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IMPROVING OUTCOMES FOR OLDER STRUGGLING READERS IN SPECIAL  
EDUCATION RESOURCE

Kathryn Stone

A dissertation submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Education in School Improvement  
College of Education and Psychology

Frank Dykes, Ed.D., Committee Chair

University of Texas at Tyler

The University of Texas at Tyler  
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## ACKNOWLEDGEMENT

Even though this acknowledgement page is optional,  
I dedicate this page to you.

I am so grateful to the co-chairs of my dissertation committee, Dr. Frank Dykes, and Dr. Teresa Kennedy. Their feedback was invaluable, and they have been ever so patient in working with me. I want to give a special thank you to Dr. Dykes for encouraging me through to the finish line.

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Lastly, I would be remiss in not mentioning my family, especially my children Giuliana and Gabriella. My primary motivation and inspiration for entering and completing this program is to show them how to achieve their goals and finish what they started despite life's challenges.

## **Abstract**

# **IMPROVING OUTCOMES FOR OLDER STRUGGLING READERS IN SPECIAL EDUCATION RESOURCE**

Kathryn Stone

Dissertation Co-Chair: Frank Dykes, Ed.D.

The University of Texas at Tyler

July 2023

This research aimed to increase the reading achievement of sixth-grade special education students receiving interventions in a resource setting. This problem of practice was created in response to the theory of change made by a Network Improvement Community (NIC) rooted in the lack of professional development offered by the school district for special education teachers in teaching students foundational reading skills. The research questions used for this study this evaluation were 1) What percent of students made progress in each reporting category (word study, grammar, and comprehension) in the Lexia PowerUp literacy program? 2) To what extent did the teachers feel they implemented the Lexia PowerUp literacy program with fidelity? 3) To what extent did the implementation of Lexia PowerUp literacy increase student performance on the STAAR test? Specifically, what was the percentage increase for approaches and meets grade level? This research project also applied improvement science principles and mixed methods using an embedded experimental design. Throughout this research project, the researcher implemented interventions and evaluated outcomes as part of a plan-do-study-act (PDSA) inquiry cycle. The PDSA cycle was conducted in two phases with pre- and post-measures in

addition to collecting quantitative and qualitative data. The quantitative data was collected through progress measures in each strand of instruction in the Lexia PowerUp literacy program for each campus and by reviewing the sixth grade State of Texas Assessment of Academic Readiness (STAAR) data in the areas of approaches, meets, and percent of students who made progress on the reading assessment. Qualitative data was collected by administering a teacher survey to determine the fidelity of implementing the intervention program. Findings indicated that students made progress in all three areas of the intervention program, and there was overall incremental growth on the STAAR reading assessment. Teachers self-reported implementation with fidelity, but there were minimal responses to the survey. Additionally, the school district limited the researcher in accessing available data.

*Keywords: special education, intervention, literacy, data, STAAR, Lexia PowerUp*



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## Chapter 1

### The Problem of Practice

As a scholarly practitioner, the researcher for this study conducted an improvement science dissertation in practice. An actionable problem of practice was curated to address a specific problem in a large school district. Implementing improvement science principles focused on practical approaches to creating meaningful and sustainable improvements for sixth-grade special education students in reading (Perry et al., 2020). The principles included “make the work problem-specific and user-centered, focus on variation in performance, see the system that produces the current outcomes, use disciplined inquiry to drive improvement, accelerate learning through networked improvement communities” (Bryk et al., 2017, pp. 172-173).

This research project applied improvement science principles and mixed methods using an embedded experimental design (Creswell et al., 2003). Throughout this research project, the scholarly practitioner investigated the problem, implemented interventions, and evaluated outcomes as part of a plan-do-study-act (PDSA) inquiry cycle (Bryk et al., 2017). The PDSA cycle was conducted in two phases with pre- and post-measures and collecting quantitative and qualitative data (Creswell et al., 2003).

### **Background of the Problem**

Texas and national assessment data indicate that students with disabilities at the secondary level struggle to meet minimum standards in reading. Based on a review of district-level data in a large suburban school district in Texas, this is also evident for students with disabilities in the sixth grade. In the school district studied in this evaluation, historically, there has been a drop in passing scores from fifth to sixth grade in reading on the state assessment for special education students. In 2019, 66% of fifth-grade special education students scored

approaches grade level, whereas 42% of special education sixth graders scored approaches grade level. This same pattern occurs year and year.

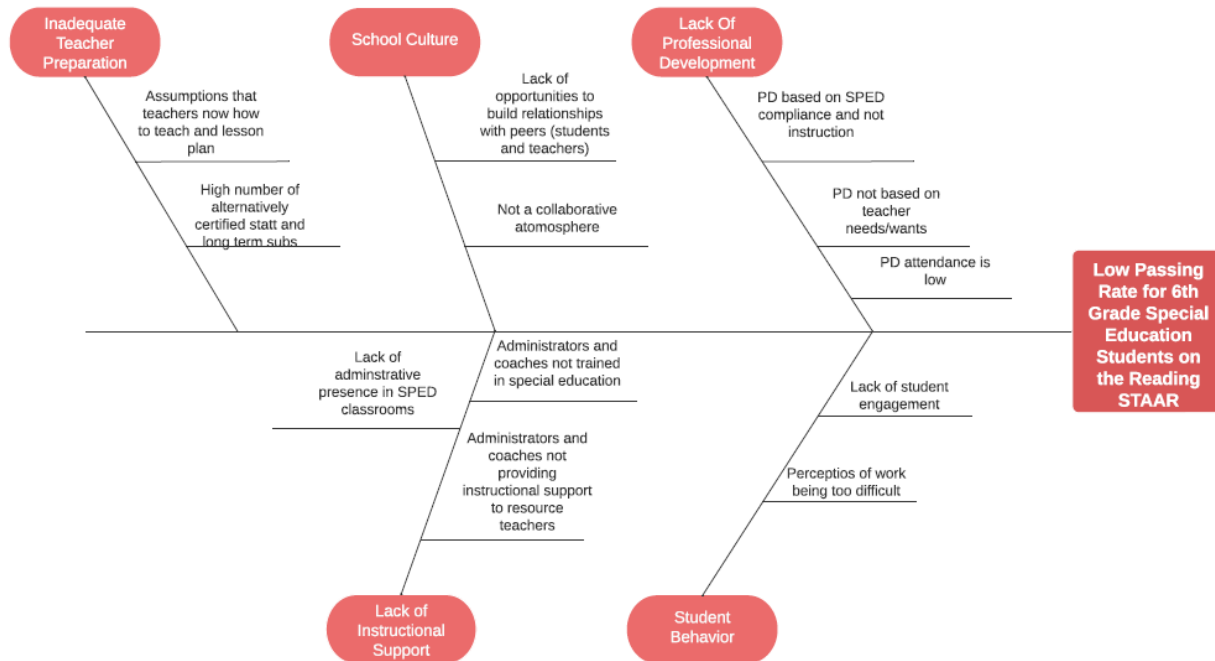
State assessment scores in reading for special education students in this large suburban school district are concerning. The school district is considered fast growth and a destination district which includes changing student and staff demographics. At the start of this research project, the district served over 80,000 students, in which almost 10,000 or 12% of students enrolled received special education services. Specifically, the district's student demographics were 36.5% Hispanic, 27.8% White, 16.8% Asian, 14.3% African American, 4.3% two or more races, .2% Native American, and .1% Pacific Islander. The teacher demographics were 70.4% White, 16.2% Hispanic, 8.4% African American, 3.4% Asian, 1.1% two or more races, .4% Native American, and .1% Pacific Islander. This school district has seen a recent rise in the number of Asian, African American, and Hispanic students, and the staff demographics also reflect this increase.

### **Statement and Definition of the Problem**

The problem identified for this research was that fifty-three percent of sixth-grade special education students still needed to meet grade level or above in reading. This was derived by reviewing and assessing the 2019 Texas Education Agency Texas Academic Performance Report (TAPR), the 2019-2020 District Improvement Plan, and collaborating with a Network Improvement Community (NIC) including the Research, Accountability, and Assessment Department, the Special Education Department, Office of Interventions, and several junior high school administrators. Together the NIC conducted a root cause analysis and identified several critical ideas for the low passing rate of these sixth-grade students. This analysis was outlined on a Fishbone Diagram (Figure 1).

**Figure 1**

*Fishbone Diagram*



In developing the root cause analysis, the NIC focused on being user-centered, which was the classroom teachers for this study. Discussions concentrated on determining the factors as to why students in special education were not making equitable gains in reading. Who was implementing the instruction, what resources were being utilized, and teacher training became the primary factors for evaluation and intervention in the resource classrooms. The NIC agreed upon several significant themes, including inadequate teacher preparation, school culture, lack of professional development, instructional support, and student behavior (Figure 1).

Regarding reading intervention research, the standard practice has been early intervention for struggling readers (Wanzek et al., 2016; Wanzek et al., 2018). That focus has been essential in closing young learners' reading and math gaps (Vaughan et al., 2012). Many intervention programs have recently been developed targeting early readers and foundational reading skills

(O'Callaghan et al., 2016). However, there is not as much research nor evidence to support intervening for older struggling readers, especially those with disabilities (Vaughan et al., 2012).

The lack of research to support reading instruction for older struggling readers is troubling due to the current increase in students qualifying for special education services in Texas. The growth rate has been significant since the Individuals with Disabilities Education Act of 1975 and the federal Child Find obligations that school districts have to locate and identify students with disabilities (U.S. Department of Education, 2020). Nevertheless, in addition to the rise in students requiring special education services and support, the National Assessment of Educational Progress (National Center for Education Statistics, 2019) reports year after year that of the students that test, only about thirty percent perform at or above proficient levels in reading in fourth and eighth grade.

Current research on older struggling readers in secondary schools shares the common thread that there is a lack of response to intervention (Ciullo et al., 2016; Serry & Oberklaid, 2015; Wanzek et al., 2013; Williams & Vaughn, 2020). In contrast, most of the research in reading intervention focuses on early intervention or remediation for kindergarten through third-grade students. Focusing on research in early intervention leads to a gap in exploring critical evidence-based reading best practices for older students with disabilities (Ciullo et al., 2016; Serry & Oberklaid, 2015; Wanzek et al., 2013; Williams & Vaughn, 2020).

Cooper et al. (2006) define a struggling reader as "a student who is experiencing significant difficulty learning to read" (pp. 11). This struggle can encompass one or more reading skills, including decoding, fluency, vocabulary, and comprehension (Cooper et al., 2006). Therefore, students receiving special education support and services would qualify for a Specific Learning Disability (SLD). In comparison, the Individuals with Disabilities Education Act



defines an SLD as "a disorder in one or more of the basic psychological processes involved in understanding or using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell...." (U. S. Department of Education, 2018). As there is no distinction between those with specific learning disabilities and struggling readers, it is assumed that the evidence-based best practices would be the same for intervention purposes in this review.

Instructional staff needs to consider the impact on student progress when placing students in a special education setting for their reading instruction, regardless of age. Studies have shown the effectiveness of these programs for students with specific learning disabilities, such as dyslexia (Shaywitz, 2003). Shaywitz cautions readers by stating, "Special-education programs tend to stabilize the degree of reading failure rather than close the gap between a dyslexic student and his classmates. The evidence is overwhelming" (2003, p. 281). She provides several data-based examples of special education programs lacking systematic and explicit reading intervention programs. Shaywitz concludes by stating, "The result is that the most needy students tend to receive the *least* reading and language instruction" (p.282).

The key to overcoming this special education reading deficit is implementing a reading intervention program to teach foundational reading skills in the resource classroom. An evidence-based program requires teachers to provide explicit and systematic instruction (Moats, 2019). Shaywitz (2003) notes, "...studies show that children receiving the new scientifically based programs made large and lasting reading gains, far surpassing their previous rate of growth" (p. 282). However, for the intervention program to be successful, teachers need training in teaching, following the program with fidelity, and individualizing the instruction for students based on data.

### **Purpose and Significance of the Study**

This research aimed to implement the Lexia Power Up literacy intervention program with fidelity to improve outcomes for sixth-grade students with disabilities receiving reading intervention in special education resource classrooms. Lexia PowerUp literacy was adopted by the school district and evaluated in this study for the start of the 2020-2021 school year by the Department of Special Education and Office of Interventions. This program is intended for reading intervention in all sixth through eighth grade English Language Arts and Reading resource and reading elective classrooms in sixteen junior high schools. However, only the sixth-grade data for special education students in resource were included in this study.

The Lexia PowerUp literacy program utilizes a blended and personalized learning model. Students began with a diagnostic assessment called RAPID, which auto-placed them on the appropriate instructional level. They then engaged in personalized learning with online adaptive interventions through computer-assisted instruction (CAI) focusing on word study, grammar, and comprehension pathways. Classroom teachers monitored student progress data through an online portal and identified target skills for direct instruction in small groups.

Students also had opportunities for independent practice on Skill Builders. Lexia PowerUp literacy program also provided direct instruction materials, lesson scripts, and supplemental materials for independent practice via the myLexia portal. When students engaged with the program's online component, they also accessed self-monitoring tools and set goals for themselves.

For this study, anonymous student data was reviewed from each junior high school campus. The research questions for this study were 1) What percent of students made progress in each reporting category (word study, grammar, and comprehension) in the Lexia PowerUp

literacy program? 2) To what extent did the teachers feel they implemented the Lexia PowerUp literacy program with fidelity? 3) To what extent did the implementation of Lexia PowerUp literacy increase student performance on the STAAR test? Specifically, what was the percentage increase for approaches and meets grade level?

For this intervention to be implemented, several district-level resources were provided. These resources included professional development for administrators and staff, district staff support for campuses, access to the scaffolded and Texas Essential Knowledge and Skills (TEKS) aligned curriculum, and access to technology in each classroom compatible with the Lexia PowerUp literacy program. Additionally, teachers and the staff monitoring the implementation needed to know and understand the expectations of fidelity for the intervention program.

Fidelity, in this study, referred to the teachers following the implementation criteria for the Lexia PowerUp literacy program as defined by the program publisher and the guidelines determined by the Department of Special Education. The implementation criteria included students meeting their online usage requirements of thirty minutes in word study, grammar, and comprehension weekly, teachers monitoring the online portal to identify target skills for direct instruction, teachers delivering Lexia Lessons in small groups, and teachers assigning Skill Builders for independent practice. Teachers were also expected to work with students to monitor their goals and celebrate their successes.

### **Theory of Change**

Historically, the school district studied in this evaluation did not provide teachers training focused on teaching struggling junior high school (sixth through eighth grade) students to read in

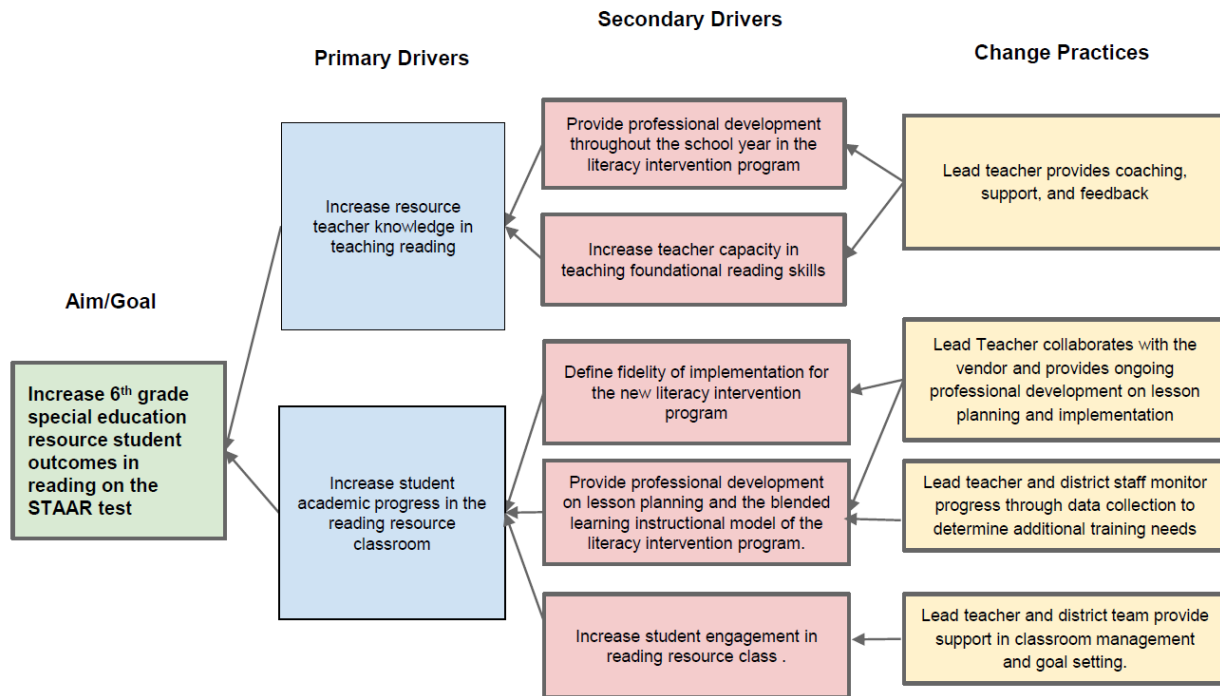
English Language Arts and Reading Resource. Though the READ 180 program was available for intervention classrooms, the district needed to provide instructional guidance and support from the special education department. The district did provide several professional training opportunities for compliance, writing Individualized Education Programs (IEPs) for students, and IEP progress monitoring.

Therefore, teachers were left to plan individualized and differentiated lessons and teach content with little instructional coaching, modeling, or support. Teachers often sought training from the Curriculum and Instruction Department or borrowed content and resources from their general education counterparts and modified it to suit their classroom needs. This led to inadequate instruction and intervention in resource classrooms. Campus-level instructional leaders (administrators and instructional coaches) also did not provide modeling or coaching for resource teachers, as they felt they were not knowledgeable or equipped to teach students struggling significantly below grade level.

Implementing the Lexia PowerUp literacy program, continuous teacher training, and data review aims to target teachers needing instructional assistance and students not progressing in reading. In addition, this program implementation model seeks to increase the number of sixth-grade special education students approaching or meeting grade level in reading on the state assessment, as evidenced in the Driver Diagram created by the NIC (Figure 2).

**Figure 2**

*Driver Diagram*



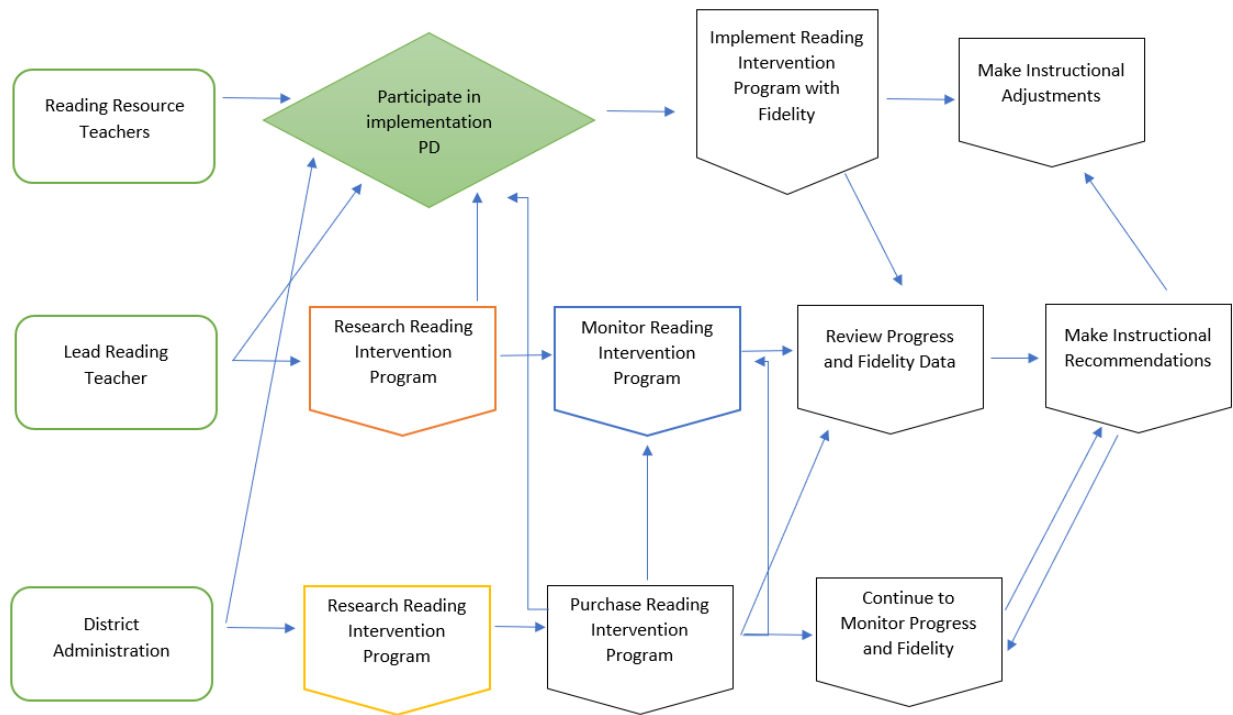
By increasing teacher capacity in teaching reading to students with disabilities, the organization as a whole will benefit. Teachers will be able to take ownership of their instructional practices and build up their self-efficacy. This, in turn, will create teacher leaders within resource instruction and increase student achievement for older struggling readers.

**The System**

The organization's culture being evaluated focuses on student achievement and values input from all stakeholders and the community. With the organization's culture in mind, a process map was developed to show how each support for the proposed intervention will work together to increase reading outcomes (Figure 3).

**Figure 3**

*Process Map*



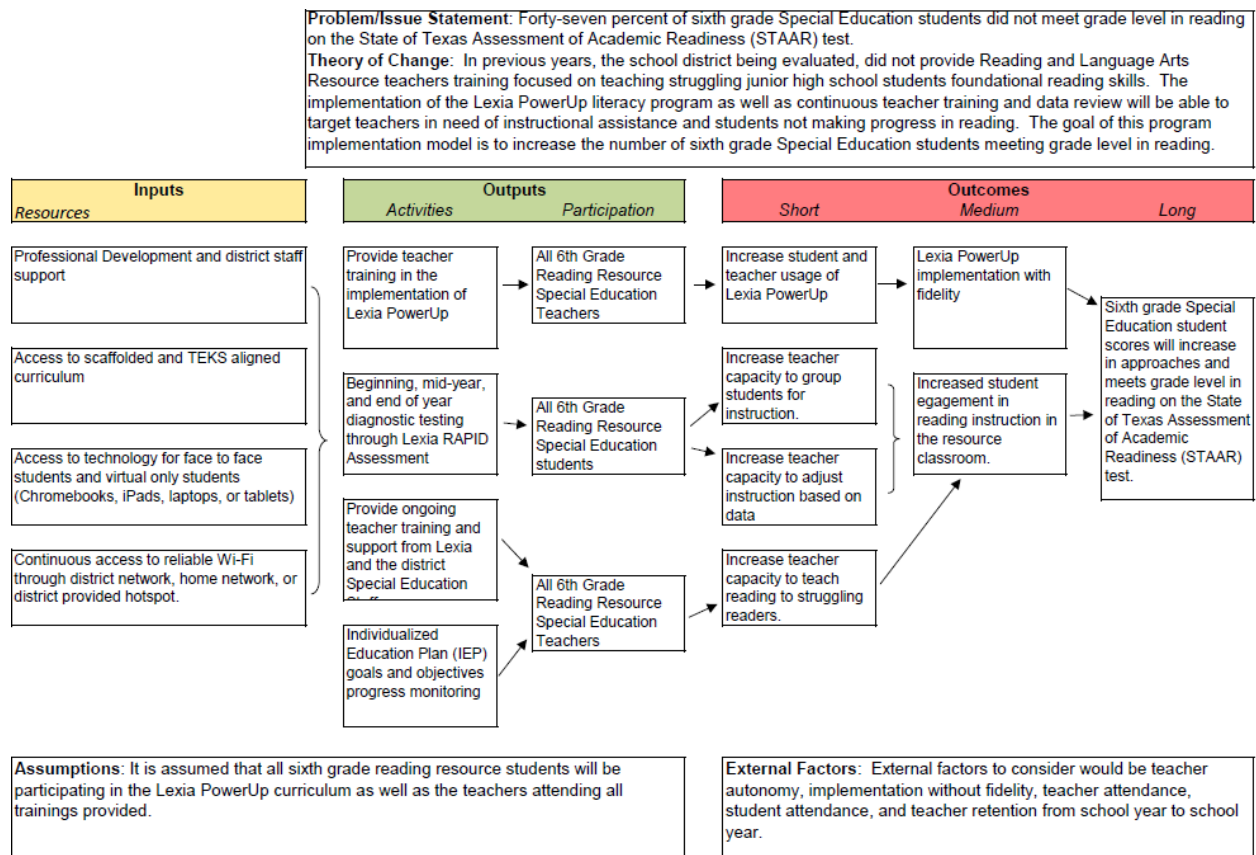
**Evaluation Plan**

The plan for the professional development activities was multifaceted and is reflected as a component of the logic model in Figure 4. During the summer, before the evaluation, several professional development opportunities were offered to administrators and teachers for English Language Arts and Reading Resource at the junior high school level. Some summer offerings were optional, while others were mandatory when instructional staff started their new contract year. In addition, follow-up professional development was offered during the school year to ensure an understanding of the implementation model and how to access student data to individualize instruction. The initial training session was very explicit and specific on how to get teachers started in the program and provide a lesson plan template for teachers to follow for

implementation. Follow-up training guided teachers to use the data collected to monitor students' progress and where to target instruction in small groups.

**Figure 4**

*Logic Model*



Outside of the activities offered by Lexia, the Lead Special Education Teacher for English Language Arts and Reading provided the teachers with immediate support, data, and instructional modeling as needed. Throughout the year, the vendor also offered coaching support at the campus virtually, additional data for the district to monitor implementation and access to free webinars.

**Intermediate Goals**

This evaluation plan's intermediate objective was to increase the teachers' capacity in the classrooms through ongoing and flexible professional development. After initial training for the Lexia PowerUp literacy software was delivered to teachers on how to implement the program, more opportunities for training were provided by the vendor and the special education department of the school district. The knowledge teachers had regarding how to teach core reading skills to older students with difficulty reading and who have impairments was increased. This, in turn, boosted the fidelity with which teachers implemented the program and the achievement of students.

**Assumptions and Justifications**

The Lexia PowerUp literacy program was selected by a team of stakeholders, including campus and district staff, as the primary intervention for junior high school students receiving intervention in the special education setting. It was chosen for many reasons, including the evidence-based research behind the program, the personalized learning model, and student-driven learning; it meets standards of evidence under the Every Student Succeeds Act (ESSA), and the program provides teachers with progress monitoring tools to individualize instruction and assess without testing (*Lexia® PowerUp Literacy® Efficacy Research, 2022*). Due to the features of the program, the peer-reviewed research on the effectiveness of the Lexia PowerUp literacy program, and the initial and continual professional development offered by the company, it was an easy decision for the team to make in selecting it for the primary intervention for secondary struggling readers (*Lexia® PowerUp Literacy® Efficacy Research, 2022*).



***Long Term Goal***

By building the capacity of the teachers to teach foundational reading skills, they were able to individualize and differentiate instruction for students in sixth-grade English Language Arts and Reading Resource classes. This is in addition to following the fidelity guidelines of the program, and with district support and guidance, teachers should have felt more confident in growing students in reading. As a result, sixth-grade Special Education students will increase their scores in approaches and meets grade level on the State of Texas Assessments of Academic Readiness (STAAR) test.

**Positionality**

The positionality of the researcher needs to be addressed. The researcher was not only an employee of the school district being evaluated, but they were also the individual overseeing the intervention's implementation for special education students. According to how Perry et al. (2020) describes positionality, this researcher was considered an insider collaborating with insiders. By working with the staff implementing the intervention, the researcher's evaluation of the results could also be interpreted as subjective. Additionally, social bias also needs to be considered. Staff may alter their responses to the survey being presented to be seen in a positive light by district-level staff.

One additional note on the evaluation process shall include the approval conditions of the school district. The researcher could not use any data or district resources accessible to them as an employee to conduct or implement this research. This was a considerable barrier to gathering meaningful data and feedback directly from staff implementing or overseeing the interventions.

### **Limitations**

This evaluation was limited in scope due to several factors. First, the sample was from sixth-grade resource students enrolled in sixteen junior high schools in one large suburban school district. This was small number of participants compared to the number of struggling older readers nationwide. This sample was also limited to students with disabilities. Ultimately, the term older struggling reader can encompass an extensive range of students at the secondary level, whereas this study solely focuses on the resource classroom. Additionally, student achievement was not tracked for one student group over time. This study only encompassed enrolled sixth-grade special education students in 2021.

The data collection process for this study included teachers voluntarily agreeing to submit information on their perceptions of implementation in their classrooms. This data was subjective and not based on observations or evaluations from instructional coaches or administrators. This subjectivity could have led to questions about the validity of the information provided. Therefore, all teacher surveys should be reviewed with this consideration in mind. Moreover, as teachers volunteered to participate in the study, the number of teachers that provide information was limited.

The timing of this study should also be a limitation. The study began during the COVID-19 pandemic. Initially, teachers and students simultaneously participated in virtual and in-person instruction during this timeframe. Virtual or blended instruction could impact the teachers' perceptions and student progress due to the learning environment. The effects of COVID-19 on learning loss and the added stressor of a pandemic are still unknown.

Lastly, the restrictions placed upon the researcher were also a limitation. The school district where this study takes place did not allow current staff members to access data within

their scope of practice as part of a research project. Therefore, the researcher could only access publicly available data to review.

## Chapter 2

### Review of Scholarly and Professional Knowledge

Early intervention has been a standard approach to helping students with difficulty with reading, according to research carried out in the previous decades (Wanzek et al., 2016; Wanzek et al., 2018). That focus has been essential in closing gaps in reading and math (Vaughn et al., 2012). Since then, many intervention programs have evolved and provided data to support the research. However, not nearly as much research or evidence supports intervening for older struggling readers, especially those with disabilities (Vaughn et al., 2012). This is troubling due to the recent increase of students qualifying for special education services, which has been significant since the Individuals with Disabilities Education Act of 1975 (U.S. Department of Education, 2020).

In addition to the rise in students requiring special education services and support, the National Assessment of Educational Progress (NAEP) reports year after year that only about thirty percent of Texas' students perform at or above proficient levels in reading in fourth and eighth grade (National Center for Education Statistics, 2019). Going back to 1992, "72% of fourth graders and 71% of eighth graders scored below proficient," and in 2003, "69% of fourth graders and 68% of eighth graders scored below the proficient level" (Scammacca et al., 2016, p. 759). In 2019, approximately 39% of fourth and 33% of eighth graders scored below basic (National Center for Education Statistics, 2019).

### **Response to Intervention/Multi-Tiered Systems of Support**

Historically, schools nationwide have implemented Response to Intervention (RTI) or Multi-Tiered Systems of Support (MTSS) to support reading intervention for struggling students. (Denton et al., 2013; Wanzek et al., 2016; Wanzek et al., 2018). Pyle and Vaughn (2011) define

this as an effective teaching process that is "a systematic way of (1) providing high-quality instruction/intervention matched to students needs *and* (2) using learning rate over time and level of performance *to* (3) make important educational decisions" (p. 2). This model of addressing student needs prioritizes research-based interventions and requires staff to regularly monitor student progress through assessments to make data-based decisions (Pyle & Vaughn, 2011).

RTI and MTSS systems are built on a three-tiered approach that increases in intensity based on student responses to interventions. The first tier consists of general education direct and explicit instruction in the core curriculum in the general education classroom (Denton et al., 2013). In general education, teachers must assess student learning and monitor their progress while identifying struggling students (Denton et al., 2013). Tier two instruction is when students are provided supplemental instruction in the general education classroom or a pull-out model (Denton et al., 2013). The most intensive interventions are provided to students in Tier Three. These students have shown that they are not responding to the current interventions and require a different approach and possibly a special education evaluation for a learning disability (Denton et al., 2013).

The primary focus of the target student population in research and practice in RTI or MTSS is in early intervention at the elementary level in grades kindergarten through third (Wanzek et al., 2016; Wanzek et al., 2018). This research and implementation of interventions has led to the prevention and remediation of reading deficits of young learners. Wanzek et al. (2018) add, "...the impact of reading interventions provided in the primary grades report higher average impacts on reading outcomes than interventions implemented in the upper elementary and secondary grades" (p.612).

It is essential to address that "more than eight million students in grades 4-12 are struggling readers" (Pyle & Vaughn, 2011, p. 4). Students who struggle to read early can continue to struggle throughout their lives (Graves et al., 2011). Graves et al. (2011) add, "74% of all children who have identified reading problems in the third grade continue to have identified reading problems in the sixth grade" (p. 74). This ongoing struggle leads to higher-than-average dropout rates for older struggling readers in middle and high school than their peers (Graves et al., 2011; Pyle & Vaughn, 2011).

As struggling readers progress through the tiers of intervention and grade levels, they face barriers to their progress. Researchers point out that there is a lack of evidence of the effectiveness of tiered interventions for students who continually struggle to read, especially those in middle and high school (Ciullo et al., 2016; Denton et al., 2013; Graves et al., 2011; Vaughn et al., 2012). Additionally, several barriers exist to implementing a tiered intervention model at secondary schools. Barriers include "scheduling conflicts availability of and access to technically adequate screening and progress monitoring tools, pervasive reading difficulties, and an emphasis on testing" (Ciullo et al., 2016, p. 44).

### **Interventions**

Though much research has been conducted over the last hundred years in reading interventions, the focus of the studies has shifted over the years (Scammacca et al., 2016). Initially, practitioners looked at the etiology of struggling readers and the best ways to remedy the problem (Scammacca et al., 2016). Older struggling readers were first identified as a target population for interventions during World War I when the military recognized that some men could not read simple written materials (Scammacca et al., 2016). In recent years, researchers

have been looking for evidence-based practices to improve student achievement outcomes (Scammacca et al., 2016).

Slavin et al. (2008) conducted a study to determine which intervention programs are the most effective for secondary learners. The research team identified four programs that showed moderate positive effects for middle and high school students (Slavin et al., 2008). Those programs were The Reading Edge, Student Team Reading, READ 180, and Jostens (Slavin et al., 2008).

According to Institute of Education Sciences (2012), The Reading Edge is a component of a more extensive program, Success for All. The Reading Edge uses explicit instruction and a collaborative approach to learning in small ability groups to build background knowledge to develop comprehension skills. According to their research parameters, Slavin et al. (2008) report a moderate positive effect of this program. A few years later, Institute of Education Sciences (2012) only reported a small effectiveness level in the comprehension category. Only one study evaluated for The Reading Edge meets the Institute of Education Sciences (2012) standards for efficacy.

Student Team Reading is another collaborative learning program with explicit instruction and high-interest reading materials (Institute of Education Sciences, 2011). The target growth area is reading comprehension, but it also adds a writing element that differentiates this program from the others. Again, though Slavin et al. (2008) report moderate effect sizes, Institute of Education Sciences (2011) offers a potentially positive effect in reading comprehension only, and none of the studies evaluated by the Institute for Education Sciences meet their evidence standards for efficacy.

READ 180 has the most recent and positive intervention report from Institute of Education Sciences (2016) of the intervention programs discussed thus far. According to the 2016 report, "READ 180 was found to have positive effects on comprehension and general literacy achievement, potentially positive effects on reading fluency, and no discernable effects on alphabets for adolescent readers" (Institute of Education Sciences, 2016, p. 1). This program targets students reading two or more grades below levels and is delivered in a blended learning model. The blended learning model consists of a teacher delivering instruction in a whole, small group, and students working independently with computer-assisted instruction (CAI).

The last intervention program Slavin et al. (2008) identified as having moderate positive effects was Jostens. This program is now referred to as Odyssey Reading. Institute of Education Sciences could not determine Odyssey Reading's effectiveness as of 2012. Slavin et al. (2008) note that this program also utilized the CIA to deliver instruction. All intervention components were web-based, and students participated in small-group instruction. Teachers were able to access progress monitoring tools to individualize instruction as needed.

In another study, Williams and Vaughn (2019) discussed an intervention program called Reading Intervention for Adolescents or RIA. This intervention program is grounded in "automatic information processing and cognitive-behavioral theory" (p. 155). This program is the first mention of the specific use of cognitive-behavioral theory embedded in instructional practices, the root of which is to teach the students specific strategies to generalize their understanding in other contexts (Williams & Vaughn, 2019). The automatic information processing component refers to teaching a skill to automaticity and scaffolding instruction to more complex skills when foundational skills are mastered (Williams & Vaughn, 2019).



Research has shown that RIA has a "small-to-moderate effect on word reading and comprehension measures" (Williams & Vaughn, 2019, p. 155).

For this study, the researcher is implementing the Lexia PowerUp literacy program. Though it was not noted in the Slavin et al. (2008) study, there is early research from What Works Clearinghouse related to the elementary precursor for this program called Lexia Reading. In 2009, the Institute for Education of Sciences rated Lexia Reading as having "potentially positive effects on alphabets, no discernable effects on fluency, potentially positive effects on comprehension, and no discernable effects on general reading achievement" (Institute of Education Sciences, 2009, p. 1).

The Lexia PowerUp literacy program targets adolescents and combines personalized learning with CIA and direct and explicit instruction from the teacher. Additionally, students have the opportunity to engage in independent practice activities. The program developers have provided their research related to efficacy. Ultimately, the research shows a correlation between progress in the intervention program and achievement on standardized assessments (*Lexia® PowerUp Literacy® Efficacy Research, 2022*).

### **Special Education**

Special education supports and services are provided through a continuum of services in which the least restrictive environment is always the paramount consideration (U.S. Department of Education, 2020). This continuum begins with services provided by special education staff in the general education classroom and instruction provided in a fully self-contained residential treatment facility (U.S. Department of Education, 2020). For this research, the sixth-grade resource classroom is the target for the intervention.

A resource classroom is a pull-out form of small group intensive intervention delivered by special education teachers and designed to meet the needs of the students based on their Individualized Education Program (Lemons et al., 2018). Typically, placement in a resource classroom is determined by the IEP team due to the student performing significantly below grade level in a content area (Lemons et al., 2018; Haynes & Jenkins, 1986). Lemons et al. (2018) discussed research results that showed intervention in resource classrooms is "generally low quality, was delivered in large groups, and had limited alignment with research-based reading recommendations" (p. 134).

Staff need to consider the impact on student progress when placing students in a special education setting for their reading instruction, regardless of age. Studies have shown the effectiveness of these programs for students with specific learning disabilities, such as Dyslexia. Shaywitz (2003) cautions readers by stating, "Special-education programs tend to stabilize the degree of reading failure rather than close the gap between a dyslexic student and his classmates" (p. 281). She provides several data-based examples of how special education programs lack systematic and explicit reading intervention programs (Shaywitz, 2003). Shaywitz sums up the information by stating, "The result is that the most needy students tend to receive the *least* reading and language instruction" (2003, p. 282)

Implementing a reading intervention program in the resource classroom is the key to overcoming this reading deficit. An evidence-based program requires teachers to provide explicit and systematic instruction. Shaywitz (2003) suggests, "...studies show that children receiving the new scientifically based programs made large and lasting reading gains, far surpassing their previous rate of growth" (p. 282). However, for the intervention program to be successful,

teachers need training in teaching, following the program with fidelity, and individualizing the instruction for students based on data.

In the resource setting in the school district being evaluated, students receive instruction in a small group (no more than ten students to one teacher) for an entire class period or block of periods for English language arts and reading. A teacher certified in special education provides all content instruction, support, and services in this separate classroom. This smaller student-to-staff ratio allows teachers to individualize instruction while monitoring progress and providing feedback (Vaughn & Linan-Thompson, 2003).

Several themes are evident in reviewing research conducted over the past decade in interventions for older struggling readers with disabilities. These themes include fidelity of implementation for the intervention (Benner et al., 2010; Hock et al., 2016; Leko et al., 2014), professional development for teachers (Hock et al., 2016; Vaughn et al., 2011; Wanzek et al., 2011) and the need for individualized instruction (Filderman et al., 2018; Legere & Conca, 2010; Leko et al., 2014; Scammacca et al., 2016; Vaughn et al., 2011). In addition, the degree of instructional gain for secondary students with disabilities compared to non-disabled peers or peers who are not participating in interventions is also an essential piece of data to review.

### ***Fidelity of Implementation***

Several researchers specifically chose fidelity as a critical factor to successful implementation and student progress outcomes for reading intervention for struggling readers (Benner et al., 2010; Cantrell et al., 2013; Hock et al., 2016; Leko et al., 2014). "Fidelity of implementation is traditionally defined as the extent to which the intervention is implemented as designed during an experimental study." (Benner et al., 2010, p. 79). In addition, Benner et al. (2010) hypothesized that "adherence and quality of delivery" were "critical to achieving

improved student outcomes" (p.79). Thus, the fidelity of a reading intervention program implementation is essential to student outcomes.

According to Benner et al. (2010), "Narrowing and even closing the reading achievement gap at the middle school level is feasible when scientifically based reading instruction is delivered with fidelity" (p. 87). Unfortunately, Vaughn and Linan-Thompson (2003) note that little research is related to fidelity and a special educational setting. The fidelity of implementing an intervention in a resource setting would be another area to research further in the future. The fidelity of instruction at the secondary level also needs to be investigated further.

Cantrell et al. (2013) contend that secondary teachers do not teach reading skills with fidelity as they feel unprepared to address the needs of struggling students. Another reason Cantrell et al. (2013) feels teachers do not "implement practices and procedures with high fidelity" is subsequently, "learning to become an effective teacher of strategic processing is a lengthy process that often takes as many as three years to learn and feel comfortable implementing" (p. 28).

As the effectiveness of programs is evaluated, fidelity is often measured via teacher or evaluator-completed checklists. The utilization of inventories as a measurement tool is evident in the Benner et al. (2010), Hock et al. (2016), and Vaughn et al. (2011) studies. Anything from classroom management to following a scripted lesson, lesson duration, frequency, and how students are reinforced can be measured in this way. In the studies mentioned above, all information was accumulated by observations and teacher feedback. This research concludes that a checklist would be the most common quantitative data gathering for teacher fidelity in implementing a reading intervention program.

It is essential to note that when teachers use a specific intervention program, they frequently veer off from the script developed by the program publisher and adjust instruction as they see fit. For example, Leko et al. (2014) looked at the teacher-created adaptations of supplemental lessons, supplemental materials, games, adjusted groupings of students, the elimination of whole group instruction, and the proportional use of the computer-based instruction component of the intervention. Unfortunately, these teacher adaptations lead to an interruption of the intended fidelity of the specific intervention program.

Though teacher adaptations to the fidelity of a program can be problematic, the reasoning behind this decision must be examined. Cantrell et al. (2013) contend that teacher self-efficacy, and perhaps animosity, plays a role in instructional delivery and student outcomes. Teacher self-efficacy relates to "a teacher's beliefs about her own abilities to influence students learning," whereas animosity relates to their unwillingness to change their current practices (Cantrell et al., 2013, p. 32).

The research conducted in special education resource classrooms on the fidelity of teaching reading, teacher efficacy, and its outcomes on achievement is limited (Haynes & Jenkins, 1986). In this case, the fidelity of instruction refers to the amount of time of intensive reading instruction and the type of instruction (indirect or direct) (Haynes & Jenkins, 1986). Williams and Vaughn (2020) also agreed on the need for more research in this area in their much more recent study.

Teachers and implementation personnel must understand the Lexia PowerUp literacy program's fidelity expectations. Fidelity entails adhering to the program's implementation requirements, such as the weekly online usage requirements, monitoring target skills, delivering

Lexia Lessons in small groups, and assigning Skill Builder activities for individual practice. Teachers should collaborate with students to track goals and recognize accomplishments.

### **Professional Development of Teachers**

Teachers require professional development to ensure that an instructional program or curriculum can be implemented as intended. Continuing professional development of teachers is provided by direct instruction from trainers and can include follow-up training, coaching, and feedback to sustain capacity (Hock et al., 2016; Vaughn et al., 2011; Wanzek et al., 2011). The time spent training teachers differs significantly from program to program, and each has many variables. For example, the length of training time and other factors can also depend on the prior knowledge the teachers already have and their years of experience. Unfortunately, there was a dearth of evidence for the ideal training time for a reading intervention teacher.

In a study by Wanzek et al. (2011), teachers received six hours of professional development training before implementing a new reading intervention program and met monthly for study groups. During the study groups, teachers could ask questions and plan future lessons. Teachers also had the opportunity to request coaching in their classrooms. During the Vaughn et al. (2011) study, teachers participated in sixty hours of professional development before the implementation.

In comparison, as part of the Hock et al. (2016) study, teachers, district-level administrators, and campus-level administrators participated in the program training. Teachers participated in six full days of professional development throughout the school year. They also received instructional coaching and observed model lessons during the school year (Hock et al., 2016). After reviewing these various studies, it is evident that views on required professional development differ significantly between programs (Hock et al., 2016; Vaughn et al., 2011;

Wanzek et al., 2011). In addition to teachers needing training, the needs of the individual students must be identified by the data evaluation.

Ideally, professional development should include evidence-based strategies and guidance on how to teach students who are struggling to read (Serry & Oberklaid, 2015). "The core components of classroom reading instruction are phonemic awareness, synthetic phonics, reading fluency, language building, and repeated opportunities for practice (Serry & Oberklaid, 2015, p. 24). For reading intervention, the special education teacher would target these components with more intensity in small groups. Therefore, special education teachers must be trained in each of these elements in addition to delivering the specific program.

Though professional development is essential in the components of reading, teachers should also be provided ongoing coaching that includes modeling from a mentor (Podhajski et al., 2009). Teachers can implement their learning immediately by pairing professional development with job-embedded training. "This is the only way we can begin to close the reading gap and reduce the number of children who struggle daily to become efficient readers" (Podhajski et al., 2009, p. 414). Moats (2020) notes that teachers only sometimes have opportunities to access model teachers or receive coaching in the classroom. Moats (2020) agrees that this, in addition to training, is essential to "support the development of skills new teachers need to manage the range of reading levels and instructional challenges they will encounter in their classrooms" (p. 21).

### **Individualized Instruction**

Across several studies, the identified need to intervene for struggling readers with and without disabilities, regardless of age, is evident (Vaughn et al., 2021; Wanzek et al., 2016; Wanzek et al., 2018). However, there are mixed outcomes regarding the needed interventions,

how they are delivered, and how or if they need to be individualized based on the student's needs. For example, according to Graham et al. (2007), "At this time, all educators and education systems are searching for cost-effective ways to address students' learning challenges through adjustments to classroom instruction and a range of support models" (p. 410).

In a compelling case study by Legere and Conca (2010), there is an in-depth look at how individualizing interventions based on specific needs can positively impact them. Legere and Conca (2010) developed a plan based on student assessments, evaluation, and data collection. They then developed an individualized learning plan where the general and special education teachers intervened and collaborated. This process allowed the team to target specific needs and produce positive results.

Leko et al. (2014) studied how teachers adapt the fidelity of an intervention program in many ways. The research found that teachers adapt instruction for several reasons, but ultimately, they attempt to "meet their students' needs." (Leko et al., 2014, p. 176). The teachers felt they knew what their students needed to succeed in their classes. Further study would be necessary to determine if the chosen adaptations have any impact.

The entire target of a study conducted by Vaughn et al. (2011) focused on determining if there were positive outcomes from individualizing the instruction of an intervention program compared to standard protocol instruction. The decision to individualize instruction was a data-based decision from weekly assessments. Even though there was an ability to individualize instruction, fidelity measures were still maintained and assessed. Researchers found "no statistically significant differences between the two treatments." (Vaughn et al., 2011, p. 404).

In more recent research reviewing targeting individualization of intervention, Filderman et al. (2018) and Lemons et al. (2018) used data-based decision-making or data-based



individualization (DBI) to determine how to support struggling readers in their intervention. It is general knowledge that struggling students benefit from intensive intervention. However, Filderman et al. (2018) pointed out that "50% of students with disabilities do not respond adequately to these same reading interventions" (p. 174). Nevertheless, the study yielded several positive results for those groups that used data-based decision-making for students in reading intervention programs. "Although there were large positive effects associated with individualized intervention, results indicate that more research is needed to determine which approach is more effective." (Filderman et al., 2018, p. 184). Fuchs (2020) notes, "Research on the efficacy of DBI shows that it helps teachers plan stronger, more strategic programs that accelerate academic growth of struggling students with and without disabilities" (p. 16).

As this study looks at a special education setting for instruction, it is also essential to include the concern that students need to receive the specialized and individualized instruction they need to progress in a resource classroom (Moody et al., 2000). The Individuals with Disabilities Education Act clearly outlines that students with disabilities require specially designed instruction to access and progress in the curriculum. Moody et al. (2000) add that this is particularly important in reading.

During the literature review, three factors related to implementing reading interventions for students were present in several studies. Those factors included:

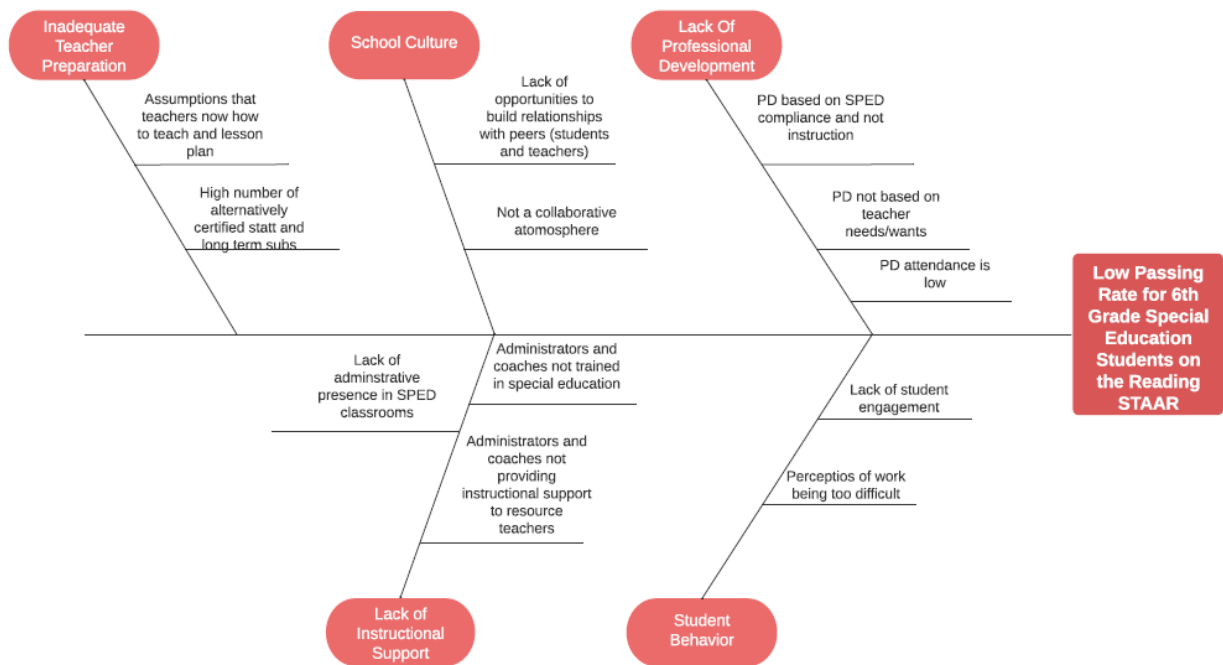
1. All teachers implementing an intervention program must participate in professional development to learn the program's purpose and components. In addition to initial training, teachers also require coaching, feedback, and follow-up training.
2. As teachers initiate the instruction, they must ensure that they follow the program's fidelity outlined by the developer. Fidelity is essential to ensuring student progress.

3. Instruction needs to be data-based and individualized for students to progress.

### Working Theory of Improvement

The factors derived from the literature review and the Networked Improvement Community (NIC) collaboration created a root cause analysis (Figure 5). This analysis determined that the primary sources of special education students not achieving in reading compared to their peers were inadequate teacher preparation, school culture, lack of professional development, lack of instructional support, and student behavior.

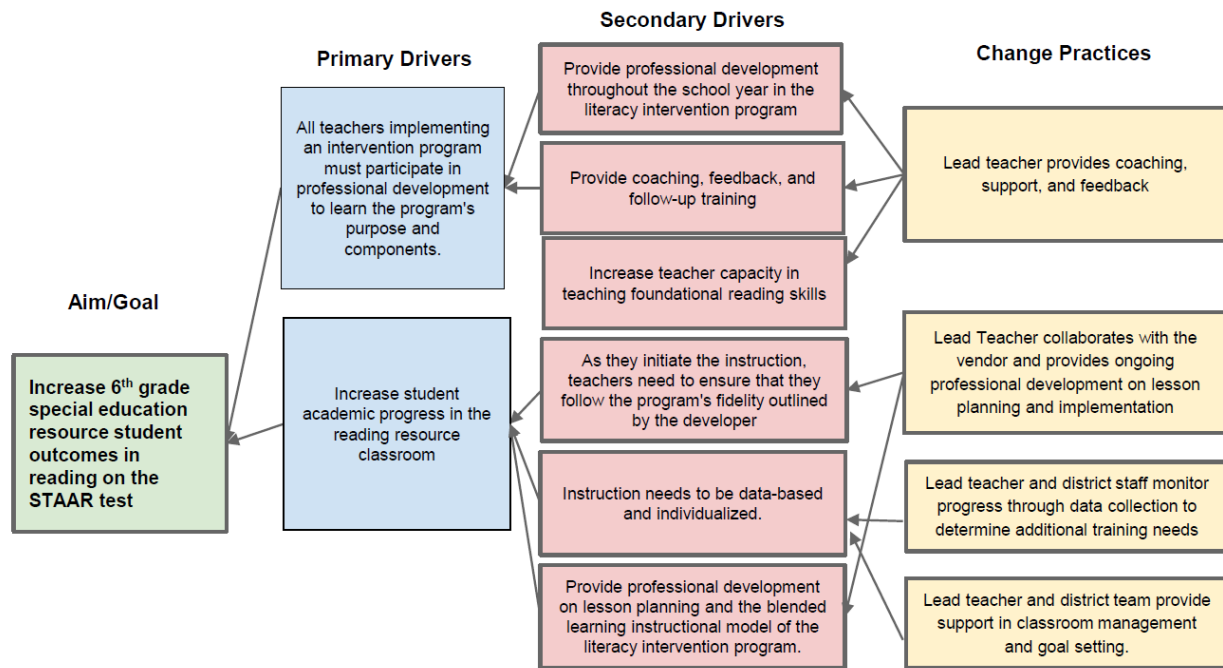
**Figure 5**  
*Fishbone Diagram*



This collaborative effort of the NIC allowed the researcher to determine and organize the steps to drive the change ideas in the intervention. With this information, the researcher created an updated Driver Diagram (Figure 6). The update includes more specific areas for improvement in the change practices for the evaluation based on the review of literature.

**Figure 6**

*Updated Driver Diagram*



These improvement tools provided the researcher with a working theory of improvement with specific areas to target and drive the goal of improving sixth-grade special education student outcomes in reading (Perry et al., 2020). Though many areas were identified as areas of need for this school district, only professional development was a form of intervention aligned to the problem of practice for this study. Professional development was targeted to build capacity in teachers and instructional leaders at the campus level. Data were collected to monitor teacher efficacy and implementation fidelity related to the professional development opportunities provided throughout the evaluation process.

Several change ideas were presented while creating the Driver Diagram (Figure 7). Though all will be beneficial to increasing teacher efficacy and capacity in teaching reading to struggling readers, only professional development on implementation was targeted as part of this

study. Focusing on support in classroom management is another critical area for teachers to engage students in learning. With effective classroom management, students could engage in the blended learning structure of the Lexia PowerUp literacy program. A system would need to be developed for the district to support teachers in this area. The system would need to include classroom organization training, and specific behavior supports such as positive behavioral interventions and supports (PBIS). PBIS can be implemented in a proactive classroom management system and be intensive support for students with significant behavior needs (Center on PBIS, n.d.).

Another key to classroom management and student engagement while intervening in reading would be to have students set goals individually. Goal setting would assist the students in motivating them to engage in the intervention and provide opportunities for the teacher to celebrate success with the students. Also, this process would enable students to take ownership of their learning. Though goal setting is part of the Lexia PowerUp literacy program online component, it will not be evaluated during this research project.

Another change effort that would impact student achievement in reading is collaboration and guidance in lesson planning for individual students. Lesson planning should be based on individual student goals and progress within the program and on IEP goals and objectives. Though this process is essential for instruction, the district in this evaluation has limited resources to provide this guidance to individual teachers.

Typically, this process would occur through a professional learning community on campus or at another location. Due to the confidential nature of student data and progress, this would have to occur in a one-on-one session with each teacher. As stated previously, the district

lead teacher also supports all grade levels and campuses in the district. Therefore this intervention will not be implemented during this evaluation.

In a reading intervention program, specific skills must be targeted for individual students, as all students have different learning needs and gaps (Filderman et al., 2018). It is also important to note that students that receive special education support and services are entitled to a free and appropriate public education (FAPE) in their least restrictive environment (U.S. Department of Education, 2020). Therefore, as teachers review students' needs, they must refer to their Individual Education Program or IEP to individualize instruction. This study will focus on implementing the Lexia PowerUp literacy program in secondary special education resource classrooms to improve student outcomes in reading.

## Chapter 3

## Evaluation of the Problem of Practice

**Abstract**

In this evaluation of the problem of practice, the researcher implemented a reading intervention program for sixth-grade special education students in resource classrooms. To begin the intervention program, teachers were required to attend Lexia PowerUp literacy program training before the school year began, along with supplemental training throughout the school year. In addition to the professional development, teachers could access the Lead Reading and Language Arts teacher for coaching and modeling of instruction. Teachers were also provided expectations for implementing the reading intervention program with fidelity from the vendor and the school district. This evaluation aimed to improve outcomes for sixth-grade special education students in reading. Outcomes were analyzed using quantitative and qualitative data sources. The researcher reviewed progress data for each campus implementing the program in word study, grammar, comprehension, and state assessment scores for the quantitative component.

For qualitative measures, teachers volunteered to provide feedback on their perceptions of implementing the intervention program with fidelity. The researcher determined that all the campuses that implemented the intervention program made progress within the program, and overall, teachers reported implementing the program with fidelity. However, state assessment scores decreased slightly. Limitations of this study included the inability to disaggregate state data between the total population of special education students and those receiving instruction in the resource setting as well as the inability to access special education-specific student data within the Lexia PowerUp literacy program due to restrictions placed on the researcher from the school district.

*Keywords: special education, intervention, literacy program, fidelity*

## Introduction

When it comes to helping students with trouble reading, the most common recommendation is to start them off on the right track as early as possible. According to Vaughn et al. (2012), this concentration has been essential in reducing achievement inequalities in reading and mathematics. Since then, many intervention initiatives have progressed and supplied data to support the research.

Unfortunately, according to Vaughn et al. (2012), there is less study or evidence to suggest intervention for older people with difficulty reading. This is especially true for people who have disabilities. The need for more research is concerning because there has been a recent rise in the number of kids who meet the requirements for special education services. This rise has been significant since the Individuals with Disabilities Education Act was passed in 1975 (U.S. Department of Education, 2020). In addition to the increase in the number of students who require services and support from special education, the National Assessment of Educational Progress (National Center for Education Statistics, 2019) reports that only about thirty percent of students in Texas perform at or above proficient levels in reading in fourth and eighth grade. This data is especially worrisome as the number of students requiring special education services and support has risen.

When reviewing research conducted over the previous ten years in the field of interventions for older people who are having trouble reading and have disabilities, some common themes emerge. These themes include fidelity of implementation for the intervention (Benner et al., 2010; Hock et al., 2016; Leko et al., 2014), professional development for teachers (Hock et al., 2016; Vaughn et al., 2011; Wanzek et al., 2011) and the need for individualized instruction (Filderman et al., 2018; Legere & Conca, 2010; Leko et al., 2014; Vaughn et al.,

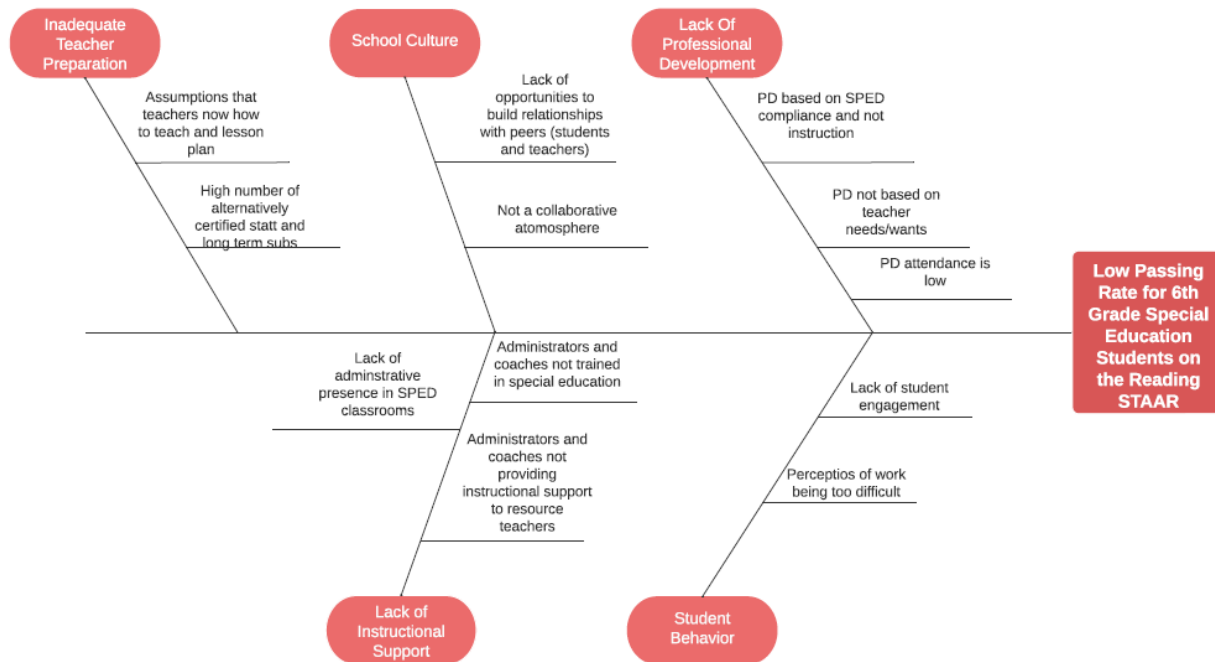


2011). In addition, the degree of instructional gain for secondary students with disabilities compared to non-disabled counterparts or peers who are not participating in interventions is also a significant piece of data to analyze. This can be done by comparing the students with and without impairments to peers not participating in interventions.

This evaluation uses the design-based implementation research model (Penual et al., 2011). There are specific components of this design that are the primary focus of this study which are "(1) a focus on persistent problems of practice from multiple stakeholders' perspectives, (2) a commitment to iterative, collaborative design, (3) a concern with developing theory related to both classroom learning and implementation through systematic inquiry, and (4) a concern with developing capacity for sustaining change in systems" (Penual et al., 2011, p. 332). Specifically, multiple stakeholder perspectives were collected through a network improvement community (NIC) and described in a Fishbone Diagram (Figure 7).

**Figure 7**

*Fishbone Diagram*



The NIC concentrated on being user-centered when creating the root cause analysis, and for this study, the users were the classroom teachers. The focus of the discussions was on understanding the reasons why special education students were not improving in reading proportionately. The main criteria for evaluation and intervention in the resource classes changed to focus on who was delivering the lesson, what resources were being used, and teacher preparation. Inadequate teacher preparation, school culture, a lack of professional development, a lack of instructional assistance, and student behavior are just a few of the significant concerns that the NIC agreed upon.

Additional data on fidelity of implementation was gathered by administering a teacher survey. Teachers were asked to respond to seven questions by rating themselves in the

categories of implemented consistently, implemented but not yet consistent, and not yet implemented as shown in Figure 8.

**Figure 8**

*Teacher Survey*

<b>Green</b>	= Implemented consistently
<b>Yellow</b>	= Implemented but is not yet consistent
<b>Red</b>	= Not yet implemented

**Fidelity in the Classroom**

Skills/Actions	Green	Yellow	Red	Next Steps
Students use the online component. (If you cannot meet recommendations, try to meet at least 30 minutes per week per strand.)				
Teacher (or designated adult) delivers Lexia Lessons®.				
Teacher uses skill-based grouping for small group instruction and delivers targeted instruction to address skill deficits.				
Students work on Lexia Skill Builders®.				
Teacher encourages students to monitor progress by using <b>Your Progress Tile</b> on student dashboard.				
Teacher helps students reflect, set goals, and track progress.				
Teacher celebrates student success. (e.g., Certificates, Your Progress Tile, classroom incentives).				

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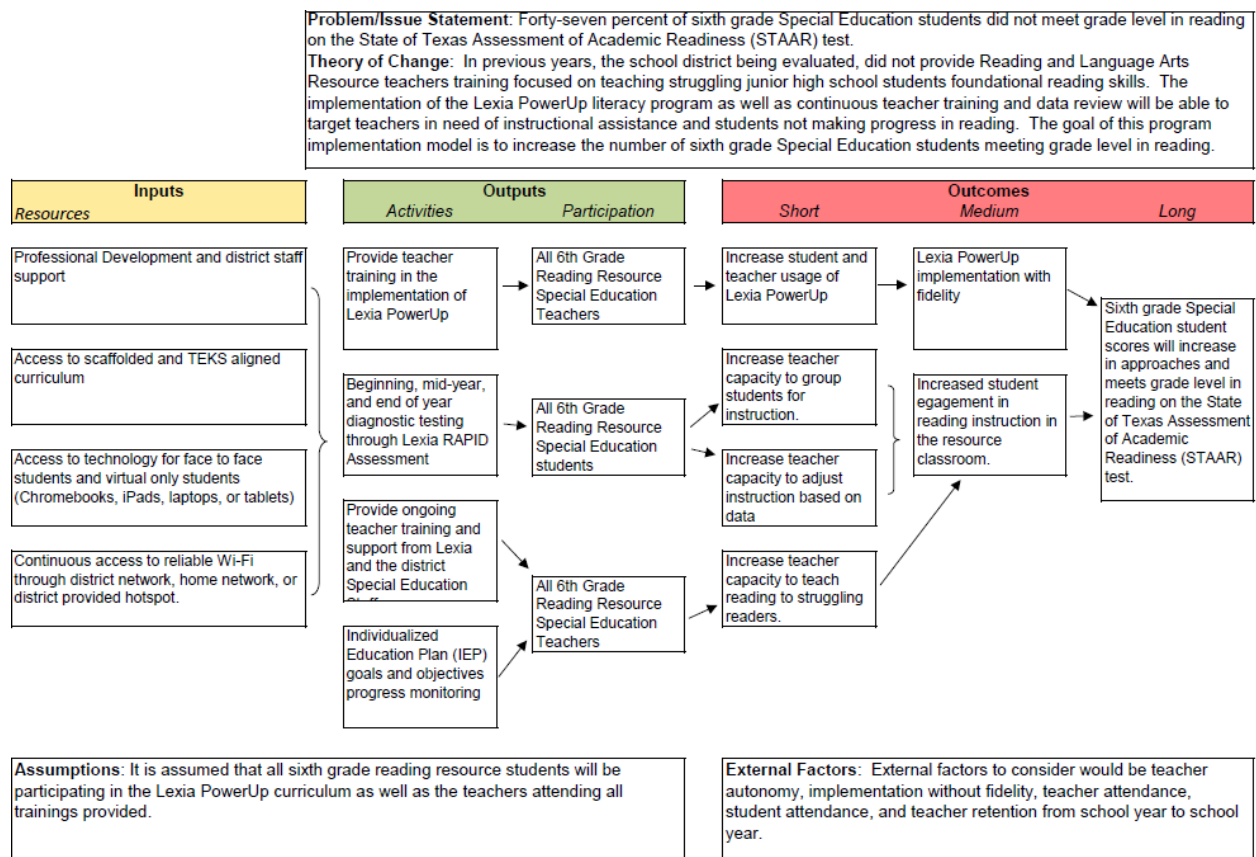
In this study, fidelity refers to the instructors' adherence to the Lexia PowerUp literacy program's implementation criteria established by the program's publisher and the standards set by the Department of Special Education. The requirements for implementation included students completing the weekly thirty-minute word study, grammar, and comprehension online usage requirements, teachers checking the online portal to spot target skills for direct instruction

weekly, teachers delivering Lexia Lessons in small groups, and teachers assigning Skill Builders for independent practice. It was also important for teachers to celebrate student success as they are monitoring goals, students set for themselves.

A logic model (Figure 9) was then developed to determine the theory of change as related to teacher professional development and support with the aim of improving special education student outcomes in reading.

**Figure 9**

*Logic Model*



Historically, special education teachers were only provided professional development in compliance for their roles as case managers. The Department of Special Education focused on training in Individualized Education Program (IEP) writing, data collection, and progress

monitoring in relation to the IEP goals written. Building teacher capacity in teaching older students with disabilities foundational reading skills is the aim for this theory of change in which the ultimate goal is student achievement in reading on the state assessment.

### **Literature Review**

The least restrictive environment is always essential in providing support and services for special education (U.S. Department of Education, 2020). According to the U.S. Department of Education (2020), this continuum begins with special education professionals delivering services in a general education classroom and instruction in a self-contained residential treatment facility. In this study, the secondary resource classroom is the target of the intervention. In the resource setting, children receive reading and English language arts instruction in small groups (a maximum of ten students per teacher) for an entire class period or block. A special education-certified instructor provides all content instruction, assistance, and services in this specialized classroom. With fewer students per employee, teachers can personalize instruction while monitoring student development and providing feedback (Vaughn & Linan-Thompson, 2003).

When placing a student in a special education setting for reading instruction, the staff must consider the effect on the student's development regardless of age. According to Shaywitz (2003), these programs are advantageous for assisting students with specific learning difficulties, such as dyslexia. By asserting that "Special-education programs tend to stabilize the degree of reading failure rather than close the gap between a dyslexic student and his classmates" (Shaywitz, 2003, p.281). Shaywitz (2003) provides numerous evidence-based examples demonstrating the lack of explicit and systematic literacy intervention programs in special education. Shaywitz (2003) summarizes the data by stating, "The result is that the most needy students tend to receive the least reading and language instruction" (p. 282).

Implementing a reading intervention program in the resource classroom is the key to addressing this literacy deficiency in special education. Instructors must provide clear and organized instruction to implement a program based on evidence. Shaywitz's assertion states, "Studies show that children receiving the new scientifically based programs made large and lasting reading gains, far surpassing their previous rate of growth" (2003, p. 282). Still, for the intervention program to be effective, teachers must receive training, strictly adhere to the program, and tailor lessons to each student based on data.

### **Fidelity**

Several studies have identified fidelity as a crucial component of practical implementation and student improvement outcomes for reading interventions for struggling readers (Benner et al., 2010; Vaughn & Linan-Thompson, 2003). The degree to which an intervention is implemented precisely as intended by the publisher of a program is the traditional definition of implementation fidelity (Benner et al., 2010). Moreover, according to Benner et al. (2010), "adherence and quality of delivery" were "critical to achieving improved student outcomes" (p. 79). Therefore, the success of a literacy intervention program is contingent upon its implementation. Benner et al. (2010) state, "When scientifically based reading instruction is delivered with fidelity, narrowing and even closing the reading achievement gap at the middle school level is feasible" (p. 87). According to Vaughn and Linan-Thompson (2003), more research needs to be conducted on fidelity in special education settings. They agree that future research should also concentrate on implementing interventions in resource settings.

When evaluating the effectiveness of a program, instructors or evaluators often use checklists to assess its fidelity. Benner et al. (2010), Hock et al. (2016), and Vaughn et al. (2011) demonstrate the use of inventories as a method of measurement. This method can evaluate

classroom management, lecture script adherence, lesson duration, frequency, and how students are provided positive feedback. Observations and teacher comments were used to collect all the data for the studies as mentioned above. According to the collective findings (Brenner et al., 2010; Hock et al., 2016; Vaughn et al., 2011), a checklist would be the most common way to collect quantitative data on the frequency with which instructors implement reading intervention programs.

When implementing a particular intervention program, it is essential to discuss the frequency with which teachers deviate from the publisher-created lesson plan and customize instruction to their preferences. For example, Leko et al. (2014) analyzed the proportional utilization of the computer-based instruction component of the intervention and the teacher-created adaptations of additional lessons, supplemental materials, activities, and altered student groupings. Unfortunately, these instructor modifications compromise the intended fidelity of the specific intervention program.

### **Professional Development of Teachers**

Instructors must have the appropriate preparation to ensure that a curriculum or instructional program can be implemented. Trainers provide teachers with ongoing training, including counseling, feedback, and follow-up training to maintain capacity (Hock et al., 2016; Vaughn et al., 2011; Wanzek et al., 2011). Program to program, the amount of time spent on teacher preparation varies significantly, and each program has unique factors. For example, the teachers' prior knowledge and expertise may influence the required training and other factors. Unfortunately, there was little information regarding the optimal preparation period for a literacy intervention teacher.

Before adopting a novel reading intervention program, teachers received six hours of professional development training in a study by Wanzek et al. (2011). In addition, teachers met weekly for study groups. Teachers could pose queries during the study groups and plan upcoming lessons. Additionally, instructors have the option to request classroom coaching. Teachers in the Vaughn et al. (2011) study participated in sixty hours of professional development prior to implementation.

In contrast, participants in the Hock et al. (2016) study included instructors, district-level administrators, and campus-level administrators. During the school year, teachers participated in six full professional development days. During the school year, they also received instructional coaching and observed model lectures (Hock et al., 2016).

After analyzing these various studies, it is evident that programs hold vastly divergent views regarding what constitutes necessary professional development (Hock et al., 2016; Vaughn et al., 2011; Wanzek et al., 2011). Therefore, in addition to identifying the needs of each student, the data analysis must also identify the training needs of instructors.

### ***Individualized Instruction***

Multiple studies demonstrate that problematic readers of any age, with or without disabilities, require intervention. However, there are contradictory findings regarding the necessary interventions, their implementation, and whether they should be individualized for each pupil. Graham et al. (2007), for example, state: "At this time, all educators and education systems are searching for cost-effective ways to address students' learning challenges through adjustments to classroom instruction and a range of support models" (p. 410).

In the research, teacher professional development, individualized education, and implementation fidelity are also important factors (Benner et al., 2010; Filderman et al., 2018;



Hock et al., 2016; Vaughn et al., 2011; Wanzek et al., 2011). Each of these variables impacts student learning. However, when struggling readers are mature, correcting the disparities is a lengthy process with modest gains.

Graham et al. (2007) and Legere and Conca (2010) examined the advantages of individualizing interventions based on specific needs in depth. Legere and Conca (2010) formulated a strategy based on data collection, evaluation, and student assessments. The general and special education instructors then collaborated to develop a personalized learning plan. Using this method, the research team could focus on specific requirements and deliver positive. Leko et al. (2014) investigated how instructors modify an intervention program's fidelity. According to the study, teachers alter their lesson plans for various reasons, but their ultimate goal is to "meet the needs of their students" (Leko et al., 2014, p. 176). The educators believed they understood what students needed to excel in their courses. More research is required to determine whether the selected adaptations have any effect.

The purpose of a study conducted by Vaughn et al. (2011) was to determine whether individualizing the instruction of an intervention program yielded superior results to conventional protocol instruction. The data from weekly assessments informed the decision to personalize education. Even though training could be customized, fidelity standards were maintained and evaluated. The study's findings indicated "no statistically significant differences between the two treatments." (Vaughn et al., 2011, p. 404).

Filderman et al. (2018) and Lemons et al. (2018) used data-based decision-making or individualization to determine how to support struggling readers in their intervention in recent research that examined targeting individualization of intervention. It is common knowledge that struggling students benefit from intensive assistance. Alternatively, according to Filderman et al.

(2018), "50% of students with disabilities do not respond adequately to these same reading interventions" (p. 174). Nonetheless, the study yielded numerous positive results." Although there were significant positive effects associated with individualized intervention, results indicate that more research is needed to determine which approach is more effective." (Filderman et al., 2018, p. 184).

As this study analyzed a special education setting for instruction, it was crucial to address the concern that students in resource classrooms may need to receive the specialized and individualized instruction they need to advance in reading (Watson Moody et al., 2000). Individuals with Disabilities Education Act makes it abundantly clear that students with disabilities must receive explicitly adapted instruction to access and advance through the curriculum (U.S. Department of Education, 2020). Watson Moody et al. (2000) agree explicit instruction is essential to literacy.

### **Research Questions**

This study aimed to evaluate the implementation of the Lexia Power Up literacy intervention program in sixth grade resource classrooms. A large suburban school district adopted this program by the Special Education Department at the start of the 2020-2021 school year. This adoption aimed to provide a structured literacy program for reading intervention for students to make progress in reading.

The research questions for this study were 1) What percent of students made progress in each reporting category (word study, grammar, and comprehension) in Lexia PowerUp literacy program? 2) To what extent did the teachers feel they implemented the Lexia PowerUp literacy program with fidelity? 3) To what extent did the implementation of the Lexia PowerUp literacy

program increase student performance on the STAAR test? Specifically, what was the percentage increase for approaches and meets grade level?

## **Methodology**

### **Interventions**

The plan for the professional development activities was multifaceted and is reflected as a component of the logic model in Figure 9. In the summer of 2020, several optional opportunities for training for the overview of the program were offered to teachers and administrators. In August 2020, all sixth-grade Resource English Language Arts and Reading Teachers were required to attend a half-day training before the start of school. A half-day follow-up training was also provided to revisit the program delivery and fidelity in October 2020. These pieces of training were explicit and specific on guiding teachers to get started in the program and provided a lesson plan template for teachers to follow for implementation. Teachers were also provided an implementation plan, teacher manual, and guidance on lesson planning.

Outside of the vendor's direct training, the Lead Special Education Teacher for English Language Arts and Reading provided the teachers with direct support, data, and instructional modeling. Throughout the year, Lexia also provided coaching support via zoom for each campus, additional data for the district to monitor progress, and access to free webinars.

### **Intermediate Goals**

Building the capacity of the classroom teachers via ongoing and adaptive professional development was the intermediate goal of this evaluation plan. After teachers received initial training on implementing the Lexia PowerUp literacy program, additional opportunities were provided by the vendor and the school district's special education department. Teachers increased

their knowledge of teaching foundational reading skills for older struggling readers with disabilities. This, in turn, increased teacher fidelity of implementation and student achievement.

### ***Assumptions and Justifications***

The Lexia PowerUp literacy program was selected by a team of stakeholders, including campus and district staff, as the primary intervention for sixth-grade students receiving reading intervention in the special education setting. It was selected for many reasons, including the evidence-based research behind the program. The curriculum is scaffolded on the Texas Essential Knowledge and Skills (TEKS), the personalized learning model, and student-driven learning; the program meets standards of evidence under Every Student Succeeds Act (ESSA). The Lexia PowerUp literacy program provides teachers with progress monitoring tools to individualize instruction and assess without testing. Due to the program's features, the peer-reviewed research on the effectiveness of Lexia, and the company's initial and continual professional development, it was an easy decision for the team to make in selecting it for the primary intervention for secondary struggling readers (*Lexia® PowerUp Literacy® Efficacy Research, 2022*).

### **Long Term Goal**

By building the capacity of the teachers, they were able to individualize and differentiate instruction for students in sixth-grade English Language Arts and Reading Resource classes. This is in addition to following the fidelity guidelines of the program. As a result, sixth-grade Special Education students will increase their scores in approaches and meets grade level on the State of Texas Assessments of Academic Readiness (STAAR) reading test.

## **Data Collection**

### **Participants/Demographics**

For this study, sixth-grade English Language Arts and Reading Resource Teachers were surveyed. At the start of the 2020-2021 school year, the district being evaluated had sixteen junior high schools. On average, two sixth-grade English Language Arts and Reading Resource Teachers were at each campus. Subsequently the surveys were on a volunteer basis, the target number of responses was one teacher per campus or sixteen total responses per survey during the 2021 school year. The survey aimed to have teachers rate themselves on the fidelity of implementing the Lexia PowerUp literacy program based on their responses to seven questions presented.

The average student data to be retrieved from the vendor, Lexia was provided by the campus and reported as an average progress rate in each reporting category of word study grammar, and comprehension. Therefore, no individual student or teacher data were recorded. Student demographic data such as age, ethnicity, and gender are not currently housed in the data system and therefore was not collected in this study. At a minimum, each teacher had one class period for sixth-grade English Language Arts and Reading resource students. Student enrollment varied from campus to campus and year to year in sixth grade resource classes. It was projected that a minimum of two hundred students were enrolled in this course throughout the duration of this study.

### **Instruments**

Several forms of qualitative and quantitative data collection methods were used for this mixed methods study. Each teacher who participated voluntarily was provided informed consent before participating. Teachers then completed a checklist to self-assess the fidelity of PowerUp

literacy program implementation in the classroom (Figure 8). English Language Arts and Reading Resource Teachers rated themselves using three measures; implemented consistently, implemented but still need to be consistent, or not yet implemented on seven skills or actions.

The quantitative data collected for this study were based on the sixth-grade State of Texas Assessments of Academic Readiness (STAAR) reading score reports from the end of the 2021 school year. Furthermore, progress data collected from the Lexia PowerUp literacy program in word study, grammar, and comprehension was collected at the end of the school year. The researcher analyzed all qualitative data gathered for this study to determine themes, assess for additional training needs, and determine if individual teacher interventions were required. In addition, this data review will ensure that the PowerUp literacy program is implemented with fidelity district wide.

### ***Data Management Plan***

Institutional Review Board (IRB) approval was granted for this study in December 2020 and research within the school district in the evaluation was approved with conditions in February of 2021. Before providing the surveys to participants, informed consent was obtained. Also, the potential risks and benefits of participating in this study was fully explained to the teachers. All personally identifiable information from surveys and data from Lexia was removed to protect participant privacy.

## **Results**

Results of this study were reported using descriptive statistics, calculating scores and progress measures to determine the mean overall scores and responses. Campuses were assigned numbers for reporting purposes. It is important to note that there were twenty-eight special education resource teachers during the 2020-2021 school year implementing the Lexia PowerUp

literacy program. Additionally, the COVID-19 pandemic was still affecting the United States population which led to several teachers resigning mid-year and lengthy teacher absences.

Absences were covered with untrained long- and short-term substitute teachers. During this time, numerous students were accessing online instruction from home voluntarily or due to long term absences due to COVID-19 stay at home requirements when students tested positive. As students accessed online instruction, special education teachers were also teaching students in person at the same time.

**Research Question 1**

- 1) What percent of students made progress in each reporting category (word study, grammar, and comprehension) in Lexia PowerUp?

Data were gathered to determine if students at each campus of implementation made progress in each of reporting category. The data are reported in Table 1 below.

**Table 1**

*Percent of Students Making Progress in Lexia PowerUp Literacy Program 2021*

Campus	Word Study (%)	Grammar (%)	Comprehension (%)
Campus 1	83	83	100
Campus 2	100	96	100
Campus 3	100	100	100
Campus 4	90	81	100
Campus 5	100	100	100
Campus 6			
Campus 7	90		98
Campus 8	95	95	100
Campus 9	100	96	100
Campus 10	83	83	83

Campus	Word Study (%)	Grammar (%)	Comprehension (%)
Campus 11	62		
Campus 12	100		100
Campus 13	100	100	100
Campus 14	94	94	97
Campus 15	100	100	100
Campus 16	96		96
Campus 17	100	100	100
<i>M</i>	93	94	98

*Note. Blank fields = No data reported by the vendor; M = Mean*

In review of the data from Table 1, each campus that reported scores made progress in each of the reporting categories. Progress was calculated based on campus growth from the beginning of the school year to the end of the school year. Campuses made an average growth rate of 93% in word study, 94% in grammar, and 98% in comprehension.

**Research Question 2**

2) To what extent did the teachers feel they implemented the Lexia PowerUp program with fidelity?

The response rate to this fidelity survey was low compared to the number of teachers it was sent to. The total number of teachers requested to respond was twenty-eight, whereas only four responded. The results of their responses are represented in Table 2 as an average response rate per category of implemented consistently, implemented but not yet consistent, and not yet implemented.



**Table 2**

*Teacher Responses to Implementation of Lexia PowerUp with Fidelity in the Classroom 2021*

Skill/Action	Implemented Consistently (%)	Implemented but is not yet Consistent (%)	Not Yet Implemented (%)
Students use the online component.	100	0	0
Teacher delivers Lexia Lessons®.	75	25	0
Teacher uses skill-based grouping for small group instruction and delivers targeted instruction to address skill deficits.	100	0	0
Students work on Lexia Skill Builders®.	75	25	0
Teacher encourages students to monitor progress by using Your Progress Tile on student dashboard.	50	50	0
Teacher helps students reflect, set goals, and track progress.	75	25	0
Teacher celebrates student success.	75	25	0
<i>M</i>	79	21	0

*Note: n = 4, M = Mean*

Overall, 79% of teachers reported they implemented Lexia PowerUp literacy program consistently based on the fidelity guidelines posed in the survey. Whereas 21% of teachers reported they implemented the fidelity guidelines but were not yet consistent with them. Of the four teachers that responded to the survey, 0% responded they had not implemented any of the fidelity components during the school year.

**Research Question 3**

3) To what extent did the implementation of Lexia PowerUp increase student performance on the STAAR test? Specifically, what was the percentage increase for approaches and meets grade level?

STAAR performance scores for the sixth-grade special education students are reported on Table 3. These scores are reported by campus and include all special education students that took the assessment and scored approaches or meets grade level.

**Table 3**

*STAAR Approaches and Meets Grade Level for 6<sup>th</sup> Grade Special Education Reading STAAR 2021*

Campus	Approaches Grade Level (%)	Meets Grade Level (%)
Campus 1	39	15
Campus 2	43	13
Campus 3	15	18
Campus 4	25	10
Campus 5	22	5
Campus 6		
Campus 7	33	5
Campus 8	22	7
Campus 9	27	6
Campus 10	40	31
Campus 11	22	8
Campus 12	23	5
Campus 13	43	13
Campus 14	28	4
Campus 15	32	14

Campus	Approaches Grade Level (%)	Meets Grade Level (%)
Campus 16	13	9
Campus 17	26	12

*Note. Blank fields = No data reported*

In the STAAR reporting year 2021, Campus 6 was still under construction, therefore, yet to open. Additionally, STAAR scores could not be compared to the 2020 school year as no scores were reported, and assessments were not administered from the state due to COVID-19.

**Discussion**

The study aimed to improve the outcomes of older struggling readers in a sixth-grade resource reading and language arts classroom. Results indicated that students progressed in word study, grammar, and comprehension strands of Lexia PowerUp literacy from the beginning of the school year to the end. However, many students were participating in online instruction at home. This could have led to excessive use of the intervention program's online component and seeking additional assistance from family members at home.

Teachers reported fidelity in implementing Lexia PowerUp, using the online component and Lexia Lessons® for direct instruction. Teachers reported implementing Skill Builders for independent practice and celebrating student success toward self-selected goals. It is important to note that survey data was the sole source of information regarding implementation fidelity. Teacher reports were not supported by classroom observations or coaching feedback.

Results also showed an overall sixth-grade reading STAAR passing rate of 44% for special education students. This is a decrease from the proposed problem of practice rate of 47% in 2019. The decrease in achievement scores could be due to the impact of the COVID-19 pandemic. During this study, students and staff were still being impacted by high rates of

infections which led to multiple student and staff absences and the continuation of students receiving instruction asynchronously.

### **Limitations**

To begin, the sample aimed to include sixteen junior high school resource classrooms comprising students with disabilities who were enrolled in the sixth grade. Each junior high school employs at least one resource English Language Arts and Reading teacher. The target response rate for the fidelity survey was sixteen teachers, though only four provided responses. This low response rate could lead to a misinterpretation of the data collected.

When data was collected for the STAAR assessment, there was no way to extrapolate students enrolled in resource classes from the total number of special education students enrolled at each campus. In not being able to separate data, the researcher could only determine progress rates for all students in special education.

Additionally, the Lexia PowerUp literacy program data was reported for all students enrolled in literacy intervention during 2021. Thus, the sample of special education resource students is diluted with any student enrolled in a reading intervention course. As the data set in and of itself was a limitation, the school district in the study restricted the researcher from collecting any data they had access to in their scope of practice. Therefore, the researcher could not submit a request to Lexia to disaggregate the data to match the parameters of this investigation.

### **Recommendations**

This investigation was the first step in an iterative process focusing on outcomes for special education students in reading resource classes. Results revealed that more must be done

to impact special education student achievement. Overall, student scores on the state assessment dropped from 2019 (47%) to 2021 (44%).

The decrease in STAAR passing scores could be due to multiple factors, including students participating in online instruction from home, numerous and lengthy student and staff absences, and the impact on learning from the COVID-19 pandemic. It is recommended that more time be spent on providing professional development opportunities for new and veteran teachers implementing the Lexia PowerUp literacy program to continue building teacher efficacy in teaching foundational reading skills. It is also recommended that professional development opportunities be extended to new junior high school campus administrators and instructional coaches to assist them in supporting the Lexia PowerUp implementation plan.

The school district should consider matching teachers with a mentor or model teacher. By providing a mentor, teachers will have a space to problem solve and collaborate when lesson planning or targeting specific skills for intervention. Mentors can provide immediate feedback to teachers, whereas the district-level lead teacher can only make appointments with staff as needed.

## Chapter 4

## Evaluation of the Intervention

**Abstract**

This research aimed to improve reading achievement in sixth-grade special education students through providing a reading intervention program and training in a resource setting. The study focused on the percentage of students making progress in word study, grammar, and comprehension in the Lexia PowerUp literacy program from the beginning of the school year to the end, the extent teachers felt they implemented the Lexia PowerUp literacy program with fidelity, and the percentage increase in special education student performance on the sixth-grade reading STAAR test. The researcher used improvement science principles and mixed methods, implementing interventions, and evaluating outcomes through a plan-do-study-act inquiry cycle. Results showed progress in all three areas of the intervention program. Incremental growth on the sixth grade STAAR reading assessment for special education students was also noted. However, teachers reported fidelity, but limited data access and the school district's limitations hindered further investigation in this area.

*Keywords: reading, literacy, special education, intervention, progress, improvement science*

## Introduction

Providing early intervention to struggling readers is the preferred approach to meet their unique learning needs. The primary focus of the target student population in research and practice is on early intervention at the elementary level in grades kindergarten through third (Wanzek et al., 2016 & Wanzek et al., 2018). This research has led to the prevention and remediation of reading deficits. Wanzek et al. (2018) add, "...the impact of reading interventions provided in the primary grades report higher average impacts on reading outcomes than interventions implemented in the upper elementary and secondary grades" (p.612).

According to Vaughn et al. (2012), there is less research or data to advise intervention for older persons with trouble reading. The lack of research in this area is especially significant for individuals with a disability. Another consideration is that there has been a significant spike in the number of children who satisfy the criteria for special education services.

Since the passage of the Individuals with Disabilities Education Act in 1975, there has been a notable increase in the number of students requiring special education services (U.S. Department of Education, 2020). According to the National Assessment of Educational Progress (National Center for Education Statistics, 2019), only about thirty percent of students in Texas perform at or above proficient levels in reading in fourth and eighth grade. This reading data, in addition to the rise in the number of students who require services and support from special education, is a substantial factor in determining the need to provide a robust structured literacy intervention for older struggling readers.

When one takes a step back and examines the research that has been conducted over the past ten years on the subject of interventions for older students with reading difficulties and disabilities, one notices that there are some recurring patterns. These themes include the

necessity for individualized instruction (Filderman et al., 2018; Legere & Conca, 2010; Leko et al., 2014; Vaughn et al., 2011), as well as fidelity of implementation for the intervention (Benner et al., 2010; Hock et al., 2016; Leko et al., 2014).

In addition, the degree of instructional gain for secondary students with disabilities compared to non-disabled counterparts or peers who are not participating in interventions is also an essential piece of data to assess. The data can be assessed by comparing students with and without impairments who are in the same class. The pupils with and without impairments can be compared to their counterparts who are not participating in interventions to accomplish this goal.

### **Literature Review**

For special education support and services, the least restrictive environment is always the most vital (U.S. Department of Education, 2020). According to the U.S. Department of Education (2020), this continuum begins with special education staff teaching in general education classrooms and self-contained residential treatment facilities. This study targeted secondary resource classrooms. Resource teachers teach reading and English language arts to small groups of up to ten students for an entire class period or block. A special education-certified teacher offers all content instruction, assistance, and services in this customized classroom. Teachers can tailor education, assess student performance, and provide feedback with fewer students per employee (Vaughn & Linan-Thompson, 2003).

Regardless of age, staff must assess the impact of placing a student in a special education reading program on their development. According to research, these programs help dyslexic students. "Special-education programs tend to stabilize the degree of reading failure rather than close the gap between a dyslexic student and his classmates," (p. 282).



Shaywitz (2003) presents various evidence-based examples of the lack of specific and systematic literacy intervention programs in special education. "The result is that the most needy students tend to receive the least reading and language instruction," says Shaywitz (2003) (p. 282).

Addressing special education's literacy shortfall requires a resource classroom reading intervention program for teachers and students. Explicit, systematic teaching is needed to administer an evidence-based program. Dr. Shaywitz's (2003) claim reads, "Studies show that children receiving the new scientifically based programs made large and lasting reading gains, far surpassing their previous rate of growth" (p. 282). The intervention program works best when teachers are trained, follow the protocol, and customize classes based on student data.

### **Fidelity**

Several studies have found that reading treatments for struggling readers require faithfulness for successful implementation and student development. Implementation fidelity is traditionally defined as the extent to which a program's publisher's involvement is carried out (Benner et al., 2010). Benner et al. (2010) also found "adherence and quality of delivery" "critical to achieving improved student outcomes" (p. 79). Thus, literacy intervention programs depend on execution. Benner et al. (2010) remark, "When scientifically based reading instruction is delivered with fidelity, narrowing and even closing the reading achievement gap at the middle school level is feasible" (p. 87). Vaughn and Linan-Thompson (2003) found minimal research on special education fidelity.

Instructors and assessors utilize checklists to evaluate program fidelity. Benner et al. (2010), Hock et al. (2016), and Vaughn et al. (2011) illustrate inventory measurement. This method assesses classroom management, lecture script adherence, instruction duration,

frequency, and student reinforcement. A checklist is the most frequent technique to collect quantitative data on instructors' reading intervention program usage (Brenner et al., 2010; Hock et al., 2016; Vaughn et al., 2011).

Discussing how often teachers deviate from the publisher-created lesson plan and personalize instruction is crucial when executing an intervention program. Leko et al. (2014) examined the proportional use of computer-based education and teacher-created adaptations of new lessons, resources, activities, and student groupings. These teacher changes jeopardize the intervention program's fidelity.

### **Teacher Training**

Instructors must be prepared to implement a curriculum or instructional program. Trainers give teachers counseling, feedback, and follow-up training to sustain capacity (Hock et al., 2016; Vaughn et al., 2011; Wansek et al., 2011). Each program has unique elements that affect teacher preparation time. Teachers' knowledge and competence may affect training and other aspects. Unfortunately, literacy intervention teacher preparation was poorly researched. Wansek et al. (2011) trained instructors for six hours before using a unique reading intervention program. Teachers also held weekly study groups where teachers were able to ask questions and organize lessons (Wansek et al., 2011). During this professional development cycle, teachers were also able to request classroom coaching as needed (Wansek et al., 2011). Vaughn et al. (2011) reported teachers received sixty hours of professional development before deployment in their study.

Hock et al. (2016) studied instructors, district- and campus-level administrators. Teachers have six complete professional development days per year. They received instructional coaching and observed model lectures during the school year (Hock et al., 2016). The review of these

studies show that programs have different professional development ideas (Hock et al., 2016; Vaughn, 2011; Wanzek, 2011). Thus, data analysis must uncover when and how instructor training should be delivered.

### ***Individualized Instruction***

Multiple studies show that struggling readers, regardless of age or disability, need intervention (Vaughn et al., 2021; Wanzek et al., 2016; Wanzek et al., 2018). The essential interventions, their implementation, and whether they should be tailored for each student are contradictory. Graham et al. (2007) write, "At this time, all educators and education systems are searching for cost-effective ways to address students' learning challenges through adjustments to classroom instruction and a range of support models" (p. 410).

The research also emphasizes teacher professional development, customized education, and implementation integrity (Benner et al., 2010; Filderman et al., 2018; Hock et al., 2016; Vaughn et al., 2011; Wanzek et al., 2011). Each of these factors affects student learning. Correcting inequities in older struggling readers takes time and yields small gains. Graham et al. (2007) and Legere and Conca (2010) illustrate the benefits of tailoring interventions to individual needs. Legere and Conca (2010) developed a data-driven strategy. The general and special education teachers created a customized learning plan. This helped the study team focus on specific needs and achieve favorable results. Leko et al. (2014) examined how instructors change intervention program fidelity. The study found that teachers change lesson plans to "meet the needs of their students" (Leko et al., 2014, p. 176). Teachers believed they knew what pupils needed to succeed. The selected adaptations' effects need further study.

Vaughn et al. (2011) investigated whether individualizing intervention program instruction outperformed protocol training. Weekly assessments informed education

personalization. Despite customizing training, fidelity criteria were maintained and reviewed. It found “no statistically significant differences between the two treatments.” (Vaughn et al., 2011, p. 404.)

Recent studies by Filderman et al. (2018) and Lemons et al. (2018) used data-based decision-making or individualization to help struggling readers. It was noted that intensive support helps struggling students. Filderman et al. (2018) found that about half of students with disabilities do not benefit from traditional interventions; it needs to be individualized based on their needs. Filderman et al. (2018) notes, “Although there were large positive effects associated with individualized intervention, results indicate that more research is needed to determine which approach is more effective.”, (p. 184).

As this study examines special education instruction, it is crucial to address the problem that resource classroom students may need specialized and tailored training to advance (Watson Moody et al., 2000). The Individuals with Disabilities Education Act mandates that disabled children receive expressly adapted education to access and progress through the curriculum (U.S. Department of Education, 2020). Watson Moody et al. (2000) say literacy requires this.

### **Research Questions**

This mixed-method study aimed to evaluate the implementation of the Lexia Power Up literacy intervention program for older students with disabilities to improve their reading outcomes. A large suburban school district adopted this program by the Special Education Department at the start of the 2020-2021 school year. This adoption intended to provide a structured literacy program for reading intervention in the sixth-grade English Language Arts and Reading resource classroom.

Specifically, the research questions for this study were 1) What percent of students made progress in each reporting category (word study, grammar, and comprehension) in Lexia PowerUp? 2) To what extent did the teachers feel they implemented the Lexia PowerUp program with fidelity? 3) To what extent did the implementation of Lexia PowerUp increase student performance on the STAAR test? Specifically, what was the percentage increase for approaches and meets grade level? (Stone, 2023).

### **Target Population and Participants**

For this study, surveys were collected of sixth-grade English Language Arts and Reading Resource Teachers. There were seventeen junior high schools in the school district being evaluated during the 2022 school year. On average, two sixth-grade English Language Arts and Reading Resource Teachers were at each campus (Stone, 2023). As the surveys were on a volunteer basis, the target number of responses was one teacher per campus or seventeen total responses per survey (Stone, 2023). The survey aimed to have teachers rate themselves on the fidelity of implementing the Lexia PowerUp literacy program and to determine if they used the data available in the myLexia portal to make data-based decisions for instructional grouping.

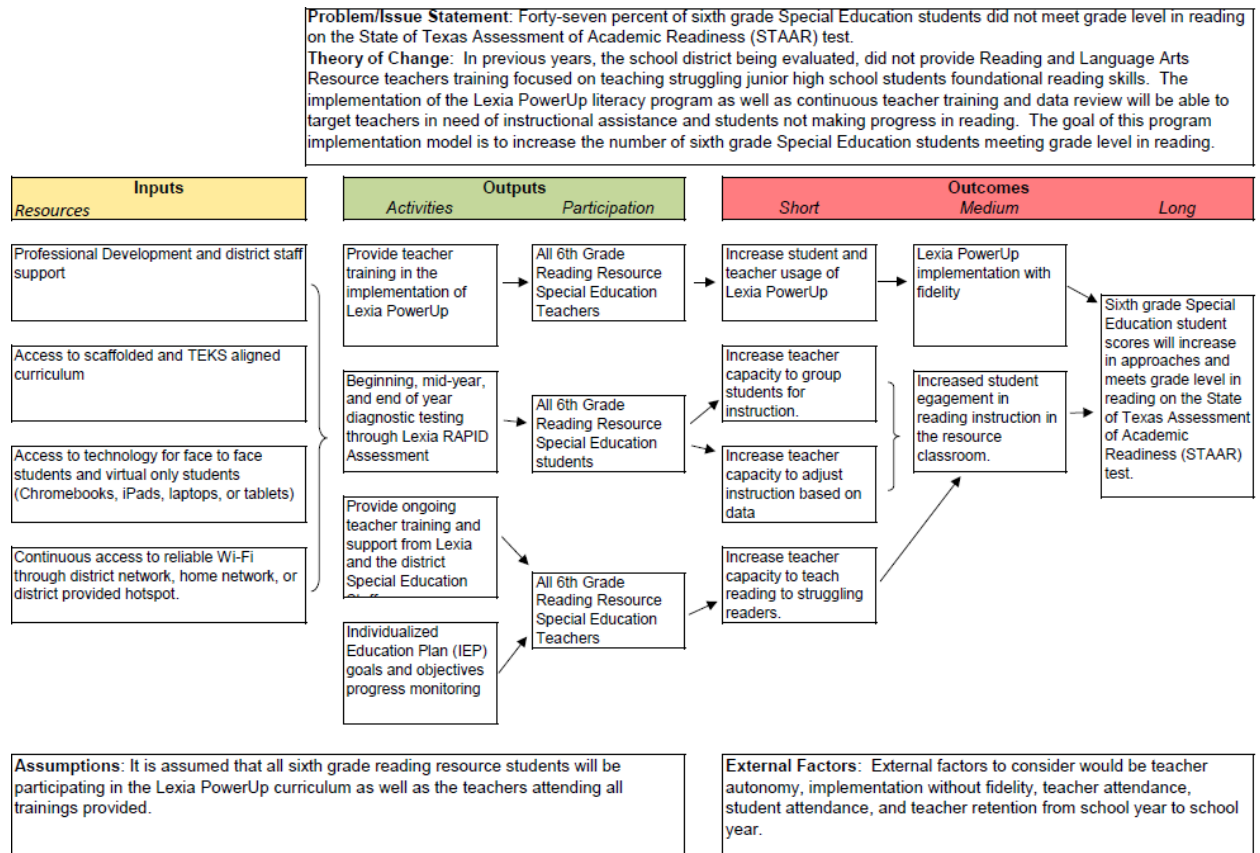
The average student data retrieved from myLexia is based on the number of teachers for the student demographic information. At a minimum, each teacher had at least one class period for sixth-grade English Language Arts and Reading resources (Stone, 2023). Additionally, at least two hundred special education students were enrolled in sixth-grade resource courses during 2022. All student-related data was pulled from the myLexia portal, with all identifiable information removed (Stone, 2023).

**The Intervention**

The plan-do-study-act (PDSA) cycle for the professional development activities was multifaceted and is reflected as a component of the logic model in Figure 10. In the summer of 2021, several optional opportunities for training for the overview of the program were offered to teachers and administrators. In August 2021, all sixth-grade Resource English Language Arts and Reading Teachers were required to attend a half-day implementation training before the start of school. The training was targeted to teacher needs by offering two pathways of training. Teachers that implemented the program the prior school year attended veteran training, and teachers new to the program attended initial implementation training. Administrators could attend summer training sessions for an overview of the program. A half-day follow-up training was also provided to revisit the program delivery and fidelity in the fall of 2021. These pieces of training were very explicit and specific on how to get teachers started in the program and provided a lesson plan template for teachers to follow for planning purposes.

**Figure 10**

*Logic Model*



Outside of the vendor's direct training, the Lead Special Education Teacher for English Language Arts and Reading provided the teachers with individualized support, data, and instructional modeling (Stone, 2023). Throughout the 2021-2022 school year, Lexia provided coaching support at the campus, additional opportunities for data review, and access to free webinars (Stone, 2023).

The Networked Improvement Community (NIC) assembled to analyze the data from the 2020–2021 academic year after the first year of implementing the interventions for the Lexia PowerUp literacy program's teachers. To fulfill the needs of the instructors at different levels as the implementation entered its second year, it was decided that the professional development's

organizational structure needed to be modified. Therefore, both new and experienced PowerUp teachers would be the target audiences for professional development opportunities, both obligatory and optional. Additionally, the vendor would invite campus officials and instructional coaches to participate in the virtual data review and coaching sessions. The goal of this modification is to focus on the learner's needs.

### **Research Methodology**

This study emphasized employing embedded experimental design to apply improvement science principles and mixed methods. The plan-do-study-act (PDSA) inquiry cycle was used throughout this research project by the practitioner to investigate the problem of practice, put interventions into place, and assess the results (Bryk et al., 2017). Pre- and post-measurements, as well as the gathering of quantitative and qualitative data, were collected as part of the two phases of the PDSA cycle.

### **Instruments**

For this investigation, a variety of qualitative and quantitative data collection approaches were utilized. In the spring of each year, informed consent was obtained from each teacher who freely participated in the study. After consent was obtained, teachers went through a checklist to self-evaluate how faithfully PowerUp literacy was implemented in their classrooms (Figure 11). English Language Arts and Reading Resource Teachers graded themselves based on how well they implemented three different standards: consistently, implemented but us not yet consistent, not yet implemented.



**Figure 11**

*Teacher Survey*

<b>Green</b>	= Implemented consistently
<b>Yellow</b>	= Implemented but is not yet consistent
<b>Red</b>	= Not yet implemented

**Fidelity in the Classroom**

Skills/Actions	Green	Yellow	Red	Next Steps
Students use the online component. (If you cannot meet recommendations, try to meet at least 30 minutes per week per strand.)				
Teacher (or designated adult) delivers Lexia Lessons®.				
Teacher uses skill-based grouping for small group instruction and delivers targeted instruction to address skill deficits.				
Students work on Lexia Skill Builders®.				
Teacher encourages students to monitor progress by using <b>Your Progress Tile</b> on student dashboard.				
Teacher helps students reflect, set goals, and track progress.				
Teacher celebrates student success. (e.g., Certificates, Your Progress Tile, classroom incentives).				

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The researcher went through and examined all the quantitative and qualitative data that was collected for this study to identify themes, determine whether additional individual teacher interventions were required, and assess whether additional training needs existed.

The State of Texas Assessments of Academic Readiness (STAAR) score reports in reading from the conclusion of the 2021 and 2022 school years served as the basis for the quantitative data that was collected for this study. Additionally, data was retrieved from the

PowerUp literacy program progress reports to identify student progress in the categories of word study, grammar, and comprehension for each school year in the study.

### **Results**

The results from this study included two different populations of teachers and students. At the end of the 2021 school year, many teachers left the sixth-grade resource classroom. During the 2021 school year, there were twenty-eight teachers, whereas in the 2022 school year there were twenty-four including several long-term subs. Additionally, the population of students changed every year of the study, as the study on looked at sixth-grade students each year. Results are reported using the descriptive statistic of measure of central tendency. All scores and progress measures have been calculated to determine the mean of overall scores and responses. Each campus in the evaluation has been assigned a number for reporting purposes.

#### **Research Question 1**

- 1) What percent of students made progress in each reporting category (word study, grammar, and comprehension) in Lexia PowerUp?

According to the Lexia PowerUp progress data, students during the 2021 school year made more progress in each reporting category of word study, grammar, and comprehension, as compared to students during the 2022 school year. In review of the data presented in Table 4, students in 2021 averaged 93% growth in word study, whereas students in 2022 averages 77%. In the reporting category of grammar, students in 2021 scored 94% in growth and students in 2022, scored 70%. Lastly, when reviewing comprehension, students in 2021 averaged 99%, compared to students in 2022 scoring an average of 91% growth.

Variability in progress scores from 2021 to 2022 could be due to several factors. Initially, throughout the implementation year of 2021, many students were still receiving virtual

instruction while they were at home. After reviewing additional data provided to district administrators from the vendor, it was determined that students at home and online led to higher than recommended time for students to engage with the online component of instruction. Additionally, as students were engaging with the online component for their instructional time, they were not receiving direct teacher instruction or feedback. Many of the Lexia Skill Builders® were not delivered by teachers and students only worked on the online component during instructional time.

**Table 4**

*Percent of Students Making Progress in Lexia PowerUp Literacy Program 2021 and 2022*

Campus	Word Study (%)		Grammar (%)		Comprehension (%)	
	2021	2022	2021	2022	2021	2022
Campus 1	83	84	83	64	100	91
Campus 2	100	78	96		100	97
Campus 3	100	88	100	87	100	84
Campus 4	90	88	81	81	100	98
Campus 5	100		100		100	
Campus 6		70		64		86
Campus 7	90	81		71	98	97
Campus 8	95	82	95	95	100	87
Campus 9	100	76	96	73	100	90
Campus 10	83	88	83		83	96
Campus 11	62					
Campus 12	100	76		69	100	90
Campus 13	100		100	67	100	88
Campus 14	94		94	57	97	93
Campus 15	100	63	100	70	100	

Campus	Word Study (%)		Grammar (%)		Comprehension (%)	
	2021	2022	2021	2022	2021	2022
Campus 16	96	72		70	96	94
Campus 17	100	60	100	46	100	
<i>M</i>	93	77	94	70	98	91

*Note. Blank fields = No data reported; M = Mean*

**Research Question 2**

- 2) To what extent did the teachers feel they implemented the Lexia PowerUp program with fidelity?

Teacher responses to the fidelity survey are represented in Table 5. Overall, eight teachers provided responses on the Lexia PowerUp literacy program fidelity checklist between 2021 and 2022. Four different teachers responded each year of the implementation of the intervention. The data shows most teachers reported they were implementing the intervention program consistently during both the 2021 and 2022 school years with  $M = 79\%$  and  $M = 64\%$  respectively. The least number of teachers had not yet implemented encouraging students to use the Your Progress Tile in the dashboard and helping students reflect, set goals, and track progress with  $M = 7\%$  in 2022. Inconsistent implementation of Lexia PowerUp literacy occurred the most in 2022, under the area of teachers reported using skill-based grouping for small group instruction and delivering targeted instruction to address skill deficits with 75% of teachers.

**Table 5**

*Teacher Responses to Implementation of Lexia PowerUp with Fidelity in the Classroom 2021 and 2022*

Skill/Action	Implemented Consistently (%)		Implemented but is not yet Consistent (%)		Not Yet Implemented (%)	
	2021	2022	2021	2022	2021	2022
Students use the online component.	100	100	0	0	0	0
Teacher delivers Lexia Lessons®.	75	75	25	25	0	0
Teacher uses skill-based grouping for small group instruction and delivers targeted instruction to address skill deficits.	100	25	0	75	0	0
Students work on Lexia Skill Builders®.	75	50	25	50	0	0
Teacher encourages students to monitor progress by using Your Progress Tile on student dashboard.	50	75	50	0	0	25
Teacher helps students reflect, set goals, and track progress.	75	25	25	50	0	25
Teacher celebrates student success.	75	100	25	0	0	0
<i>M</i>	79	64	21	29	0	7

*Note. 2021 n=4; 2022 n = 4; M = Mean*

**Research Question 3**

- 3) To what extent did the implementation of Lexia PowerUp increase student performance on the STAAR test? Specifically, what was the percentage increase for approaches and

meets grade level?

In review of the STAAR data between the 2021 and 2022 school years, progress for each campus varied as shown on Table 6. Though the overall passing percentage increased from 44% in 2021 to 51% in 2022, the percent change in the categories of approaches and meets each only increased by .6% and 2% respectively. Without scores reported in 2020, a progress percentage for special education students taking sixth grade reading STAAR could not be obtained for 2021. Overall, 49% of students identified as special education taking the 2022 sixth grade reading STAAR made progress from 2021. Campus 6 did not have data to report for the 2021 school year as it did not open until the 2022 school year. Therefore, percent change data was not calculated for this campus.

**Table 6**

*Approaches and Meets Grade Level for 6<sup>th</sup> Grade Reading STAAR 2021 and 2022*

Campus	Approaches Grade Level (%)		Meets Grade Level (%)		Percent Change (%)	
	2021	2022	2021	2022	Approaches	Meets
Campus 1	39	36	15	9	-3	-6
Campus 2	43	28	13	23	-15	10
Campus 3	15	30	18	18	15	0
Campus 4	25	17	10	8	-8	-2
Campus 5	22	29	5	20	7	15
Campus 6		22		6		
Campus 7	33	34	5	13	1	8
Campus 8	22	15	7	6	-7	-1
Campus 9	27	20	6	8	-7	2
Campus 10	40	25	31	18	-15	-13
Campus 11	22	35	8	14	13	6

Campus	Approaches Grade Level (%)		Meets Grade Level (%)		Percent Change (%)	
	2021	2022	2021	2022	Approaches	Meets
Campus 12	23	22	5	7	-1	2
Campus 13	43	35	13	13	-8	0
Campus 14	28	36	4	10	8	6
Campus 15	32	35	14	19	3	5
Campus 16	13	32	9	10	19	1
Campus 17	26	34	12	11	-8	1
<i>M</i>					.6	2

*Note. Blank fields = No data reported; M = Mean*

### Discussion

In review of the results of this mix-method study on improving the outcomes of older struggling readers receiving intervention in a sixth-grade resource reading and language arts classroom, progress can be noted through multiple measures. Sixth grade Reading STAAR scores for students in special education did improve overall when looking at the passing percentage between 2021 and 2022. Additionally, students also averaged a slight increase in the approaches grade level at .6% and 2% for meets grade level categories.

Each year of the implementation of the intervention program, students made progress in the word study, grammar, and comprehension strands of Lexia PowerUp literacy. Though, it should be noted that students made less gains in 2022 than in 2021. During the 2021 school year, many students were accessing the online component of instruction at home. This could have led to having assistance by family members at home as well as engaging in the online component of instruction much more than the fidelity requirements of the Lexia PowerUp literacy program.

Additionally, teachers self-reported they felt they were implementing Lexia PowerUp with fidelity. All teachers used the online component of the program, and most delivered direct instruction using Lexia Lessons® while celebrating student success. The combination of utilizing the online component and delivering assigned interventions through the Lexia Lessons® positively impacted student growth in the intervention program.

### **Conclusions**

The study aimed to improve the outcomes of older struggling readers in a sixth-grade resource reading and language arts classroom. Results showed students made progress in word study, grammar, and comprehension strands of Lexia PowerUp literacy from the beginning of the school year to the end, though there was a notable decrease in the overall progress from 2021 to 2022. However, many students continued to participate in online instruction at home for the first half of the school year. This could have led to the progress in each component of the program decreasing when comparing 2021 and 2022 results.

Teachers reported fidelity in implementing the Lexia PowerUp literacy program by students engaging the online component, using Lexia Lessons® for direct instruction, grouping students for instruction based on skills, and assigning Skill Builders® for independent practice. For this iteration of the study, one teacher reported not implementing encouraging students to track their goals and progress or working with students to do so.

Results also showed an overall sixth grade reading STAAR passing rate of 51% for special education students. This is an increase from the proposed problem of practice rate of 47% in 2019. Additionally, students increased in approaches grade level by .6% and meeting grade level by 2%. During this study, students and staff were still being impacted with high rates



of infections which led to multiple student and staff absences, as well as the continuation of students receiving instruction asynchronously.

### **Limitations**

The breadth of this analysis is constrained by several different considerations. To begin, the sample aimed to include seventeen junior high school resource classrooms comprising of students with disabilities who were enrolled in the sixth grade. In comparison to the total number of older struggling readers across the country, this was a comparatively low number of participants (Stone, 2023). The actual students included in this dataset were different from one year to the next, due to the only time the student's PowerUp progress was ever looked at was during their sixth-grade year of enrollment.

Adding to the limitation of the number of students, when data was collected from the PowerUp literacy program and the STAAR assessment, there was not a way to extrapolate students enrolled in resource classes from the total number of special education students enrolled at each campus (Stone, 2023). The Special Education Department in the district in this study was utilizing the Lexia PowerUp literacy program in collaboration with the Office of Interventions (Stone, 2023). The Office of Interventions implemented the same intervention program at the same campuses. Thus, diluting the sample of special education resource students with any student enrolled in a reading intervention course.

In addition, only students with disabilities who were enrolled in a resource course were included in this sample. Even when students with disabilities are placed in regular classrooms, many students with disabilities continue to have difficulty with their ability to read on grade-level. In conclusion, the term "older struggling reader" can refer to a wide variety of children

studying at all levels of the secondary level; however, the focus of this study is exclusively on sixth grade students (Stone, 2023).

As part of the procedure for collecting data for this investigation, educators voluntarily agreed to take part in the process by providing information on how they view the implementation process in their own classrooms (Stone, 2023). This data collection was not based on the observations or evaluations of instructional coaches or administrators; rather, it was an opinion (Stone, 2023). Because of its subjective nature, the information that is presented may be called into doubt regarding its reliability and validity. As a result, the outcomes of the teacher survey should be analyzed with extreme caution.

In addition, considering that participation in the study was entirely voluntary for the teachers, the number of teachers who contributed information was extremely low. Although the target sample size for each year was projected to be sixteen to seventeen teachers, only four teachers responded in each data cycle. Furthermore, the same teachers did not answer to the survey year after year; consequently, each iteration produced a unique data set. The researcher attempted to gain more volunteers by sending multiple requests as a follow-up, but this did not have an impact on responses. It was suspected the low response rate was due to the researcher's position in the school district and teachers did not want to be potentially seen in a negative light due to their instructional practices.

Lastly, the timeliness of this study ought to also be considered a restriction of it. The investigation started amid the COVID-19 outbreak. At the onset of this evaluation, students and teachers took part in both in-person and virtual instruction concurrently. Because of this, the views of the teachers and the progress made by the students may be affected due to the restrictions of the learning environment. It is also, currently uncertain what affects the COVID-

19 pandemic and school closures will have on learning loss in addition to the concerns of the increased stress of a pandemic.

### **Recommendations**

This investigation that utilized improvement science tools to advance special education student outcomes in sixth-grade reading is still in its infancy. It is recommended to continue to use of the PDSA cycle to determine if the increase in achievement and reading progress would grow with the continued use of the same intervention program. Additionally, by providing the same intervention program over time, researchers could track student data longitudinally.

Future research could include investigating the impact of specific disabilities on student outcomes in reading. This study focused on the entire population of special education students in one grade level. Additional insight and information could contribute to practitioner's knowledge on how to intervene for students based on their individual educational needs due to their disability.

Additionally, professional development for teachers, instructional coaches, and campus administrators should be ongoing. As the school district in this study is a fast growth district, teachers, coaches, and administrators turn over each year. The district should commit to ensuring that all stakeholders have a solid knowledge base on the components of foundational reading skills and how the Lexia PowerUp literacy intervention addresses these skill deficits in struggling adolescent readers.

## Chapter 5

### Discussion and Results

#### **Introduction**

Since the passage of the Individuals with Disabilities Education Act in 1975, there has been a notable increase in the number of students requiring special education services (U.S. Department of Education, 2020). According to the National Assessment of Educational Progress (National Center for Education Statistics, 2019), only about thirty percent of students in Texas perform at or above proficient levels in reading in fourth and eighth grade. This reading data, in addition to the rise in the number of students who require services and support from special education, is a decisive factor in determining the need to provide a robust structured literacy intervention for older struggling readers with disabilities.

When one takes a step back and examines the research that has been conducted over the past ten years about interventions for older students with reading difficulties and disabilities, one notices that there are some recurring patterns. These themes include the necessity for individualized instruction (Filderman et al., 2018; Legere & Conca, 2010; Leko et al., 2014; Vaughn et al., 2011), as well as fidelity of implementation for the intervention (Benner et al., 2010; Hock et al., 2016; Leko et al., 2014).

In addition, the degree of instructional gain for secondary students with disabilities compared to non-disabled counterparts or peers who are not participating in interventions is also an essential piece of data to assess. The data can be assessed by comparing students with and without impairments who are in the same class. The students with and without impairments can be compared to their counterparts who are not participating in interventions to accomplish this goal.

### **Discussion of Results**

For this evaluation, the researcher implemented the plan-do-study-act (PDSA) improvement science framework to test the intervention. This mixed-methods with embedded experimental design study examined reading intervention for struggling readers in sixth-grade special education resource classrooms. The proposal was to implement the Lexia PowerUp literacy program in a large suburban school district, provide professional development to the teachers implementing the program, and measure student progress to increase student performance by closing the reading achievement gap on state standardized testing. The Lexia PowerUp literacy program used a personalized learning model of instruction, including direct teaching, computer-based instruction, and assessment.

This study aimed to improve the outcomes for older struggling readers with disabilities in a sixth grade receiving intervention in a resource reading and language arts classroom. This improvement plan was created by focusing on the support for the users, or more specifically; the teachers would need to increase student achievement. The researcher utilizes two of Bryk et al.'s (2017) improvement principles by targeting student achievement and the teachers implementing the intervention program. The first principle, "make the work problem-specific and user-centered, and the fourth principle, "we cannot improve at scale what we cannot measure," were employed during this study (Bryk et al., 2017, pp. 172-173).

With student achievement and teacher support for implementation being the goal for this improvement evaluation, steps had to be taken to ensure teachers were prepared to implement a new reading intervention program in their classrooms. Feedback was gathered directly from the teachers through a fidelity survey to gain insight into their perspectives. Student achievement was measured using student scores on the State of Texas Assessment of Academic Readiness

(STAAR) for sixth-grade reading at the end of each year of the study and reviewing progress data through the Lexia PowerUp program.

Three research questions drove the results of this study. The first research question, what percent of students made progress in each reporting category (word study, grammar, and comprehension) in the Lexia PowerUp program, was evaluated by reviewing progress data for each of the seventeen junior high school campuses in the study. In the review of the 2021 data, students made an average of 93% growth in word study, 94% growth in grammar, and 98% growth in comprehension. In comparison, data from the 2022 school year showed an average of 77% growth in word study, 70% in grammar, and 90% in comprehension.

The average student growth rate decreased overall during the second year of implementing the Lexia PowerUp program. This decrease could be due to several factors. The first area to consider would be that the student population differed from 2021 to 2022. Also, the resource classroom had a high teacher turnover rate each year of the evaluation. Therefore, consistency with the student and staff populations could cause this variation in data. Additionally, during the first year of implementation, many students enrolled in resource courses were being instructed virtually. This could lead to the students getting outside assistance in the online component of the Lexia PowerUp literacy program and using the online platform as a primary means of instruction rather than participating in direct instruction from teachers.

The second research question for this study was to what extent did the teacher feel they implemented the Lexia PowerUp literacy program with fidelity? Teachers provided feedback by completing a fidelity checklist at the end of each school year. Overall, teachers reported consistently implementing the program with fidelity in all areas. This data could be skewed as only eight teachers responded to the request for feedback. The target number of teacher

responses was sixteen in 2021 and seventeen teachers in 2022. Teachers provided feedback on the checklist by volunteering; therefore, gathering responses from a larger group was challenging.

The third and final research question evaluated the extent of the increase in student performance on the STAAR test in sixth-grade reading. Specifically, what was the percentage increase for approaches and meets grade level? After reviewing the data, it was determined that the overall passing percentage in sixth-grade reading for special education students increased from 44% in 2021 to 51% in 2022, and the overall average in the categories of approaches and meets increased by .6% and 2%, respectively.

The problem of practice evaluated in this study began with a 47% passing rate in reading for sixth-grade students in special education. This study showed an increase in the passing rate by 4%. It is also important to note that when the passing rate data was reviewed in 2019, 813 special education students were included in this group. In 2021, the number of special education students who passed sixth-grade STAAR was 956. Nevertheless, in 2022, the total population of sixth-grade special education students that passed the reading STAAR was 1459. The total number of students increased by almost 45%.

Prior research noted that achievement gains for older students with disabilities were possible but incremental over a more extended period, in contrast to intervening for students in primary grades (Scammacca et al., 2016). Therefore, the increase in performance on the sixth-grade reading STAAR assessment aligns with the research and is a notable incentive for continuing to implement a robust research-based approach for reading interventions for older struggling readers.

Upon the conclusion of the intervention, an unintended consequence was observed. The first unanticipated side effect was the time required for the Lead Teacher of Reading and Language Arts to dedicate to providing ongoing training each year. Throughout the intervention, several campuses utilized long-term substitutes in resource classrooms. Campus administrators and instructional coaches would call upon the Lead Teacher to individually train each substitute and monitor their progress. This took away from other duties this Lead Teacher performed, as they supported all grade levels and campuses in the school district.

### **Recommendations for Practice**

After a review of the results of this study, several recommendations for practice for school districts have become evident. As this study took place over more than one school year, it became apparent that the turnover rate for both teachers and campus administrators was problematic. Administrators were given the opportunity to attend training during the summer before the implementation year. As administrators were not required to attend, and there was a change in administrators from year to year, multiple opportunities to attend training should be provided each year. Additional training opportunities ensure that instructional leaders on the campus are familiar with the program, its implementation, and the data from the program.

It is challenging to address the turnover of special education teachers in resource classrooms when the county faces a nationwide shortage of teachers. However, providing continuous instructional support for teachers from the campus and the district could help improve teacher confidence and the quality of instruction. Ongoing professional development and support from stakeholders such as campus administrators and instructional coaches also ensure that students receive appropriate instruction based on their needs.



Additionally, during this study, teacher feedback was optional. The school district should consider making teacher feedback a requirement at the end of each professional development session. Hearing directly from the teacher about their need for support would help drive future professional development.

Lastly, it is recommended that school districts utilize teacher models for implementation. In this study, the vendor provided most of the professional development. The professional development focused on program implementation and reviewing data from the myLexia portal. By utilizing teacher models to deliver instruction, teachers can see the flow of the lesson and how to run small groups. After the model lesson, there should also be time to debrief and ask questions.

### **Recommendations for Further Study**

In reviewing the literature for this study, it was evident that there is a lack of research addressing the needs of older struggling readers with disabilities that receive their instruction in resource classrooms. The first recommendation for further study would be to analyze the current reading intervention programs targeted to this student population and determine their effectiveness.

As the results of this study were determined by reviewing data of sixth graders each year, it would be recommended to track individual student growth from year to year and to look at the growth of the students who remain in the intervention program over time. The Lexia PowerUp data reviewed in this research only provided progress data by campus rather than at the individual student level. Over time data would be valuable to determine if students continued to make achievement gains and grow in each of the instructional strands of word study, grammar, and comprehension.

Further, teacher fidelity in implementing the intervention program needs additional data to determine if they follow the recommendations. In this study, teachers provided a self-assessment voluntarily. In the future, instructional leaders from the campus and the district should conduct classroom observations. During classroom observations, instructional leaders should complete a rubric or checklist to ensure consistent feedback.

Lastly, the conditions imposed on the researcher by the school district in this investigation proved to be a limitation in the intervention. The school district restricted the researcher from accessing data through their current employment. By imposing this restriction, the researcher could not disaggregate STAAR or Lexia PowerUp literacy program data to be more specific to the resource classroom. In turn, the researcher was only able to generalize conclusions based on the information they were able to gather. Moving forward, the school district should review the parameters of research conducted by current employees.

This expansion would open research to additional data collection methods, where more precise data can be gathered and thus accurate conclusions made.

### **Conclusions**

This mixed-methods study aimed to improve reading outcomes for struggling readers in sixth-grade special education resource classrooms using the Lexia PowerUp literacy program. The program used a personalized learning model, including direct teaching, computer-based instruction, and assessment. The objective was to close the reading achievement gap on state standardized testing. The study focused on supporting teachers and student achievement, using Bryk et al.'s (2017) improvement principles and the plan do study act cycle. Additionally, student achievement was measured using student scores on the State of Texas Assessment of Academic

Readiness (STAAR) scores for sixth-grade reading and reviewing progress data through the Lexia PowerUp program.

In a review of the data collected through this study, overall, students made gains in reading through word study, grammar, and comprehension in the Lexia PowerUp program. Furthermore, the overall student passing rate for sixth-grade reading STAAR increased from the 2019 school year to the 2022 school year. These gains were despite teacher turnover and the need for teacher participation in providing feedback during the evaluation timeline.

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### **Biosketch**

Kathryn Stone is currently the Coordinator for Instructional Support and Inclusive Practices in a large suburban school district in Texas. Before this position, she served as a Secondary Program Specialist for the Department of Special Education, a resource teacher, an in-class support teacher, a team leader, and a department chair for special education at both the elementary and secondary levels. Kathryn also previously coached cheerleading.

Kathryn received her bachelor's degree from Purdue University with a major in Special Education in 2002. Before beginning her doctorate from the University of Texas at Tyler, she completed her master's degree with them in Educational Leadership in 2018. She currently holds certifications in the areas of Special Education (PK -12), Generalist (EC-4), English as a Second Language (EC-12), and Principal (EC-12).