16	3.12	.10	3.03	.11	2.27	.29	3.74	.06
5. Providing scaffolded supports	1.35	.66	2.36	.26	1.25	.75	1.11	.88	1.65	.52	.97	.96
6. Using explicit instruction	5.64	.01	8.76	.01	4.65	.03	2.61	.17	8.41	.01	1.88	.37
7. Using flexible grouping	1.75	.42	.98	.98	2.75	.15	1.40	.62	1.20	.82	1.90	.35
8. Using strategies to promote active student engagement	1.75	.43	3.94	.09	2.48	.20	2.56	.19	3.46	.12	3.99	.06
9. Using assistive and instructional technologies	1.16	.81	1.73	.47	1.16	.83	2.41	.20	1.93	.39	1.80	.39
10. Providing intensive instruction	2.20	.24	3.39	.11	2.77	.14	1.15	.84	2.89	.17	1.57	.51
11. Teaching students to maintain and generalize new learning across time and settings	1.90	.36	4.52	.06	1.90	.17	1.12	.87	2.44	.25	1.75	.41
12. Providing positive and corrective feedback	1.84	.39	1.03	.96	2.69	.18	1.92	.36	.79	.76	1.58	.52

Research Question 3. How do special education teachers perceive their opportunities to implement HLPs in instruction?

As shown in Table 3, Ninety-seven percent reported that they sometimes or often have opportunities to *use explicit instruction* (HLP 6), 96% reported sometimes or often having opportunities to *provide scaffolded supports* (HLP 5), and 95% reported sometimes or often having opportunities to *identify and prioritize learning goals* (HLP 1) as well as opportunities to *provide positive and corrective feedback* (HLP 12).

Thirty-one percent of the participants reported never or rarely having opportunities to *use assistive and instructional technologies* (HLP 9); 18% reported never or rarely having opportunities to *teach cognitive and metacognitive strategies to support learning and independence* (HLP 4) as well as never or rarely having opportunities to *provide intensive instruction* (HLP 10).

Odds Ratios for RQ 3, Opportunities to Implement

Odds ratio calculations for opportunities to implement, with fully self-contained classroom as the control group, indicated that teachers in a resource setting were almost sixteen and one-half times ($OR=16.40$) more likely to report *often* (as opposed to the other three categories combined) having opportunities to *identify and prioritize learning goals* than teachers in other settings, also shown in Table 4. Teachers in a resource setting were also approximately seven times ($OR=7.06$) more likely to report *often* having opportunities to *use strategies to promote active student engagement*. Teachers in inclusive settings were approximately three and three-fourths times ($OR=3.71$) more likely to report *often* having opportunities to *provide scaffolded supports* and approximately two and three-fourths times ($OR=2.82$) more likely to *often* have opportunities to *use flexible grouping* than teachers in other settings. However, teachers in inclusive settings were 73% less likely to report *often* having opportunities to *use assistive and instructional technologies* ($OR=.27$) and 76% less likely to report *often* having opportunities to *provide intensive instruction* ($OR=.24$) than teachers in other settings.

High-Leverage Practices Ordered by Participant Response

Table 5 consists of the HLPs ordered by participant response. The percentages of the highest two response categories for each HLP were totaled (moderately + very for knowledge and skill, sometimes + often for opportunities to implement), then the HLPs were arranged by participant response with highest being one and lowest being 12.

Providing positive and corrective feedback and *using explicit instruction* remained in the top three across knowledge, skill, and implementation, although *using explicit instruction* was higher in implementation than knowledge and skill levels. *Providing scaffolded supports* fell in the middle for knowledge and skill but was the highest reported strategy for implementation.

Teaching cognitive and metacognitive strategies to support learning and independence and *using assistive and instructional technologies* are strategies that were reported as consistently low in all three areas. In other words, participants perceived that they did not feel knowledgeable nor skilled in these HLPs. They also did not feel they had many opportunities to implement them in the classroom.

Table 5

HLPs in Order of Participant Responses

	Knowledge	Skill	Opportunities to Implement
1.	Providing positive and corrective feedback.	Providing positive and corrective feedback.	Using explicit instruction.
2.	Identifying and prioritizing learning goals.	Identifying and prioritizing learning goals.	Providing scaffolded supports.
3.	Using explicit instruction.	Using explicit instruction.	Providing positive and corrective feedback.
4.	Systematically designing instruction toward a specific learning goal.	Using strategies to promote active student engagement.	Identifying and prioritizing learning goals.
5.	Adapting curriculum tasks and materials for specific learning goals.	Adapting curriculum tasks and materials for specific learning goals.	Using strategies to promote active student engagement.
6.	Providing scaffolded supports.	Providing scaffolded supports.	Adapting curriculum tasks and materials for specific learning goals.
7.	Using flexible grouping.	Systematically designing instruction toward a specific learning goal.	Systematically designing instruction toward a specific learning goal.
8.	Using strategies to promote active student engagement.	Using flexible grouping.	Teaching students to maintain and generalize new learning across time and settings.
9.	Providing intensive instruction.	Providing intensive instruction.	Using flexible grouping.
10.	Teaching students to maintain and generalize new learning across time and settings.	Teaching students to maintain and generalize new learning across time and settings.	Providing intensive instruction.
11.	Teaching cognitive and metacognitive strategies to support learning and independence.	Teaching cognitive and metacognitive strategies to support learning and independence.	Teaching cognitive and metacognitive strategies to support learning and independence.

Qualitative Results

The main themes that emerged during selective coding (Strauss, 1987; Strauss & Corbin, 1998) regarding barriers to implementing the HLPs included: (a) lack of time, (b) co-teacher control, and (c) lack of support or resources. In addition, a final theme emerged, indicating participants used HLPs more than reported.

Lack of Time

Lack of time was the most common theme running through the participants' responses regarding barriers to implementing HLPs in the area of instruction. Some participants discussed a lack of time due to the many responsibilities of a special educator. "There are TOO many responsibilities. I have to pick and choose what's most important at the time. Not being able to

do everything that is needed for the kids is hard, but it's even harder when I have to say only some things can get done because I have other responsibilities on my plate." While some participants discussed lack of time barriers in terms of being a special educator, others referred to lack of time as simply not enough time in the day. One participant wrote, "TIME, TIME, TIME. We do not have enough of it or the means to get it done."

Co-teacher Control

The barrier of co-teacher control was the theme participants seemed most passionate about, writing more lengthy explanations than were written for any other barrier. Multiple participants wrote about the lack of parity with co-teaching. One such response was,

I would like to use strategies that I feel would promote active student engagement, I don't feel that I can because the general education teacher is in the lead and she calls the shots. I would like to implement some of my creative ideas but I feel blocked from doing so. I do respect and get along well with my co-teacher (lead teacher), but she is very attached to her own curriculum, procedures, and ways of doing things.

Lack of Support or Resources

Lack of support was listed as a barrier to using instructional HLPs in the classroom. Some participants wrote about a lack of support in terms of resources, while others wrote about a lack of support from administration. An example comment was, "I struggle with obtaining support and opportunity to provide my special education students access to a variety of settings to promote generalization and maintenance of taught skills, access to general education, field trips, etc."

The following comment was representative of many that mentioned lack of support from the administration: "The school fails to arrange time for special education teachers to work with students outside of the 'resource' setting. The school fails to provide collaboration time between special and general education staff and support staff."

HLP Implementation

Finally, a major theme that emerged was the implementation of HLPs, rather than the barriers. For example, "I have participation logs linked to incentive programs for my middle schoolers. In elementary I also use nonverbal hand signals for students to show they understand, have questions, agree or disagree with a speaker. I check frequently for understanding, and in my lessons, always build in ways for my students to demonstrate their understanding. For many of my students with disabilities, that means repeating ideas back to me in their own words." Writing about their experience implementing rather than barriers to implementation indicated the participants used some of the HLPs more than they originally indicated.

Discussion

Overall, 85% of special educators surveyed in this study reported being knowledgeable in eight of the 12 instructional HLPs, 80% reported being skilled in seven of the 12 instructional HLPs; and over 80% of the special educators surveyed felt they sometimes or often had opportunities to implement eleven out of the 12 instructional HLPs. This is important because if a teacher feels

they are skilled in a practice, they will be more likely to implement it (Gersten et al., 2009). It is overwhelmingly positive that participants reported being knowledgeable, skilled, and had opportunities to implement most of the HLPs in instruction.

In analyzing the rank order of participants' responses, we found that they reported being most knowledgeable and skilled with the most opportunities to implement (a) *providing positive and corrective feedback*, (b) *identifying and prioritizing learning goals*, (c) *using explicit instruction*, (d) *adapting curriculum tasks and materials for specific learning goals*, and (e) *providing scaffolded supports*. These HLPs are commonly included in special education teacher preparation programs (Mastropieri et al., 2011) and are somewhat straightforward for higher education faculty to present and model. They are also practices that special education teacher candidates can demonstrate in a single lesson in their field settings, thus more likely to receive feedback from field supervisors regarding skill of implementation for these HLPs. In addition, with Educator Effectiveness Systems across the country, administrators would be likely to observe these practices. For example, *providing positive and corrective feedback* and *providing scaffolded supports* are included under domain three, instruction, of the Charlotte Danielson Framework for Teaching (FFT). *Adapting curriculum tasks and materials for specific learning goals* is included under domain one of the FFT, planning and preparation. *Identifying and prioritizing learning goals* is included under domains one and three. Therefore, it stands to reason that teachers would be familiar with these instructional practices and have opportunities to implement and receive supervisory feedback on their implementation.

Participants' rank ordering of HLPs indicated they felt the least knowledgeable and skilled with fewest opportunities to implement were (a) *teaching students to maintain and generalize new learning across time and settings*, (b) *teaching cognitive and metacognitive strategies to support learning and independence*, and (c) *using assistive and instructional technologies*. These are practices that may need to be implemented across lessons over time. These also are practices that may be more complicated to master.

Generalization occurs when a newly learned behavior occurs under conditions different from those in which the behavior was originally learned. Maintenance occurs when the behavior occurs across time (Stokes & Baer, 1977). These are complex skills that can be enhanced by using authentic materials and variations in instruction as well as frequent opportunities to use the behavior. When teachers are limited by controlled conditions and less than authentic materials, generalization is restricted (Rincover & Koegel, 1975). Therefore, *teaching students to maintain and generalize new learning across time and settings* may be difficult because our participants indicated they did not have access to real-world situations that would allow them to teach for generalization and maintenance.

Teaching cognitive and metacognitive strategies to support learning and independence can be difficult for teachers to learn and implement in their classrooms (Klingner et al., 2015). Cognitive strategies assist learners as they strive to understand instructional materials. They are mental practices for achieving objectives, such as understanding what is being read or solving a problem (Dole et al., 2009). Metacognitive strategies involve self-awareness, regulation, and assessment of one's cognitive actions. Teaching these strategies can be a time consuming, difficult, and complicated process. Given that teachers have had difficulty with explicitly

teaching these strategies as well as finding a balance between teaching the content and teaching the strategies themselves (Dole et al., 2009), it is easy to understand why this HLP was ranked lower by participants.

Using assistive and instructional technologies, according to the participants' comments, may not be implemented because of limited access. However, there may have been a lack of understanding of *assistive and instructional technologies*. While assistive technology is more likely to be used by students with more significant disabilities, it can also be beneficial to students with high incidence disabilities in inclusive settings (Bausch et al., 2006). Many instructional technologies are not cost-prohibitive and may already be available in classrooms with computers/tablets with internet access. Assistive technology can be any device, software, or equipment that helps students to function in the classroom, including pencil grips, timers, and reading guides.

In most of the instructional HLPs (11 out of 12), participants felt they were more knowledgeable than skilled. However, there were some discrepancies. The participants ranked their knowledge and skill in *providing scaffolded supports* as number six but their opportunities to implement as two, meaning a high level of opportunities to implement. *Providing scaffolded supports* involves providing supports to students until they can complete a task on their own (McLeskey, 2017). This can be a powerful practice that enables students to move to higher levels of understanding and competence and can be implemented in whole classes, smaller groups, or individually. *Providing scaffolded supports* can be easily implemented in any class setting (McLeskey, 2017), which may be why participants ranked the implementation higher than their knowledge or skill level.

Another interesting rank order was that of *using strategies to promote active student engagement*. Participants felt their knowledge was rather low, placing it at eight. Yet, they felt their skill was in the top four, and their opportunities to implement was fifth in the rank order. Teachers who are able to engage students have a greater influence on student gains than teachers who are unable to engage students (Mastropieri et al., 2011). Furthermore, teachers who are able to engage students also exhibit certain behaviors, such as efficient use of time, active instructional approaches, minimal time spent on seatwork, positive reinforcement, and flexible grouping (Brownell et al., 2008).

Odds ratios were calculated to examine any potential association between instructional HLPs and licensure pathways or between instructional HLPs and classroom settings. The pathway to licensure appeared to have some influence on the knowledge and skill level of some HLPs. Teachers who went through a traditional bachelor's, a post-baccalaureate, or master's teacher preparation program were all more likely to be knowledgeable in *using explicit instruction* than those who went through alternative programs. Furthermore, participants who went through a post-baccalaureate program for teacher licensure were more likely to be knowledgeable in *teaching students to maintain and generalize new learnings across time and settings* and more knowledgeable and skilled in *identifying and prioritizing learning goals*. Unfortunately, there continues to be a significant need for qualified special educators with traditional teacher preparation programs unable to produce enough certified teachers to meet the demand (Mastropieri et al., 2011). The situation has resulted in an alarming number of alternative

certification programs nationwide. Many of the alternative certification programs do not meet standards of the field of special education established by the Council for Exceptional Children (CEC). Alternative programs may meet states' general teaching standards without adhering to the professional standards for special education. This could result in potentially less skilled special education teachers (Mastropieri et al., 2011). It stands to reason that special educators who are licensed through an alternative program may not feel as knowledgeable or skilled in many of the HLPs in instruction.

Opportunities to implement HLPs in instruction appeared to be influenced by the classroom setting of the participant. Teachers in inclusive settings and those in Fully Self-Contained (FSC) settings were less likely to use some of the HLPs. The qualitative comments supported this finding. Teachers in inclusive settings indicated they had limited opportunities to *use assistive and instructional technologies* and *provide intensive instruction* because of their co-teaching situation. Co-teaching is generally the most often implemented model for special education in inclusive settings, partially due to the federal and state mandates for inclusive instruction as well as access to the general education curriculum for SWD (Cook et al., 2011). However, schools' definitions of co-teaching may vary and not be consistent with the accepted definition. Co-teaching consists of two professionals, usually a special education teacher and a general education teacher, who work together in the same classroom, teaching students with and without disabilities (Cook & Friend, 1995). The two teachers need to work to blend their pedagogies as they collaboratively plan, instruct, assess, reteach, and manage behavior. That is the ideal description of co-teaching. However, co-teaching reality, all too often, involves less parity. Several of the survey participants who wrote about co-teaching described the general education teacher as the lead with the dominant role in their shared classroom. Unfortunately, research supports that special educators are often the less dominant co-teacher (Scruggs et al., 2007). "One teach-one assist" has been reported and observed as the most popular co-teaching model implemented, with the general educator as the lead teacher and the special educator as the assistant (Scruggs et al., 2007). Special education teachers face classroom control issues and reported that they had difficulty fitting into the general education teachers' classroom (Cobb Morocco & Mata Aguilar, 2002). Participants in the study expressed similar situations, including having difficulty *providing intensive instruction*, as well as difficulty convincing the general education co-teacher to use appropriate accommodations for SWD in the class and feeling unable to bring their special education expertise into the classroom. This is also supported by observational studies showing that general education teachers typically favor whole-class strategies rather than individualized instruction (Anita, 1999; Buckley, 2005). In fact, just as participants in this study discussed, studies have shown that effective inclusive strategies were rarely used in co-taught classes (Hardy, 2001; Mastropieri et al., 2005). Special education teachers in co-teaching situations often feel like the assistant with their expertise under-utilized and wasted (Mastropieri et al., 2005).

Summary

In the initial special educator standards from the Council for Exceptional Children (CEC), standard 5.0 discusses the importance of being able to find, adapt, and implement a variety of research-based instructional strategies to effectively teach SWD. Moreover, providing highly effective, research-based instruction responsive to the unique needs of SWD is vital for quality

outcomes to occur (Leko et al., 2015). However, the emphasis on using research to guide practice has done little to narrow the research-to-practice gap. High-Leverage Practices (HLPs) were developed by CEC as a list of research-based, frequently occurring, highly effective practices special educators should be able to successfully implement when they enter the teaching profession. HLPs have the potential of being the bridge between teacher preparation programs and public schools, with the eventual intent of improving the preparation of teachers, subsequently improving the outcomes of SWD (McLeskey, 2017).

Limitations

Given the exploratory nature of this study, there are several limitations that must be addressed. The findings are restricted to those who completed the survey; non-responders may be less knowledgeable or skilled. Moreover, the participants were nominated and therefore had a higher likelihood of being perceived as more motivated and perhaps more effective, so the responses may not be typical of all special educators in Hawai'i. In addition, the survey was administered in Hawai'i only, and therefore does not represent special education teachers across the United States.

Another limitation lies in the nature of self-reporting. Because we did not conduct observations, our results rely on how participants perceive their knowledge, skills and opportunities to respond, which may not reflect reality. Finally, survey research involves relying on the participants' responses without clarification. While miscommunication was minimized with the iterative process used to develop the survey as well as through the use of open-ended response options, there was still the possibility that the survey responses were prone to errors that may have impacted the interpretation of the responses.

Implications for Practice

In the time it takes for SWD to be identified and provided services they have fallen behind academically, and require the most effective practices in order to make progress. Special educators can use these HLPs in the area of instruction in their classrooms to ensure SWD are receiving effective instruction.

The relationship between general education and special education co-teachers does not always include parity. This study may help inform administrators as to the unique and specialized role of the special educator. HLPs have the potential of outlining the expertise of the special educator, helping to specify the contributions they can make to the co-teaching relationship. HLPs can assist in removing the ambiguity that can come with the role of a special educator and be used as a framework as special educators find their place in their school communities. Special educators need to be able to implement practices in their classrooms without investing a lot of time (Landrum et al., 2002). Multiple participants in this study expressed their frustration with the lack of time they had, either as a new teacher learning how to navigate the field of special education or as an experienced teacher with too many responsibilities but not enough time in the day. This is a common complaint (Mastropieri et al., 2011; Morrison, 2010), especially for special educators who are co-teaching with one or more general education partners.

The accessibility and usability of a practice are vital in order for successful classroom implementation and sustainability to occur (Landrum et al., 2007). While teachers may not always be informed or aware of research-based practices (Gersten et al., 2000), participants in this study indicated being knowledgeable and skilled in the majority of the HLPs in instruction. This information may assist special education teacher preparation programs as they adjust the coursework and clinical experience to include HLPs. Teacher education scholars from multiple disciplines are all in agreement that teacher preparation should include systematic instruction, centered around clinical practice, and include the development of a set of highly effective practices (HLPs). In addition, pedagogy is crucial as candidates are taught to implement practices with fidelity and fluency (Maheady et al., 2019). Because special education teacher preparation programs focus on the practice of special educators, their task involves creating opportunities for teacher candidates to master these HLPs through the cycle of modeling, feedback, and adjustment (Sayeski, 2018).

Finally, this study may be used to inform special educators about HLPs and assist them in highlighting areas of strength and opportunities for growth. Teacher beliefs guide instructional decisions (Pajares, 1992), and beliefs can become evident when teachers engage in self-reflection (Osipova et al., 2011). Moreover, self-reflection and directing teachers' attention to their practices based on student results may lead to a positive change in their instructional decisions, ultimately resulting in an improvement in student gains (Osipova et al., 2011). The HLPs can be used as a guide for teachers as they engage in self-reflection, helping them determine the application of effective practices within their instruction.

Recommendations for Future Research

High-leverage practices have only recently been developed for special education. Thus, little research has been conducted on special educators' perceptions. By design, this study focused on self-reports. However, self-reports are not always valid, with some participants under- or over-estimating their knowledge or use of certain practices. Future research should be corroborated through reliable observational data. Observational studies would also help determine *how* teachers are implementing HLPs. Moreover, future research should consider including a nationwide sample to give more insight into the perceptions of HLPs.

While this study concentrated on HLPs in the area of instruction, HLPs were also developed in the areas of assessment, collaboration, and social/emotional/behavioral. Future research should include studies on knowledge, skills, and opportunities for implementation in those areas as well.

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Paraeducators: An Important Member of Educational Team for Students with Disabilities

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Abstract

Paraeducators are an important member of the educational team for many students with disabilities. However, the perspectives of team members (principals, teachers, paraeducators) related to paraeducator supports and team roles has not been adequately explored in the literature. An online questionnaire was used within this study to examine the perceptions of elementary level team members related to paraeducator supports. Participants were recruited across one midwestern state with representation from urban, suburban, town, and rural schools. Quantitative data were analyzed using descriptive statistical methods and qualitative data were analyzed using content analysis. Results highlight team roles related to paraeducators including paraeducator training and supervision, evaluation, and paraeducator work conditions. Findings indicate many commonalities in principal, teacher, and paraeducator perspectives, but important areas of divergence. Implications for policy and practice, limitations, and future research directions are discussed.

Literature Review

Educational outcomes for students with disabilities hinge on the supports provided by educational teams who work together to deliver individualized supports (Douglas et al., 2016). Paraeducators – also referred to as paraprofessionals, teacher aides, and educational assistants – are one important member of the educational team, often providing extensive supports to students (Douglas et al., 2016; McDonnell & Jameson, 2014). However, research consistently notes that paraeducators are not treated or respected as a team member (Fisher & Pleasants, 2012), leading to potential negative consequences for students with disabilities (Giangreco et al., 2010). The reasons for challenges in team functioning related to paraeducators are not fully understood, but may be due to divergent perspectives of the roles and responsibilities of paraeducators and their supervising principals and teachers. Better understanding of principal, teacher, and paraeducator perspectives can help guide policies and practices to improve paraeducator supports, team functioning, and outcomes for students.

Team Functioning

Educational teams are made up of educational professionals who work collaboratively to ensure student success (Heward et al., 2017). Educational teams are most effective when there is mutual respect (Pugach et al., 2012), communication (Capizzi & DeFonte, 2012), flexibility, and problem solving to deal with the many challenges that arise when supporting students with disabilities (Malone & Gallagher, 2010). Additionally, teams are most successful in supporting students when team members collaboratively engage in educational implementation, including joint planning, student assessment, and provision of necessary supports in the general education

setting (Douglas et al., 2022). Although cooperation and collaboration are both vital, effective team functioning also requires clearly defined roles to ensure that all team members have an understanding of the expectations and duties they hold in the classroom to support students with disabilities (Douglas et al., 2016). Educational teams also require appropriate infrastructure within the school context, such as sufficient meeting time (Browder et al., 2014) and ongoing training (Ashbaker & Morgan, 2012). Teams that do not have these qualities tend to experience higher paraeducator turnover, inconsistent service delivery, and lower student outcomes (Fisher & Pleasants, 2012; Malone & Gallagher, 2010).

Team Roles

Educational teams for students with disabilities typically include a paraeducator, a supervising special education teacher, and an administrator. They also may include general education teachers, therapists, and other professionals. Yet, paraeducators often spend the most time directly supporting students with disabilities (United States Department of Education, 2018). Existing literature has provided some insight and recommendations on how high quality paraeducator supports can be implemented, such as the importance of a collaborative approach between the principal, special education teacher, and paraeducator (Douglas et al., 2016). Perhaps the most important aspect of effective paraeducator supports is clearly defined roles provided explicitly to all team members (Douglas et al., 2016).

Paraeducator roles. Paraeducators hold many important roles as a team member supporting students with disabilities. Paraeducators often engage in instructional tasks with students individually or in groups (Scheeler et al., 2016). They also support functional, self-care, and vocational skills, facilitate social interactions, and support the teacher by collecting data, bridging cultural gaps, and managing student behaviors (Brock & Carter, 2015).

Teacher roles regarding paraeducators. Teachers typically serve as the direct supervisor for the paraeducator, and often serve as the leader of the educational team (Douglas et al., 2016). Teachers provide paraeducators with schedules, instructional plans, prepare and hold meetings with team members, and delegate tasks (Johnson & Semmelroth, 2013). Additionally, teachers provide the day to day supervision of paraeducators, which often involves conducting regular observations, providing feedback, and ensuring ongoing training to support paraeducators (Council for Exceptional Children, 2015). Research on optimal practice indicates that teachers should also provide input to administrators during the paraeducator evaluation process (Ashbaker & Morgan, 2006; Douglas et al., 2016).

Principals' roles regarding paraeducators. Principals are responsible for supporting team members in their roles, including teachers in their supervisory responsibilities with paraeducators (Douglas et al., 2016). Principals also hold primary responsibility for conducting formal evaluations of paraeducators, with input from teachers (Douglas et al., 2016). Because of these responsibilities, it is essential that principals have knowledge of paraeducator and teacher roles.

Challenges with Team Roles. Despite an emerging understanding of what educational team members should do to support students with disabilities, clear gaps exist between recommended practice and typical practice for paraeducators, teachers, and principals.

Paraeducators. Even though paraeducators hold critical roles in the education of students with disabilities, the majority of paraeducators are employed in part-time positions with low wages and limited benefits (Fisher & Pleasants, 2012). Additionally, paraeducators often have limited training (Giangreco et al., 2010), despite federal law, which clearly indicates that paraeducators be “appropriately trained and supervised” (Individuals with Disabilities Act, 2004). These practices lead to consistent challenges with recruitment and retention of paraeducators (Fisher & Pleasants, 2012).

Teachers. Despite the important roles teachers play in supervising paraeducators (Council for Exceptional Children, 2015; Douglas et al., 2016; Johnson & Semmelroth, 2013), research indicates that teachers feel ill-prepared for their supervisory and evaluative roles with paraeducators (Douglas et al., 2016). Teachers note added difficulty in the supervision of paraeducators when paraeducators are older or have more classroom experience (Douglas et al., 2016). Teachers also indicate challenges providing paraeducators with feedback or resolving conflict (Douglas et al., 2016).

Principals. Similarly, principals report limited preparation to work with paraeducator and teacher teams (Ashbaker & Morgan, 2006). However, principals are the ultimate supervisor of paraeducators, and inadequate implementation of paraeducator supports or supervision can lead to legal action (Etscheidt, 2005).

Given the varied roles and responsibilities of paraeducators, teachers, and principals, and the challenges identified in the existing literature (e.g., lack of preparation for teachers/principals, lack of paraeducator training, high turnover), further exploration of team member perceptions in relation to paraeducator supports for students with disabilities is warranted. Such research might provide additional guidance for clarifying team roles and developing relevant policies.

Current Study

The goal of this study was to better understand team roles related to paraeducators to help inform policy and practice recommendations, improve educational team functioning, and the education of students with disabilities. In particular, we examined team perceptions about paraeducators, and perceptions about paraeducator-related challenges that impede team functioning. Unlike many previous studies, this study looks at the core team members including paraeducators, teachers, and administrators. Elementary settings were the focus of this study because of the high rates of paraeducator employment and individual supports provided to students in these settings (United States Department of Education, 2007). Data within this paper are part of a larger mixed method study (Douglas et al., 2022). In this investigation the following research questions were answered using quantitative (i.e., rating scales, ranking questions) and qualitative items (i.e., open ended questions) within the online questionnaire: (a) *What are the perceptions of principals, teachers, and paraeducators related to the roles paraeducators hold in elementary school settings?*; (b) *What are the perceptions of principals, teachers, and paraeducators, related the supervision and training paraeducators receive to fulfill their roles in elementary school settings?*; (c) *What are the perceptions of principals, teachers, and paraeducators related to the evaluations paraeducators receive in elementary school settings?*

*Method***Recruitment and data collection**

Participants were sampled from elementary schools across a midwestern U.S. state, using a database of all publicly funded schools. Elementary schools were randomly selected from the database to ensure inclusion of schools located in urban, suburban, town, and rural locations and representative participants from the state. Once schools were randomly sampled, emails were sent to principals with an invitation to complete the online questionnaire. Within the online questionnaire, principals were asked to nominate teachers who supervised paraeducators supporting students with disabilities within their school. Nominated teachers were then invited to participate and asked to nominate paraeducators whom they supervised and whom supported students with disabilities within the school. Nominated paraeducators were then invited to complete the questionnaire. Emails sent to participants included the study purpose and a link to the online questionnaire specific to their role. A total of 202 participants completed the questionnaire, of which 85 were principals, 78 were teachers, and 39 were paraeducators (see Tables 1, 2, and 3 for participant demographics). The majority of paraeducators (76%) served students with autism and developmental disabilities.

Table 1

Administrator Demographics (n = 85)

Characteristics	% (n)	Characteristics	% (n)
<i>Highest Degree</i>		<i>Race/Ethnicity</i>	
Bachelor's	1 (1)	American Indian or Alaskan Native	1 (1)
Master's	82 (70)	Black or African American	8 (7)
Doctoral	17 (14)	Native Hawaiian/Pacific Islander	1 (1)
		White	83 (70)
<i>Gender</i>		Arabic	1 (1)
Male	38 (32)	Armenian	1 (1)
Female	60 (51)	India	1 (1)
Undisclosed	2 (2)	Undisclosed	4 (3)
<i>Age</i>		<i>Area Type</i>	
26-32	2 (2)	City	23 (19)
33-40	18 (15)	Rural	26 (22)
41-50	47 (40)	Suburb	36 (31)
51-60	24 (20)	Town	14 (12)
Over 60	7 (6)	Unreported	1 (1)
Undisclosed	2 (2)		
<i>School Type</i>		<i>School Level</i>	
General education	87 (74)	Elementary-High School	13 (11)
Special education	12 (10)	Elementary-Middle School	21 (18)
Unreported	1 (1)	Elementary	65 (55)
		Undisclosed	1 (1)

Table 2

Teacher Demographics (n = 78)

Characteristics	% (n)	Characteristics	% (n)
<i>Highest Degree</i>		<i>Race/Ethnicity</i>	
Bachelor's	33 (26)	Black or African American	4 (3)
Master's	62 (48)	Hispanic, Latino, or Spanish Origin	3 (2)
Doctoral	1 (1)	White	91 (71)
Undisclosed	4 (3)		
<i>Gender</i>		<i>Area Type</i>	
Male	3 (2)	City	27 (21)
Female	92 (72)	Rural	22 (17)
Undisclosed	5 (4)	Suburb	29 (23)
		Town	22 (17)
<i>Age</i>		<i>School Level</i>	
18-25	6 (5)	Elementary-High School	15 (12)
26-32	18 (14)	Elementary-Middle School	17 (13)
33-40	24 (19)	Elementary	68 (53)
41-50	35 (27)		
51-60	9 (7)	<i>School Type</i>	
Over 60	3 (2)	General education	86 (67)
Undisclosed	5 (4)	Special education	14 (11)

Table 3

Paraeducator Demographics (n = 39)

Characteristics	% (n)	Characteristics	% (n)
<i>Highest Degree</i>		<i>Race/Ethnicity</i>	
High School	31 (12)	Black or African American	8 (3)
Bachelor's	28 (11)	Hispanic, Latino, or Spanish Origin	5 (2)
Master's	3 (1)	White	85 (33)
<i>Gender</i>		<i>Area Type</i>	
Male	3 (1)	City	13 (5)
Female	97 (38)	Rural	23 (9)
		Suburb	38 (15)
<i>Age</i>		Town	26 (10)
18-25	5 (2)	<i>School Level</i>	
26-32	8 (3)	Elementary-High School	13 (5)
33-40	15 (6)	Elementary-Middle School	10 (4)
41-50	28 (11)	Elementary	77 (30)
51-60	28 (11)		
Over 60	15 (6)	<i>School Type</i>	
		General Education	92 (36)
		Special Education	8 (3)

Procedures

Questionnaire development. Questionnaire development included a multi-phase process. First, authors reviewed existing literature to locate paraeducator focused studies within the past 20 years that utilized questionnaires. Authors were then contacted of the identified studies to obtain a copy of questionnaires (e.g., Fisher & Pleasants, 2012; French, 2001; Lane et al., 2012; Ratcliff et al., 2011; Riggs & Mueller, 2001; Sandoval-Lucero, 2006; Wallace et al., 2001). All questionnaires were reviewed and two were deemed relevant to our study (Riggs & Mueller, 2001; Ratcliff et al., 2011). However, the two instruments individually and collectively did not fully address team roles related to paraeducators, especially those held by administrators. Therefore, a review the Specialty Set of Knowledge and Skills for Paraeducator in Special Education and the Special Educator Professional Preparation Standards relevant to paraeducator supervision (Council for Exceptional Children [CEC], 2015) also occurred and a new questionnaire was conducted appropriate for this study including elements from existing questionnaires (Riggs & Mueller, 2001; Ratcliff et al., 2011) and new content related to the standards outlined by the CEC. Prior to questionnaire distribution four paraeducator experts provided feedback to ensure validity (Lynn, 1986) and adjustments were made before the questionnaire was distributed.

Questionnaires included three sections: (1) demographic information; (2) open-ended questions relevant to each participant's role, including the topics of paraeducator employment, training, supervision, evaluation, benefits/challenges of paraeducator supports for students with disabilities; and (3) rating scales where participants could indicate the frequency of a practice, or level of agreement for a specific statement, and ranking questions for paraeducator training topics. Each rating scale/ranking question included a space where participants could provide additional details or comments. Questionnaires were constructed to match each participant role (i.e., principals, teachers, paraeducators; a copy is available at: <https://drive.google.com/file/d/1-OTupDaUch7c9NIItZnOGIvaCW6v1qf9f/view?usp=sharing>). The majority of the questions addressed identical content with minor wording differences to adapt for each type of participant (e.g., principal version: "Teachers have a clear understanding of the paraeducator's role/responsibilities", teacher version: "I have a clear understanding of the paraeducator's role/responsibilities"). Additional questions focused on content specific to roles. Average length of time for completion was 33 minutes (principal mean = 32 minutes, teacher mean = 31 minutes, paraeducator mean = 39 minutes).

Data analysis. Questionnaires were analyzed using descriptive statistical methods and qualitative analysis. First, quantitative data were analyzed to determine frequencies for each quantitative item in questionnaires, and rank order for paraeducator training topics by participant type (i.e., principal, teacher, paraeducator). Then qualitative responses were analyzed using a directed content analysis approach (Hsieh & Shannon, 2005). This approach was determined appropriate given the categorical structure within the questionnaire (e.g., supervision, training, evaluation). Coding and analysis included the following process. First, the research team read through all qualitative responses to familiarize themselves with the data. Next, each team member individually reviewed one topic area and outlined initial coding. Then a second member of the research team conducted an independent analysis using the same approach. The

two coders then met to discuss results, provide consensus on subthemes, and talk through any disagreements. Then the whole research team met to discuss and finalize subthemes, and findings for each topic area and select representative quotes. As necessary, during this process, further refinement of subthemes took place. This process was repeated for each topic area with team members rotating roles (i.e., primary coder, secondary coder, third team member for full group discussion) to further ensure reliability and validity of data using investigator triangulation (Denzin, 1989). After quantitative and qualitative analyses were complete, findings were merged to provide a fuller understanding of the practices and perceptions of principals, teachers, and paraeducators regarding team roles relevant to paraeducators (Creswell & Plano Clark, 2011).

Results

Results from this study highlight many commonalities but also important areas of divergent perspectives among principals, teachers, and paraeducators regarding team roles related to paraeducators. Results relevant to team roles are organized into three areas: training and supervision, evaluation, and paraeducator work conditions.

Paraeducator Training and Supervision

Data from scaled and open-ended responses provided insights into the roles of administrators and teachers related to paraeducator training and supervision including concerns about limited training for paraeducators, and teacher challenges supervising paraeducators.

Limited paraeducator training. Principals, teachers, and paraeducators all indicated concerns with paraeducator training. Specifically, 40% of principals noted that paraeducator training was inadequate, while 35% of teachers and 20% of paraeducators also felt it was inadequate. Training was often limited, voluntary, or offered only during specific times of the year. Open-ended responses confirmed these findings. One teacher stated: “Paraeducators receive little training. They usually have no prior knowledge about the student they will be working with until a couple days before school begins.” Another teacher echoed this concern further indicating that they do not meet with paraeducators “until after the school year has started.” A paraeducator stated: “I see a lot of new hires who have limited experience, and they struggle with finding ways to support the students they are hired to provide service for. Those struggles could be minimized with proper training.”

A lack of principal support for paraeducator training was also noted within open-ended responses. This included limited funding and time allocation from administrators, and a lack of administrative knowledge to support training. One principal noted the struggle finding time for paraeducator training. “There is never enough time to provide training.” Another emphasized budgetary limits: “money for training is always hard to find.” Other principals highlighted their own lack of expertise to support paraeducator training. One stated: “We do not do a good job with this....we need to do more.” Paraeducator training was often voluntary due lack of funds to pay paraeducators.

There was a lack of clarity in team roles and subsequent performance related to paraeducator training. First, the expectation that supervising teachers support paraeducator training appeared to be a point of divergence between different participant groups. When asked to rate the

statement, *teachers ensure paraeducators have appropriate training*, principals often *disagreed* or *strongly disagreed* (42%), while teachers most often *agreed* or *strongly agreed* (46%). However, when paraeducators were asked a related statement (i.e., *I am provided with appropriate training for the tasks I am assigned*), they rarely indicated that appropriate training was *never* provided (16%). Open-ended statements provided some clarity on the roles related to paraeducator training. For example, one teacher recognized the time constraints related to training paraeducators stating that when training is “left to the teachers, time is very limited to train and provide feedback.” Another teacher highlighted the lack of clarity regarding teacher roles with paraeducators: “I train them on the job as well as I can, but I have no control over their formal training”. Another teacher did not feel it was their role to provide training to paraeducators: “the district should provide more training to [paraeducators]”. One principal noted that paraeducator training is solely an “administrative responsibility”, while other principals indicated that training was primarily “provided by the teachers.” One teacher provided a practical solution to improve paraeducator training:

There needs to be time allowed to train paraeducators. This often falls on the special educators alone who have a multitude of tasks on their plate and they may not be given additional time to provide this type of training. It would be beneficial for districts to provide general training on disabilities and professionalism. It would be great if special educators were given time to prepare professional development activities for paraeducators or additional time to train them on instructional practices. It often seems like this type of training happens on the fly.

Training topics. Principals, teachers, and paraeducators ranked training topics that were included in the paraeducator standards to indicate top training priorities for paraeducators (Council for Exceptional Children, 2015; i.e., development, families and culture, disabilities, behavior management, social skills/inclusion, academic supports, school/student specific, professionalism, working with adults). Principals and teachers both listed *behavior management*, *academic supports*, and *disability* as their top three topics, while paraeducators listed *disability*, *behavior management*, and *professionalism*. Although principals and teachers provided similar rankings, paraeducators did not include academic supports. This highlights a potential disconnect between paraeducator perceived roles related to academic supports of students with disabilities. Interestingly, instead of including academic supports, paraeducators selected *professionalism*, a challenge noted by principals in open-ended questions – highlighting paraeducator awareness of these concerns and a need for clarity on the expectations for paraeducator professionalism

Paraeducator supervision. Another finding was the challenging role teachers have supervising paraeducators. When provided with the statement, *teachers have a clear understanding of their responsibilities related to overseeing the work of paraeducators*, teachers most often *agreed* or *strongly agreed* (85%), but over a quarter of principals *disagreed* or were *neutral* in their belief that teachers understand their responsibilities related to paraeducators (27%), highlighting the disconnect between teacher and principal viewpoints related to teachers supervisory expertise. One principal indicated that supervision “is done through teacher supervisors, who are not always well-equipped for this role.” Teacher supervision included duties such as day to day training of paraeducators, as well as observation and feedback about paraeducator performance.

However, 23% of teachers admitted that they *never* observe paraeducators, and 34% of principals indicated teachers *never* observe paraeducators. In open-ended responses one paraeducator said: “the teacher rarely observes my performance.” Another paraeducator said: “some [teachers] are far more interested and helpful in making sure [paraeducators] are supported than others.” When participants were asked to rate the statement, *The teacher meets regularly with the paraeducator*, teachers and principals most often *agreed* or *strongly agreed* (88% of teachers; 50% of principals). The rating for the statement, *teachers provide paraeducators with feedback about their performance*, within the questionnaire provided further illumination. Paraeducators were most likely to indicate that feedback *never* occurred (21%), while fewer teachers (9%) and principals (15%) noted that feedback *never* occurred.

Paraeducator Evaluation

Formal evaluation for paraeducators and the related roles for principals and teachers was also explored. While most principals indicated that paraeducator evaluation occurred within their schools (most often annually), 25% of principals indicated no evaluation for paraeducators in their schools. Although it was clear that formal evaluation was primarily the responsibility of principals, several challenges were evident including a lack of transparency in the evaluation process, lack of appropriate tools, lack of involvement from teacher supervisors, and lack of policies and formalized procedures to guide evaluation. One principal noted the hypocrisy of evaluating paraeducators when training is insufficient: “Evaluation is tricky when I know we are not doing a sufficient job training and supporting some of our new paraeducators.”

Lack of transparency in the evaluation process. Principals, teachers and paraeducators all highlighted issues that were rooted in a lack of transparency in the evaluation process. Teachers made statements indicating limited knowledge about the process. One teacher said: “I have no idea how [paraeducators] are evaluated”, while another said: “I am unsure if there is a formal evaluation process.” Paraeducators also lacked understanding of the evaluation process. One paraeducator even indicated that “there isn’t a formal evaluation.” When looking at perspectives from principals, teachers, and paraeducators in the same building similar findings emerged. For example, one principal detailed a very specific evaluation and rating process, but in that same building two teachers indicated they didn’t know the process because they were not involved, and seven paraeducators indicated that they thought there was a formal evaluation process, but didn’t know because it was inconsistent or provided over the summer as a written document only. Another school had a similar disconnect between principal, teacher, and paraeducator perspectives with differing descriptions of evaluation procedures.

Lack of paraeducator evaluation tools. Another finding relevant to paraeducator evaluation was the lack of available tools and time to evaluate paraeducators. One principal indicated that a challenge of evaluation was “finding the time for observation as well as the lack of specific observation tools targeting the practices and responsibilities of [paraeducators].” A paraeducator echoed this concern through a suggestion that principals should have an understanding “of what the paraeducator does in the classroom” when conducting evaluations. The lack of appropriate paraeducator evaluation tools led some principals to use teacher tools for paraeducator evaluations despite differing roles and responsibilities. One principal indicated that the paraeducator evaluation “is the same as the teacher professional evaluation.”

Lack of teacher involvement in evaluation. Data from teachers and principals consistently pointed to a lack of teacher involvement in paraeducator evaluations. When teachers were asked if they were involved in the formal evaluation process for paraeducators 54% *disagreed* or *strongly disagreed*. Open ended comments also indicated that evaluations were conducted independently by the principal. One principal stated “I do it all!”, while another indicated that “involving the teachers” in the evaluation process was a challenge. Teachers made comments such as “I do not get to observe the [paraeducator] or give input for the [paraeducator’s] evaluation” and “the principal is in charge. I have never seen the evaluation.” Some teachers also expressed concerns with administrators conducting evaluations without teacher input: “I feel that some things are missed by the administrators because they do not have daily contact with [paraeducators].”

Lack of policies and procedures to guide evaluation. Overall, a lack of clear policies and procedures existed to guide the paraeducator evaluation process. While there were some commonalities in practices between schools (e.g., evaluations were most commonly conducted once a year at the end of the year), many principals, teachers, and paraeducators found issues with the current procedures. One principal said: “The once a year evaluation cycle is not sufficient for professional growth.” While another noted: “It seems only when problems develop is an evaluation considered.” This lack of consistency in the evaluation process was a challenge for paraeducators. When referencing evaluation one paraeducator stated “It is irregular. I would appreciate evaluation and feedback.” Teachers also found the current evaluation process challenging. One noted concern being involved in evaluations: “It is hard to ask another adult to make a change in what they are doing without sounding bossy or critical.” Participants also pointed out the lack of state regulations led to inappropriate and district-specific practices. When asked about state level policies one principal noted: “There are none. A huge problem area.” A paraeducator suggested: “Everyone needs to be on the same page...schools follow so many different rules and nobody seems to check the students’ needs.”

Paraeducator Work Conditions

The last area that highlighted concerns with paraeducator roles in the school was paraeducator work conditions. Within open-ended responses there was an overall consensus about the disconnect between paraeducator compensation (i.e., pay, hours, benefits) and paraeducator roles, and the challenges that arose as a result.

Compensation and job demands. Although no question directly addressed paraeducator pay, 20% of principals noted pay as a significant issue for recruitment and retention in open-ended responses. Paraeducators also expressed concerns with pay. One paraeducator commented: “I could get a job at McDonalds making what I make after 15 years [as a paraeducator].” In open-ended responses participants highlighted the mismatch between pay and the high demands of the job. One paraeducator said she is “exhausted at the end of the day” because of the job demands, while a principal pointed out that because of their role supporting student behavior, sometimes “students injure paraeducators.” This mismatch between paraeducator compensation and job demands often resulted in difficulty with paraeducator recruitment, “excessive turnover”, including difficulty “keeping quality people”, and an overall “shortage” of paraeducators. One principal pointed out: “the pay is so low that it is difficult to find quality candidates.”

As a result of the mismatch between compensation and job demands, many principals noted subsequent issues with paraeducator professionalism. Despite the expectation that paraeducators be reliable and punctual, multiple principals indicated “attendance and punctuality” as a common challenge with paraeducators. Confidentiality was also noted as a concern. A teacher shared: “I have had [paraeducators] in the past violate confidentiality. We live in a small community and student privacy must be maintained.” Further insight was provided by one principal who indicated that paraeducators were often drawn from the local community: “the line between neighbor, friend, and professional gets blurred.”

Challenges in professionalism often resulted in an increased burden on principals and teachers to clarify paraeducator roles. One principal stated “sometimes paraeducators overstep boundaries because they don’t understand their roles clearly.” Paraeducators seemed to recognize this lack of clarity for their roles as well. One paraeducator mentioned receiving “conflicting information about how things are supposed to be handled” and went on to ask: “What are my specific duties and how much support needs to be given within the guidelines of the IEP?” A teacher pointed out that when roles are clearly defined “everyone’s on the same page, the classroom is very effective.” However, poorly defined roles often results in “teachers and paraeducators not working well together”, which “makes for a hostile environment that adversely affects student progress.” The lack of role definition may be related to a lack of administrator knowledge of paraeducator duties. For example, in a Likert scaled question asking about paraeducator roles assessing student performance and monitoring student progress, principals most often indicated that paraeducators do this *some to most days* (71%), while teachers stated paraeducators *never or rarely* engage in this role (67%).

Importance of paraeducators. Despite the many challenges paraeducators face in their work conditions, participants highlighted the vital importance paraeducator supports play in the education of students with disabilities. Participants indicated that paraeducators support teachers through assistance with behavior management, and student instruction. Specifically 94% of principals indicated that paraeducators carried out instruction under the direction of the teacher *every day*. Similarly, 79% of teachers indicated that paraeducators carry out instruction at least *most days*. Additionally, responses from paraeducators highlighted their support of students in small groups (62% of paraeducators indicated that they provide instruction to small groups of students *everyday*), individual students (73% of paraeducators indicated that they provide instruction to individual students *everyday*), and students with disabilities (76% indicated that they provide instruction to students with disabilities *every day*). Additionally paraeducators noted their important roles managing student behavior (92% of paraeducators indicated that they manage student behavior *everyday*), and collecting data about student behavior (81% indicated that they collect data about student behaviors at least *some days*).

In open-ended questions participants also indicated that paraeducators allowed for flexibility in the delivery of educational services. However, this flexibility, according to paraeducators, occasionally led to paraeducators being pulled from their roles supporting students with disabilities to fill in for teachers when substitutes were not available. Participants also indicated that paraeducator supports led to increased empathy and compassion among students without disabilities. However, participants noted that despite the importance of paraeducators, there was a lack of recognition for their work of paraeducators and few opportunities for paraeducators to

contribute to decision making. A paraeducator indicated “I am the person in the trenches doing the work every day and get little chance to give input.” Another paraeducator stated that she felt a “lack of respect and appreciation from some teachers and administration...a lot of what we do goes unnoticed...we are undervalued.”

Discussion

Paraeducators are an important part of the educational team supporting students with disabilities. There are a number of recommended practices for including paraeducators in the educational team (e.g., clear roles, sufficient meeting time, and training). However, little research has addressed how team members view paraeducator roles and how paraeducators relate to team members. This study provides new understanding about the perceptions of paraeducator supports by three members of the team: principals, teachers, and paraeducators, which confirms and extends the existing literature in a number of ways including team roles related to paraeducators and the importance of clarity around team roles to support paraeducator training and supervision, paraeducator evaluation, and paraeducator work conditions.

Team Roles

Perhaps the most important finding within this study is that despite calls within the literature, the roles and responsibilities of paraeducators are still not being clearly defined. Team members consistently identified a lack of clarity about roles, leading to a lack of professionalism and interpersonal conflict. Not only were paraeducator roles unclear, the roles of principals and teachers in relation to paraeducators were also unclear. For example, teachers and principals disagreed on who was responsible for paraeducator training and supervision, how evaluations should be conducted, and what duties paraeducators regularly perform. These findings build on existing research (Douglas et al., 2016; Fisher & Pleasants, 2012; Giangreco et al., 2010). The lack of clarity in paraeducator roles and responsibilities, and the potential for this lack of clarity can lead to emotional exhaustion (Shyman, 2010) and turnover (Fisher & Pleasants, 2012). Yet a lack of clarity related to team roles is somewhat expected given the lack of federal and state policies regarding roles and responsibilities of paraeducators. Indeed, in the state where this research took place, state policies related to paraeducators have not been developed or implemented (Douglas et al., 2022). Given the continuing lack of clarity for paraeducator roles and responsibilities within federal law some states have implemented laws to provide clarification (Connecticut SB 913, 2017; Washington State HB 1115, 2017). The state in this study might consider similar actions.

Training and Supervision

Within the study there was general consensus that paraeducator training was inadequate, a concern that has been highlighted by others in the field (Giangreco et al., 2010). However, this study provided some insight into the reasons behind the lack of paraeducator training including a lack of time and money allocated by districts. In light of the lack of resources, teachers and paraeducators noted that training responsibilities for paraeducators often fell on teachers, but principals and teachers disagreed about the quality of such training with principals noting that teachers are often not well equipped for supervisory roles. Similarly, a lack of resources, particularly time, was noted as the main cause of ineffective supervision a challenge noted in previous research (Douglas et al., 2016).

Evaluation

Although findings were consistent with previous research noting the use of principals as the primary individual in charge of conducting evaluations, there was less clarity on the role of the teacher in providing feedback and input to the principal during the paraeducator evaluation process (Ashbaker & Morgan, 2006; Douglas et al., 2016). Paraeducator evaluation was also widely seen as problematic, with one principal going so far as to call it ‘hypocritical’ in light of the poor training and supervision provided. Notably this study provided important insights into how the paraeducator evaluation process can be improved. Educational team members highlighted four areas for growth: (1) improved transparency in the evaluation process; (2) improved evaluation tools for paraeducators; (3) increased teacher involvement in evaluations; and (4) established policies related to paraeducator evaluation.

Work Demands and Performance vs. Compensation

All three members of the educational team identified a mismatch between paraeducator pay/benefits and the demands of the job, a finding noted in previous research (Fisher & Pleasants, 2012). In line with previous research focused on teachers (Douglas et al., 2016), principals and teachers in this study also noted issues with paraeducator professionalism, while paraeducators identified professionalism as a top priority for training.

Implications for Policy and Practice

Given our findings and previous research, there are numerous implications for policy and practice. First, there is a need for clarity in principal, teacher, and paraeducator roles, which will help improve overall team functioning (Douglas et al., 2016) and student outcomes (Malone & Gallagher, 2010). In the area of paraeducator work conditions and performance there is a continued need to improve paraeducator morale and include paraeducators in decision making. The Every Student Succeeds Act (2015) emphasizes the responsibility states and districts have to include paraeducators in policy decisions related to their work. This combined with the lack of policies noted in this study (Douglas et al., 2022), point to an urgent need for paraeducators to be included in the development of policies to improve work conditions. Further, given the persistent low wages and high turnover for paraeducators, state and local educational agencies should develop policies to improve pay and create paraeducator advancement opportunities.

There is also a need to develop policies and improve practices around paraeducator training, supervision, and evaluation. First, improved professional development for paraeducators and teacher supervisors is needed. This might be accomplished by improving pre-service education for teacher supervision responsibilities, providing online instruction opportunities for paraeducators and teachers, using collaborative approaches where paraeducators identify areas for growth, using of coaching models, and/or training opportunities where paraeducators and teachers are instructed together (Douglas et al., 2014; 2016; 2019). Participants in this study also identified priorities for training including instruction related to behavior management and disability, topics of relevance especially for paraeducators supporting students with autism and developmental disabilities. As such, districts might consider the inclusion of these topics in paraeducator orientation. Additionally, paraeducators identified the need for training related to professionalism, which would help them better understand the expectations of supervisors. This study also identified a need for statewide policies to ensure uniform evaluations for all paraeducators including evaluation for paraeducators more than once a year, or mid-year

evaluations that guide paraeducators as they improve skills. Finally, this study uncovered a need for evaluation tools specific to paraeducators. Principals noted the use of teacher evaluation tools despite the vastly different roles between paraeducators and teachers. Future research should explore the creation and implementation of paraeducator evaluation tools.

Limitations and Future Research Directions

Although this study provided important insights into principal, teacher, and paraeducator perspectives, some limitations exist. First, participants were from a single state. While, our findings were consistent with and expanded on existing research, they may not generalize to other states. Future research should explore similar research nationally or in other states. Lastly, some of our findings were based on responses to open-ended questions, and therefore likely reflect only the most pressing concerns of participants. Further research is needed to delve more deeply into specific findings using more targeted qualitative and quantitative approaches.

Conclusion

This study provided insight into the perceptions of paraeducator supports for students with disabilities by three core team members - principals, teachers, and paraeducators. Clear areas for continued improvement were identified including clarification of team roles, increased pay and career advancement opportunities for paraeducators, improved paraeducator training, improved teacher preparation for supervisory roles, and uniform policies and procedures for paraeducator evaluation. State and local education agencies are encouraged to make efforts towards improving these areas with input from paraeducators in their area.

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Individualized Rating Scales of Engagement during Group Exercise Activities for Children with Multiple and Severe Disabilities: A Process Description and Case Series

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Abstract

Engagement is important for learning. Because of their atypical expression, measuring engagement for students with multiple and severe disabilities (MSD) is challenging. Group activities often enhance engagement of children and gross motor activities include an expanded variety of behaviors by which engagement may be measured. The purpose of this Manuscript is to outline a process for developing and implementing individualized rating scales to measure the engagement of students with MSD participating in a group exercise program. A series of three cases demonstrates the process and illustrates how the results might benefit a child with MSD.

Individualized Rating Scales of Engagement during Group Exercise Activities for Children with Multiple and Severe Disabilities: A Process Description and Case Series

Educators have long acknowledged the relationship between engagement and learning. The term *engage* can be defined as: “to hold the attention of,” “to engross,” or “to induce to participate” (Engage, 2019). However, this definition only partially describes that total emersion into a topic that educators strive to attain when designing a learning activity. The dimensions of student engagement may include behavioral, emotional or affective, cognitive, psychological, and/or academic (Appleton, Christenson, & Furlong, 2008). Student engagement is often measured by observing student behaviors related to effort, achievement, homework related behaviors, and participation in school related activities. (Jimerson, Sampos, and Greif, 2003)

Measuring engagement for students with multiple and severe disabilities (MSD) is a complex endeavor. These students experience a plethora of challenges that interfere with their ability to demonstrate behaviors usually associated with typical student engagement. Researchers have proposed that children with disabilities spend less time actively engaged with adults and peers than do children without disabilities (McWilliam & Bailey, 1995; McWilliam, Scarborough, & Kim, 2003; Ridley, de Kruif, & McWilliam, 2000). Direct observation of student behaviors is a promising practice for understanding engagement for students with MSD (Volpe & Briesch, 2012). However, if children with MSD express themselves differently, it stands to reason that standard assessment tools for measuring engagement may not be valid for children who may express themselves differently from their peers. Formative assessment and daily data collection have been strategies used to measure classroom behavior for children with special needs (Cornelius, 2014).

Most traditional classroom instruction is delivered in the group setting. The Individuals with Disabilities Education Act (IDEA) mandates that children with disabilities receive their education in the least restrictive environment (IDEA, 2004). This often means that children with disabilities receive instruction in the general education classroom with their typically developing peers. However, children with more intensive learning and support needs may receive some or most of their instruction in a more restrictive setting where they receive small group or individualized instruction. Optimal learning experience is delivered within a group (Dykstra Steinbrenner, & Watson, 2015). Student engagement can be improved in the group setting (Locke, Rotheram-Fuller, & Kasari, 2012; McAllister & Hadjri, 2013; Yildiz, 2015). The group setting may also be the best environment to attempt to quantify the level of engagement.

On-task behavior for young children to be higher during those opportunities that involved physical activity (Luke, Vail, & Ayres, 2014). School-based physical therapists (PTs) use the group setting and have found it to be effective for children with MSD (LaForme Fiss & Effgen, 2007). Adapted physical education classes are also delivered in a group setting. During group exercise classes children are expected to perform a variety of stretching, strengthening, and motor-planning skills. Due to the difficulty in measuring engagement for children with MSD, a group exercise class might be a good place to address the measurement of engagement on an individualized basis.

The purpose of this manuscript is to describe a process for developing and implementing individualized rating scales to measure the engagement of students with MSD during a group exercise program.

Methods

Exercise Session Participants

A class of thirteen children participated in fourteen exercise sessions as part of their weekly routine. Seven children identified by their teacher or the school PT as having challenges with engagement during classroom and motor activities were chosen for the development of an individualized assessment of engagement outcome measurement process. Participants were elementary children with MSD enrolled in a self-contained classroom for students, in grades 3-5, with the most significant intellectual disabilities. The students received intensive and individualized instruction in life skills and functional academics. The children's ages ranged from eight to eleven years, both male and female. Diagnoses included among the children were cerebral palsy and other disorders of the brain, autism spectrum disorder, genetic disorders, and general developmental delay. All were significantly behind grade level in academics. Communication skills ranged from verbal to non-verbal but all were able to vocalize and follow visual demonstration. All had gross motor impairment to varying degrees. One used an assistive device for mobility and two required physical assistance for safety when ambulating.

The project was approved by a full review of the institutional review board for the university. The project was also approved by the administration of the school district in which the exercise program occurred. Permission from parents of all of the children in the group sessions was obtained, along with written or verbal consent of the children, as adapted by the special education teacher to be consistent with the receptive language abilities of the children.

Exercise Program

The exercise routine had been previously developed by a school-based PT and used in a group exercise class. The exercise program is illustrated in Figure 1, as demonstrated by an age appropriate peer model. For purposes of this project, the exercise program was standardized for time and order of exercises. Participants performed each exercise for about one minute, for a total time of about fifteen minutes, including transitions. The program was carried out weekly for fourteen weeks. Two Doctoral of Physical Therapy (DPT) students led the group exercise program for the duration of the study. Other DPT students helped individual children as part of a specially designed volunteer experience. Two licensed PTs supervised or assisted with all exercise sessions. Typically, one or more licensed physical therapist assistants (PTA) who worked in the school district, and other classroom support staff, assisted children during exercise sessions as well.

The exercises are consistent with stretching and strengthening programs for children and are common in exercise classes: 1. *Butterfly* stretches the hip musculature, 2. *Figure 4* stretches hip musculature on one side and the hamstring muscles on the other, 3. *Pretzel* is a stretch for posterior hip muscles, 4. *V sit* is a stretch specific to medial hamstrings and hip muscles (we sang the “bear hunt” song and had the children beat out the rhythm on the floor for better engagement), 5. *11 sit (car)* stretches the hamstrings and strengthens the abdominal and hip hiker muscles (we had the children pretend to drive a car by “bum scooting”), 6. *Scissors* strengthens the outer hip muscles and stretches the inner hip muscles, 7. *Modified up-dog* a.k.a. cobra is a yoga stretch for anterior musculature of the hip and trunk but can also help strengthen the back and arms and adds resistance to hip closure muscles (we had the children pretend to “howl at the moon”), 8. *Basket* is a stretch for anterior hips, chest and abdomen and helps with back musculature strengthening, 9. *Weeble* is an exercise in sitting balance and helps strengthen core muscles, 10. *Crab* helps with core strength and motor coordination, 11. *Single leg stance* is for balance and general leg strength, 12. *Jumping jacks* promote fitness and coordination.

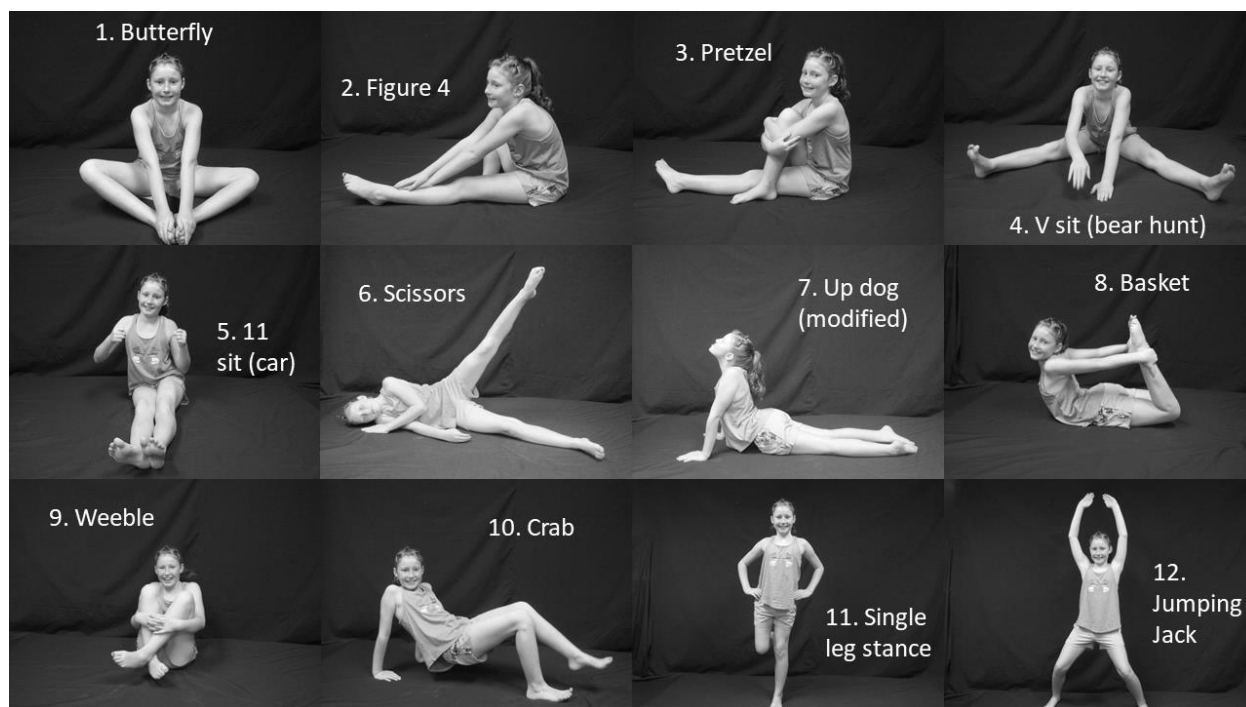


Figure 1. Demonstration of exercises as modelled by an age appropriate typical peer

Development of the Individualized Rating Scales

To establish the original process, fourteen sessions were videotaped from two angles for maximum coverage of each individual child. The videotapes were analyzed by DPT students not involved with the initial exercise sessions. General traits of the children were determined by observation and discussion between the analyzers, PTs, PTAs, and classroom staff involved with the project. Individualized rating scales were created for each child, based upon the child's behavioral indicators of engagement. The categories and indicators for all of the children were then compiled into a master list to outline the overall system for use in developing an individual tool template to evaluate engagement (see appendix). Specific behavioral indicators were chosen from the master list for each child's individualized rating scale. Other plausible items within the categories were included, based on professional judgment of the PTs, even if they were not specifically observed in this group.

Cases

Case 1

This child had minimal physical functional impairment but was in the special education program because of cognitive and behavior challenges. The child was able to communicate verbally and was mostly independent for self-care. One primary indicator (response time) and three secondary indicators (physical interactions, attention/focus, and effort) were used to create the individualized engagement rating scale (Figure 2). Response time was chosen as the primary indicator because the child had a difficult time with transitions. When the activity changed, there was often a delay before the child participated in the new exercise. The child would frequently kick the ground when being pushed into doing something, when not feeling ready to do it. The child tended to use this more as a means of communication than an outright protest. This item

was chosen as a modifier because it was determined that this behavior indicated a decrease in engagement. The child also tended to be fairly distractible and would lose focus, not paying attention to the model. This item was used as a point deduction for each time the child lost focus during the exercise. Sometimes the child would get into position and start performing the task, but not put much effort into it or not generate the appropriate amount of force to move throughout space. This item was added to allow for modification of the score for this apparent lack of effort and engagement. The child tended to hold a mild frown as the default facial appearance and did not demonstrate much variability in expression, which also did not necessarily match the level of engagement. The child did not respond well to adult interaction so the staff purposely did not provide prompts. These last two are examples of items that would not be useful in devising the individualized rating scale for this child.

Individualized Rating Scale for Engagement: Data Form								
Name: <i>Case 1</i>								
Physical Interactions - Grabbing/Leaning - Biting/Hitting - Kicking/Stomping	Response Time - Delay in start - Time out of activity	Posture - Position - General trunk - Repetitive motion	Active Participation Moving into or within activity	Attention/Focus - Watching leader or peers - Eye contact	Facial Expression/Vocalization - Crying - Smiling/laughing - Yelling	Effort - Performing task - Following the instructions - Allowing assistance	Adult Interaction - Verbal cues - Prompts - Physical assistance	
Primary indicator: (category and specific bullet points used) <i>Response time</i> <i>Delay</i>		☐ Likert option: Description of behavior corresponding to a score of 1-7 (see examples: Cindy and Joe)						
Choose one option		1 (worst)	2	3	4	5	6	7 (best)
		☒ Point deduction option: Description of point deduction starting from a total of 7 points <i>Start with 7 points. Deduct one point for each 10 second delay</i>						
Second indicator: (category and specific bullet points used) <i>Physical Interaction</i> <i>Kicking</i>		Description of point deduction <i>Deduct one point for each kick to the ground out of protest</i>						
Third Indicator: <i>Attention/Focus</i> <i>Watching Leader</i>		Description of point deduction <i>Deduct one point for each obvious episode where child loses focus for more than several seconds and it impacts ability to follow along and switch tasks as necessary</i>						
Fourth Indicator: <i>Effort</i> <i>Performing task</i>		Description of point deduction <i>Deduct one point for obvious lack of effort during an exercise</i>						

Figure 2. Rating Scale Form for Case 1

Case 2

This child was very thin and small by age standards, had significant motor impairment, as well as cognitive and verbal challenges. The child was independent in ambulation but had poor balance, low strength, and hyper-extensible joints. Physical assistance was required for comprehension of directions, motor planning to move into positions, and to begin exercises that involved movement. Along with physical assistance, one item (jumping jacks) was modified to simple arm movements because of the inability to jump. The child did not speak, but was often vocal. One primary indicator (facial expression/vocalization) and one modifier (attention/focus) were used to develop the scale (Figure 3). Facial expression/vocalization was chosen as the primary indicator because the child demonstrated a wide variety of facial expressions that were representative of engagement and emotion during the exercise. The child would giggle when happy and cry or call out when upset, as well as a variety of expressions of emotions in between these extremes. The child would occasionally “zone out” and lose visual focus on the task at hand. This was used as a point deduction item on those occasions when focus was lost. This individual’s posture was poor, but consistently so and this did not add any variability for the scale. The child also required assistance from adults for the entire session. Posture and adult interaction are examples of indicators that would not be useful for this engagement assessment.

Individualized Rating Scale for Engagement: Data Form								
Name: <i>Case 2</i>								
Physical Interactions - Grabbing/Leaning - Biting/Hitting - Kicking/Stomping	Response Time - Delay in start - Time out of activity	Posture - Position - General trunk - Repetitive motion	Active Participation Moving into or within activity	Attention/Focus - Watching leader or peers - Eye contact	Facial Expression/Vocalization - Crying - Smiling/laughing - Yelling	Effort - Performing task - Following the instructions - Allowing assistance	Adult Interaction - Verbal cues - Prompts - Physical assistance	
Primary indicator: (category and specific bullet points used) Facial Expression/Vocalization <i>crying</i> <i>Smiling/Laughing</i> <i>Yelling</i>		☒ Likert option: Description of behavior corresponding to a score of 1-7						
Choose one option		1 (worst)	2	3	4	5	6	7 (best)
		<i>crying and vocalizing, turning away</i>						<i>Smiling, giggling, actively interacting</i>
		☐ Point deduction option: Description of point deduction starting from a total of 7 points						
Second indicator: (category and specific bullet points used) Attention/Focus <i>Watching leader or peers</i> <i>Eye contact</i>		Description of point deduction <i>Deduct one point for each time not focusing for more than 10 seconds and no refocus with one verbal prompt</i>						
Third Indicator: <i>N/A</i>		Description of point deduction						
Fourth Indicator: <i>N/A</i>		Description of point deduction						

Figure 3. Rating Scale Form for Case 2

Case 3

This child had low muscle tone and a poor fitness level. Verbal skills allowed the child to communicate basic needs and answer questions on par with cognitive abilities, although the

child's poor articulation and low volume affected understandability. The child tended not to initiate conversation and generally answered questions with minimal words. The child was independent in self-care and mobility. This child was able to perform all exercises and understood both visual demonstration and verbal cues and did not need one-on-one assistance during the exercise classes. One key indicator (posture) and three modifiers (response time, active participation, and adult interaction) were used to develop this scale (Figure 4). Posture was determined to be the primary indicator because the low muscle tone was a focal point for intervention. The child's posture directly represented alertness level and engagement. The child tended to be slow to react. While capable of beginning the exercises on time, the child would frequently take time moving into position. The child would occasionally lose momentum while performing the exercises. It was determined that this indicated a lessening of engagement in the middle of the exercise, even if the child started out performing the task well. The child responded well to prompts that were frequently and naturally provided by staff. Prompts typically resulted in a 1-point increase for active participation. This item was included to account for the effect of prompts. "Effort" as an indicator was considered but it was determined that a score on this item would provide information that was redundant with the indicators already chosen.

Individualized Rating Scale for Engagement: Data Form								
Name: <i>Case 3</i>								
Physical Interactions - Grabbing/Leaning - Biting/Hitting - Kicking/Stomping	Response Time - Delay in start - Time out of activity	Posture - Position - General trunk - Repetitive motion	Active Participation Moving into or within activity	Attention/Focus - Watching leader or peers - Eye contact	Facial Expression/Vocalization - Crying - Smiling/laughing - Yelling	Effort - Performing task - Following the instructions - Allowing assistance	Adult Interaction - Verbal cues - Prompts - Physical assistance	
Primary indicator: (category and specific bullet points used) Posture Position General Trunk		☒ Likert option: Description of behavior corresponding to a score of 1-7						
Choose one option		1 (worst) Laying on the ground and not participating in any movement	2	3	4	5	6	7 (best) Upright thoracic trunk, shoulders back, head up (cueing okay)
		☐ Point deduction option: Description of point deduction starting from a total of 7 points						
Second indicator: (category and specific bullet points used) Response time Delay in start		Description of point deduction Deduct one point for each 3 second delay						
Third Indicator: Active Participation Moving within activity		Description of point deduction Deduct 1 point for loss of momentum during activity						
Fourth Indicator: Adult Interaction verbal cues Prompts		Description of point deduction Deduct one point for each prompt given by adult						

Figure 4. Rating Scale Form for Case 3

Implications

Case 1

Scores on the child's rating scale initially showed low levels of engagement, with a gradual increase in engagement over the first five exercises (Figure 5). The child's level of engagement dropped abruptly when the exercise position changed to lying on the side, then in prone. Engagement recovered again when the position changed back to sitting. These results may indicate discomfort or a feeling of vulnerability in the down position. This warrants further investigation as there could be a physical issue, such as abdominal pain, that would require further action. While able to express verbally basic concepts and needs, the child may not be able to isolate the discomfort or explicitly tell adults what was wrong. By documenting this child's engagement level, the staff members were able to recognize these subtle differences and investigate further.

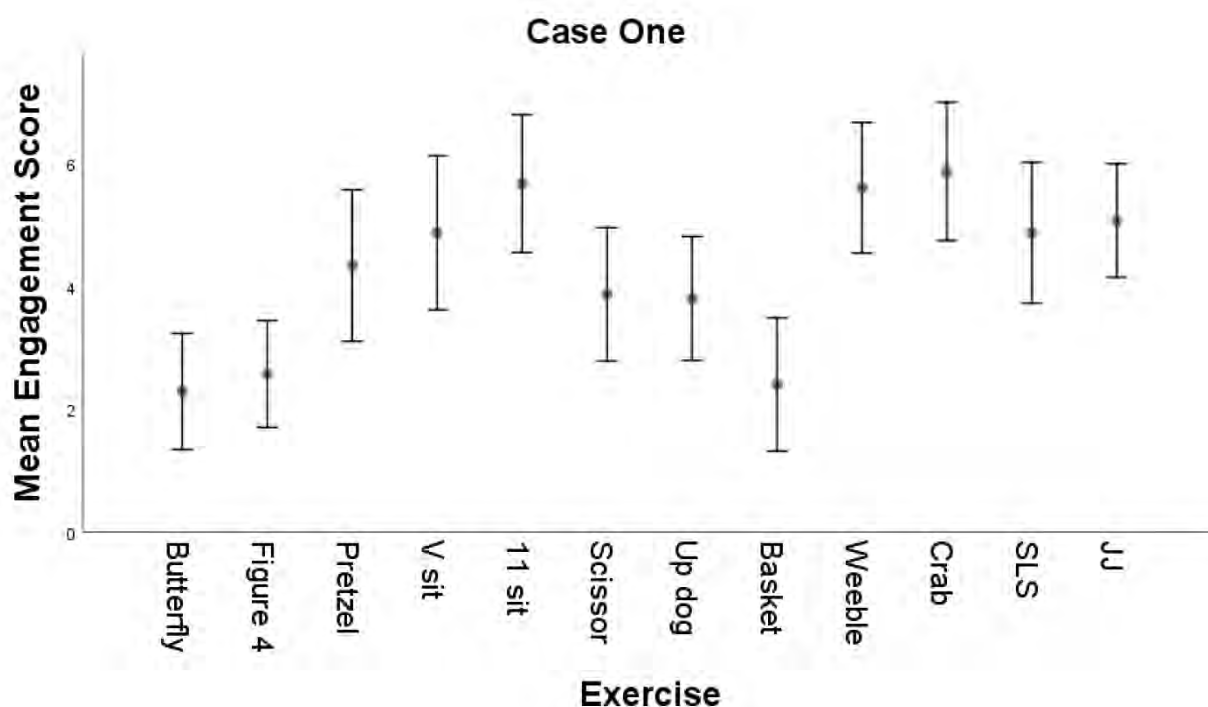


Figure 5. Engagement Score for Case 1 for all exercises during the aggregate sessions

Case 2

The scores of the student, as illustrated in Figure 6, demonstrate that the child was fairly engaged for the initial stretch items, which were easy for this individual. The child's engagement dropped off when asked to be in a position where one limb crossed the other and crossed mid-line, which is often difficult for children with motor planning issues. The child also demonstrated lower engagement for active exercises where limb strength and coordination was an issue. These results have the potential to help focus therapy intervention toward activities designed to develop arm/leg strength and motor coordination.

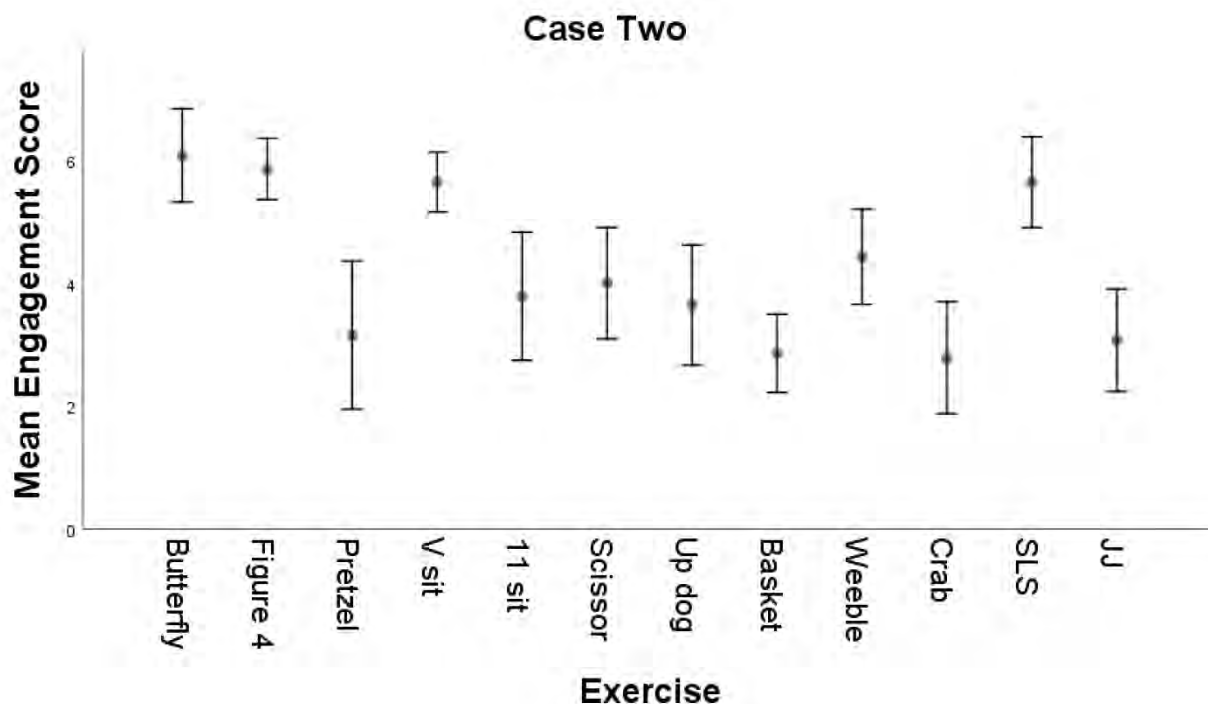


Figure 6. Engagement Score for Case 2 for all exercises during the aggregate sessions

Case 3

The level of engagement of this individual was fairly consistent throughout the sessions (Figure 7). The child's engagement rating was the lowest when performing the weeble and crab, which were arguably two of the most physically demanding exercises, requiring good trunk strength. The crab also required lifting body weight against gravity, which is more difficult for children who are overweight. The results are consistent with expectations for a child with low muscle tone and larger BMI percentile, but help provide further evidence of some functional deficits. The items for which the child demonstrated the most engagement were those that provided the most stimulation (noise, motion, giggling), such as the V sit, up dog, and basket. Some of these activities required as much effort as the weeble and crab, but the playful nature of the exercises may have contributed to the higher level of engagement. The overall impression after analyzing the data is that the child was capable of performing at a higher level than typically demonstrated and in order to encourage this individual to do so, the tasks should be very animated and provide greater sensory stimulation.

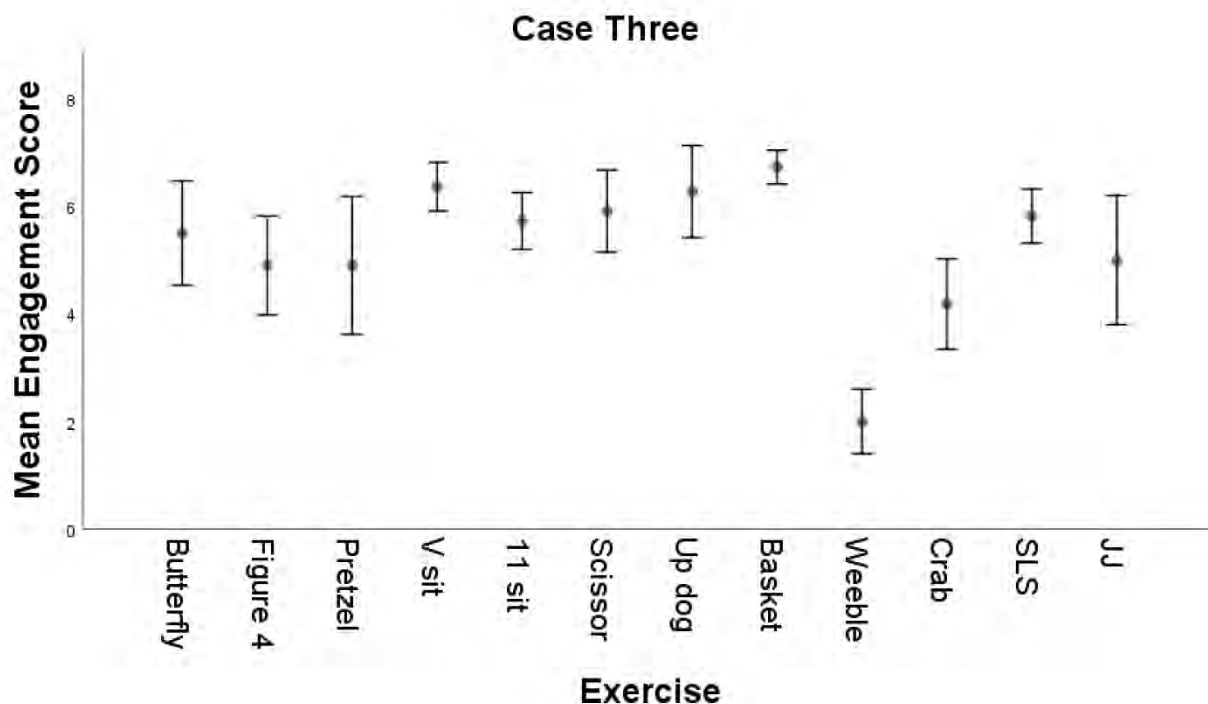


Figure 7. Engagement Score for Case 3 for all exercises during the aggregate sessions

Discussion

This study describes a process that can be used to develop tools to measure engagement for individual children with MSD. The process takes advantage of naturally occurring behaviors demonstrated during active movement. It is specifically designed to be used during a group exercise session, but many of the items could be transferred to another type of active learning situation.

The process for development of the individualized rating scales was constructed in real time. Items included in the quantification of engagement were those observed in this small subset of children with MSD, fortified by a review of the literature and by expertise of the educators and therapists involved. The list, while touching on the major categories, is by no means comprehensive when it comes to behavioral manifestations of children with MSD. As the goal of the overall project was to enable creation of individualized rating scales of engagement behavior to meet the needs of specific children, further adaptation with additions to the list is appropriate and highly encouraged. This process provides a good starting place for quantifying engagement.

The investigation of engagement can be helpful on many levels. Evidence that a child becomes less engaged during a specific task could indicate a problem with that particular activity, as is evidenced in Case 2 in the down position. This subtle difference may have gone unnoticed if not for the systematic approach to measuring engagement. Children with MSD may not be able to communicate discomfort or anxiety, or pinpoint the cause themselves. By tracking behavioral

indicators during activities, new information based on systematic observation can help to guide intervention.

Generalized assessment tools may not possess adequate sensitivity to measure differences in the behavior of a child with MSD because they may include items not relevant for that child, thus diluting the scores and invalidating the results. A standardized assessment may potentially be misleading when applied to children with MSD who display unique engagement behaviors. The individual instruments used to assess the children were quite different, based on the items chosen for each rating scale. Even the method by which each indicator was applied was different, which allowed for more flexibility. While sacrificing the ability to compare a child's results to the population at large, individualized assessment scales may be more precise in determining the need for change or modification to an intervention for a specific child.

Items on an individualized rating scale may also be developed using gestalt impression. While this measure may be more subjective in nature, there is evidence to suggest a gestalt observation of motor behavior can be as valid and reliable as other quantifiable observation techniques and may even be more sensitive and specific (Xie et al., 2016).

Limitations

It was not possible to formally test the specific engagement rubrics for overall reliability, since each participant was assessed using a unique instrument. Developing a valid individualized assessment tool is highly dependent on the familiarity of the rater with the engagement indicators of the child. The scale needs to be developed by a person who is knowledgeable about the child, as well as has expertise in developing good rubrics.

The reliance on observable physical activity to measure engagement may be inappropriate for students with profound physical limitations. Items requiring a physical response that a child is incapable of demonstrating could not be used for his/her individual assessment. This would limit the number of items available to assess engagement for a child with limited movement abilities.

Videotaping, which is fraught with confidentiality issues, cumbersome to set up, and time consuming to review, was used to collect data in this study. The developers recognize that videotaping may not be feasible in a classroom setting and a different system would need to be adopted should this process be replicated. A synchronous direct observation recording method at the time of activity may produce the same richness of data for analysis, but was not explored here.

Conclusion

The results of application of the individualized scales netted new information that could potentially influence intervention. While special educators, adapted P.E. teachers, and PTs are adept at creating individualized plans and goals for children with MSD, the use of individualized assessment tools for engagement is absent from the literature. This study provides a good start for systematizing a process for developing individualized rating scales that can be used to evaluate engagement and children's responses to changes in the activity or environment.

Understanding these effects can enhance educational planning, thus improving inclusion in school activities that are adapted to meet the needs of children with MSD.

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Appendix: A

Instructions for Designing an Individualized Rating Scale for Engagement

Step 1: Get to know the child well. Inclusion of items on the scale is only useful if those items translate to a measurement of engagement for the specific child. The rater should understand how the child behaves when engaged, and when not engaged.

Step 2: Identify the key behavioral indicator chosen from the items on the master list. Use only the descriptive bullet points that apply to the child. This should be the most important behavior in determining engagement for this particular child. Add new bullet points as needed.

Step 3: Determine if the key indicator will be on a Likert Scale of 1-7 or as a point deduction option. If using the Likert Scale option, the rubric should be clearly defined for at least lower and upper levels (1 and 7). Point deduction parameters should be clearly defined if using this option.

Step 4: Choose one or more of the remaining behaviors in order of relevance. Only those items that apply to the specific child are used, and only the appropriate bullet items should be included. This allows for precision and specificity for measurement of the individual child.

Step 5: The scale is then applied to activities of very short duration. No more than one to two minutes should be used for each grading period. If there is no clear blocking of activity, as in the exercises within a session, random samples of time can be used during longer activities.

Appendix B
Blank Form: Individualized Rating Scale for Engagement Template

Individualized Rating Scale for Engagement: Data Form							
Name:							
Physical Interactions - Grabbing/Leaning - Biting/Hitting - Kicking/Stomping	Response Time - Delay in start - Time out of activity	Posture - Position - General trunk - Repetitive motion	Active Participation Moving into or within activity	Attention/Focus - Watching leader or peers - Eye contact	Facial Expression/Vocalization - Crying - Smiling/laughing - Yelling	Effort - Performing task - Following the instructions - Allowing assistance	Adult Interaction - Verbal cues - Prompts - Physical assistance
Primary indicator: (category and specific bullet points used)		☐ <u>Likert option</u> : Description of behavior corresponding to a score of 1-7					
Choose one option		1 (worst) 2 3 4 5 6 7 (best) <!-- Empty box for drawing -->					
		☐ <u>Point deduction option</u> : Description of point deduction starting from a total of 7 points					
Second indicator: (category and specific bullet points used)		Description of point deduction					
Third Indicator:		Description of point deduction					
Fourth Indicator:		Description of point deduction					

Transforming the Narrative Identity of a Student with Extensive Support Needs Using Multiliteracies

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Abstract

This study relates the transformation of one student's narrative identity (stories told about the student by himself and others) which took place over four months as he engaged in the pedagogy of multiliteracies while creating a multimodal book with his favorite images of family and school; videos and images of his favorite activities at home and school; an identity chart with adjectives that best described him; strengths; and a transition plan describing what he wanted to do after school that was presented at the individualized education program (IEP) meeting. Grounded theory was used to analyze the data collected through interviews, observations, and video and audio recordings. Data indicated that multiliteracies enabled student agency and offered this student with extensive support needs, who had struggled to access literacy through traditional instruction, an opportunity to change his narrative identity from deficit to competence.

Keywords: disability, literacy, multiliteracies, narrative identity

Transforming the Narrative Identity of a Student with Extensive Support Needs Using Multiliteracies

The classroom teacher, in the special day class at a public high school in Northern California, remembered her first meeting with John (all names are pseudonyms). She said, "It felt like there was this huge bubble around him, and there was no breaking into it." She compared him to a fragile orchid who needed a perfect environment to be successful, and she was nervous about pushing him too much out of fear that he would have a tantrum. John's identity, or in other words, being recognized as a certain kind of person (Gee, 2016), had been established long before he entered high school. According to Sfard and Prusak (2005), narrative identities are constructed through the stories students tell and hear about themselves and others. Narrative identities have been recognized as crucial in determining the outcome of classroom learning experiences (Sfard & Prusak, 2005). Specifically, if students are perceived by teachers and peers to be academically weak in an environment, then the students internalize these stories of incompetence and are likely to perpetuate the identity of incompetence in that environment. What were the stories that John, who had been diagnosed as a student with extensive support needs (SESN), heard about himself? What were the stories that he told about himself? Is it possible that literacy practices in the classroom were aiding and abetting the construction of these stories? Could these stories be changed to tell the story of a different, capable, and successful John?

Related Literature

The Concept of Narrative Identity

Holland et al. (1998) suggest that there are two factors involved in constructing narrative identity, namely: (a) cultural narratives and (b) social participation. Cultural narratives are

stories that are told primarily by influential or *significant* narrators (Sfard & Prusak, 2005). These significant narrators may exist in schools in the form of psychologists, therapists, and teachers creating institutional narratives, including “diagnoses, certificates, diplomas, and licenses” (Sfard & Prusak, 2005, p. 18). For students with a disability, the cultural narrative is most powerfully constructed by the individualized education plan (IEP), which is central to special education and created by the significant narrators at school (Franquiz et al., 2011; Kliwer, 2008). The IEP document discusses, defines, and labels a student according to their medical or psychological diagnoses and establishes their placement in segregated settings. As a result, the IEP document can be considered the dominant cultural narrative in a student’s life (Lovitt et al., 1994). The IEP document can also be viewed as a text that embodies the *sedimented* or the thickened (Rowse & Pahl, 2007) cultural narrative of a student based on deficit labeling through years of institutionalized practices and professional opinions. Cultural narratives about students with disability also exist outside of the IEP document in the stories that school staff and parents tell about the students to each other and the students themselves.

The social participation of the student in learning also contributes to the narrative identity of the students, particularly as a result of teacher-student or peer interactions at school (Holland et al., 1998; Kliwer, 2008; Norton, 2000). Scholars have argued that literacy practices, by influencing teacher and peer perceptions of the students, play a significant role in the construction of students’ identities and the conception of their abilities (Leander & Lovvorn, 2006; Black, 2006; Cummins & Early, 2011). For example, Leander and Lovvorn (2006) showed that a young boy, who was labeled as a lazy student in his language arts and social studies classes, was actually an enthusiastic and active user when engaging in online multiuser games. The authors argued that while the literacy practices in his school did not engage him, the online games provided him with spaces to explore and improve his skills. Similarly, Black (2006) noted that Nanako, an 11-year-old recent Chinese immigrant to Canada, who was struggling academically and socially in school was able to form a different, competent identity when she got involved in a fanfiction website based on anime characters, where she could write stories about her favorite characters. Nanako found that her knowledge of Asian culture and history was an asset on the website, as she could explain the context of the characters and stories to others. Furthermore, Nanako could express herself freely without having to use conventional English grammar. In a few years, she became a popular writer on the website and had a huge fan following for her stories. Yet another compelling example of changing narrative identity using literacy practices can be seen in the work of Cummins and Early (2011), who used dual language and multimodal texts (e.g., story-writing, movie making, quilt making, poetry writing, making picture books, and powerpoint presentations) rooted in the lived experiences of the immigrant students in Canadian schools to teach literacy. These projects, referred to by the authors as *identity texts*, helped students tell their stories, increased student confidence and pride in their work, created student ownership of their learning, and enabled students to interrogate their status in their schools and community.

Even though learning environments and literacy practices have been shown to influence student identity, students need not be inert recipients of stories about themselves. The concept of narrative identity opens up the possibility of human agency and scholars have used multiliterate practices to change the students’ existing narratives. (Blackburn, 2005; Blackburn et al., 2009; Cummins & Early, 2011). Blackburn (2005) sought to transform the identity of youth who identified themselves as LGBTQ through critical literacy by encouraging student agency. By

creating a safe space in an after-school youth center in Philadelphia where they could articulate their feelings and simultaneously engage in literacy activities using various modes and genres, the researchers provided the students with a unique opportunity to redefine themselves through their work. Furthermore, they were able to become activists, disrupting existing negative notions about LGBTQ persons their peers' minds.

Alternative Literacy Pedagogies

SESN are those students with significant disabilities who are "perceived by traditional service systems as most challenging...and are most likely to need ongoing, individualized supports to participate in inclusive communities and enjoy a quality of life similar to that available to all people" (TASH, 2020, About TASH section, para 5). They are found eligible for special education services in public schools in the United States with conditions like autism, intellectual disability, visual impairment, multiple disabilities, orthopedic impairment, traumatic brain injury, and other severe health impairments. Evidence-based instructional strategies, currently recommended for SESN, include systematic instruction consisting of defining skills to be taught, collecting data and monitoring progress, a system of prompts in instruction, reinforcement procedures, and generalization of skills (Browder et al., 2014). These strategies seek to target and remedy students' internal deficiencies like cognitive, linguistic, behavioral, or motor deficits that impede the students' learning (Kleinert et al., 2009). By contrast, non-traditional pedagogies like multiliteracies can offer literacy success and student engagement by focusing on the individual's strengths.

While the traditional literacy models limit literacy to reading and writing of the print-based text, multiliteracies include various forms of representation and text, including visual, audio, gestural, and spatial (Cope & Kalantzis, 2009). Thus, multiliteracies can accommodate students who may not be fluent in the language (Kress, 2000). Additionally, multiliteracies allow for relaxation in grammar rules to appreciate the variety of text structures like texts in social media or hip-hop music (Serafini & Gee, 2017). Finally, multiliteracies perceive the readers as being more of designers who construct their experience of the text while they interact with it in many different modes (Serafini and Gee, 2017). Finally, multiliteracies deliver instruction using the four critical components, including situated practice or experiencing; overt instruction or scaffolding instruction to teach new knowledge; critical framing or interrogating the purpose and function of text; and transformed practice or the applying of new knowledge outside the classroom (Cope & Kalantzis, 2015; New London Group, 1996).

Research with SESN

Research with SESN suggests that expansive literacy practices provide positive learning and social outcomes (Kilinic et al., 2016; Collins, 2011; Kliever & Biklen, 2001). For example, in a study with preschool children Kilinic et al. (2016) found that the teachers, who initially had deficit views of SESN in their class, changed the stories they told about these students, when they saw increased competence and participation when they began to use drama along with the conventional reading of books. Similarly, Collins (2011) related the identity transformation of Christopher, an 8-year old African-American boy who was identified as an at-risk student, struggling with reading and classroom activities. When he was provided opportunities to use his talent in art in staging a student-written folktale in class, he participated enthusiastically. By demonstrating his competence in designing costumes and sets, he changed the perceptions of his

teacher and classmates about his abilities.

Furthermore, scholars who have worked with SESN have pointed to the importance in attributing meaning to all communicative attempts, belief in their competences, and providing them opportunities for success as critical elements in engaging SESN in learning activities. For example, Koppenhaver et al. (2001) noted that after one mother was asked to take her young daughter's loud noises when she saw particular pictures in a book as a sign of interest and involve her in conversations about it, the girl showed marked progress in participating in reading the book. Similarly, Kliever and Biklen (2001) described how an 11-year old student, Rebecca, a child labeled with autism along with severe speech impairments, participated in a note-passing activity with her classmates after her friends decided to attribute meaning to Rebecca's facial expressions to figure out her response to their notes. The activity eventually led to the creation of a set of symbols based on the classmates' interpretation of Rebecca's facial expressions, which she used to respond to her classmates on a regular basis.

Thus, extant literature suggests that traditional literacy practices or deficit-based instructional practices create negative narrative identities for students marginalized because of their English language learner, immigrant, sexual orientation, minority, or disability status. Scholars have also shown that using expansive notions of literacy can lead to successful learning outcomes, positive changes in perceptions of student abilities, and consequently, an empowering narrative identity. Despite the exploration of the link between expansive literacy practices and identity more broadly in educational research, there is limited research that highlights these links when teaching SESN. Therefore, it becomes necessary to investigate the role of alternative pedagogies like multiliteracies in changing the deficit narrative identities of SESN to one of competence. The purpose of this study was to explore the changes in John's narrative identity when the teacher implemented multiliteracies by using the four components of situated practice, overt instruction, critical framing, and transformed practice and by using instructional strategies gleaned from anti-deficit research discussed above. The research question that foreshadowed the study was as follows: how did the book project based on the pedagogy of multiliteracies change the John's narrative identity as defined by (a) the cultural narrative and (b) social participation in instruction?

Method

This study used a constructivist grounded theory (Charmaz, 2014; Cresswell, 2013) for data analysis. Grounded theory discovering emerging patterns in data and generating theories from this data (Glaser, 2017). Grounded theory is founded on the belief that knowledge creation is dependent on the experience in the real world (Morrell, 2008). Constructivist grounded theory uses a social justice perspective by positioning the researcher's and research participants' subjectivities and seeing data as partial and problematic (Charmaz, 2014). An IRB approval was sought and received before the research.

Setting

John attended a special day class in a public high school located in Northern California. The special day class was one of two classes for students with complex support needs at this school. The class had nine students and six para-educators. Four students used wheelchairs, and seven students used AAC devices. The students worked on reading, science, and math twice a week

for about an hour each day, participating in whole-class instruction, small groups, or individual instruction. They spent the rest of the time in the community, doing campus jobs, working at a district café run by SCSN from all schools in the district, adaptive physical education, or going to a general education elective.

Participants

The teacher was Latin-American in her late twenties and was working in the school for a second year while earning her credential at a local state university. Of the six paraeducators Mike, Sean, Martha, and Caryl were White (all names are pseudonyms), Sam was African-American, and Joe was Latin-American. The teacher selected John for the study based on the timeline of his IEP. John was a White 15-year-old ninth-grader, diagnosed with autism and visual impairment in his IEP. He could read, write, and type with some teacher assistance. The researcher obtained parental consent to work with John and sought John's consent verbally to participate in the study giving him the option to withdraw if he did not want to continue at any time.

Procedures

The teacher worked with John for eight sessions each lasting 40 minutes, to create a digital, multimodal book on Book Creator (www.bookcreator.com), that included his favorite images of family and school; videos and images that he recorded, of his favorite activities at home and school, that; an identity chart with adjectives that best described him; activities that he identified as his strengths; and a transition plan describing what he wanted to do after school. John presented this book at the IEP meeting as a culminating activity for the project.

The student-authored multimodal book project embodied the four components of multiliteracies in its design (Cope & Kalantzis, 2015). Situated practice was embedded by situating the project in John's daily life and experiences at home and school; overt instruction by the teaching how to use the application Book Creator, vocabulary, and sentence construction for all the activities of the book project; critical framing by John's assessments of what he liked to do at school, what he was good at, and the creation of his identity chart; and finally transformed practice by John presenting at the IEP meeting. The teacher used an anti-deficit pedagogy to develop the principles of instruction for the project. The teacher considered verbal responses, facial expression, gestures, body movement, images, and videos as demonstrations of literacy to accommodate for multimodality of expression and instruction. Further, she attributed meaning to all communicative attempts, including student verbalizations or gestures. Additionally, she considered all of John's selections to be meaningful and not random, thereby demonstrating her belief in his competence. Finally, the teacher provided complete accessibility to all materials used in the project, there were no wrong answers, and John could use the tablet and produce media independently.

Data collection included 8 hours and 14 minutes of interviews with the mother, teacher, and paraeducators; 11 hours of ongoing conversations with staff; 12 instructional sessions recorded on video lasting 10 hours and 15 minutes; and 16 hours and 37 minutes of researcher observations in the classroom. In-person interviews were recorded using a digital recorder and transcribed verbatim. Initial interviews were open-ended in keeping with the grounded theory approach, and later interviews were more specific after some themes had emerged from the data (Merriam, 2007). During the in-person interviews, the researcher took notes soon after to capture

any of the body language or unusually long silences (Charmaz, 2014). The researcher recorded all ongoing conversations, some with the digital recorder and some with written notes after the conversation. These conversations were not scheduled and occurred randomly whenever opportunities for conversation with classroom staff arose.

The teacher set up the camera on a desk near the student and focused primarily on the student. The video transcriptions included student's gestures, facial expressions, and emotions, which were included in the coding of student's responses and intentions. The observational field notes were mostly reflective, including feelings, reactions, and speculations (Merriam, 2007) of the other students, paraeducators, and the classroom teacher. The researcher also examined the digital book and teacher material in-depth to give information about the student's intentions and the instructional process.

Initial coding of interview transcripts and the IEP document yielded 30 initial codes, followed by focused coding, which were meaningful to the analysis yielding 14 focus codes, ending in the final four thematic codes shown in Table 1. Further, the researcher coded the transcripts of student-teacher interactions in each session to yield five final thematic codes, from 26 initial codes and 10 focused codes as shown in Table 1.

Trustworthiness

Trustworthiness was ensured by a rigorous member checking and triangulation of data. Data from the video, interviews, and classroom observation were compared to ensure the accuracy of the interpretations. The researcher also got feedback on the conclusions of the study from the teacher, parent, and staff as part of member checking. In addition, the teacher and paraeducators gave their feedback on ten recordings of their choice of the sessions, which was compared to the coded conclusions. Finally, the researcher received the mother's input into the interpretation of John's gestures, facial expressions, and verbalizations, which confirmed the researcher's interpretation in more than 95% of the instances.

The researcher's positionality was determined by her experiences as a middle school classroom teacher in a self-contained classroom with SCSN, faculty in a teacher credential program, and a parent of a child with autism informed this study. These roles of the researcher played a big part in the study's framing, in establishing close relationships with the teacher, parents, and staff, and in analyzing the student gestures and responses. Thus, the research was mediated by the lens of the researcher conditioned by her lived experiences.

Table 1

Inductively developed thematic, concept codes

Thematic code	Concept code	Definition
Participation	Passive	Student does not respond to direct questions; does not initiate on-topic conversation; body language shows distraction by looking away; engages in activities other than topic
	Active	Student responds to direct questions; initiates on-topic conversation; body language shows attention by

		looking at materials or teacher; engages with the topic material and activities
Comprehension	Poor understanding of material	Student needs maximum prompts to respond to questions; student cannot follow directions of the teacher
	Good understanding of material	Student responds promptly; demonstrates by response understanding of the material; follows directions promptly and accurately
Expectations	Low Expectations	Adults do not expect student to perform the task; adults use words and phrases that doubt the ability of the student; adults believe the task is too hard for the student; adults use words and phrases to indicate that the student needs low-level tasks
	High Expectations	Adults expect the student to perform the task; adults use words and phrases to indicate belief in the ability of the student; adults believe that the task was within the ability of the student; adults use words and phrases to indicate that the student needs to be challenged with higher level tasks
Anxiety	Low Anxiety	Student displays behaviors that are self-calming like bouncing, rocking, putting face down, covering his face, obsessing about being touched or touching, starting off-topic conversations, covering ears, screaming
	High Anxiety	Student displays behaviors like smiling, talking on-topic, looking at the teacher or materials, and talking softly
Teacher reaction to student response	External reward	Teacher praised compliance and promised external reward; teacher reminded student of external reward for answering; teacher gave external reward after work
	Redirection	Teacher redirected the behavior of the student verbally; teacher reminded student of what they were doing; teacher reminded student of rules; teacher reminded student of remaining work
	Cessation	Teacher moved on to another student; teacher stopped asking questions
	Enthusiasm	Teacher responded enthusiastically to student response verbally or through body language/facial expression; teacher showed interest at the student response; teacher wanted more information.
Teacher beliefs of the student ability	Incompetence	Teacher expected low-level responses; prompted student to repeat answer; pointed to the answer; or praised student for mere compliance
	Competence	Teacher encouraged student to explore higher level thinking (e.g., "How do you feel when you see this?");

		independent use of the tablet; attempted more complex tasks (e.g., three step sequences)
Control of Instruction	Teacher control of instruction	Teacher was in control of material produced for instruction. The teacher presented material and asks questions testing understanding
	Student control of instruction	Student had control over the material produced for instruction. Student was able to direct the teacher-student interaction to areas of his interest.
Length of teacher-student exchange	One exchange	Teacher asked a question and student responded or did not respond.
	More than one exchange related to the topic	Teacher-student exchanges continued over more than one exchange in conversation over the topic.
Content and material	Same level of instruction/content	Teacher presented the same content and instruction to the student over several sessions; teacher did not see mastery of content.
	Higher level of content and instruction	Teacher changed the content to make it more complex (e.g., new vocabulary; typing more sentences; changing font, size and color of text)

Findings

The Construction of Deficit Identity

The Cultural Narrative

Although all the participants agreed that John was a sweet and affectionate boy, John's deficit identity was clearly evident in their language. The dominant themes in the cultural narrative surrounding John were passive participation, poor comprehension, low expectations, and high anxiety.

Passive Participation. The teacher believed that John was not an active learner. She remarked, "He won't look at the screen or me, but I think he's paying attention." His mother commented on his passive learning style saying, "he'll kind of roll around on his bed and zone out, but he's listening, you know...". John did not like to be tested or questioned, and consequently, people who worked with him had learned to keep talking to him without expecting any response from him. The para-educators in the class said that John was compliant, but his engagement stopped there. He would follow directions, but he had never initiated learning in the classroom. One para-educator also said that he resisted hard work and would find ways to avoid doing anything complicated. The IEP document described John as a disengaged student who needed prompts from the teacher to get started on tasks, spell words, look at the projector screen, write details on his journal, and "...verbalize other than saying, 'Hi'".

Poor Comprehension. Data from the interviews and the IEP document indicated that John was seen as a student with low I.Q. and poor comprehension. The IEP document described his efforts at answering basic comprehension questions and commented on his progress as being "less

resistant to doing math” that year. His current teacher was not sure about how much he understood during class instruction. Even his mother voiced doubts about his understanding, saying, “it’s pretty apparent to me... feels to me like he is not comprehending.”

Low Expectations. The IEP document had little to say about teaching John academics or addressing higher-order thinking skills and instead focused on his participation in vocational skills and community-based activities. The teacher and staff did not expect him to learn quickly and mentioned that he needed repetitive and structured tasks to keep him calm.

High Anxiety. The teacher mentioned that she felt like John was in his own little world all the time, and “with John, it felt like there was this huge bubble around him, and there was no breaking into it.” She compared him to a fragile orchid who needed a perfect environment to be successful, and she was nervous about pushing him too much out of fear that he would have a tantrum. The para-educators believed that many of his behaviors, including his rocking, bouncing on the chair, playing with his hair, putting his face down with his hands on his face, obsessing about people touching him or talking off topic, were all his ways of coping with the environment. “He can’t deal with the level of noise in the classroom”, said Martha. They described John as being easily frustrated, needing frequent breaks, needing lower cognitive load, and a perfect working environment. The IEP described John’s behaviors in detail. He was sensitive to bird sounds, the feel and smell of clothing, proximity of people, being touched, and noisy environments. The teacher suggested, “taking turns (with his aide/teacher) to type sentences on days when he is less tolerant helps John complete the assigned activity with less frustration.” Further, the IEP document noted, “When John is upset, he may scream or cry loudly, hit himself or objects around him, throw items that are within his reach, stomp his feet or thrash in his seat.....”. Thus, the cultural narrative surrounding John was that of deficit and deficiency. Teachers and staff were careful not to challenge him academically because they were convinced that he would react with anxiety and trauma to hard work.

The Narrative from Social Participation

Coding the instructional sequences of the traditional and multiliteracies sessions yielded five final thematic codes, including teacher response to the student, teacher beliefs about student ability, control of instruction, length of teacher-student exchanges, and the nature of the content or material. During the traditional sessions, the teacher’s response to John was characterized by the promise of external rewards, redirection of behavior to more appropriate behavior, and reminders of the task they were doing. The teacher’s beliefs of student ability were that of low expectations and incompetence, characterized by the teacher expecting low-level responses after maximum prompting like giving the answer to the question and only demanding that John repeat it, or pointing to the answer, or praising the student for mere compliance. The teacher was in control of all the instruction and the instructional materials, and the content did not change over several sessions because the teacher was not convinced that John had mastered the material. Finally, the length of the teacher-student exchanges was brief, with one question and response. Table 2 demonstrates these themes during a traditional literacy session in which John participates in reading a modified novel *Frankenstein* along with his class. John was only slightly engaged by the teacher-made material (by his brief glances at the screen), and he did not display much excitement or affect. The teacher asked mostly factual questions, testing student comprehension and recall, which got a limited response, with a lot of prompting from the teacher. John showed

that he was anxious and tried to show through his body language that he wanted to avoid participation. John's behaviors and engagement fed into the teacher's belief of student incompetence, and when he did not respond to her question, she moved on to another student. Thus, the narrative generated by John's social participation in the classroom was also one of deficit and disinterest.

John's Identity Transformation

The Cultural Narrative

The coding from the interviews and the presentation at the final IEP meeting yielded strikingly different themes of active participation, good comprehension, high expectations, and low anxiety.

Active Participation. John's identity transformation began almost as soon as he started creating the multimodal book on the tablet application. Video transcripts suggest that he began to show interest and enthusiasm in the activity. At the IEP meeting, John participated with enthusiasm. For example, he pointed to the iPad almost immediately as he entered the conference room and said, "we are going to see Ms. I's iPad", and then looked at the researcher and said, "you are going to watch the video on Ms. I's iPad." Without any prompting, John walked up to the screen and pointed to the pictures and read the sentences. He needed only a brief prompt to move on to the next page. He commented on the pictures too, adding details about the vacation, houseboat, some of which the teacher and the researcher had not heard before. He read out all the words in his identity chart. Then he pointed to each video and his favorite activities and commented on them, describing them clearly. For example, he said, "Jenna and Mia in the park." He also described where the activities were happening at school. For example, he said "P.E. with Mr. Chen in the gym," and "we are having brunch in the cafeteria."

Good Comprehension. Identity Chart. John created an identity chart as part of the project, selecting words that best described him. The teacher had a list of 50 identifiers, which she read out in batches of 10, explaining each vocabulary word with everyday examples (e.g., "independent means you like to do things by yourself, like picking your clothes, picking your lunch..."). John registered his choice by circling the words on a sheet of paper. He selected happy, caring, excited, proud, patient, brave, smart, giving, aware, and hardworking. After picking ten words, John wanted to add the word "safe" to the list. Martha, a para-educator, felt that John was repeating what he had heard in the classroom, where staff often tell students to be safe, especially when they are anxious or agitated. Her remarks also suggested that John displayed a keen understanding of classroom instruction.

Favorite Activities. When John selected his favorite activities at school, the staff was surprised to see activities they knew John liked because earlier they did not think John was aware of his preferences. Sam, a paraeducator, said, "It's common knowledge, you know, that John loves to go to the cafeteria, and he loves his lunch buddy, Mary. Wow! He picked those." John picked as his favorite activities at school the following: campus jobs, P.E. with Mr. C., money math, P's Café, Cafeteria time, brunch, yoga, Best Buddies program, adaptive physical education, and science. Mr. C was the general education P.E. teacher, and P's Café was a student-run café in the district office. John's mother also confirmed that he had picked activities that he truly enjoyed at

home, including sailing, going to the beach with Mom, walking in the backyard with friends, and gym class.

Strengths. Additionally, John displayed self-awareness when he selected activities that he believed that he was good at, using a list from a commercial program that was used in classroom transition planning. The program displayed choices in the form of activities (e.g., camping, building, working in groups) from the everyday lives of students at school and home. The teacher explained these choices with pictures and videos. While the teacher had felt before the lesson that these concepts would be hard to teach, she was pleasantly surprised at the “focus and co-operation” that John showed. John listed his strengths as caring for the planet, working in groups, building things, science, making friends, helping with yard work, music, math, playing on the computer, P.E., learning to be healthy, and following rules.

High Expectations. John’s mother pondered over the presentation and his choice of favorite activities at school. Her takeaway was that by choosing activities like John had chosen Best Buddies and P.E., John clearly showed that he wanted more time to spend with his typical peers. She was determined to advocate for him to get him into more inclusive settings. Further, the teacher and staff were surprised to see academic subjects in the list of his favorite activities, shattering the stereotypical notions they had about John being disinterested in academics. The teacher was thrilled. “Hmm...,” she pondered, “I may need to do more units in science.” The teacher revealed that she was amazed at John’s reaction to the book project. She remarked, “What surprised me ... was how intentional their (referring to both students in this study) communication was”. This comment was in contrast to her remarks prior to the project, when she had found it difficult to get the students to participate in the classroom instruction. She had remarked, “I always perceived him as able to do something, but not necessarily willing to do it.” Initially, she had doubts about how the instruction would work remarking, “When we first started this endeavor, I doubted that we would get such genuine answers from both participants. The part about “Who Am I” blew me away!”. Additionally, there was a huge shift in the perceptions of the staff about John’s ability. While they had previously grown accustomed to the idea that John was distracted and non-responsive, needing perfect environments and frequent breaks to work, now they saw him in a new light. They saw him engaged for extended periods with no external reward in many sessions, saw him enthusiastically participating in hard activities.

Low Anxiety. Video transcripts of the instructional sessions and the observation notes at the IEP meeting indicated that John did not display the self-calming strategies like rocking, playing with his hair, putting his face down with his hands on his face, obsessing about people touching him or talking off-topic were all his ways of coping with the environment, that were observed in earlier classroom instructional sessions. His body language was relaxed, as evidenced by frequent smiles and a minimum of the self-calming behaviors observed earlier. The teacher pointedly remarked that John demonstrated during the sessions that “the environment can be chaotic, and he can cope.”

Changes in Social Participation

During the multiliteracies sessions, the teacher’s response to John was characterized by enthusiastic responses verbally or through her body language/facial expression; the teacher showed interest in John’s responses; and the teacher wanted more information about what John

had just said. The teacher beliefs of John's ability were that of competence and high expectation, characterized by the encouragement to explore higher level thinking (e.g., "How do you feel when you see this?"); allowing John to independently use the tablet; and encouraging more complex tasks (e.g., three step sequences in the application). Additionally, John had control over the material produced for instruction and directed the interaction to areas of his interest. The teacher-student exchanges were longer lasting for more than two exchanges between teacher and John, sometimes running up to six. In the multiliteracies example shown in Table 2, John was involved in typing sentences about pictures he had selected earlier. When presented with the co-constructed material from earlier sessions, he reacted with affect and engagement. His responses were immediate and enthusiastic. His responses, in turn, elicited reciprocation by the teacher, who guided him into new learning spaces. The teacher withheld prompts and allowed John to type the sentence by himself. John responded by creating a space for problem-solving and showing sustained attention to the task. These behaviors fed into teacher beliefs in his competence.

Table 2

Transcripts of Recorded Observations of John and Ethan during Traditional Instruction in the Classroom

John (November 14, 2017)	John (January 9, 2018)
<i>The teacher is doing a lesson on the novel Frankenstein. John is bouncing in his chair. When the lights are turned off, he looks briefly at the screen and then down again. He yawns, hands on head, face down. He glances up at the screen and down again. He yawns and puts his hand on his face. The video starts and John looks up for a moment. A loud sound is heard on the video, and he glances at the screen for a second. He looks down again. He starts bouncing on his chair.</i> 3 Teacher: The narrator said, “exhausted”-that means very tired. 4 John: Very... We’re listening. 5 Teacher: Yes, we’re listening. We’re trying to listen. It’s very loud in here, but we’re listening. The narrator said that Dr. Frankenstein was very exhausted. Very exhausted means very tired. So, what does very exhausted mean?....very..... 6 John: Tired. 7 Teacher: Thank you, John. <i>The video continues. The teacher continues to explain vocabulary and ask questions of other students. John is bouncing on the chair.</i> 8 Teacher: Hey, John, are you ready to do a little bit of reading? <i>The teacher turns on the PowerPoint presentation. John starts to play with his hair. The teacher looks at John, shaking her head.</i> 9 Teacher: John, can you read this? <i>John bounces on his chair. Teacher reads from the power point and John puts his face down on the desk.</i> 10 Teacher: What two things interested the doctor? <i>Another student gives the answer.</i>	121 Teacher: Okay. Now we are going to look at two pictures and you are going to tell me which one you want to write a sentence on. We have the picture with mom and dad. I don’t know where you are...and a selfie of you, do you want to write a sentence on this picture or this picture? 122 John: This picture...<i>pointing to the selfie.</i> 123 Teacher: (nods) What do you want to say about this picture. It’s a beautiful picture, by the way. 124 John: I went sailing on a sail boat. <i>John looks at the iPad.</i> 125 Teacher: (pointing to the iPad) Add the text, I went sailing on the sail boat. <i>John presses the plus icon (whispers something)</i> 126 Teacher: Yes, the one with the big T. <i>John presses the T to add text and starts typing.</i> 127 Teacher: Good! <i>John stops typing and looks at the teacher. The teacher waits for a few seconds</i> 128 Teacher: What do you say? 129 John: I am stuck. 130 Teacher: Well, you did a good job typing “I went” by yourself. You need a space after “t”, you had the right idea buddy. I saw you type in “s”. <i>John deletes the “s” and adds a space and continues typing.</i> 131 Teacher: Good correcting yourself. <i>John keeps typing. He presses delete.</i> 132 John: OHHH! 133 Teacher: That’s okay, you just press delete one more time and it fixes it. You just press delete one more

- 11 Teacher: Great! What else John...?
Look up here... you have a hint. The wonder of life had always interested Dr. Frankenstein. What interested Dr. Frankenstein? *John does not answer. The teacher asks another student.*
- time and it fixes it. *John presses delete and corrects the error.*
- 134 Teacher: No problem, see? Problem solved. Put a space in there before you type in the word, and now it's all yours. *John continues to type the sentence on the iPad.*
- 135 John: I went sailing on the
- 136 Teacher: on the....
- 137 John: On the sailboat.
- 138 Teacher: There you go, my friend. You did a great job typing the sentence all by yourself.
- 139 John: Good job!
- 140 Teacher: Good job, absolutely!
Remember, if you are done, show me you are done by pressing done.
-

Discussion

John was able to tell his story when provided with tools and instruction that allowed him to be successful. His story was that of a boy who loved going out on holidays with his family, enjoyed sailing, longed to be with his friends, and was interested in academics, including science and math. He believed that he was, among other things, smart, giving, caring, hard-working, and happy. He surprised the classroom staff with his self-awareness and ability to learn. His performance in the multiliteracies sessions showed the teacher and classroom staff his potential, in stark contrast to the story that the IEP document told about him as a passive and an unenthusiastic student, often unable to access school activities because of his anxiety.

The story of the reconstruction of John's identity is an example of how pedagogical practices can be instrumental in changing SEN's narrative identities (Black, 2006; Cummins & Early, 2011; Early and Gunderson, 1993). The creation of the multimodal book was a powerful tool for organizing literacy practices around multiliteracies, and the book-making process involved sedimentation of new identities for John (Rosswell & Pahl, 2007) as he began to have control over his own narrative. This study showed that SEN's narrative identity can be changed by addressing two processes: the cultural narrative and social participation. First, this study changed the cultural narrative during the IEP meeting with John demonstrating his competence and providing his authentic input to the IEP document. Secondly, this study changed the social participation dynamics during instruction. This study demonstrated that classroom literacy practices are not politically neutral (Luke and Freebody, 1999). Traditional teaching reinforced the John's deficit identity and pushed the narrative of his incompetence, while multiliteracies teaching promoted the narrative of his engagement and competence. Traditional teaching kept John at existing skill levels by constant repetition of content already presented, while multiliteracies teaching created new learning spaces guided by enthusiastic teacher responses. This study supports the argument of previous scholars that student identities of competence are promoted when pedagogical practices allow for active student control of instruction, are responsive to the students' cultural histories, and use multiple modes of representation. (Early & Gunderson, 1993; Leander & Lovvorn, 2006; Black, 2006; Blackburn, 2005).

Sfard and Prusak (2005) suggest that narrative identities can be first person identity, i.e., the stories a person tells about himself; second person identity, i.e., the stories told about the person by others to him; and third-person identity, i.e., the stories told about the person by a third party to a third party. This study was able to address all these identities within the project. John was able to narrate a different story about himself; the multiliteracies instruction was able to change the story the teacher told John about him; and finally, the project resulted in changing the teacher, parent, and staff perceptions about John.

This study also showed the relevance of agency in changing the identity of students with complex support needs (Blackburn, 2005; Holland, Lachiotte, Skinner and Cain, 1998). John presented an alternate student identity to the IEP team members while also projecting new notions of his competence. John's mother was so taken by the presentation that she remarked, "my head was spinning. I was so overwhelmed. I was so proud of him. I was so pleased that I was so, to some extent, surprised." She believed that the students should present at every IEP meeting and the teacher should be encouraged to do this project with all other students.

Limitations, Future Research, and Conclusion

One limitation of this study was that it required individualized instruction for John. The teacher had to set aside about 40 minutes of one-on-one time for each session to allow him to direct his own learning freely. It could be argued that this model may be unrealistic given the time constraints that a teacher has to face and the number of students that need to be attended to daily. However, it must be recognized that Individuals with Disabilities Education Act (IDEA) requires that all education programs be individualized for students with disabilities. Further, it is conceivable that paraprofessionals can be trained to implement these plans with students with guidance from the teacher. Finally, the study showed the value of this process in that even a short duration of an empowering pedagogy effected significant changes in the narrative identity of the student.

Future research is needed to explore alternative literacy practices and their effects on the narrative identity of SESN. While this study focused on audio, video, and written input by the students, future research can explore other diverse modes by which students with complex support needs can participate successfully in the classroom or IEP meetings. Further research on the use of deficit language in the IEP document can also alert educators about how the IEP document and the process construct a negative narrative identity of students with complex support needs.

Results from this study suggest that designing literacy activities using multiliteracies can give students who are struggling with conventional literacy practices an opportunity to rewrite their narrative identities. It is up to educators to rise to the challenge of adopting new literacy practices to change the dominant narrative that students with complex support needs have no ideas of their own or any stories to tell (Kliewer, 2008).

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