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Examining the Impact of one Professional Development Program in Structured Literacy on
Teacher Knowledge: A Quasi-experimental Study

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Abstract

Most students require explicit, systematic phonics-based instruction to learn how to read. Many teachers, however, lack the expert knowledge about the English language necessary to implement these structured literacy methods when teaching K-12 students to read (National Council on Teacher Quality, 2020). This quasi-experimental study examined whether teachers' knowledge of English language structures increased significantly following participation in one online professional development (PD) program that is aligned with the International Dyslexia Association's (IDA) Knowledge and Practice Standards for Teachers of Reading (KPSTR). The KPSTR are intended to guide teacher training specifically in structured literacy practices. The program was self-directed and could be completed in varying time frames, and included the opportunity to participate in virtual communities of practice (VCP). Pre and posttest data from the Reading Assessment Survey (RAS) were collected for 61 in-service teachers. Results indicated that participants' composite RAS posttest scores were significantly higher than pretest scores following participation in the PD program. There was not a significant difference in RAS gain scores (the difference between pre and posttest scores) depending on rate of program completion, and there was not a significant relationship between RAS gain scores and frequency of participation in the VCP. These results indicated that the online, IDA accredited program in structured literacy was effective in increasing teachers' knowledge of the constructs needed for structured literacy instruction and represents a high-quality PD opportunity for teachers of reading.

Aim

The aim of this study was to better understand how teachers can be effectively prepared to implement structured literacy practices in the classroom. Professional literacy organizations such as the IDA (2018) have developed knowledge and practice standards to guide evidence-based teacher training and have accredited programs that are aligned with their guidelines. There is limited research, however, that examines whether PD programs that follow codified professional practice standards significantly increase teacher knowledge in reading content. The purpose of this study was to examine the impact of one online, IDA (2018) accredited professional development program in the Northeast corridor of the United States on teacher knowledge of English language structures.

Research Problem

The most recent data from the National Assessment of Educational Progress indicates that only one third of fourth and eighth grade students are able to read proficiently on grade level (National Center for Educational Statistics, 2019). Children who do not read on grade level by the fourth grade are at greater risk for school drop-out and involvement in the criminal justice system than their grade-level peers (Schneider, Chambers, Mather, Bauschatz, & Bauer, 2016). Despite a well-established research base indicating that all children learning to read benefit from

explicit, systematic structured literacy instruction (Young, 2020), teachers frequently do not receive the training needed to master the knowledge and skills necessary to effectively implement structured literacy in the classroom (National Council on Teacher Quality, 2020). Research has shown that robust knowledge about code-based instruction is positively correlated with higher reading outcomes for students, and that high-quality PD can effectively increase teacher knowledge (Ehri & Flugman, 2018).

Method

This quantitative study compared the composite RAS pre and post test scores of 61 teachers who completed the online, IDA accredited PD program in structured literacy. The RAS measures teacher knowledge of phonology, word recognition, fluency, vocabulary, comprehension, and literacy assessment, concepts that have been previously identified as essential components of effective reading instruction (IDA, 2018). Analyses were also conducted to determine whether there were significant differences in RAS composite gain scores (the difference between pre and posttest composite scores) depending on rate of program completion, and whether there was a significant relationship between RAS gain scores and frequency of participation in the VCP. The following research questions guided this study:

- 1) Is there a statistically significant increase in teachers' composite scores on the Reading Assessment Survey (RAS) following participation in one online, IDA accredited structured literacy professional development program?
- 2) Is there a statistically significant difference in RAS composite gain scores among teachers who participated in one online, IDA accredited structured literacy professional development program depending on pace of program completion (fast, moderately fast, moderate or slow)?
- 3) Is there a statistically significant relationship between RAS composite gain scores and frequency of participation in the virtual community of practice (from zero to eight sessions) among teachers who participated in one, online IDA accredited structured literacy professional development program?

Findings

- Results from a dependent sample t-test indicated there was a significant increase in participants' RAS composite scores following participation in the online, IDA accredited PD program in structured literacy. The effect size was large, indicating that 77.6% of the variance associated with RAS posttest scores was attributed to participation in the structured literacy PD program.
- Results from a one-way ANOVA indicated there was not a significant difference in RAS gain scores depending on rate of program completion. The effect size was low, with only 2.3% of the variance in RAS composite gain scores attributed to rate of program completion.

- Results from a Pearson product correlation indicated there was not a significant relationship between RAS gain scores and frequency of participation in the virtual community of practice. The effect size was low, with only 2.4% of the variance in RAS gain score attributed to frequency of participation in the virtual community of practice.

Conclusion and Discussion

The efficacy of the online, IDA accredited PD program suggests that providing teachers with training that is aligned with the KPSTR can effectively increase teacher knowledge of structured literacy constructs and should be considered in lieu of traditional short-term stand and deliver PD workshops. The online format has the potential to expand access to high quality training for teachers of reading, including to those who live in areas where access to in person training is limited. Further, the significant increase in teacher knowledge of English language structures following participation in the target PD program represents an important step in changing classroom teaching strategies that have the potential to increase student reading outcomes.

The gains made in teacher knowledge were likely related to the active, content focused and collaborative nature of the learning activities. This experiential approach to PD was highly relevant to teachers' classroom practices, an essential feature in meeting the needs of adult learners who benefit from making direct connections between newly acquired knowledge and their professional work activities (Knowles et al., 2015). Allowing participants the flexibility to determine how quickly or slowly they wished to work, did not interfere with the efficacy of the program, and respected the adult teachers' developmental need to learn for themselves, and engage in continued personal and professional growth (Knowles et al., 2015). Finally, a non-significant relationship between RAS gain scores and frequency of participation in in the VCP suggested there was a mix of knowledge levels among teachers during VCP sessions, with the potential that lower knowledge teachers had the opportunity to learn from higher knowledge teachers, allowing for active engagement and reflective learning to promote the development of individual competencies.

Research Implications

An important next step would be to conduct quasi-experimental research to examine whether adding coaching to the online, IDA accredited PD program would further strengthen teachers' mastery of English language constructs. Adding ongoing classroom-based supports to professional development in structured literacy would provide teachers with the opportunity for individualized, real time feedback that has the potential to bolster both conceptual and practical understanding of English language structures. Another important step would be to apply the constructs associated with implementation science to examine what systemic changes are needed to support sustained implementation of structured literacy practices in the classroom following PD. This should include tracking student outcomes to determine how they relate to teacher knowledge of English language structures. Finally, using qualitative inquiry methods to develop a deep understanding of how teachers perceive their professional development experiences will be important in creating the type of systemic supports needed to bring structured literacy methods to scale.

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Author Information and Biography

Maria Toglia earned her bachelor's degree with a major in psychology at the University of Denver, and her master's degree in Child Psychology at Vanderbilt University. She began her career as an outpatient child and adolescent therapist in community mental health. Since becoming certified as a School Psychologist at Immaculata University, Maria has served in the Pennsylvania public school system for the last 15 years, working with students who present with a broad range of learning and social emotional needs. She has developed a particular interest in literacy and has worked as an advocate for scientifically based best practice reading instruction as a Board member of the Pennsylvania Branch of the International Dyslexia Association. Maria is also involved with the Read by 4th Campaign in Philadelphia and chairs the Teacher Preparation and Support working group, focused on advancing teacher training that is aligned with the science of reading. Maria is a doctoral candidate in the Educational Leadership and

Management program at Drexel University with a concentration in public policy. She will complete her dissertation defense in the 2021 winter term.