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Now, We Understand: The Perceptions of Elementary Dyslexia Interventionists on the Intersectionality of Dyslexia and Culturally Responsive Teaching

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Abstract

Dyslexia intervention, which is needed for one in five children worldwide, and culturally responsive teaching practices (CRT) require explicit instruction for implementation with elementary students with dyslexia characteristics. Culturally responsive teaching practices recognize the importance of including the cultural backgrounds and identities of students when planning and implementing instruction. This is a qualitative study aimed to examine the perceptions of elementary dyslexia interventionists towards the use of incorporating culturally responsive teaching into their practice. Data were collected by engaging five elementary dyslexia interventionists in a focus group interview to gain information used to plan and to implement culturally responsive professional development that was followed by individual interviews and classroom observations. To ensure reliability, the authors of this article first independently coded data to identify initial themes and then discussed our coding findings until we reached 100% interscorer agreement. Next, the initial themes were organized by their significance and developing categories. Again, the authors independently coded and

determined the five themes reported in this study. The results of this study reveal the perceptions of dyslexia interventionists to be at a high degree of confidence and fidelity in integrating CRT practices into their instruction. Ladson-Billings' influence regarding CRT assisted the authors in identifying ways to provide a more impactful conversation about dyslexia instructions that incorporates using CRT practices with students with dyslexia characteristics.

Keywords: dyslexia, culturally responsive teaching, interventionist, professional development

Recently, educators and parents have noticed an increase in the attention given to the discussion of dyslexia practices and policies; although, dyslexia and its connection to brain function have been studied by researchers for over one hundred years (Kerr, 1897; Morgan, 1896). Today in the United States, a dyslexia characteristic of struggling to decode words is common and affects nearly 20% of the population (Shaywitz, 2020). This means approximately one in five students are impacted by dyslexia (Keeseey, 2020; Shaywitz, 2020). However, educators and researchers have not determined the exact patterning characteristics that distinguish dyslexia from other reading deficits (Elliot & Grigorenko, 2014) and question the existence of dyslexia because of not having a clearly identified definition and protocol for instruction (Elliott & Grigorenko, 2014; Stanovich, 1994). Although the National Assessment of Educational Progress (2020) reported that by fourth grade 50% of black students and 48% of Hispanic students read below their grade-level, there is not clear data within this statistic to indicate the percent of students with dyslexia characteristics. This statistic needs attention in determining an instructional intervention to assist with the reduction of reading deficits among minority students including students with dyslexia characteristics. Currently, there is literature that discusses the positive impact of instruction that incorporates culture and culturally responsiveness for general and remediation instructional practices (Bonner, 2009; Bonner & Warren, 2018; Cartledge & Kourea, 2008; Griner & Stewart, 2013; Walter, 2018). However, culture and culturally responsive teaching (CRT) practices used in instruction to assist with the remediation of reading deficits among students with characteristics of dyslexia have received minimal attention. Although dyslexia intervention programs should be delivered with fidelity, it is important for teachers to incorporate other approaches that

compliment dyslexia instruction. This complement to dyslexia instruction could include implementing CRT practices that would encourage teachers to be culturally conscious of their students' backgrounds and funds of knowledge (Esteban-Guitart & Moll, 2014) while implementing dyslexia intervention strategies. Teachers' experiences are informed, in part, by the context in which they practice their craft (Author et al., 2017). Therefore, recognizing the perceptions of elementary dyslexia interventionists, educators who have received specialized dyslexia training, on the topic of implementing CRT practices is an essential consideration in moving forward with meaningful and engaging instruction.

This article discusses the educational advantages five elementary dyslexia interventionists found following two professional development (PD) sessions presented by their district-level dyslexia specialist (Researcher One in this study) that supported their learning and understanding of ways to integrate CRT practices into their instruction. Over time and before this study, the dyslexia specialist noticed their district-level culturally diverse elementary students with dyslexic characteristics often demonstrated minimal yearly achievement progress. The dyslexia specialist also noticed that their district-level PD did not include a CRT discussion or encourage the use of CRT practices with their students with dyslexia characteristics. During district-level discussions with the elementary interventionists, the dyslexia specialist noticed words emerging from the discussions such as multisensory, explicit, systematic, evidenced-based, and program fidelity as staples when describing dyslexia instruction. The "big" reveal was that CRT was missing from these discussions. As the dyslexia specialist involved the interventionists in discussions and demonstrated several examples of CRT practices during district-level meetings, enthusiasm was noticed. Consequently, this left the dyslexia specialist wondering if the limited yearly academic progress among some of their elementary students could be attributed to dyslexia instruction not being inclusive of using CRT practices. Furthermore, the dyslexia specialist noticed that after researching several elementary dyslexia intervention programs, the lack of connecting the culture of students was an integral component absent from dyslexia PD and other instructional practices. The discussion involving the elementary dyslexia interventionists indicated that their classrooms, like many classrooms in this country, are shifting with an increase of cultural and linguistic diversity among their students (Author, 2021; Kena et al., 2016).

As the consideration to determine an effective approach to provide new learning for the elementary dyslexia interventionists incorporating CRT practices, the use of PD sessions was

considered as an appropriate approach to use to build and strengthen this capacity among the dyslexia interventionists (Darling-Hammond et al., 2017). Culturally responsive teaching practices are multifaceted and require ongoing development of one's understanding and application for successful implementation. The purpose of this study was to introduce CRT practices through two PD sessions for five elementary dyslexia interventionists, followed by interviews and classroom observations, to support interventionists in learning to incorporate their students' cultural backgrounds and identities when planning and implementing instruction. The authors of this article view PD as one avenue to provide dyslexia interventionists with a "hook" to complement the explicit and systematic instruction required for effective dyslexia intervention. This "hook" equates to an instructional approach a teacher would design and deliver to engage students in learning in a meaningful environment. Kozleski (2010) states, "considering how to approach curriculum and incorporating multiple paradigms in the way curriculum is delivered and experienced is an important part of culturally responsive teaching" (p.3).

Theoretical Framework

As the theoretical frame for this study, we used Ladson-Billings's (1994) culturally responsive teaching reference. According to Ladson-Billings (1994) and Kozleski (2010), referencing the identities and backgrounds of students from non-dominant cultures can assist in helping students navigate their academic environments. Culturally responsive teaching is characterized as a core multicultural principle used to define an approach that considers all learners (Golnick & Chinn, 2004). Because CRT is open to investigation that encourages extended development, it provides a space for the consideration of multiple perceptions and in this study, perceptions from five elementary dyslexia interventionists.

As educators, we are continuously exploring approaches that will provide successful outcomes for our students. Using CRT to complement dyslexia intervention could enable students to view themselves as successful learners. In our current educational system, teachers are often focused on their students' academic performance on state assessments. However, Gay (2018) explains that "academic outcomes for ethnically and culturally diverse students should include more than cognitive performances in academic subjects and standardized test scores" (p. 15). The emphasis on academic achievement without an integrated approach, such as CRT, can cause students with the characteristics of dyslexia to be at a disadvantage.

Unpacking the Dyslexia Lens

Because dyslexia is believed to impact one in five children worldwide, educators should understand the meaning of dyslexia. Therefore, we provide the following definitions of dyslexia that were discussed during the PD sessions presented in this study. “The word dyslexia is made up of two different parts: “dys” meaning not or difficult, and “lexia” which is the meaning of words, reading, or language” (Hudson, High, & Al Otaiba, 2007, p. 1). One of the most used definitions of dyslexia is that it is a learning disability that is neurobiological in origin (Lyon et al., 2003). Basically, dyslexia is a language-based cognitive disruption in a person that originates in the brain and is not acquired from a health situation that is a temporary trait that will vanish with time. Mather & Wendling (2012) further explain that people are born with dyslexia characteristics that are genetic and often occur in 30% to 50% of children with parents who present with dyslexic characteristics.

Shaywitz (2003) explains that based on brain research, dyslexic readers show an under activation of neural pathways in the back of the brain, which consequently makes it difficult for students with dyslexic characteristics to analyze words and transform letters into sounds. Furthermore, dyslexia is not caused by socioeconomic status or environmental factors as Wadlington and Wadlington (2005) found through a survey of educators that understood dyslexia is not a result of these factors. Studies have examined language development and the effects home experiences and socioeconomic status have on cumulative vocabulary development (Hart & Risley, 1995). Minimal exposure to language and inconsistent educational opportunities can substantially limit a student’s reading success. However, this is not the same as being identified as dyslexic. The definitions became one discussion item as the PD sessions were designed.

The Components of Dyslexia Instruction

Reading instruction for students with dyslexia characteristics is sequentially delivered with intensity (Shaywitz, 2003). Instruction is generally explicitly taught and focused on literacy skill development in the following areas: phonological awareness, alphabetic principle, syllabication, orthography, morphology, syntax, reading comprehension, and reading fluency (Pennington, 1991). Dyslexia instruction presents an explicit and systematic approach and repetition of skills on the reading continuum through reading intervention program to remediate dyslexia. These remediation programs can evoke brain plasticity that can be

described as normalization, bringing functional or and structural patterns closer to what is seen in typical readers or compensation, altering functional or structural patterns in neural networks that are outside the typical reading network (D’Mello & Gabrieli, 2018, p. 804).

Often, instruction will begin with a focus on the foundational skills on the reading continuum, starting with phonological awareness and eventually move to the development of reading comprehension. Dyslexia intervention programs are structured and organized to explicitly and systematically teach skills that address reading deficits, and dyslexia interventionists are prepared to implement dyslexia instructional programs with fidelity. These programs require immediate feedback and continued scaffolding of reading concepts. Dyslexia instruction is most impactful when students are diagnosis and treated for dyslexia at an early age. Early identification is important because the brain is much more plastic in younger children and potentially more malleable for the rerouting of neural circuits (Shaywitz, 2020, p.30). The primary goal of a dyslexia interventionist is to assist students in becoming skilled readers by providing instruction to support reading development.

Taking-on Culturally Responsive Teaching

Musu-Gillette et al. (2016) suggested that teachers in the United States are experiencing an increase in cultural and linguistic diversity among students in classroom settings. Banks (1994) and Ladson-Billings (1995) were early in establishing an argument that promoted the inclusion of the background students bring into their classroom settings. Milner (2011) and Rhodes and Schmidt (2018) also contributed to the conversation that supported the inclusion of students’ cultures and backgrounds when designing and implementing instruction. As culturally responsive educators, we must first recognize that CRT is not a set of strategies to yield student success; but is a lens to guide instructional practices. As educators, we are on a continuous journey to explore and implement ways to yield a successful outcome for students. The authors of this article believe complementing dyslexia intervention with CRT practices can encourage students to become more academically engaged by providing an opportunity for reading instruction to be internalized and solidified. Engaging students by implementing CRT practices into their instruction could enable them to view themselves as significant stakeholders in their education, increase engagement, and promote ownership of their learning. Kozleski (2010) explains that CRT can serve as a bridge to support students from non-dominant cultures in learning to demonstrate their academic proficiencies.

In our schools today, educators often design instruction based on what has been deemed acceptable according to their administrators and policymakers. Bonner (2009) indicated that curricular components often consider the White culture that mirrors Euro-centric norms as the dominant approach for teaching students from different cultural and linguistic backgrounds. This often contributes to cultural incongruences in classrooms that often leads students of color to perform below their potential (Author, 2020; Folk, 2018). Due to this dominant way of delivering instruction, this often triggers a disconnect between students and their learning capacity. The cultural mismatches between how teachers teach and how their students are prepared to learn are increasingly indexed in achievement gaps among students from different ethnic and racial groups (Colleague & Author, 2020).

Folding Culturally Responsive Teaching into Dyslexia Intervention

Dyslexia instruction in elementary classrooms is usually research-based, routine, and generally offered as a one-size-fits-all method delivered through an explicit, systematic, multisensory process. The instructional implementation presented through the PD sessions in this study was intended to allow the interventionists to have the opportunity to learn and to discuss how embedding the culture of their students into their lesson design could positively impact their instructional environments. Additionally, CRT methods presented, discussed, and practiced during the PD sessions and implemented following the PD sessions would be an extension to dyslexia instruction for students by allowing for an internalized application that could create a cultural relevance for their learning.

Systematic usage of CRT practices can stimulate students' brain neuroplasticity by contributing to brain cell growth (Hammond & Jackson, 2015; Sousa, 2016;). Similarly, CRT practices and dyslexia interventions require systematic instructional practices to access the reading system by stimulating the brain's neuroplasticity. Culturally responsive teaching practices tailor instruction to the needs and interests of students and is grounded in social and cognitive neuroscience by reminding educators that students need to feel validated when engaging in cognitive activities. Validating students is the first step toward empowerment (Hammond & Jackson, 2015). As educators incorporate CRT practices into their instruction, class time is needed to implement this academic shift with their students. The purpose of dyslexia intervention is to deliver intensive instruction to rewire the brain to access cognitive processes that support the understanding of language and text. Furthermore, Hammond and

Jackson (2015) explain that cognition and higher-order thinking are important components to include in CRT and that these components can serve as a natural partner for neuroscience connections in the classroom. Dyslexia instruction and CRT are fueled by understanding neurological processing that supports the intellectual capacity for all students to make connections and to process new information.

Dyslexia intervention requires an instructional approach that will solidify phonological awareness skills to support decoding, encoding, and reading fluency, and instruction should be tailored to meet the needs of students (Shaywitz, 2003). There is a plethora of validated research that supports the current methods of dyslexia instruction. Therefore, culturally responsive teaching practices would be implemented into instruction to support dyslexia intervention, not to replace it.

Professional Development

Professional development is a comprehensive, sometimes sustained, and intensive approach offered to assist educators in learning to implement new ideas to enhance student achievement (Brandford et al., 2005; Darling-Hammond et al., 2017; Hamel et al., 2019; Hirsch, 2009). Gay (2010) indicated that the process of building capacity to teach using culturally responsive practices should begin with preservice certification requirements. Professional development that is geared towards CRT practices can show fidelity and enable the teacher to be reflective regarding how students are viewed and how instruction is delivered. According to Gay (2002), instruction that reflects the cultural backgrounds of students improves their academic effort. The design and delivery of instruction are often based on the teachers' level of comfort and can influence students' grasp of content information. According to Gay (2002) and Mujis and Reynolds (2015), a teacher's behavior, attitudes, expectations, and beliefs are often predictors of the progress of their students. Guskey (2010) found that PD in educational settings to be a central component in nearly every modern proposal for improving student achievement. Currently, educational advances include providing instruction for students from diverse cultures and backgrounds who have various educational needs. Providing effective and sustained PD can create support for teachers and their students. Typically, teachers engage in PD to learn strategies that will enable the delivery of their instruction to consider the various learning styles of all students and this consideration should include the cultures of their students. Discussions of culture are frequently avoided due to the sensitivity of the topic

among many educators. Teachers' knowledge and attitudes toward cultural diversity are powerful determinants of learning outcomes for ethnically diverse students (Gay, 2002). The knowledge teachers gain from PD sessions covering CRT practices can empower them to create more opportunities to design instruction with equitable outcomes. Gay (2010) shares that equity recognizes that not all students come to learning situations with the same resources and preparation. Therefore, it benefits teachers to be equipped with a knowledge-base they can use to design equitable instruction.

The Current Study

A student who is not a proficient reader is often perceived as having limited intelligence and as educators, we know this is an untrue belief. Our intention with this study was to provide elementary dyslexia interventionists with PD sessions that emphasized CRT instructional practices for students with characteristics of dyslexia to highlight their identities and cultural backgrounds. Additionally, our aim was to gain the perceptions of five elementary dyslexia interventionists regarding the implementation of CRT practices they learned through two PD sessions. This study answers this question: What are the perceptions of dyslexia interventionists toward the use of culturally responsive teaching to inform instructional practices before and after professional development on this topic?

Method

Over time, researchers have used case studies as a qualitative design to explore learning gained by one or more individuals (Creswell, 2014), and they have been used successfully to document classroom instructional interventions (Olafson et al., 2015; Parsons, 2012; Duckworth & Ade-Ojo, 2016). The essential features of a case study tend to explain an individual's natural reactions and thinking regarding a presented, discussed, and practiced idea (Saldana, 2011) and to explain modifications that are implemented after learning new information (Bradley & Reinking, 2008). For these reasons, we selected this research design for this study.

Participants

District-level elementary dyslexia interventionists and administrators in a school district located in the Southeastern section of the United States voiced the need for an improvement in the instruction provided for their culturally diverse dyslexia students, and it was determined that PD sessions could address this need. Specifically, the interventionists expressed a need and an interest in acquiring information about learning to implement CRT practices with their culturally diverse dyslexia elementary students. The COVID-19 Global Pandemic accelerated the need to rethink PD delivery (Kang, 2021); thus, causing the researchers to send emailed invitations to district elementary dyslexia interventionists inviting them to participate in this study by agreeing to participate in three interviews and by attending two PD sessions highlighting CRT practices. The researchers received acceptance for participation in the study from five certified elementary teachers who also serve as district-level elementary dyslexia interventionists.

The interventionists varied in their elementary classroom teaching experience and in their experience as dyslexia interventionists. The average elementary classroom teaching experience among the participating interventionists was 17 years, and their average teaching experience as dyslexia interventionists was 8.4 years. The interventionist participants (all names are pseudonyms) are listed in Table 1 along with other demographic data. A summary of data from the focus group interview indicated that most of the interventionists felt they did not have the knowledge or the capacity to integrate CRT practices into their instruction; but they were interested in learning more about this subject and about the potential of its implementation into their instructional practice. The interventionists and the district administrators welcomed the offering of PD sessions that explained and demonstrated integrating CRT practices into the instruction for students with dyslexia characteristics.

Table 1 Participant Demographics

Dyslexia Interventionist	Ethnicity	Years Teaching	Years as a Dyslexia Interventionist	Level of Education	Method of Teacher Certification
Marvin	African American	11	5	Graduate	Alternative Certification Program
Susan	White	15	6	Undergraduate	Traditionally Certified

Maxine	African American	22	8	Graduate	Traditionally Certified
Jane	White	27	16	Graduate	Traditionally Certified
Sharon	White	10	7	Undergraduate	Alternative Certification Program

Context and Intervention

The district used for this study has an elementary school enrollment of approximately 43,000 students and 29 elementary schools. Within this total of elementary students, approximately 2,800 are students who receive instruction from a dyslexia interventionist. We met with one district administrator to discuss the need to integrate CRT practices into the education of students with dyslexia and related that we would interview five dyslexia elementary interventionists.

We began this study by arranging a virtual focus group interview with the five elementary interventionists who agreed to participate in this research project to gauge their initial understanding of CRT and from this interview to determine the content for designing the PD sessions. Following the information we gained from the focus group interview, we planned the first professional development session to cover the following content: 1)unpacking your lens for understanding culture; 2) understanding cultural identities and how these identities relate to a student’s cultural capital; 3) understanding brain research around diversity concepts; 4) acknowledging the use of instructional artifacts that support and guide achievement growth, and 5) supporting students in reducing social and emotional stress while supporting and demonstrating ways to assist students in taking ownership of their learning. After presenting the first PD session, we conducted individual interviews using semi-structured items to gather information regarding their new learning about CRT practices and about their implementation of CRT practices with their instruction. Using the information we learned from this set of individual interviews, we identified the following content for the second PD session: 1) instructional examples that incorporate students’ cultural backgrounds into the text-sources used in their classroom settings; 2) a variety of assessment tools and feedback tools to enhance academic achievement; 3) appropriate instructional challenges to stimulate intellectual capacity; 4) culturally-related examples and materials that highlight the students’

backgrounds; and 5) how to create an instructional environment that is safe for students to engage in linguistic exchanges.

During the PD sessions, the researchers discussed and modeled each presented practice. At the conclusion of the first PD session, the interventionists shared out ways they intended to implement their new learning into practice. At the beginning of the second PD session, the interventionists shared their successes and challenges with implementing CRT practices, and, at the end of this session, they shared ways they would implement this new learning into their instruction.

Over several months following the PD sessions and because of the COVID-19 Global Pandemic, Researcher One conducted virtual interactions with the interventionists to respond to questions related to their instruction using CRT practices. Researcher One provided coaching and mentoring to assist the interventionists in moving forward in the gradual release of responsibility model of instruction that assists their students with dyslexia characteristics in learning to become proactive by embracing their cultural backgrounds (Fisher & Frey, 2008). Researcher One also conducted three virtual observations of instruction provided by the interventionists to note their implementation of CRT practices and recommended instructional modifications to enhance their culturally responsive instruction.

Data Collection and Analysis

In accordance with literature on qualitative case study data collection, we collected and analyzed the qualitative data sets (Olafson et al, 2015; Duckworth & Ade-Ojo, 2016). The qualitative data included a focus group interview, one individual semi-structured interview which allowed participants an opportunity to elaborate and to extend their responses, a member check interview to seek interview content accuracy, three virtual instructional observations for each interventionists', and participants' oral reflections related to the implementation of learning from the PD sessions. Data were collected by conducting a one-hour focus group interview, which allowed the interventionists to explain their understanding of CRT, and two individual interviews with the second individual interview including member checking to ensure accuracy of the content. The focus group, individual interview, and member checking interview were conducted virtually by the first author and audiotaped. The interviews conducted by the first author and were conducted without interviewer opinions.

In case study use, a holistic analysis is often conducted at the end of data collection (Johnson & Christensen, 2000). During the data analysis, the three authors coded the qualitative data initially to determine emerging themes. We used the six-phase process identified by Braun and Clarke (2006) to identify, analyze, and report themes that presented examples of the interventionists' actions and instructional events. Although most of the themes emerged from interview data, we also used observations conducted by Researcher One and the interventionists' reflections to identify the CRT practices they were using with their students. To ensure reliability, we first independently coded data to identify initial themes and then discussed our coding findings until we reached 100% interscorer agreement (Keith & Reynolds, 1990). Next, we arranged the initial themes by their significance and developing categories. Again, we independently determined the themes and categories and discussed the most significant themes until we reached 100% agreement.

Findings

This study looked for modifications in the perceptions of the five dyslexia interventionists following their exposure during PD sessions that highlighted CRT practices recommended to use during instruction for students with characteristics of dyslexia. In this section, we discuss their initial perceptions regarding teaching with a cultural lens to their perceptions of using CRT practices following the PD sessions. We provide a discussion of the most significant themes that emerged from data collection.

Discussion of the Focus Group

The focus group interview was conducted as a probe to identify information to direct some of the content that would be presented for the future PD sessions (Truman, 2016). Focus group responses revealed that the interventionists could communicate their understanding of dyslexia instruction and explain their differentiation processes to meet the educational needs of their students. However, we observed a level of discomfort when asked to discuss their understanding of culturally responsiveness and this was confirmed by the following statement from Jane: "Being a white, middle-class female, I might say I understand cultural diversity; but, I don't. So, I just don't bring-up culture." Although each interventionist provided responses that demonstrated a limited knowledge of culturally responsive teaching along with

a discomfort discussing this topic, we found them to have a genuine interest in learning more about this topic. The interventionists' interest determined from the verbal responses about cultural responsiveness informed the design of the first PD session and future interview questions. We identified a need to provide instructional information for CRT practices used with dyslexic students, and we found one strength to be the overall willingness to be proactive with learning to implement culturally responsive teaching practices.

Individual Interviews

After conducting the focus group interview and analyzing the data, we designed the content for the first PD session that covered five topics listed in the Intervention section of this article. Following the first PD session, participants were individually interviewed to explore their perceptions of using CRT practices in their instruction. After analyzing data from the first set of five individual interviews, we designed the content for the second professional development session that again covered five different topics listed in the Intervention section, followed by individual interviews that also served as member checks to verify content accuracy. Following the focus group, individual interviews, and researcher agreement of data analysis, five significant themes emerged from the findings that are described below in this article.

Theme 1: Dyslexia interventionists felt the implementation of culturally responsive teaching would improve students' attentiveness.

The dyslexia interventionists felt the implementation of CRT practices would improve the attentiveness of their students during dyslexia instruction. The interventionists used information from Hammond and Jackson (2015) to support their understanding of neuroscience suggesting that learning is connected to a student's capacity to pay attention during the acquisition of new information. Interventionists Marvin, Susan, Maxine, and Sharon elaborated on the significance of CRT practices being embedded in dyslexia instruction. They described how they would implement CRT practices they learned from the PD sessions into their instruction to support their students in acquiring and sustaining academic skills. They also shared their understanding and ways they will implement ideas learned from Gay (2002) that recommends including the cultural values, traits, and socialization of their students to enhance their attention spans and to improve their academic achievement. Marvin and Susan added to this finding by connecting to the information

Shaywitz (2003) suggests for teachers to deliver information to students while also finding a meaningful “hook.” Jane indicated that she would use the “hook” idea that she hopes will “Ignite” her students as she plans lessons through a cultural lens (Hammond & Jackson, 2015). Each interventionist explained that having their students’ attention is necessary to ensure instruction is received, understood, and applied. In the responses gathered for this theme, each interventionist felt CRT practices informed their instruction and would lead to student attentiveness.

Theme 2: Professional development on culturally responsive teaching assisted the dyslexia interventionists in understanding the significance of having an awareness of the cultures and backgrounds of their students.

Marvin, Susan, Maxine, and Jane felt that knowing the cultures and backgrounds of their students provided an opportunity for more effective lesson planning and for the selection of appropriate activities that could create positive relationships between the teacher and students to build an effective classroom community. These interventionists expressed comfort with discussing the topic of culture. Sharon initially expressed a concern because she is white and from a different background from her students. However, Sharon found the information from the PD sessions, the discussions, with her peers, and the opportunity to share her ideas with her peers had positioned her to be more aware of the need to consider the backgrounds of her students. Each interventionist shared that the PD sessions provided them with a deeper understanding of why awareness of their students’ culture is critical by making statements such as the following.

Marvin: “I feel I could have done things a lot differently if I would have been introduced earlier to culturally responsive teaching, as well as having that awareness component of it, which we didn’t have and now we do.”

Susan: “Well, I especially liked our discussion yesterday about how people learn new information, I feel like being more aware of the fact of how the brain processes information will assist my instruction. I’ve known this; but now I really am aware of it. I feel like I can start teaching my groups right now in a totally different way, not deviate.”

Maxine: “It helps me to be more aware of their cultures and bring my understanding of their culture into the classroom so that I can be a better teacher and so that I’m more responsive to them, and not just to their instructional needs without consideration of their culture, but also, I’m thinking about their family structure, the family structure is so important.”

Jane: “I understand that culture is not just looking at race; but, it’s looking at where does this person come from and what do they come to us already knowing? And how can we make education better for them because we will now understand where they’ve from. So, I mean, that’s a whole new perspective. Well, it’s not a new perspective, it’s just a perspective that I haven’t considered implementing with my students.”

Theme 3: Dyslexia interventionists recognized the brain connection between culturally responsive teaching and dyslexia.

Each interventionist shared an understanding of the neurobiological information by elaborating on its connection to their instructional practice. Based on the interventionists’ responses, they embraced the need for this connection by making comments such as this from Maxine: “Culturally responsive teaching is enhanced if you understand how the brain contributes to learning and I think we all have made that important connection.” The interventionists continued to explain that although dyslexia intervention is explicitly and systematically delivered, they now understand how to connect culture with their instruction. Furthermore, this theme revealed the importance of interventionists allowing the knowledge of CRT practice and dyslexia to work in concert with brain functions to support their instruction. Interestingly, Sharon shared she has always separated her knowledge of brain function from how she approached instruction. Following the professional development sessions, Sharon said “I will use these practices going forward with my teaching.”

Theme 4: Dyslexia interventionists felt culturally responsive teaching complements dyslexia instruction.

Dyslexia intervention has a systematic delivery format. The interventionists were asked, “Does embedding culturally responsive teaching practices interrupt the delivery of your instruction?” Marvin and Sharon explained that embedding CRT components into their instructional delivery would create a positive response to current practices. They continued by explaining that this practice does not prevent them from delivering the required dyslexia curriculum content; but CRT allows for an enhancement to instruction. Maxine shared that embedding CRT would let her students know she cares about them because she is interested in their cultures and backgrounds. Additionally, in her interview, Maxine shared experiences with students she has worked with in the past and how she could have made instruction more impactful by components of their cultures as a part of her lesson design. Maxine felt this type of instruction she now understands will allow her to more effectively reach and better support

her students. Jane discussed how she did not change her instructional methods; but, she has changed her approach by embedding the cultures and backgrounds of her students. Jane has noticed academic gains among her students as they are engaging in completing assignments and selecting books that consider their cultural identities. Susan explained her *new* thinking about the importance of understanding students' dialect could be reflective of culture and not necessarily an academic deficit.

Theme 5: Dyslexia interventionists felt culturally responsive teaching would have an influence on their future instructional practices.

Following the PD sessions, the interventionists indicated that the cultural identities of their students would influence their future lesson design and instructional practices. Marvin, Susan, Maxine, and Sharon shared that the information provided them with a better understanding of how students learn and how they would construct their lessons to engage their students. Jane indicated that her new knowledge of culture and its use in lesson design would allow her to re-conceptualize how dyslexia instruction can be delivered while making sure she keeps the structure of dyslexia instructional components in her lesson design. Jane highlighted her connection to CRT practices by saying, "I have always felt that my students come to me with something that's rich and important, and I shouldn't stomp on it to make it go away. But, going forward and in the future, I will build on that something to help them learn because they came to me with that something. We need to meet our students where they are individually and academically."

Researcher One provided virtual mentoring, coaching and observations following the PD sessions. Questions during mentoring and coaching sessions were asked and answers were provided to ensure the implementation of CRT practices were appropriate. Researcher One found during the virtual observations that CRT practices were being implemented successfully in the lesson productions provided by the interventionists. During the virtual observations, Researcher One noticed the following: 1) Each interventionist provided lesson content that engaged their students-of-color with content that included cultural relevance; 2) Students were engaged in their instruction by responding to inquiry items and by asking informative questions related to the present content; and 3) Students seemed eager to participate and the interventionists seemed comfortable with the lesson presentations that included CRT practices. These findings suggest that professional development on culturally responsive teaching would be beneficial in informing the instructional practices of dyslexia interventionists to engage their students more effectively. As a result, the interventionists

continued to demonstrate an increased level of interest and competence in integrating this topic into their instructional practices. While speaking with each interventionist in individual interviews, they often reflected on different students they have worked with in the past and wished they would have been more knowledgeable about CRT earlier in their careers. Guskey (2010) explains, “although teachers are generally required to take part in professional development by certification or contractual agreements, most report that they engage in these activities because they want to become better teachers” (p.382). We found this to be apparent in this study as the participants demonstrated an interest in implementing the application of their new learning with their students with characteristics of dyslexia.

Conclusion

The findings of this study present an intersectionality between dyslexia and culturally responsive teaching while also recommending the use of professional development on culturally responsive teaching would be beneficial in informing the instructional practices of dyslexia interventionists. This study explored the perceptions of dyslexia interventionists using culturally responsive teaching to inform their instructional practices before and after professional development on the topic. In conducting this research, the gap in literature became more salient as there was minimal evidence of the significance of incorporating culturally responsive teaching practices into dyslexia instruction. This was further recognized as we engaged the participants in discussions before and after professional development on CRT. Due to the programmatic nature of dyslexia training and instruction, the remediation of dyslexia has been historically designed as prescriptive to the disability as opposed to being inclusive to the student’s cultural background. The authors’ aim for this study was not to dispel the effectiveness of traditional dyslexia interventions and instructional procedures; but, to increase the knowledge of CRT and to assist in gaining the realization of the positive impact it can have on instructional outcomes. Shaywitz (2003) suggested that effective instruction is responsive to a child’s unique needs and Gay (2018) further extended this thought by suggesting that instruction is effective when a student’s background and experiences are considered when planning instruction. Each research participant’s responses and thoughts in conjunction with the review of the literature validate the significance of this study. It was evident through the interview responses provided by the elementary dyslexia interventionists in this study that they would commit to implementing CRT practices into

their instruction. Hence, this study affirms the pursuance of CRT as a complement to dyslexia instruction.

Implications

This study recognizes the direct causal relationship between dyslexia and culturally responsive teaching as it presents an outlook on how educators can create and support a paradigm shift in the dyslexia instruction. The first implication lends itself to reimagine dyslexia intervention not only as a prescriptive method; but, also integrates the student's culture into instructional planning. Too often in dyslexia instruction, students receive the same instructional approach without consideration of their cultural reference. Exploring culturally responsive practices builds intellectual capacity, which can support improving academic skills that will assist in closing the achievement and opportunity gaps among students of color with dyslexia characteristics. Effective culturally responsive teaching is a reciprocal practice suggested by Gay (2018) in that it is challenging to teach a student you do not know. To us this means that teachers are responsible to their students and to themselves, as educators, to increase their awareness of the cultures and backgrounds of their students.

As teachers move forward in their efforts to become culturally responsive educators, it would be beneficial for them to examine their perceptions of various cultures and consider how their perceptions may impact their interactional delivery. Once these perceptions are realized, teachers can move forward with effectively building relationships and establishing a sense of community as they plan their instructional practices.

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