

Dyslexia and the Need for Teacher Training: A Collaborative Three-Pronged Approach Between a University and a Community Partner

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Abstract

An absent element in many education preparation programs is sufficient training on dyslexia and how to effectively remediate the disorder. Defining characteristics and remedial strategies for dyslexia have been established for decades but have not sufficiently become a part of teacher preparation programs, thus creating a gap in professional knowledge and skill. This article explores how one university and a community partner agency collaboratively developed a three-pronged approach to address the gap by developing a graduate-level certification program, a professional development series for in-service training, and a potential regional tutoring center to support students with dyslexia.

Keywords: program development, pre-service, in-service, dyslexia, teacher preparation, professional development

UNDERSTANDING DYSLEXIA AND LACK OF TRAINING

The number of students receiving special-education services in the public classroom has steadily increased since the 1970s. Currently the number of students receiving special-education services is nearing 14% (6.6 million) of the public-school population in the United States (U.S.) (National Center for Education Statistics, 2017). Since the 1970s, the level of knowledge of specific disabilities prolifically become more explicit. However, there still remains much to learn about identifying key features of specific high-incident disabilities and how to effectively support learners with such deficits. Dyslexia is one of the specific disabilities about which educational professionals are beginning to sense an urgency to gain further knowledge and skills (Flink, 2014; Mills, 2017; Shaywitz, 2005).

It is suggested that an estimated 15% to 20% of the population in the U.S. have dyslexia but have not been formally diagnosed (Flink, 2014; Kang, Lee, Park, & Leem, 2016; Shaywitz et al., 2007). Based on such statistics it is safe to assume that all classrooms at every educational level have students who have dyslexia. Likewise, such statistics suggest that it is necessary for teachers of all grade levels to be properly prepared to support the academic needs of students with the disability. Yet, many educational professionals remain uncertain in their understanding of key features of dyslexia and how to support dyslexic students in the classroom (Shaywitz, 2005; Shaywitz et al., 2007).

Dr. Sally Shaywitz (2005), a leading researcher at the Yale Research Institute, states that empirically based research on the defining characteristics of dyslexia, specified assessment criteria, and remediation strategies for the deficits are well established and have been for more than twenty years. She emphasizes that this information has unfortunately not made its way into the curriculum of teacher-preparation programs and in-service training for K-12 educators. Mills (2017) suggests education professionals frequently misunderstand the characteristics of dyslexia, which leads to a belief that it is a disability that causes a person to see letters, words, and numbers backwards. Dyslexia does not cause a person to see stimuli backwards but affects the neurological processing of the stimulus by transmitting the elements of text out of sequence or connecting the stimulus to an inaccurate visual cognitive code created by that person (Norton, Beach, & Gabrieli, 2015; Redford, 2017).

Dyslexia is a disorder that is neurobiological and impacts an individual's phonological processing and phonological memory (Lyon, Shaywitz, & Shaywitz, 2003; Wajuihian, 2012). Simply stated, it is a brain-based disorder that causes deficits, in varying degrees of severity, in both an individual's reading comprehension and fluency. These deficits affect an individual's ability to properly hear distinctive letter sounds as well as blended letter sounds that make up words. Additionally, it is a disability that impairs an individual's ability

to effectively use rapid-memory recall, fluently organize thoughts for storing and retrieving, as well as the ability to fluently expressing thoughts (Gooch, Snowling, & Hulme, 2011).

Dyslexia is a specific reading disorder that is significantly different than just having poor reading skills. A student with poor reading skills may not have a reading disability. Poor reading can relate to such ecological factors as economic disadvantage, an environment that is weak with learning opportunities, low motivation or interest, or low intellectual ability (Ohmstede-Beckman, Messersmith, Shepard, & Cates, 2012). As a reading disorder, dyslexia does not correlate with a low Intellectual Quotient (IQ), the lack of ambition to learn to read, poor instruction, or an impoverished environment (Judge, 2013; Ohmstede-Beckman et al., 2012). Individuals with dyslexia frequently have an average-to-above-average IQ and are very creative visual-spatial thinkers who can problem solve by seeing the big picture rather than specific details (Kang et al., 2016; Norton, Beach, & Gabrieli, 2015; Redford, 2017). This processing skill becomes a deficit when required to read, which requires verbal-linguistic processing of the brain for success (Kang et al., 2016; Mills, 2017).

Many students with dyslexia (identified and not identified) are not receiving the necessary intensive evidence-based instruction along with compensatory strategies to remediate the effects of the disorder (Lyon & Weiser, 2009; Mills, 2017; Moats, 2004). The deficiency of proper instruction for students with dyslexia is a result of insufficient training for teachers or improper implementation of interventions. Research suggests that “most teachers receive little formal instruction in reading development and disorders during their undergraduate studies” (Lyon & Weiser, 2009, p. 476).

Too often teachers intervene with the struggling reader based on the ecological causes of poor reading and continue to use the same intervention for an extended period of time. This long lapse of time spent waiting for the student to respond to an intervention allows the inherent outcomes of the disorder to become more problematic before the teacher begins exploring other possible causes of the reading deficit (Shaywitz et al., 2007). In such an occurrence, the symptoms are commonly misidentified and attributed to poor reading skills, leading the student to fall further behind academically, and often socially as well, from his or her peers. Research validates that the gap between reading skill and grade level continues to increase as time elapses when ineffective intervention or pedagogical methods are used, thus requiring more and more time-intensive intervention for the individual to make just minimal gains in their reading skills later on (Bacon & Handley, 2014; Bogon, Finke, Schulte-Korne, Muller, Schneider, & Stenneken, 2014; Lallier,

Donnadieu, & Valdois, 2013; Moats, 2004; Zoubrinetzky, Collet, Serniclaes, Nguyen-Morel, & Valdois, 2016).

A GAP IN TRAINING FOR EDUCATION PROFESSIONALS

In 2013, the Ohio Department of Higher Education (ODHE) (known at the times as the Ohio Board of Regents) recognized there was an increased need to provide improved training for pre-service teacher candidates in the area of dyslexia. ODHE commissioned a task force to develop a plan to ensure that institutes of higher education provided the necessary training for pre-service teachers to gain knowledge and skills to properly teach students with dyslexia and students who were performing below expectations in the area of reading. The task force compared Ohio Standards for the Teaching Profession with the International Dyslexia Association (IDA) Knowledge and Practice Standards. The results of the task force's work caused teacher preparation programs to begin aligning knowledge, skills, and disposition standards in courses and programs that teach reading instruction to IDA standards, and for pre-service candidates in such programs, to pass a competency exam on reading (Ohio Board of Regents Dyslexia Task Force on Pre-service Teacher Education, 2013).

The directive by ODHE to increase knowledge and skills of pre-service teachers in higher education on dyslexia was a significant step in the process of improving the support for students with dyslexia as well as students who are identified as struggling readers. However, many school professionals remain unclear how to properly differentiate between individuals who are identified as struggling readers because of poor reading skills and students who have dyslexia (Kang et al., 2016; Mills, 2017; Shaywitz et al., 2007). This lack of clarity suggests that institutes of higher education are producing teachers that are aware of dyslexia but still not properly equipped with the skills to support students with dyslexia. Therefore, a gap still remains in the training provided for pre-service teacher candidates, as well as in the professional development for in-service teachers, about what dyslexia is and how to support the deficits that are presented with the disability.

Teacher preparation programs require candidates to enroll in courses that examine the foundational skills of reading instruction and reading skills for all readers. Yet, this focus is often a broad, generalized approach that is not concentrated on a specified reading disorder, such as dyslexia, and on remediation strategies for poor readers. Lyons and Weiser (2009) suggest, "A disappointing fact is that so little has been done in traditional university-based teacher preparation programs to ensure that teachers have been provided the essential knowledge, skills, and abilities to help students become proficient in reading" (p. 478).

Therefore, teachers are not formally trained in identifying the common symptoms of dyslexia or evidence-based practices that incorporate both instructional strategies and sensory integration strategies. The generalized approach to reading instruction that is taught to pre-service teacher candidates is an effective approach to remediate poor reading skills but is ineffective for individuals with dyslexia. If a teacher's intervention for a struggling reader is designed to target variables that correlate with poor reading but the problem is a result of dyslexia, the student is at an increased risk of encountering consistent struggles with academic learning throughout life.

Because dyslexia is a brain-based disorder, it requires interventions that target both biological elements and ecological components (Kraus, 2012; Moats, 2004; Ramus, 2014). Interventions that remediate dyslexia incorporate sensory integration techniques paired with a systematic approach in phonemic awareness and phonological processing (Nicolson, Fawcett, Brookes, & Needle, 2010). If teachers are provided training on the early warning signs of dyslexia along with evidence-based interventions to implement in the classroom, schools will become properly equipped to remediate many deficits that accompany the disorder as well as potentially eliminate the number of individuals who require supports through an Individualized Education Plan (IEP). Similarly, such an approach may align with a school's Response to Intervention (RtI) plan, where screening for dyslexia is a necessary component.

Indeed, there is a sense of urgency in the education system for teachers to have more in-depth knowledge on how to identify students who have dyslexia and how to intervene as early in their educational process as possible. Researchers express that a program that intensely focuses on phonemic awareness, taught in a systematic manner, and in conjunction with brain-based curriculum developed for individuals who rely more on right-brain processing (i.e., visualization strategies and physical movement paired with learning), is fundamental in the remediation process (Bacon & Handley, 2014; Kraus, 2012; Nicolson, Fawcett, Brookes, & Needle, 2010; Ramus, 2014; Shaywitz et al., 2007). Therefore, additional pre-service and in-service training for educators is essential in order for the proper personnel to gain the aforementioned level of knowledge to fully support the academic needs of students in all levels of education.

The following sections demonstrate how two entities came together to form a collaborative partnership to address the pressing need of enhanced support to both students with dyslexia and teachers. Both entities agree that there is a gap in teacher knowledge and skill sets when it comes to working with students with dyslexia. Additionally, the two parties concur that a strong community partner that provides supplemental assistance for

individuals with dyslexia is necessary in conjunction with the support provided in local school teachers.

A THREE-PRONGED APPROACH TO IMPROVE PROFESSIONAL TRAINING ON DYSLEXIA

Wright State University's (WSU) Intervention Specialist (IS) program and CodeBreakers, LLC, collaboratively created a three-pronged system to fill the gap in the knowledge and skill level of pre-service and in-service teachers regarding dyslexia, as well as to meet the community need for enhanced support. The first two prongs of the system are a graduate certification program in the area of dyslexia and a professional development (PD) series offered to schools for in-service training. The third prong of the system is a potential dyslexia center that will provide WSU students and local community residents support not just in dyslexia but also in the area of literacy development.

During the 2014-2015 academic year, the director of the IS program at WSU began receiving phone calls from numerous families seeking support for their children who were diagnosed with dyslexia. Each family was trying to identify services that provided tutoring for dyslexia and were seeking advice on what they could do for their child to help, because the schools were equally unsure on how to help. The university at that time did not have any support systems in place and discovered that regional Educational Resource Centers (ERCs) did not have professionals that were trained to specifically support students with dyslexia. It was discovered during this time that there was one organization in the area of the university that provided tutoring for dyslexia, but each time a new client was registered they would have approximately a two-year wait before they could begin tutoring.

A colleague of the IS program director, who works for one of the state's regional assessment teams, identified an independently owned business that provides tutoring specifically for dyslexia that had been advocating on behalf of individuals diagnosed with dyslexia for over a decade, but consistently encountered resistance from schools and other educational professionals. The colleague set up an introductory meeting between the director of the dyslexia tutoring firm and the director of the IS program at WSU. During the initial meeting, both discussed their experiences with dyslexia and discovered they shared similar professional philosophies and objectives that centered on the field of dyslexia. Similarly, both agreed that there is a growing urgency to enhance training for educators that work with students with dyslexia.

During the spring of 2016 the director of the IS program at WSU, in collaboration with CodeBreakers, LLC, a dyslexia screening and tutoring firm, began examining how to address the lack of preparation for educators on dyslexia. Over the course of a year, the collaborative team developed a Dyslexia Specialist Certification program and a series of PD seminars to offer to local educational agencies. The team developed a partnership with a regional grade K-5 school to implement the PD.

Dyslexia Specialist Certification Program

In March 2016, the WSU IS program and CodeBreakers additionally partnered with the directors of the university's reading endorsement program. The three entities began meeting monthly to identify the local and state need for a certification program. The investigation revealed that there was only one agency in the local area that provided tutoring for individuals with dyslexia. However, the identified agency had a two-year waiting list of clients looking to receive services. Likewise, at the conclusion of the investigation, the results suggested that only two additional higher education institutes in the state provided a program that trained education professionals on features of dyslexia. One of the two program explored embedded the information into the core reading courses required by teacher candidates.

The development team continued to meet at WSU from April 2016 to June of 2016. During this time the team spoke with three local Educational Service Centers (ESC) in the region to inquire about the communicative need from schools for dyslexia services. All three regional ESCs identified that they frequently received inquiries by school districts for assistance with students diagnosed with dyslexia but their agency does not have a professional staff member qualified to provide the services, and staff are not sure where to direct the schools for assistance.

Teacher preparation programs have begun to embed dyslexia standards into required reading instruction courses for pre-service teacher candidates. However, the content taught to meet the now-embedded standards on dyslexia is frequently limited in the depth necessary to train teacher candidates to proficiently support students with dyslexia (Lyon & Weiser, 2009). This limited depth of instruction on dyslexia is not because of either a lack of knowledge or awareness for the importance of training on dyslexia by higher education, but because teacher preparation programs experience a dilemma of how to add further required content to classes that are already packed with a plethora of mandated academic standards. Because of the already heavy load of obligatory standards, it is unreasonable to suggest higher education add further criteria that expands the level of training for teacher candidates

on dyslexia. Therefore, our solution was to create a program that would offer supplementary training to professionals that would equip candidates to serve as activists and consultants to local educational agencies, in their current professional field, or both.

The program we developed is a graduate level certification program offered to professionals from various fields that work with individuals of all ages and is not restricted to only education professionals. The courses in the program were created in order that undergraduate teacher-candidates could begin the program with senior permission and continue as graduate students. The course sequence for the certificate is completed in three to four semesters and includes courses that provide an overview of what dyslexia is and how it impacts a student academically and socially, the importance of multisensory teaching and phonemic awareness instruction as it relates to dyslexia, and assessment and intervention plan development for students with dyslexia.

Dyslexia Professional Development Seminars

In conjunction of the development of the Dyslexia Specialist program, the WSU team created a PD series to offer to educational agencies. The goal of the PD is to equip general education teachers, intervention specialists, school counselors, and school psychologists with explicit, applied literacy techniques for dyslexia that are evidence-based interventions for one-on-one approaches, small group sessions, and whole-classroom methodologies. The series is based on 5 strands that identify core areas of dyslexia. Collaborative discussion of each of the strands during the seminars broadens professional practitioners' awareness of the range of skills, knowledge, and attributes required for successful teaching practice for students with dyslexia. The 5 strands include: (1) foundational skills for reading, writing, and speaking; (2) characteristics of the struggling reader, those with dyslexia, and the social/emotional implications; (3) the neuroscience behind the struggling reader and those with dyslexia; (4) classroom approach training; and (5) bringing it all together through professional debriefing of successes and struggles in the classroom. The PD series is based on four key outcomes: (1) improved student achievement in reading; (2) increased teacher knowledge in dyslexia; (3) improved teacher ability to anticipate, react to, and reflect on students' reading skills; and (4) improved school culture inclusive of struggling readers.

The content of the PD sessions provides participants with research-based knowledge about truths versus myths of dyslexia, common warning signs to watch out for in the classroom setting, how to interpret standardized test scores to identify students who may have dyslexia, and evidence-based multi-sensory interventions that are applicable for whole-

class settings and small-group settings. After each session, PD trainers conducted classroom observations with the participants. The observations afforded trainers the opportunity to offer additional support for the implementation of the classroom interventions. The participants also had the opportunity to work with the PD trainers to identify potentially dyslexic individuals and receive immediate feedback on the accuracy of their observation.

During the initial PD session, and again during the final session, participants completed a self-reporting evaluation of their understanding of the defining characteristics of dyslexia, how to assess for dyslexia, and how to intervene in the classroom for students with dyslexia. Each time the evaluations were administered, participants were given the opportunity to express details surrounding dyslexia that they believed they still needed further training on. The opportunity to express areas of uncertainty around dyslexia afforded feedback to the PD trainers and school's administration on further support necessary for the participants. Once both evaluations were completed and analyzed by the PD trainers, the participants were given the two evaluations back in order to personally compare their knowledge growth from the beginning of the sessions.

WSU Dyslexia and Literacy Center

The collaborative effort between WSU and CodeBreakers, LLC address the overcrowding of content standards and the often limited depth of training on dyslexia for pre-service and in-service educators. However, it doesn't fully address the need for services for individuals with dyslexia outside of the local educational setting. The third prong in our collaborative effort to support individuals with dyslexia is to establish additional community partners that will assist in the development of a WSU Dyslexia and Literacy Center. The vision is of a center that will provide academic support and social-emotional care to WSU students, local community members, and educational agencies across the region. The center will provide evidence-based remediation strategies to individuals who have dyslexia as well as remediation to individuals who are poor readers using such strategies as Reading Recovery (<http://www.readingrecoveryworks.org/>).

The development of the Dyslexia and Literacy Center will add support for local educational agencies in the remediation process for individuals with dyslexia. Because classroom teachers are frequently overextended in trying to meet the individual needs of many students at one time, students with dyslexia do not always receive the one-on-one support of two to four hours of multisensory intervention per week that research suggests is required for effective remediation (Shaywitz, 2005; Shaywitz et al., 2007). In addition

to literacy tutoring, the center would provide mental-health counseling for the social and emotional implications that often negatively impact life for individuals with literacy deficits.

The WSU Dyslexia and Literacy Center's main purpose is to provide the necessary support for individuals with dyslexia and poor reading skills. However, it will equally serve as an on-campus laboratory for WSU teacher candidates, administrative candidates, counseling candidates, and continuing education teachers who are working on reading certifications or endorsements to obtain hands-on practice with evidence-based strategies while being supervised by trained professionals. The hope is that the center will become a central location in the region where community partners who provide tutoring for literacy deficits can offer their services to meet the needs of many individuals in the region.

CONCLUSION

The dyslexia certification program and PD series created by WSU and CodeBreakers, LLC is a model developed to meet the immediate need for effective academic support and social-emotional support for students with dyslexia and literacy deficits. The need for deeper training for educators specifically focused on dyslexia is growing and is increasingly being recognized by governing agencies (Ohio Board of Regents Dyslexia Task Force on Pre-service Teacher Education, 2013; Shaywitz, 2005). The hope is that the expression of what WSU and CodeBreakers, LLC have implemented, along with the vision for the future of a university-based tutoring center, will inspire other institutions to begin investigating how they too can meet the needs of individuals with dyslexia.

The authors acknowledge that a limitation to this collaborative endeavor is the lack of evidence-based data to support the possibility that the WSU Dyslexia Certification Program and the in-service PD have statistical significance. This narrative of the collaborative three-pronged model has been presented prior to the completion of data collection because the authors believe there is a pressing need to promote advocacy for individuals with dyslexia. Data are currently being collected to support the effort, and it is anticipated that a follow-up manuscript will provide a description of the outcomes. However, based on already established evidence-based research (Flink, 2014; Judge, 2013; Lallier et al., 2013; Nicolson et al., 2010; Redford, 2017; Shaywitz, 2005; Zoubrinetzky et al., 2016), it is hypothesized that the implementation of the dyslexia certification program will have a positive impact on the academic skills and social skills of students with dyslexia and, similarly, that the PD series will have a similar impact.

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