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Effective Literacy Instruction for Struggling Readers and Students Receiving Special Education Services

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EFFECTIVE LITERACY INSTRUCTION FOR STRUGGLING

READERS AND STUDENTS RECEIVING SPECIAL EDUCATION SERVICES

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Thank you to my dear family and friends who supported and encouraged me throughout this

process. Your patience and kindness have given me the courage to grow.

Love

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Abstract

Small group interventions provide struggling readers and students who are learning-disabled with additional literacy instruction designed to facilitate literacy growth. The purpose of this systematic review is to determine if literacy group size directly affects the effectiveness of instruction relative to literacy growth for struggling readers. The participants studied in this literature review include students receiving special education services as well as students identified for Tier II interventions. Evidence-based practices gathered from empirical research studies, alongside qualitative and quantitative studies, seek to explore grouping and how group size affects literacy performance outcomes for special education and Tier II students.

In this review, Tier II students have been identified as struggling readers who need additional assistance, which becomes more individualized as a student transitions from Tier I to Tier II (Vaughn, Wexler, Roberts, Barth, Cirino, Romain, Denton, 2011). Grouping was examined to determine the clinical significance of literacy growth and how students who receive intensive literacy interventions attain such growth. This literature review concluded that small group instruction contributes to a higher level of achievement in literacy; however, additional factors are also significant contributing factors.

When allocating resources, a small group of four or fewer students demonstrated the greatest impact on literacy growth. Grouping size, with the method of delivery, the length of intervention, and educational resources used, are essential factors that ensure literacy growth. In the future, longitudinal studies should be conducted to assess long-term literacy growth and how to group struggling readers most effectively.

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CHAPTER I : INTRODUCTION

Literacy plays a quintessential role in the educational sector. In the United States (U. S.), literacy serves as the foundation for all elementary instruction. Due to the inherent importance of literacy instruction, all teachers with a focus on elementary school education must enhance the learning environment and strategies used among students with varying needs. A teacher's ability to determine optimal learning conditions and the delivery of effective instructional techniques is critical to student growth. Adequate literacy growth significantly affects a student's ability and potential to learn across various subjects including mathematics, science, social studies, and reading.

Therefore, literacy instruction is the cornerstone of all other learning that occurs at the elementary and secondary levels.

To fully understand the significance of literacy instruction within school settings, it is necessary to first define literacy. What is literacy? *Merriam-Webster Collegiate Dictionary* (n.d.) defines *literacy* as "the quality or state of being literate" (para. 1). Further analysis revealed that the origins derives from etymology of the term "literate" is derived from Middle English and Latin terms meaning "marked with letters; letters, literature" (Meriam-Webster, n.d., para. 3). The following more modern definitions for the term literate as defined by Merriam-Webster (n.d.) is

(1) having the ability to read and write,

(2) having a sense of familiarity and being well-versed with creative writing and literature, and

(3) having competence or knowledge.

Literacy can be understood as the ability to read and write with proficiency. The degree to which a student is able to read, write, and demonstrate age-appropriate proficiency predicts access and progress across curriculum. A challenge and urgency exists to improve literacy outcomes for students who are learning-disabled and Tier II students. In this review, Tier II students have been identified as struggling readers who need additional assistance, which becomes more individualized as a student transitions from Tier II to Tier III (Vaughn, Wexler, Roberts, Barth, Cirino, Romain, Denton, 2011).

There is concern about providing appropriate access to remedial curriculum to students who are learning-disabled in the areas of reading and/or writing. Teachers need to consider the implementation of a differentiated instruction pedagogy when teaching students who are learning-disabled and struggling readers. The implementation of a differentiated instruction pedagogy aides the educator in delivery of the best instructional strategies and development of grouping techniques to ensure that students develop the skills to demonstrate literacy growth.

History of Special Education and Tier II Students

Since the middle of the 19th century, the notion of underachievement emerged and pervaded the education system (Coles, 1987). Traditionally, severe reading struggles have been characterized by a disability in reading. Such a disability was conventionally characterized as significant underachievement despite a student's inherent opportunity to learn. These students often qualify for special education services, while low-achieving Tier II students may simply receive supplemental reading instruction or interventions based on their individual needs. In 1963, Samuel Kirk was the first to apply the phrase *learning disability* to a set of unexpected difficulties in communication, language, and learning (Harris & Kirk, 1993). Congress enacted the Elementary and Secondary Education Act (ESEA) in 1965 to address the inequality of

educational opportunity for underprivileged children. This provided resources to help ensure that disadvantaged students had access to quality education.

In 1966, Congress amended the Elementary and Secondary Education Act (ESEA) to establish a grant program to help states in the "initiation, expansion, and improvement of programs and projects . . . for the education of handicapped children." In 1970, Congress enacted the Education of the Handicapped Act (P.L. 91-230) in an effort to encourage states to develop educational programs for individuals with disabilities. Identification of children with learning disabilities continued with the passage of the Education for All Handicapped Children Act in 1975. Congress stated that children with disabilities would "have a right to education, and to establish a process by which State and local educational agencies may be held accountable for providing educational services for all handicapped children." (P.L. 91-230) Reauthorization of the Individuals with Disabilities Education Act (IDEA) in 2009 reaffirmed the definition of learning disabilities.

The No Child Left Behind (NCLB) Act was mandated in 2001, requiring the use of evidence-based practices to overtly and systematically provide students with instruction for beginning reading (Helf, Cooke, & Flowers, 2009). Such reading instruction includes comprehension, fluency, phonemic awareness, phonics, and vocabulary (Kaminski & Powell-Smith, 2017; Pogorzelski & Wheldall, 2002). The NCLB legislation's aim was to increase the development of reading instructional programs and interventions during the early grades. Unfortunately, its implementation, which relied heavily on standardized assessments, proved problematic. In 2015, a new legislation called the Every Student Succeeds Act (ESSA) was passed. This legislation takes full effect in the 2017-2018 school year. An overview of this legislation includes multiple probes across various measurement tools, including but not limited

to standardized testing. In the area of literacy, the bell allows for up to three percent of title one funds to be allocated for low-achieving schools in order to provide those schools with additional resources such as *Reading Partners* Programming. This is in an attempt to promote evidence-based literacy interventions in under-performing schools for students in need of literacy intervention. A highlight of ESSA includes state-determined standards to measure success and critical protections for struggling students and for underperforming schools. This legislation will ensure struggling students continue to receive literacy interventions with an emphasis on increased literacy or to further establish the need for special education services.

Problem Statement

Over the course of 30 years, researchers and education specialists have studied early literacy (Helf et al., 2009). Students who are learning-disabled and struggling readers, who are not identified as students receiving special education services, are not meeting certain reading benchmarks (Kruse, Spencer, Olszewski, & Goldstein, 2015). Literacy statistics report that approximately two-thirds of all fourth-grade students fail to read at grade level (Kruse et al., 2015).

Struggling readers who fail to make progress in Tier I, defined as whole class instruction with a focus on research-based curriculum (Kaminski & Powell-Smith, 2017), will often be identified as needing Tier II interventions, which consists of the identification of struggling readers who need additional assistance to make literacy gains (Vaughn et al., 2011).

Students in Tier II, as well as, students receiving special education services, need additional interventions to improve literacy. Advancements have been made to better understand why such a large proportion of children struggle with learning how to read (Helf et al., 2009). Still, educators are challenged to know what types of literacy instruction are most appropriate for

the individual needs of their students and how to optimize group size in order to enable students to benefit from small group instruction (Helf et al., 2009). A problem many schools and school districts face is determining what types of literacy instruction to use and how to ensure that the intervention and its grouping optimizes support and literacy growth for special education and Tier II students.

Vaughn, Linan-Thompson and Wexler (2003) demonstrates that the frequency and duration of literacy instruction influences progress. Helf et al., (2009) claims group size is a significant factor in the design of literacy intervention. In order to provide these interventions, schools face the difficult task of securing sufficient resources since smaller group sizes often result in the need for additional, qualified staff (e.g. interventionists, instructional specialists, space, materials) to deliver these interventions.

Purpose of the Study

The purpose of this literature review is to draw conclusions and implications for future research into how group size can affect literacy outcomes for learning- disabled and struggling readers. This literature review will specifically focus on the established effect, if any, of literacy group size relative to significant literacy growth. Other factors that affect literacy growth include the length of the intervention, instructional method and what is being measured (alphabet fluency, comprehension, decoding). Grouping practices and how those practices affect literacy outcomes for students receiving Tier II and special education services will be explored through a systematic review of the literature.

Review Questions

To examine the variable of group size as a factor that may contribute to improved literacy instruction, the following questions will be addressed:

Review Questions:

(1) How does group size influence growth in small group literacy instruction for students receiving special education and Tier II services?

(2) What literacy grouping model/grouping intervention was employed in the study?

(3) How has the grouping model/grouping intervention affected the outcome of the study?

A thorough review of 35 relevant peer-reviewed articles which represent research conducted through qualitative and quantitative methods was completed to explore whether group size, how grouping was employed and how grouping affected outcomes in intensive literacy instruction directly impacts the effectiveness of literacy growth for special education and Tier II students.

Significance of the Study and Literacy Growth

When examining and assessing the effectiveness of literacy instruction, several factors must be taken into consideration. The instructional materials, delivery of instruction, how grouping is determined, and the level of support needed by each student are significant factors that influence the overall effectiveness of literacy instruction. Research indicates that early identification and intervention optimizes the remediation of potential reading literacy deficits and can prevent the eventual need for special education services (Menzies, Mahdavi, & Lewis, 2008).

General education, as well as special education communities, have currently placed emphasis on a Response to Intervention (RTI) model in an effort to create school and district-wide support systems that aim to significantly reduce the number of students who experience issues with early literacy learning (Schwartz, Schmitt, & Lose, 2012). Effective early interventions can promote literacy growth. Therefore, the provision of small group instruction

gives teachers the opportunity to focus their attention on a significantly smaller number of special education and Tier II students. This ensures that the students will receive the small group instruction needed to make adequate literacy progress.

This information is significant to the field of education because students who struggle to read and write face life-long deficits in functional literacy without early intervention. *Functional literacy* is defined in *The Greenwood Dictionary of Education* as

> …a minimal, or survival level, of literacy for one to meet basic personal needs, such as writing one's name or reading signs. People who are functionally illiterate experience difficulty in using reading and writing for purposes and activities in their daily lives. The level of reading and writing ability necessary to function competently within a particular social context. The literacy needed to engage effectively in all those activities in which literacy is normally assumed in an individual's culture or group.(Collin & O'Brian, 2003, p. 148).

According to Collin and O'Brian (2003), a student's level of functional literacy is a predictor of overall quality of life and successful adult independence. Literacy is critical to the achievement of most common tasks needed to fulfill a meaningful life. As they mature, students with a history of literacy deficits must learn to read a menu, read and understand their medical records, fill out a job or school application, or read a map. Moreover, the ability to perform life-enriching tasks and activities such as reading a book or magazine and writing in a diary or journal is contingent upon adequate functional literacy. Literacy, specifically functional literacy, is a contributing factor to personal, academic, and work-related opportunities enjoyed in childhood, adolescence, and adulthood. (Collin & O'Brian, 2003)

The inherent need for struggling readers to become functionally literate is critical. A number of studies, including those conducted by Menzies, Mahdavi, and Lewis (2008) and Schwartz, Schmitt, and Lose (2012), reveal that students demonstrate a higher potential for literacy growth in early education. Literacy growth for students receiving special education services and Tier II students can be maximized during their elementary school years. Unfortunately, growth tends to slow down throughout the secondary levels of education. Literacy growth tends to decrease due to the lack of direct literacy instruction. As a result, special education teachers and interventionists focus on enhancing the provision of supplementary literacy instruction for special education and Tier II students in elementary school.

Additional literacy instruction is designed to facilitate literacy growth through the utilization of intervention groups either within a general education classroom setting or in a pull-out model in which students are pulled out of the classroom for support. Grouping may, therefore, impact literacy growth among special education and Tier II students in elementary school.

Definition of Terms

One-to-one instruction: One-to-one instruction is an instructional intervention that is provided when there exists a one-to-one student-teacher ratio in that allows a student to receive individualized attention and instruction (Oostdam, Blok, & Boendermaker, 2015).

Paired grouping: Paired grouping occurs when one student is partnered with another student.

Small groups: In this study, small groups are composed of three to five special education and Tier II students unless otherwise specified.

Whole group instruction: Whole group instruction occurs when all students are provided a given literacy instruction.

Intensive Interventions: Intensive interventions occur early on and tend to vary in duration (10 to 120 minutes) and frequency (three times per week or two times per day) (Kaminski & Powell-Smith, 2017; Kruse et al., 2015).

Literacy Growth: Within this study, literacy growth is characterized as improvements in reading and/or writing, including reading comprehension, fluency, phonological awareness, phonics, and vocabulary words.

Dynamic Indicators of Basic Early Literacy Skills (DIBELS): DIBELS is a a standardized set of reliable and valid measures used to quickly assess early literacy skills within early literacy development (Helf et al., 2009).

Dyslexia: Dyslexia is a disorder characterized by a students' difficulty in accurately and fluently reading or interpreting letters, symbols, and words (Pogorzelski & Wheldall, 2002).

Leveled Literacy Intervention (LLI): LLI is a supplementary literacy intervention designed for small groups of students in Kindergarten (K) to second-grade who struggle with reading as well as writing (Ransford-Kaldon, Flynt, & Ross, 2011).

Reading Recovery Intervention: Reading Recovery Intervention is a one-to-one, short-term intervention that focuses on tutoring the lowest achieving first graders in literacy (Ransford-Kaldon et al., 2011).

Reading Ready Early Literacy Intervention (RRELI): RRELI includes intervention-based tasks and activities that focus on enhancing alphabet knowledge and phonemic awareness (Kaminski & Powell-Smith, 2017).

Response to Intervention (RTI) Model: The RTI model is a comprehensive delivery model implemented in elementary schools that aids in early detection and prevention of failure to reach literacy benchmarks. In this study, RTI not only identifies struggling students but also provides students with instructional resources needed to prevent them from falling behind in literacy (Kruse et al., 2015); consists of a set of instructions that increase in intensity based on each students' response to given instructions and thereby focuses on providing students with differentiated levels of instruction and support based on individual needs (Kaminski & Powell, 2017).

Tier I Instruction: Tier I instruction is whole class instruction with a focus on research-based curriculum (Kaminski & Powell-Smith, 2017); screening is conducted on the entire class to help identify students who are considered at-risk of failing (Kaminski & Powell-Smith, 2017; Vaughn et al., 2011).

Tier II Instruction: Tier 2 instruction is provided when students are not making adequate progress in Tier I instruction and includes small group instruction a few times per week (Kaminski & Powell-Smith, 2017; Vaughn et al., 2011). Tier II Students students who have been identified as struggling readers and need additional assistance, which becomes more individualized as a student transitions from Tier II to Tier III (Vaughn, et al., 2011).

Tier III Instruction: Tier 3 instruction is instruction provided when students fail to make adequate progress in Tier II. In Tier III, students receive more intensive, individualized interventions (Kaminski & Powell-Smith, 2017; Vaughn et al., 2011).

Students Receiving Special Education Services: Within this study, students receiving special education services includes students who have been identified as having a learning disability and will receive resources and instructional practices to meet their individual needs.

Orton Gillingham (OG) Instruction: OG is a comprehensive, multisensory, systematic approach that incorporates kinesthetic/tactile and visual auditory learning pathways used to teach reading (Ritchey & Goeke, 2006) that is generally provided in correspondence to sound-symbol, morphology, phonology, phonological awareness, semantics, syllables, and syntax, is based on a students' individual needs, and must be mastered and overlearned before students advancing to the next prospective component (Ritchey & Goeke, 2006).

Phonological awareness: Phonological awareness is measured in accordance with a student's sound structure as well as the student's ability to differentiate spoken word sounds from their actual meaning (Kaminski & Powell-Smith, 2017).

Performance on the Phonological Assessment (PhAB): PhAB is a measure used to identify students with dyslexia who have lower levels of phonological awareness/poor phonological awareness (Kaminski & Powell-Smith, 2017; Pogorzelski & Wheldall, 2002).

CHAPTER II: LITERATURE REVIEW

Literacy Grouping and Student Growth: Literature Review

Introduction

Teachers are continuously challenged to instruct and assess students at varying levels of literacy and deliver adequate instruction for literacy growth (MacKenzie, 2001). Literacy instruction in the general education classroom can include students with a learning disability, students below grade-level standards, students performing at grade level, and gifted and talented students. For many students performing below grade level, small group interventions will be offered. Research suggests a relationship between improved literacy and small group intensive interventions (Vaughn, Denton, & Fletcher, 2010). This review will examine how the delivery of instruction in small groups of three to five students impact the development of literacy skills for students who are receiving Tier II or Tier III services.

It is essential to evaluate the findings of studies conducted to determine the value of intensive small group interventions in improving the literacy performance outcomes. There are several factors to consider when examining the type of instruction that results in significant literacy growth. These include grouping size, method and delivery of instruction, and length and consistency of the intervention (Menzies, Mahdavi, & Lewis, 2008). The purpose of this literature review is to provide an evaluation of small group intensive interventions for students with learning disabilities as well as those in need of Tier II intervention and to determine the most effective way to teach these students.

Benefits of One-to-One Intervention and Literacy Growth

Studies such as Denton, C., Fletcher, J., Anthony, J., & Francis, D. (2006) suggest the effectiveness of small group intensive interventions for struggling readers. Helf, Cook, and

Flowers (2009) reported that intensive, small group interventions have a significant impact on a student's literacy performance. According to Helf et al. (2009), "Small-group instruction provides an environment in which students have more opportunities to practice skills and receive increased feedback from the teacher" (p. 113). The study described an experimental design that focused on two groups: a one-to-one (1:1) student teacher ratio and a three-to-one (3:1) student-teacher ratio. Helf et al. (2009) revealed that although 1:1 grouping was ideal, it was not essential to accelerated literacy growth: "the results indicate[d] that students made comparable progress and gains in reading when instructed in small groups of 3. Because the 1:3 condition used resources more efficiently, it may be preferable to the 1:1" (Helf et al., 2009, p. 113). The researchers asserted that an instructional environment based on the small group model is key for literacy growth in terms of both student performance outcomes and fiscal responsibility.

Helf et al. (2009) also demonstrated that while it was beneficial to provide individualized attention to students who are at risk of failing to read, there was evidence that the same success may also occur in a small group setting. Participant data indicated positive, consistent improvement in reading comprehension over time. Students who exhibited statistically significant improvement in the group setting rivaled the growth of the students who received one-to-one intervention.

This study demonstrated comparable gains in the group of three and the one to one intervention group (Helf et al., 2009). Findings suggested a need for investing in small groups but did not indicate the need to instruct students in a one-to-one setting for progress (Helf et al., 2009). The data indicated that small interventions are needed and essential for students who are unable to improve their literacy proficiency when receiving standard literacy instruction in their general education classroom setting.

One-to-One Pairing and Small Groups

Iversen, Turner, and Chapman (2005) examined data to determine the positive or negative outcomes associated with the placement of students in pairs when receiving reading recovery interventions. Research findings revealed that students working in pairs did not show any significant loss or gain in literacy proficiency when compared to those who received one-to-one (one teacher to one student) intervention (Iversen et al., 2005). According to Iversen et al. (2005),

> an experimental study comparing the effectiveness of 1-to-1 RR instruction with RR instruction in pairs showed that although RR instruction in pairs required somewhat longer lessons (42 min vs. 33 min), there were no major differences between the two groups on any measures at discontinuation and at the end of the year or was there a significant difference between the groups in mean number of lessons to discontinuation. (p. 456).

A review of research supporting the need for intensive interventions for struggling readers focused on data collected by Vaughn, Denton, and Fletcher (2010). These results provided a convincing argument that struggling readers or those with a learning disability require long-term, individualized, and intensive interventions (Vaughn et al., 2010). The recommended length of the intervention was 20 weeks to show progress for most students. This study highlighted the value of creating an intensive intervention focused on individualized, attention-based study groups capable of providing the level of support and educational tools needed to achieve basic literacy comprehension (Vaughn et al., 2010). The 1:1 model was found to be the most effective for students with "severe reading difficulties" (Vaughn et al., 2010, p. 432). However, the data suggested that some of these students progressed when grouped in a 1:2

teacher-student ratio. This supported the findings of similar studies by Helf et al., (2009), Iversen et al., (2005), Kim, Linan-Thompson, and Misquitta (2012), and Vaughn et al., (2010) in which smaller groupings and prolonged interventions with a frequency of several times throughout the week were implemented and deemed beneficial for students in need of literacy growth.

Tier III and Group Size

A study conducted by Kaminski and Hommel (2015) looked at delayed readers entering kindergarten who lacked basic language and emergent literacy skills. A Tier III intervention was conducted with students working one-to-one with an intervention teacher for a period of eight weeks (Kaminski & Hommel, 2015). The intervention produced some success for all students involved. Findings showed that some students demonstrated a higher rate of gain in the area of phonemic awareness when compared to baseline data collected by three measures. The measures used for this study included the Alphabet Knowledge and Phonemic Awareness subtests of the Preschool Early Literacy Indicators (PELI), Sound Identification measure of the Individual Growth and Development Indicators (IGDI), and Test of Preschool Early Literacy (TOPEL) (Kaminski & Hommel, 2015).

The study concluded that in addition to one-on-one intensive interventions for many students, more time and consistency was needed for a majority of students to show significant growth. Findings demonstrated that 5 to 10 minutes a day across 8 to 12 weeks was enough time to accelerate growth for some preschool children who need Tier III support; however, it is likely not enough time for all children who need intensive support to gain the skills needed to achieve adequate literacy growth (Kaminski & Hommel, 2015). This study also examined studies by Denton et al., (2006); Mathes et al., (2005) and Vaughn, Linan-Thompson, and Hickman (2003) that were conducted for 20- to 30-weeks. In the Vaughn et al (2003) study, small group,

intensive interventions showed that 75% of students met exit criteria after receiving a 20 to 30-week intensive small group interventions. Vaughn et al. (2003) suggested that prolonged small group intensive intervention was a significant factor in literacy growth. This was evident when compared with 50% of students meeting exit criteria in Kaminiski and Hommel (2015) study. Kaminiski and Hommel (2015) noted the need for longer and more consistent small group interventions studies as critical next steps in literacy development.

Literacy Growth in Small Groups (3-5 Students)

The Helf et al. (2009) study indicated that a child's literacy skills have the potential to increase dramatically in an environment with three students. Although there exists statistical evidence suggesting that one-to-one tutoring may benefit a student to a certain degree, findings of one-to-one interventions did not show a significant difference from the small group results. Studies including Helf et al. (2009), Mackenzie (2001), and Vaughn et al. (1998) demonstrated the need for more focused attention on small group interventions but indicated that one-to-one instruction was not necessary for adequate literacy growth.

Vaughn, Wanzek, and Wexler (2010) examined student reading, vocabulary, and reading comprehension by measuring 546 seventh and eighth grade students who were identified as struggling readers. The sample was taken from six schools, with half of the study group being pulled from two urban schools and the other half pulled from two rural and two suburban schools. The study measured each student's ability to acquire new vocabulary and reading comprehension skills under standardized testing facilities where students did not have access to more intensive instruction. The measures used included: The Woodcock Johnson III (WJ-III), Texas Education Agency (TEA), and the Passage Comprehension and Listening Comprehension

subtests of the group reading assessment and diagnostic evaluation GRADE (Wilder & Williams, 2001; Form A, p. 942).

The study found that more time and smaller group size accelerated reading outcomes for some students when compared to a typical 50-minute classroom setting (Vaughn et al., 2010) although the gain for these students was not considered clinically significant. One possible interpretation given in Vaughn et al. (2010) study was that older students were frequently presented with material that was beyond the scope of their understanding in the area of terms, language, background knowledge, and critical thinking. (Vaughn et al., 2010)

In an intensive group study conducted by Begeny, Yeager, and Martinez (2012), the authors examined the benefits of small-group instruction, using larger group settings with six-to-one student-teacher ratio. This was double the size of many of the groups in studies examined in this review that suggest three is an effective number of children per instructor for optimal growth. According to Begeny et al. (2012), the students in this study benefitted from small group interventions and it was determined that these interventions can significantly impact literacy growth.

The study concluded that despite the proportionately larger class size, students became more responsive to literacy interventions when they received one-to-one or small group intensive interventions. Among the participants in this study, a heightened degree of responsiveness to small-group literacy interventions contributed to student growth in literacy (Begeny et al., 2012). The study suggested positive effects for small group learning environments. Similar studies demonstrated the importance of more intensive classroom structures, since even moderately smaller group sizes can have a profound impact on the way students are able to acquire and retain new reading skills (Begeny et al., 2012; Helf et al., 2009; Vaughn et al., 2010).

Small Group Interventions

Vaughn, Wexler, and Roberts (2011) demonstrated the positive effects of intensive group tutoring used in small group instruction. Their study centered around evaluating the efficacy of standardized instruction compared with small group instruction. The empirical research compared two groups: a control group that received only standardized literacy instruction and a small group model where students received individualized literacy remediation (Vaughn et al., 2011). These groups were then compared to grade level expectations. The findings provided evidence to support intensive literacy intervention as a contributing factor to significant literacy growth across both groups. The cost of training professionals to run such groups was potentially prohibitive. One significant finding was that the students with learning disabilities, who were expected to make greater gains in a small group setting, did not (Vaughn et al., 2011). Vaughn et al. (2011) revealed contrary findings where students receiving special education services showed more literacy gains in standardized instructional grouping than small group interventions. The findings of Vaughn et al. (2011) contradicted with many other studies, which have found small groups are ideal for special education learners (Bonfiglio et al., 2006; Kruse, Spencer, Olszewski, & Goldstein, 2015; Oostdam, Blok, & Boendermaker, 2015).

A study conducted by Ritchey and Goeke (2006) examined learners who were receiving Orton Gillingham instruction in a small group setting from kindergarten to college. The study was an attempt to measure progressive literacy comprehension skills when students were introduced to strategic learning schemes designed to provide more individualized learning methods. A large portion of the findings focused on a previous study conducted by Litcher and Roberge (1979). According to Ritchey and Goeke (2006), "Litcher and Roberge (1979) investigated Orton Gillingham (OG) instruction as an early intervention program for first-grade

students identified as at risk for reading problems by screening measures given to approximately 600 students in the school district" (p. 173).

One portion of the study focused as a small group of first through third grade students. These students were divided into three groups: a small group receiving Orton Gillingham instruction in a small group, a small group receiving sight word instruction, and a group receiving analytic phonics instruction. Results indicated significant gains were made in small group instruction for struggling first-grade students when they received the OG intervention over a period of one school year when compared to the analytic phonics group. Even greater gains were revealed when the analytic phonics group was compared to second and third-grade readers who received Orton Gillingham intervention (in which groups of four or fewer are recommended) (Ritchey & Goeke, 2006). This study demonstrated that although growth is somewhat dependent on instruction; programming, delivery of instruction and grouping also played a significant role in literacy development (Ritchey & Goeke, 2006).

Oostdam, Blok, and Boendermaker (2015) measured the success rates of both small and large group sizes. The study used an oral reading intervention model to examine literacy. This method was found effective in improving elementary student's literacy levels. Oostdam et al. (2015) placed low-achieving readers into two different experimental groups and a single control group. The one group participated in a one-to-one intervention that involved either a repeated reading or a continuous reading format (Oostdam et al., 2015). The remaining students were divided into either an oral reading group or a control group. Both fluency and reading aptitude improved in small group and individual groups.

Oostdam et al. (2015) also found that group work was more effective than individual work in terms of the number of students who showed improvement. Results showed that "the

scale advantage for groups of three students compared to individual remediation is about 100%. In the same amount of time, twice the number of students can receive reading remediation" (Oostdam et al., 2015, p. 446). The one-to-one group and the small group both achieved higher gains than baseline data. The study concluded the small group was able to excel and achieved higher literacy test scores after receiving small group intensive instruction (Oostdam et al., 2015). The study demonstrated the consistent, positive impact of small-group intervention for literacy growth.

Lawson, Layton, Goldbart, Lacey, and Miller (2012) reported that "literacy is traditionally narrowly conceptualized as a set of skills related to accessing and generating written or printed text" (p. 101). Their study examined the literacy growth of students who are learning-disabled that received small group intensive interventions. The study further examined the instruction curriculum commonly used for literacy intervention for students receiving special education services with a discrepancy in reading (Lawson et al., 2012). The curriculum included ideas derived from Picture Exchange Communication System (PECS) and Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH). Moreover, the study addressed the level of expected growth for students with a learning disability and how literacy growth was defined for learners. Lawson et al. (2012), address the reality understood by many special education teachers that some learners will not, in fact, attain "adequate" literacy skills (Lawson et al., 2012). Some students focused on other modes of communication and developed other communication skills to help navigate their world. This led Lawson et al. (2012) to examine "the nature of literacy" (p. 108).

It is important to understand how long-term improvement in literacy skills enhances the academic environment within today's education system. It is also subsequently important to

understand how not only group size but also how delivery and length of small group intervention impact learning. Vaughn (2010) noted,

the intensity of an academic intervention is related to the size of the instructional group, how frequently intervention is provided (e.g., two to five times per week), the length of each session (e.g.30–60 minutes), the duration of the intervention. (p. 432).

As Kaminski and Hommel (2015) also noted, the length of the intervention (4 weeks, 8 weeks, 20 weeks, etc.) has a significant impact on literacy growth and retention of information.

A study by Bonfiglio, Daly, Persampieri, and Anderson (2006) examined literacy interventions for fourth-grade readers from the same school who met four times per week in a small group. According to the data collected, methodology used, and combination of instructional strategies, a group of four students was determined to be an ideal group size to measure effective literacy growth. The students in this study not only showed growth in literacy but also in comprehension and retention of learned strategies (Bonfiglio et al., 2006). The data also revealed that the "perfect" literacy program for these students was elusive. Bonfiglio et al. (2006) stated, "Within a small reading group context, it is valuable to identify a package that may not be the most effective package for every child, but for most, in that positive effects may be obtained for every child (i.e., an increase in oral reading fluency rates)" (p. 108).

Greenwood, Carta, Goldstein, Kaminski, McConnell and Atwater (2014) conducted a review of the effectiveness of early literacy interventions and Tier II models. This study demonstrated the usefulness and need for early and intensive small group tutoring and instruction sessions at the preschool level. Although not all of the data collected was conclusive, the study argued for small group intensive interventions for preschool learners (Greenwood et al., 2015). The study stressed the need for continuing small group interventions throughout early elementary

years for students who are learning-disabled in order to support literacy growth (Greenwood et al., 2015). The study emphasized that early, small group intensive intervention is an important component of reading progress for students with learning disabilities.

A study conducted by Denton, Tolar, Fletcher, Barth, Vaughn, Francis and Graesser (2013), examined literacy growth for struggling second-grade readers. Unlike the students in the Kaminski & Hommel (2015) study, these students received intensive interventions from October to May in small groups of three or four students, outside of the general education classroom. The study found that all students made significant gains, although many students continued to fall below required benchmarks (Denton et al., 2013

According to Denton et al. (2013),

…the current emphasis on evidence-based instructional practices and materials is dependent on the development of a research base that goes beyond what works with most struggling readers to address instruction for students with persistent reading difficulties and disabilities who have not responded well to currently identified evidence-based approaches. Doing 'more of the same' in smaller groups or for a longer period of time will likely work for some students, but others will need a different approach to reading instruction, perhaps going beyond currently understood 'best practices. (p. 645)

This study provided conclusive statistical data that demonstrated the overall positive correlation between intensive small group interventions and literacy outcomes for struggling readers when taught over a longer period of time and in small groups (Denton et al., 2013). The study leaves room for further research in how to best instruct learners with the largest deficits.

Small Group Interventions and Improved Socialization

There is a significant concern regarding students who are learning-disabled for whom interventions, despite proper and research-based delivery, still are unable to attain adequate literacy skills in their early years. A study conducted by Lane, Menzies, Munton, Von Duering, and English (2005) attempted to link the need for small group literacy interventions to behavioral improvement and looked at how a student's literacy growth can improve antisocial behavior. According to Lane et al. (2005), "The teaching community is challenged by the responsibility of meeting the academic, social, and behavioral needs of children with and at risk for antisocial behavior" (p. 22).

Lane et al. (2005) conducted the intervention in 30-minute sessions over a nine-week period during the school day. The group met three or four times per week. This study focused on the link between anti-social behavior, particularly on the playground, and learning deficits. The results of the study indicated that as literacy skills improved, disruptive behavior was less significant (Lane et al., 2005). Research findings extended beyond the classroom, with significant effects on social interactions on the playground as well. The exact size of the kindergarten small group was not indicated but the implication was that the group was smaller than the regular classroom size (Lane et al., 2005).

In a study conducted by Algozzine, Wang, White, Cooke, Marr, Algozzine, Helf and Duran (2013), students were provided with intensive academic support that included Tier II academic interventions as well as some social skills (Algozzine et al., 2013). "Significant improvement was evident in phoneme segmentation and nonsense word fluency in reading and significant decreases were documented in office discipline referrals across treatment and comparison schools" (Algozzine et al., 2013, p. 53). Findings showed that literacy gains through

intensive small group interventions had a direct impact on student behavior as measured by office referrals. Therefore, the small group model provided the vehicle to deliver instruction necessary to support literacy gains and decrease negative attention seeking behaviors (Algozzine et al., 2013).

Specific Learning Disabilities and Small Groups

In another study conducted by Pogorzelski and Wheldall (2002), students were assessed for dyslexia (defined as poor phonological awareness) and compared with other slow-progressing readers. The overall purpose of the study was to determine whether dyslexia and other phonological impairments had any significant adverse effects on a student's ability to adapt to an intensive, skills-based reading program (Pogorzelski & Wheldall, 2012). Areas examined included alliteration, fluency, naming speed, non-word reading, rhyme, and spoonerisms. These skills affect a student's ability to retain and learn adequate literacy skills for consistent academic development. According to Pogorzelski and Wheldall (2002), students included "disabled readers with a range of phonological processing difficulties which include delayed speech acquisition and rate, rapid automatic naming deficits and word finding difficulties" (p. 414). The study focused on students receiving special education services, with one group of students previously diagnosed with dyslexia.

When researchers implemented the concentrated literacy program in an attempt to distinguish progress between the first group (a group of three) and another low-progress group totaling 22 students (also grouped into threes), researchers observed no positive indication that the students who are learning-disabled had more or less improvement in single word recognition or reading comprehension (Pogorzelski & Wheldall, 2012). Each group seemed to benefit proportionately from the focused learning platform, which utilized an environment with groups

of three or fewer participants. While it is understood that learning disabilities create an obstacle

for many students, much of the progress gained through this intervention yielded a positive

impact that far outweighed initial expectations (Pogorzelski & Wheldall, 2012). Therefore, this

academic review affirmed the need to continue investing in smaller group sizes for students who

are learning-disabled.

Phonemic Small Group Interventions

Menzies, Mahdavi, and Lewis (2008) published a study in alignment with Pogorzelski

and Wheldall (2012), as both research studies focused on assessing how small group

interventions enabled students with little or no phonemic awareness to demonstrate literacy

growth. Menzies et al. (2008) examined first-grade students with little or no phonemic

awareness. The interventions grouped first-grade students into low teacher-to-student ratios with

a maximum of five students. Measurement of student progress was standardized and considered

as potential referral to special education for 'non-responders' (p. 73).

Although the instruction was delivered in the general education classroom, the groupings

were consistent with this study's definition of a small group intervention. Menzies et al. (2008)

concluded that through a comprehensive instruction-based learning platform where students were

placed in groups (up to five students), it was possible to provide an academic-based environment

capable of increasing over 90% of the classroom's reading and vocabulary comprehension to

grade-level expectations or above. This significant improvement in literacy skills, which

included the rapid advancement in alphabetic and basic vocabulary acquisition, was

characteristic of a successful learning environment where smaller student-to-teacher ratios were

present.

Of the students who were nonresponsive to the small group interventions, 75% were

eligible for special education services. Through this, it became clear that there was a positive, consistent correlation between more intensive small group (> 6) interventions and improved success rates among students with little or no phonemic awareness (Menzies et al., 2008).

There has also been research dedicated to the study of how preschool students with little or no phonemic awareness benefit from an intensive small group intervention model. Kaminski and Powell-Smith (2017) focused on six children with no phonemic literacy skills. "The purpose of our study was to evaluate the effectiveness of a focused individualized intervention on the development of phonemic awareness skills, specifically awareness of initial sounds, in preschool children eligible for Tier III support" (Kaminski & Powell-Smith, 2017, p. 204).

Findings revealed that when six preschool students were given an eight-week, five-ten minute intensive intervention, each student demonstrated improvement Additionally, some students showed significant gains. The intensive intervention was given in a one-to-one model, with each student receiving no fewer than 24 intervention lessons in addition to their general education literacy instruction (Kaminski & Powell-Smith, 2017). The study was comprehensive and effective in demonstrating the overall benefit of one-to-one interventions, although the researchers note that two students received the same lesson two or three times before advancing. In addition, one student had significant absences and was also the lowest-measured progressing student. The overall findings reaffirmed that students benefit from more individualized attention.

Small Group Interventions: Longitudinal Study

Chapman (2016) conducted a two year, 32-week intervention program that was administered to a whole class but delivered individually to students. By the end of this longitudinal study, students who received literacy intervention outperformed students who had

not received literacy intervention in the areas of reading book level, word knowledge, and reading accuracy (Chapman, 2016). The results were not considered clinically significant but were in the anticipated direction. Analysis of this study relative to group size and literacy-based programming, showed that students struggling with literacy were successful regardless of additional factors, such as socioeconomic disadvantage (Chapman, 2016). This study demonstrated how individualized instruction and specific literacy programs based on student learning and literacy can help students achieve academic goals (Chapman, 2016).

Tier II Interventions

Kruse, Spencer, Olszewski, and Goldstein (2015) provided a more comprehensive understanding of how different intensive-intervention schemes contributed to the development of literacy skills for preschool students. The study used the Response to Intervention (RTI) model with small group Tier II interventions to measure student progress (Kruse et al., 2015). Preschool students worked with a trained interventionist in small group sessions for three to four days a week for 28 to 36 lessons in 10-minute time periods (Kruse et al., 2015). The interventions focused on phonological awareness and knowledge of the alphabet. These students demonstrated more phonemic awareness by the conclusion of the study.

The Kruse et al. (2015) study, in combination with other studies conducted by Bonfiglio (2006) and Oostdam, Blok, and Boendermaker (2015), demonstrated that small groups are effective for struggling readers. As an early intervention for young students, classroom teachers learned to take the first proactive step toward literacy growth for the success of struggling students.

A small study conducted by Buckingham & Beaman-Wheldall (2014), in a single school looked at the effectiveness of specific literacy interventions for 14, Tier II students. The students

were grouped into small groups of three to four, based on ability. The study noted some movement within groups during the first 10 weeks of the intervention, but the groupings were subsequently consistent. The interventions ran for two terms of 27 weeks (year one and two) with students meeting in groups of three or four for an hour daily, four days per week (Buckingham & Beaman-Wheldall, 2014). The study noted that it was only considered a controlled study for the first year; after that point, students in first grade may have received some other form of literacy intervention. Outcomes demonstrated by the experimental group showed that literacy results surpassed the control group by two measures used to assess progress. The differential was considered clinically significant in two measures (Buckingham, et al., 2014, p. 177). Overall outcomes demonstrated improvement through the use of small group intensive interventions where group size was no greater than four (Buckingham & Beaman-Wheldall, 2014). Although the researchers indicated caution with regard to individualized assessment of student need, they did acknowledge the effectiveness of small group interventions when paired with other intervention strategies. The most significant finding of the study supported the small group (three to four students) model (Buckingham & Beaman-Wheldall, 2014).

Groups of More Than Six Students

Academic research has also been conducted regarding the efficacy of one-to-one tutoring and the benefits that this type of learning platform provides for struggling readers and students in special education. Kim, Linan-Thompson, and Misquitta (2012) examined several grouping choices to determine effectiveness. These included one-to-one instruction, paired students, small group instruction (6-12 students), and whole group instruction. The research conducted by Kim et al. (2012), indicated that there were significant improvements in literacy comprehension for children who had regular access to individualized, attention-based tutoring sessions as opposed

to those who did not. The study conducted by Kim et al. (2012) found that students experienced improved reading outcomes when placed in a one-to-one tutoring setting. Individual instruction was more effective in post-tests and follow-up tests as indicated by clinically significant effect size (Kim et al., 2012).

Additional findings from Kim et al. (2012), showed that the effects of paired, group (6-12 students) and whole group were inconsistent. Student performance on post-tests varied from medium to high (ES = 0.58 – 1.10) when students were instructed in pairs (Kim et al., 2012). In smaller group instruction involving six to 12 students, performance on post-tests was relatively higher (ES = 1.33 – 1.78). Whole-group student performance on post-tests ranged from low to high, as indicated by an effect size ranging from 0.07 to 1.33 (Kim et al., 2012). These results suggest that smaller groups (six to 12 students) are preferred compared to paired instruction and whole group instruction. Hence, a larger group is not ideal for struggling students, but a smaller group (six to 12 students) offers viable and sustainable results on comprehension performance growth for Tier II and students receiving special education services, especially over time (Kim et al., 2012). This study demonstrates how grouping students in various ways can influence reading comprehension and retention when measured by standardized testing tools.

Small Group Interventions and Grade Retention

Research studies also highlighted the overall significance of helping early learners and students receiving special education services obtain the necessary literacy skills through varying instructional strategies (Abbott, M. Wills, H., Greenwood, C., Kamps, D., Heitzman-Powell, L., Selig, J. (2010)., Kim et al., 2012; Ritchey & Goeke, 2006). Abbott et al. (2010) looked at literacy gains made for two groups of kindergarten and first-grade students. The students received Tier II interventions during the school year and then split between accelerated and

original interventions. The study's main purpose was to determine whether students retained in the same grade after literacy acceleration made more significant progress than students who were accelerated to the next grade. It was determined that the best grouping for these interventions was small groups. Data collection included literary assessments, demographic information, and method of instructional delivery (i.e., time invested in each intervention).

This study was based on a sample size of 70 kindergarten and first-grade students across seven different schools (Abbott et al., 2010). Findings revealed that a combination of classroom instruction and small group interventions of six or fewer students are required over the course of at least 2.5 hours of the school day for students to experience a clinically significant growth pattern in their literacy (Abbott et al., 2010). The findings also showed that these small interventions are what is needed for consistent literacy growth.

The quasi-experimental design and longitudinal nature of the study focused on data collected over a five-year period. The emphasis was on what effect small group interventions had when literacy growth was examined and how that growth could be linked to grade retention versus acceleration (Abbott et al., 2010).

The longitudinal nature of the study by Abbott et al. (2010) sought to ensure that the measurement and administration of the grouped interventions were sufficient to determine value, if any, of retention. Abbott et al. (210) state that, "Far too often, instructional intervention effects are small, and interventions are not provided early and long enough to raise student performance into average ranges." (p. 7) The study supports the effectiveness of small group intensive instruction but also questions the fiscal possibilities and resource allocation.

The Abbott et al. (2010) study stressed that the long-term impacts of intensive small group intervention outweigh the short-term gains that may occur with grade retention.

Furthermore, Abbott et al. (2010) stated that,

> schools need to keep in mind that putting children back into an environment of inadequate intervention will only leave them behind, with poor educational and employment prospects for the future. All children deserve the best education, which includes appropriate intensity and duration of SGI and general education literacy instruction. (p. 21).

Abbott et al. (2010) recommended that school districts should develop intervention and grouping practices that aid in student literacy gains and do not rely on retention as an effective method of intervention.

Looking at Group Size and Literacy Outcomes

In a study conducted by Schwartz, Schmitt, and Lose (2017), the differential in student growth when comparing various groupings of students was examined. The study looked at 1:1, 1:2, 1:3, 1:4, and 1:5 ratios and evaluated outcomes. Research findings revealed that a 1:1 ratio was ideal for student growth and development (Schwartz et al., 2017). However, significant gains also were made in the small group settings. Schwartz et al. (2017) stated that "the mix of individual and small-group services should be sufficient to reduce the achievement gap across first grade for 70% to 80% of the students who would struggle to make progress in the classroom context alone" (p. 565). These findings are supported by Vaughn et al. (2010) study, which noted the effectiveness of both individualized and small-group interventions. Vaughn et al. (2010) findings promoted individualized instruction for most, but not all, students (Vaughn et al., 2010).

Statistical analysis showed the effectiveness of smaller group sessions in supporting student advancement in reading and vocabulary (Schwartz et al., 2012). Schwartz et al. (2017)

stated, "In the comparison schools, which provided small-group intervention support, 66% of the initially low students appeared to qualify for special education services, approximately 13% of the first-grade cohort qualified." (p. 548). The study concluded that the difference between the specific number of students in the small group did not significantly change literacy outcomes for learners (within a change in one student to the size of the group). However, a trend was found, which showed that the larger the group size the more significant the decline in student literacy performance (Schwartz et al., 2012). These findings supported the hypothesis that small group sessions can be effective for learners. As group size increased, efficacy diminished (Schwartz et al., 2012).

Vaughn, Moody, and Schumm (1998) examined the reading instruction by 14 special education teachers in elementary schools in a large southeastern school district. The student population ranged in size from four to a total of 19 students in kindergarten to fourth grade. Results revealed little statistically significant difference between whole group instruction and individualized activities as well as whole group activities and small groups (Vaughn et al., 1998). When examining the data a statistically significant difference was not found between in student achievement when comparing students receiving individualized activities and those receiving whole group instruction (Vaughn et al., 1998).

Findings were categorized within seven themes, including approach to reading instruction, comprehension, grouping practices, individualized instruction, monitoring of student reading progress, teachers' perspective of special education, and word recognition and decoding. A majority of the teachers (11 out of 14) utilized whole group instructional practices. One teacher stated that "a lot of it is whole group together so we can learn together. A lot of oral participation is what they need" (Vaughn et al., 1998, p. 218). The other three teachers divided

students into small groups of four to five students with the same ability. Of all the teachers in this study, five teachers focused on individualized (1:1) activities.

This study also discussed the political climate in literacy intervention in the late 90's and early 2000's and the expectations placed on special education teachers. The idea that instruction was individualized was frequently inaccurate. In fact, the majority of special education teachers observed delivered curriculum to students that was similar to their general education colleagues (Vaughn et al., 1998). Therefore, books and instruction at the student's instructional level, as Vaughn et al. (1998) stated, were often not being provided. Vaughn et al. (1998) stated,

> We think that the findings of this study reveal a series of broken promises. The most obvious is the broken promise to the student and the parent that an individualized reading program will be provided to each student to meet their specific needs. With few exceptions, teachers are struggling to provide individualized instruction to students when they are responsible for teaching eight or more students at one time. Other broken promises occur for special education teachers who expect that they will have the resources and time to provide an appropriate education to students with reading disabilities. (p. 222)

Overall, the results of this study showed that students made no growth or relatively little growth in reading achievement.

In a study conducted by Mackenzie (2001), literacy teams were developed at Landon Elementary School. According to Mackenzie (2001), teachers provided reading instruction that included varying literacy experiences, such as reading an anthology on a district-wide scale, guided reading, and a writing workshop. The school's literacy team consists of certified teaching associates, reading specialists, special education staff members, and teachers were responsible

for providing first and second graders with small group as well as whole-class instruction (Mackenzie, 2001).

Small group instructional practices enabled teachers to adequately address areas of need while supporting the strengths of struggling students. The transfer of concepts acquired from individual 1:1 and small group instruction to whole-class instruction requires expectations, feedback on a continuous basis, and strategic reminders (Mackenzie, 2001).

A program known as Reading Recovery provided first-grade students who had the lowest achievement support for intensive literacy. In Reading Recovery, trained teaching professionals work with students in small groups (four students) (Mackenzie, 2001). Literacy Booster Groups are also employed among students struggling with literacy. These small groups have up to six students in first grade. Since second graders are considered more independent, Literacy Booster Groups of second-grade students have a maximum of eight students (Mackenzie, 2001).

Results showed that progress for first-grade students in Literacy Booster Groups ranged from 78% to 81%, compared to the progress achieved by all other students, which was 41 to 55% (Mackenzie, 2001). This data shows that participation in Literacy Booster Groups significantly accelerated the progress made in text-level reading among first-grade students. Similar patterns were observed among second-grade students. By mid-year and at the end of the school year, Literacy Booster Groups had a higher percentage of students who met the grade-level criterion for second-graders than did other second-graders who were not in Literacy Booster Groups. Research findings from fall to spring suggest that second-grade students in Literacy Booster Groups demonstrated significant academic progress and improvement on the Informal Reading Inventory assessment.

Findings from teacher interviews were based on each teacher's individual experience. Teachers at Landon Elementary School supported the use of Literacy Booster Groups with a maximum size of six students for students who were struggling with reading. One teacher noted that "help was there immediately before the child lost confidence or interest. From a teacher's perspective, it was reassuring for me to know there was someone else besides myself monitoring that student" (Mackenzie, 2001, p. 232).

During the course of three years, teachers at Landon Elementary School reported a significant increase in student achievement during primary grades. Reading teachers observed improvements in student assessment scores on district skill tests, Informal Reading Inventory, observation survey, and running records. In addition, class teachers noted an increase in student motivation, confidence, and classroom performance (Mackenzie, 2001). These results indicate that Literacy Booster Groups administered in a small group setting were effective in sustaining and extending the success of Reading Recovery (Mackenzie, 2001).

CHAPTER III: CONCLUSION
Summary

The purpose of this literature review was to examine how group size influences growth in small group literacy for students receiving Tier II or special education services. A number of qualitative and quantitative studies, as well as empirical research studies, were reviewed to examine how group size can affect literacy outcomes for students with learning disabilities and struggling readers. Group size may have a direct impact on the effectiveness of literacy intervention and subsequent literacy growth. The findings revealed that group size, including 1:1 instruction, small group instruction, and whole group instruction, played a vital role in improving reading outcomes.

Due to the benefits of each individual instructional design, an integrative approach should be used to yield the most optimal student outcomes in reading. The results of many studies indicated that larger group sizes for students who were already struggling or eligible for special education support did not ensure adequate literacy growth (Begeny et al., 2012; Denton et al., 2013; Menzies et al., 2008; Schwartz et al., 2017).

A small group approach should be employed in group intensive literacy instruction for struggling readers and identified students receiving special education services (Helf et al., 2009). Instructional practices and literacy groups of fewer than six were determined to have a median effect. Groups of three to four were shown to be effective for literacy growth for many students. According to Kim et al (2012), the ideal grouping is the 1:1 grouping. However, this model is not sustainable for many districts and would potentially prove fiscally prohibitive.

Overall, a significant amount of the research appeared to gloss over group size and its correlation to literacy growth. However, deeper examination of the research frequently showed that group sizes of either 1:1 or 1:3 were often used in small group interventions. The data was

often compared to a control group that had not received small group instruction. Although group size is not always directly stated as the purpose of a study, it is frequently implied to be understood as best practice. The study conducted by Bonofigilio et al (2006) stated that the "perfect" group size for literacy interventions was four students. The overwhelming conclusions if the studies examined supported the idea that instructional groups larger than five contributed to a lack of effective intervention for students receiving special education services.

Professional Application

While there is an implication and, at times, an explicit statement, that a small group or even 1:1 intervention is ideal for literacy, there are many contributing factors that determine the success of any intervention.

A single approach to reading intervention may not work in the most effective or efficient manner. An integrative approach that uses both individual instruction, small group instructional practices, and whole group instruction can provide struggling readers with additional educational opportunities and support (Schwartz et al., 2012).

It is also important to understand that not only group size but also delivery of instruction and the length of interventions affect learning. As Kaminski & Hommel, (2015), Denton et al., (2006), Mathes et al., (2005) and Vaughn, et al (2003) demonstrated, the length of the intervention (4 weeks, 8 weeks, or 20 weeks) has a significant impact on literacy growth and retention of information.

Whatever the reading intervention and instructional approach used, the importance of allocating adequate resources, including time, to struggling readers and students receiving special education services is apparent. Adequate resources, in this sense, include delivery of instruction, materials used, and the grouping of students. Homan et al. (2001) state that,

the number who will succeed in fact depends on the resources schools are willing to devote to ensuring success for all and the willingness to reconfigure the resources already devoted to remedial and special education and related services (p. 216).

Educators and teachers with access to limited resources, such as adequate staffing and time, tend to have less time to devote to individualized instruction and interventions needed to promote adequate literacy growth (Begeny et al., 2011).

Research showed that students who do not learn how to read proficiently by eight years of age frequently struggle with reading skills throughout the rest of their lives (Mackenzie, 2001). It is important to increase the acquisition of financial resources and provide more education and training to interventionists in order to deliver instruction that can ensure an appropriate blend of small group, 1:1, and large group instruction.

Another significant finding of this review is that small group interventions are most effective when the delivery of the interventions occur over many weeks (20 to 30) (Vaughn et al., 2011). Remediation of reading difficulties should, therefore, be more intensive and over an extended period of time. An intervention for one year will only meet the needs and demands of a few students struggling in reading, especially students with more severe reading difficulties (Vaughn et al., 2011). For students who either do not qualify for special education services or are still in the Tier II process, more intensive interventions may be needed that continue for longer than one year. Even two years of interventional services may not yield the necessary results, since a majority of students do not demonstrate grade-level reading for reading comprehension and may require additional interventions and services after the two-year period (Vaughn et al., 2011).

Intensive small group reading remediation early on, as well as reading intervention programs with longer time frames based on student needs and monitoring over the course of this time, may aid in prevention and reducing the number of older students with reading problems (Oostdam et al., 2015). Early intervention programs are promising practices in preventing the misidentification in the area of reading disabilities. Early small group intervention can help to determine whether student may need to be assessed for a disability. This can increase students' access to special education services and programs at an early age can lead to more significant academic progress (Mackenzie et al., 2008).

On a national scale, there is a focus on preventing reading failure, therefore it is essential for teachers and other education professionals to identify and understand the most effective and efficient way to facilitate literacy programs and supplemental instruction to students at risk of reading failure (Helf et al., 2009). Instruction in groups (1:3) proved to be more efficient than individual (1:1) instruction. Individual instruction (1:1) is not useful when resources are limited as is the case for the majority of schools. Students in small groups showed significant gains in reading and small groups should be facilitated for literacy interventions consistently (Helf et al., 2009).

Some research supports the effectiveness of larger group settings (6-12 students). Kim et al. (2012) reported that whole group instruction is ineffective for struggling readers. They also stated literacy instruction should be done in pairs; however, instructional modifications could be done in groups of 6 to 12 students. Since understanding how deliver an effective intervention is crucial, teachers must highlight the intervention's content alongside its delivery.

Homan et al. (2001) suggest that teacher training should be continuously expanded to ensure teachers learn how to accelerate and advance the literacy development of struggling

students who learn in a small group setting. Reading procedures developed and implemented for poor readers involve intensive interventions and instructional practices that differ strongly from whole group activities (Vaugh et al., 1998).

Furthermore, some additional resources may be found by seeking nontraditional interventionists. Teachers may be able to seek assistance from special education paraprofessionals and school psychologists to implement small group instruction. Cross-training of staff may enhance collaboration with other highly competent and skilled professionals who have different levels of expertise, enabling schools to spread their resources more evenly (Begeny et al., 2011). Monitoring and effectively tracking student progress can also be allocated to para-professionals, which may enable interventionists to create smaller intervention groups. Teachers can use progress monitoring to modify instruction as needed. The increased use of response to intervention (RTI) models can enable teachers to monitor closely their students and to enhance the provision of targeted instruction for students who are struggling. Teachers can use an RTI approach to achieve optimum literacy outcomes for all learners in a timely manner and based on students' individual needs (Schwartz et al., 2012).

Limitations of the Research

A few limitations of the research must be noted. Several studies indicated a strong preference for 1:1 grouping. Therefore, the studies did not adequately examine small groups compared to larger group sizes. However, some of the studies cited did include data that compared small group (usually three students) to whole class intervention. These comparisons often demonstrated the effectiveness of the small group models. In addition, the small group model, when compared to the "preferred" 1:1 model, showed frequent effectiveness without significant diminishment of literacy growth when students growth was probed.

The sample sizes and varying populations of the students are also limiting factors. This is unavoidable as the student population that is measured is, itself, limited in scope and dimension. Other limiting factors included length of intervention, socioeconomic factors, and intervention methodology.

Finally, this review examined research that focused on delivery of instructional models, which included incorporating students into small groups for the purpose of delivering specific interventions. Many of these studies' main purpose was not to directly examine how group size affected student outcomes. Nevertheless, group size is listed as a determining factor in many studies examined in this literature review.

Implications for Future Research

This systematic review identified a number of implications for future research, most of which highlighted longer study durations, larger sample sizes, and improved methodological rigor based on the study's research design. Future research should focus on conducting longitudinal studies to assess the long-term progress students make over the course of an entire year (Helf et al., 2009; Kaminiski & Powell-Smith, 2017; Lane et al., 2005; Menzies et al., 2008).

Future research should also examine how group size affects delivery of instruction and teacher effectiveness. A standardized model should be used and data probes taken over several weeks to determine effectiveness. In addition, standardized methods of intervention should be used to determine the effectiveness of given interventions across select group sizes. A standardized method of data collection should be used to ensure validity of results.

Moreover, future research would benefit from examining how larger school districts allocate funding and staffing based on the proven effectiveness of smaller groupings for Tier II

interventions and special education services. As districts determine staffing needs, research should be conducted to determine how literacy intervention is best implemented in order to increase effectiveness and maintain small group sizes. Research that measures the effectiveness of group size could be used in determining LRE and FAPE for students receiving special education services.

Conclusion

Literacy groups and reading instruction include 1:1 instruction, paired learning, small group instruction, and, less frequently by reading instruction involving a whole group of struggling readers. Although supplemental programs in education are developed and based on the assumption that 1:1 instruction is the most effective, it requires access to sufficient resources ranging from adequate staffing to time (Helf et al., 2009). This availability of resources can limit the number of students who can be served in a supplemental program, so 1:1 reading intervention programs are less effective in meeting student's needs. Research studies also provide insight into the correlation between students with problematic behaviors and academic underachievement in literacy.

Early help for of students at risk of reading difficulties is key upon initial entry into school (Lane et al., 2005). Research studies demonstrate that the prevention of reading difficulties and reading failure depends on literacy group intervention. The size of the intervention group is a contributing factor to literacy gains (Lane et al., 2005). Careful examination and analysis of qualitative studies, quantitative studies, and empirical research studies demonstrate that group size affects positive literacy outcomes for struggling readers and students receiving special education services. Effectiveness in delivery of instruction was noted as being negatively affected by special education groups larger than eight students.

In conclusion, small group instruction is a contributing factor to student success but certainly not the only factor. When allocating resources, a small group of four or fewer students has been shown to have the greatest impact on literacy growth. Group size, method of delivery, length of intervention, and educational resources are essential factors contributing to students of student literacy gains.

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