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IMPLEMENTATION AND EFFICACY OF AN ONLINE TRAINING PROGRAM FOR SPECIAL EDUCATION TEACHERS

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Abstract
This study investigated the effectiveness of an online training program designed for special education teachers, focusing on the implementation of phonics instruction strategies. A total of 38 special education teachers participated in this study. The training program, conducted entirely online, comprised interactive modules and video demonstrations, and aimed to enhance teachers' proficiency in phonics instruction. Pre- and post-training assessments were conducted to evaluate the effectiveness of training. These assessments included measures of teachers' knowledge of phonics instruction, confidence in implementing these strategies, and ability to adapt lessons to meet the needs of students with learning disabilities. The results showed significant improvement in teachers' knowledge and confidence in applying phonics instruction strategies. Teachers reported a better understanding of how to tailor phonics lessons according to individual student needs. This study underscores the potential of online training programs to enhance teaching practices in special education, particularly in literacy and phonics instruction. This suggests that, with targeted, well-structured online training, special education teachers can significantly improve their skills, thereby positively impacting student learning outcomes.

Keywords: Online Training, Special Education, Phonics Instruction Strategies, Teacher Professional Development, Literacy in Special Education, Educational Technology.

INTRODUCTION

Historically, students with intellectual disabilities have not been given reading education, as it was believed they would not be able to learn how to read (Koritsas & Iacono, 2011). Over time, societal views have evolved, and there is an expectation that children and adolescents with intellectual disabilities will receive and benefit from literacy education (Reichow et al., 2019). Federal laws such as the Individuals with Disabilities Education Improvement Act of 2004 (IDEA, 2004) and No Child Left Behind (NCLB, 2002) compel schools to enhance reading outcomes for all students, including those with disabilities. These laws ensure that every student is provided with age-suitable, relevant, and evidence-based reading instruction in a least restrictive environment (LRE). Despite these regulations, recent statistics show a stark gap in proficiency levels: only 9% of students with disabilities and 40% of those without disabilities demonstrate proficiency in eighth-grade reading (Council for Exceptional Children [CEC], 2013). Moreover, only 3% of students with intellectual disabilities score proficient in statewide reading assessments (Trexler, 2013). These figures underline the urgent need for both general and special educators to identify and implement effective reading instruction strategies that cater to the diverse needs of students with and without disabilities (Afacan et al., 2019).

Reading proficiency is often challenging for students with intellectual disabilities because of various issues, such as memory and concentration deficits, distractibility, and delayed social behaviors that impact their engagement in reading lessons (Onyekuru & Njoku, 2012; Westling & Fox, 2009). This shift in societal attitudes has led to more research on effective strategies for enhancing the reading abilities of these students (Reichow et al., 2019). Worldwide studies indicate that these challenges can be mitigated by special education teachers employing evidence-based practices (EBPs) in their instruction of students with intellectual disabilities (ID). These EBPs are crucial for improving academic, social, and behavioral outcomes in students with ID, and should be utilized by educators to address their specific needs (Cook, 2011; Downing, 2010). Furthermore, evidence suggests that the use of evidence-based practices is linked to higher academic achievement among students (Moon et al., 2021).

One of the most popular types of reading instruction for students with ID is phonics instruction (Torgerson, Brooks, & Hall, 2006). Phonics instruction has a long and varied history, dating back to the 17th century. The earliest phonics instruction methods were based on the idea that letters and letter combinations represent speech sounds, and that these sounds could be taught systematically to help children learn to read. One of the earliest known phonics instruction methods was developed by the French Jesuit priest Noël Babeuf in 1699. Babeuf's method is based on a system of 84 sounds and was designed to teach reading to children of any language (Cunningham, 2003). In the late 19th and early 20th centuries, phonics instruction became more widespread and was often used in conjunction with other methods such as whole-language instruction. During this time, many phonics instruction methods were developed, including the "look-say" method, which emphasizes the recognition of words as a whole rather than their individual sounds (Adams, 1990).

In the mid-20th century, phonics instruction experienced a decline in popularity as educators began to focus more on whole-language instruction and other methods. However, in the late 1990s and the early 2000s, phonics instruction experienced a resurgence in popularity due to research showing its effectiveness in teaching reading (National Institute of Child Health and Human Development, 2000). Today, phonic instruction continues to be widely used and is considered an important component of effective reading instruction. Today, many different phonics instruction methods are used in classrooms, including synthetic phonics, analytic phonics, and blended phonics (Wood et al., 2017).

Phonics instruction strategies are critical for students with intellectual disabilities because they provide a structured and systematic approach to learning to read and spell. According to Wood et al. (2017), phonics instruction can improve reading accuracy and comprehension for students with intellectual disabilities. Another study by Fletcher et al. (2018) found that phonics instruction can help students with intellectual disabilities improve their writing skills. In addition, phonics instruction can help students with intellectual disabilities develop a strong foundation in the alphabetic principle, which is the understanding that there is a one-to-one correspondence between letters and sounds in the written language (Fletcher et al., 2018). This foundation can then be built as students' progress through reading and writing development. Furthermore, phonics instruction can be tailored to meet the individual needs of students with intellectual disabilities (Wood et al., 2017).

Despite the crucial role of evidence-based practices (EBPs) in contemporary special education, Alhossen (2017) found that the Arab world, including Saudi Arabia, rarely discussed or implemented these practices (Alhossen, 2017). However, the Saudi government's recent announcement of Vision 2030, a strategic framework aimed at developing all sectors including education and health, marks a positive shift towards inclusive education for students with autism spectrum disorder (ASD) and intellectual disabilities (ID) (Vision 2030, 2020). According to Al-Assaf (2017), educational reforms have been implemented to ensure that education is accessible to students with disabilities and to promote their independence and inclusion in society. Saudi Vision 2030 also aims to advance all aspects of life, including creating an effective learning environment for students with disabilities (Vision 2030, 2020). Educational professionals must be equipped with the necessary knowledge and skills to support disabled students (Olson, 2018). Unfortunately, teachers often lack the necessary training to handle special education needs in the classroom (Alqahtani, 2020).

The Current Study

Unfortunately, there has been no investigation into the knowledge and experience of Saudi special education teachers regarding phonics instruction. Moreover, previous research has not focused on training teachers to use evidence-based practices, particularly phonics instruction. Therefore, this study aimed to 1) explore Saudi special education teachers' experiences and knowledge regarding phonics instruction, 2) train them to apply phonics instruction, and 3) investigate their perspectives and attitudes towards their ability and

confidence in implementing phonics instruction when working with students with intellectual disabilities. The study was guided by the following research question:

1- What were the previous experiences of special education teachers using phonics instruction strategies when teaching students with ID?

2- How positively do special education teachers who have completed online training feel about phonics instruction strategies?

3- To what extent are special education teachers willing to implement phonics instructional strategies when teaching students with ID?

Method

Setting and Participants

In this study, 38 special education teachers were enrolled in an online course on the application of phonics instruction. Of these participants, 55.3% were male (n = 21) and the remaining 44.7% were female (n = 17). It is worth noting that the study did not assess participants' age, ethnicity, or academic history. Furthermore, half of the participants indicated that they had previously worked with students with intellectual disabilities (n = 19), whereas the other half reported that they had only worked with students with learning disabilities or autism (n = 19).

Instrument

The study's methodology was structured around three key elements: a pre-module survey, an online training module, and a post-module survey carefully designed to capture a holistic view of the educators' journey. Initially, the pre-module survey sought detailed demographic data and insights into the participants' prior engagement with phonics instruction strategies, ensuring that a comprehensive baseline was established for comparison (n = 6). The core of the training, delivered through an e-module, utilized a variety of multimedia resources, such as PowerPoint slides, audio explanations, and video demonstrations, aiming to provide a rich, multisensory learning experience that underscored the practical aspects of phonics instruction. This approach was designed to enhance teachers' understanding and mastery of phonics teaching components, facilitating their seamless integration into classroom settings. Lastly, the post-module survey was pivotal in evaluating the shift in participants' perceptions, focusing on the perceived relevance of phonics instruction, and gauging their confidence and preparedness to implement sight word interventions for students with intellectual disabilities (ID), thus rounding off the study's comprehensive assessment framework (n = 4).

Data Collection and Procedures

The researcher contacted the Saudi Ministry of Education 's Special Education Affairs Administration via email to collect data for the study. The emails served as recruitment materials, describing the study, and including a link to the pre-module survey, e-module, and post-module survey. The link was provided to the special education affairs administration for sharing with their teachers. Participants were assured that their online survey responses would be kept confidential and that they could withdraw from the study at any point before

completion. The data collection process took approximately one and a half months, and multiple reminders were sent to improve the response rates. Once participants submitted their survey responses using Google Forms, the researcher was able to download the collected data, which were displayed in an Excel datasheet.

Research Design and Data Analysis

This research deployed a comprehensive quantitative approach to systematically collect and analyze the viewpoints of special education teachers in Saudi Arabia concerning their exposure to and perception of phonics instruction methodologies. The participants were required to complete a pre-module survey, online training module, and post-module survey. The pre-module survey utilized a three-point Likert scale (1 = no, 2 = maybe, 3 = yes) to elicit demographic information and assess participants' experiences and past usage of phonics instruction strategies. The online training module provided participants with PowerPoint slides, audio recordings, and video demonstrations of the phonics instruction components and their implementation. After the online training module, the participants completed a post-module survey, which comprised questions about the phonics instruction training module aimed at gathering their opinions on (a) the potential usefulness of the intervention, (b) the need for intervention among students, (c) the teacher's confidence in implementing it, and (d) the likelihood of teachers using the intervention. The post-module survey used a three-point Likert scale (1 = not at all to 3 = very much). The responses were then converted into numerical values (1 = no, 2 = maybe, 3 = yes) and (1 = not at all to 3 = very much) after being downloaded into an Excel spreadsheet. The numerical data were then descriptively evaluated (i.e., number, mean, SD).

Results

Experiences of Participants Related to PIS

In relation to the experiences of special education teachers regarding phonics instruction strategies, participants were asked about their prior understanding of phonics instruction and its use when instructing students with intellectual disabilities (ID). As for the participants' prior understanding of phonics instruction, it was discovered that the majority of participants (60.5%) had not previously encountered phonics instruction, whereas only 39.5% reported having knowledge of phonics instruction as an approach to teaching students with ID (M = 1.76, SD 0.74). Similarly, when it came to participants' prior use of phonics instruction strategies, the data showed that most participants (68.4%) did not employ or implement these strategies when teaching reading to students with ID. On the other hand, 31.6% of the participants reported having used these strategies (M = 1.63, SD = 0.74). Overall, the findings indicate that many participants had neither heard nor implemented phonics instruction in reading classes for students with ID. The results of participants' knowledge and experiences related to phonics instruction strategies are presented in Table 1.

Table 1 *Results of Participants' Knowledge and Experiences Related to PIS*

Section	Online Training		
	n	*M*	SD
Previous knowledge (never or barely)	23	1.76	0.74
Previous use (never or barely)	26	1.63	0.74

Attitudes of Participants Related to PIS

The items in this section were divided into four categories: the potential usefulness of the intervention, the need for intervention among students, teachers' confidence in carrying it out, and the likelihood that teachers would use the intervention. According to the participants, 81.6% believed that phonics instruction was useful and relevant to their students' needs (M = 1.18, SD 0.38). Additionally, 71.1% of the participants felt confident in their ability to implement phonics instruction and were likely to use it in reading classes for students with ID (M = 1.2, SD = 0.44). The results showed that most participants (69.5%) had high levels of acceptance, confidence, and willingness to use phonics instruction in the future (M = 1.3, SD = 0.47). The results are presented in Table 2.

Table 2 *Results of Participants' Attitudes Related to PIS*

Section	Online Training		
	n	*M*	SD
Usefulness	31	1.18	0.38
Relevant to students	28	1.2	0.45
Teachers' confidence	25	1.2	0.44
Likely to implement.	25	1.3	0.47

Discussion

The primary objective of this study was to investigate the experiences of Saudi special education teachers with sight-word reading instruction, equip them with phonics instruction strategies, and explore their perspectives and self-assurance in implementing these strategies when working with students with ID. To achieve this, a quantitative survey approach was used. Initially, Saudi special education teachers completed a pre-module survey that assessed their previous exposure to phonics instruction and gathered their demographic data. Subsequently, the participants were provided with an online training module that featured PowerPoint slides, audio recordings, and video demonstrations of sight-word components and their applications. After completing the online training module, participants were requested to complete a post-module survey that aimed to gather their opinions on the potential usefulness of the intervention, the students' need for it, their confidence in implementing it, and their likelihood of using it in their teaching practices.

The results of this study indicate that most participants had a low level of knowledge and use of phonics instruction. Similarly, research has shown that many special education teachers feel unprepared to teach phonics (Horn et al., 2016). This may be due to a lack of training in

the area or insufficient knowledge about evidence-based practices. However, some studies have suggested that special education teachers' knowledge of phonics has improved over time (Horn et al., 2016). Ongoing professional development and training opportunities are essential to improve special education teachers' knowledge and skills in phonics instruction. This includes workshops, conferences, and online resources that provide up-to-date information on evidence-based practices and strategies.

Regarding the attitudes of participants related to phonics instruction strategies, the findings suggest that most of the participants demonstrated significant levels of acceptance, assurance, and readiness to adopt phonics teaching in the coming years. Generally, teachers have varying attitudes towards professional development, ranging from enthusiasm to reluctance. While some teachers view it as an opportunity to improve their teaching skills and stay current with best practices, others view it as a waste of time and resources. According to a survey conducted by the National Education Association, 60% of teachers reported that they had no opportunities for professional development in the past year (NEA, 2021). The lack of access to professional development opportunities can be attributed to budget constraints and competing priorities. However, teachers who have participated in professional development programs have reported increased job satisfaction, improved instructional practices, and higher student achievement (Ingersoll, 2018). Therefore, it is essential for schools and districts to prioritize professional development and provide teachers with the resources and support they need to improve their practices, especially special education teachers.

Limitations

While this study provides valuable insights into the effectiveness of an online training program for special education teachers on phonics instruction, it has several limitations. First, the small sample size of 38 participants limits the generalizability of the findings to all education teachers. Second, the absence of a control group prevented the attribution of observed improvements solely to the training program, as other external factors may have contributed to the outcomes. Third, the reliance on self-reported measures for assessing knowledge and confidence may introduce bias, as participants might have overestimated their capabilities post-training. Additionally, the study did not account for the long-term retention of knowledge and skills, nor did it measure the direct impact of training on student learning outcomes. Finally, the lack of demographic details about the participants (e.g., age, ethnicity, and educational background) restricts the understanding of how these variables might influence the effectiveness of the training.

Implications for Practice

The findings of this study underscore the potential of online training programs to enhance special education teachers' instructional skills, particularly in phonics instruction. Educators and policymakers should consider integrating such training programs into ongoing professional development initiatives, emphasizing evidence-based strategies tailored to students with learning disabilities. This approach could address the identified gap in proficiency levels between students with and without disabilities by equipping teachers with

the skills necessary to implement effective phonics instruction. Furthermore, schools and educational institutions should provide support and resources to encourage special education teachers to participate and apply the strategies learned from online training programs.

Recommendations for Future Research

Future research should aim to overcome the limitations of this study by including larger and more diverse participant samples and employing a control group to strengthen the causality of the findings. Longitudinal studies are also recommended to assess the sustainability of training's impact on teacher performance and student outcomes over time. Investigating the direct effect of phonics instruction on students with learning disabilities' reading skills would offer valuable insights into the practical implications of this training. Additionally, exploring the integration of online training programs with in-person workshops could enhance the effectiveness and engagement of professional development efforts among special education teachers.

Conclusion

This study highlights the effectiveness of an online training program in improving special education teachers' knowledge of and confidence in phonics instruction strategies. Despite these limitations, the results indicate that such training can significantly enhance teaching practices, potentially leading to improved reading outcomes for students with learning disabilities. By addressing the critical need for professional development in evidence-based reading instruction strategies, this study contributes to the broader effort of closing the proficiency gap and ensuring that all students, regardless of their abilities, have access to high-quality education. As education continues to evolve, embracing innovative approaches to teacher training will be crucial for meeting the diverse needs of students with disabilities.

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