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Response to Intervention and Title I Public Elementary School Students' Instructional  
Reading Level Scores

A Dissertation Submitted in partial fulfillment of the  
Requirements for the degree  
Doctor of Public Administration

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Department of Public Administration

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Response to Intervention and Title I Public Elementary School Students' Instructional

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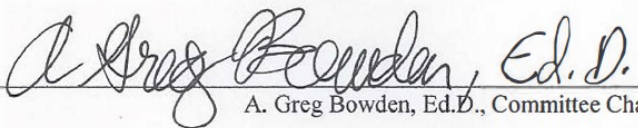
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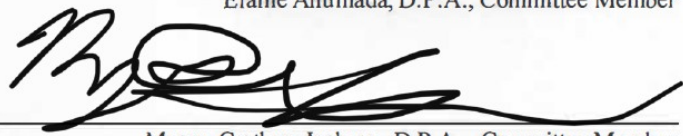
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## ABSTRACT

**Purpose.** The purpose of this quantitative quasi-experimental study was to focus on the difference of Instructional Reading Level (IRL) scores in Title I public elementary school students, before and after Tier II Response to Intervention (RTI) was implemented.

**Theoretical Framework:** This study was applied theoretically to Vygotsky's sociocultural theory of cognitive development.

**Methodology.** The specific aim of this quantitative study was to determine whether there was a significant difference and effectiveness (through the lens of public administration), when Tier II RTI was applied for the 2018-2019 school year to Title I public elementary school students as determined by their IRL scores. This study includes a secondary analysis of Title I public elementary school students' IRL scores from school district-provided data.

**Findings.** There was a significant difference in pre- and post-IRL scores, when Tier II RTI was provided to Title I public elementary school students. Title I public elementary school students who received Tier II RTI instruction for 6 consecutive traditional school months, scored 1 year higher on average, from their IRL pretest score to the IRL posttest score.

**Conclusions and Recommendations.** Based on the researcher's current findings, Tier II RTI was found to be largely effective in Title I public elementary school students' IRL scores. Research can be expanded in the future by including Tier II RTI in Title I public elementary schools throughout the country to see if results can be replicated or even improved elsewhere.

*Keywords:* Response to Intervention, Instructional Reading Level Scores, quantitative, efficiency and effectiveness, Title I, students

## DEDICATION

This paper is dedicated to my grandmother, Marilyn Knuckey, who understood the importance of providing early reading intervention to struggling students. Without your vision, courage, and support of these ideals in your daughter and granddaughter, this study would not have been possible.

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## CHAPTER 1: INTRODUCTION

This study sought to determine if Response to Intervention (RTI) provides a significant difference and effectiveness (through the lens of public administration), in Title I public elementary school students' Instructional Reading Level (IRL) scores through a one group pretest-posttest (OXO) design.

### **Background**

According to Salah (2014), “Reading is a crucial skill required for academic success and lifelong learning” (p. 2). Unfortunately, there are many students who are considered “at-risk,” who are already behind their peers in reading before they even step foot in a school. How is this possible? The term *at-risk*, has more to do with a student’s lifestyle than their learning capacity (The Glossary of Education Reform, 2013b). At-risk may be applied to students who face circumstances that could jeopardize their ability to complete school, such as homelessness, incarcerations, teenage pregnancy, serious health issues, domestic violence, transiency (as in the case of migrant-worker families), or other conditions; or it may refer to learning disabilities, low test scores, disciplinary problems, grade retentions, or other learning-related factors that could adversely affect the educational performance and attainment of some students. (The Glossary of Education Reform, 2013b, para. 1)

In actuality, at-risk students are a major part of Title I schools and, even though educators cannot change the circumstances that may cause a student to be considered at-risk or a school or district to be characterized as Title I, “study findings [do] support the growing body of research indicating that at-risk students need intensive and explicit instruction in

addition to opportunities to practice reading” (Faggella-Luby & Wardwell, 2011, p. 35) to succeed.

Title I and RTI have been defined under multiple federal educational acts within history. Title I is a federally funded program, which assists schools with meeting standards for high-poverty students (USLEGAL, n.d.), and RTI is a three-tiered instructional design model that provides early intervention for students who are not meeting grade-level standards in the traditional classroom setting. Federal educational acts are usually created to define, address, and fund a large problem that is being experienced across the country. The educational acts that mention Title I and RTI provide “funds [that] are targeted to high-poverty schools and districts and used to provide educational services to students who are educationally disadvantaged or at risk of failing to meet state standards” (Education Week Staff, 2004, para. 1). Furthermore, these acts have “federal laws [which] strongly encouraged state education agencies (SEAs) and local education agencies (LEAs) to provide a system of high-quality, scientific research-based intervention prior to making a referral to determine if a child is eligible for special education services” (Walker & Daves, 2010, p. 40). In other words, these federal educational acts are designed to encourage each state and school district to come up with an intervention system to help students who are falling behind before they are tested for special education services. It is important to note, that even though Title I and RTI are defined within the acts, the acts do not provide specific procedures or mandate how to implement RTI, help at risk students, or fix the achievement gap.

This study examined a Title I school that used the instructional design model RTI. Moreover, the study examined whether incorporating RTI makes a significant difference

in students' IRL scores and thereby is effective and efficient in reducing the achievement gap and help at risk students who are enrolled within Title I schools. What does RTI look like? Samuels (2017) explained,

Response-to-intervention models may differ in form among schools, but they contain some common features: universal screening tools that allow teachers to accurately determine which students need extra help, evidence-based interventions; multiple “tiers” of intervention intensity; and [ongoing] monitoring of progress, so that teachers have [current] data on how well a student is responding to the extra help. (p. 6)

RTI consists of three tiers: “The first tier involves the general education classroom teacher providing high-quality, scientifically based instruction for all students” (Walker & Daves, 2010, p. 41). Tier I is a school-wide-based intervention and should include the highest number of students at a school site. Tier I is provided to all students within their general education classroom and uses research-proven teaching methods (The Understood Team, n.d.).

Crepeau-Hobson and Bianco (2013) described the next tier: “The second tier, still part of the general education system of supports, consists of providing students with smaller group, more focused instruction in their area of need, and similar types of educational support” (p. 144). The second tier in RTI, which is the focus of this study, gifts “students identified as being at risk in Tier I with small-group, high-intensity interventions” (Walker & Daves, 2010, p. 41). In the case of this study, Tier II intervention includes pullout, small group explicit instruction, facilitated by staff members and overseen by a resource teacher. The small groups include five to eight

students at each table, with one staff member facilitating reading and writing to a different grade level each hour. There are multiple kidney tables within the classroom, and the reading levels, lesson plans, and curriculum are provided by the resource teacher to the staff members. This study's Tier II intervention is provided to each grade level, 4 times weekly, at 60 min per session. One day a week, when instruction is not being provided, the staff receives training from the resource teacher. The training also consists of giving the staff ample time to prepare their group's' instructional and grade-level reading and writing materials for the upcoming week. Finally, the resource teacher oversees the grouping of all of the students by utilizing school district-provided data and adjusts the small groups as needed on a monthly basis. Friedman (2010) described,

Although all levels in an RTI multilevel prevention system are critical, secondary prevention is particularly so. It is the first line of defense once a student has been identified as at risk for failure ... [and] the likelihood of recovery and subsequent success in a well-monitored reentry to primary prevention is strong. (p. 210)

Tier III is the final tier in the RTI model, and it includes referring a student to special education services. Walker and Daves (2010) stated, "Children who fail to respond sufficiently to this intervention [Tier 2] enter another tier where either the intensity level of the interventions is increased or the child is referred for a special education evaluation" (p. 41).

### **Statement of the Research Problem**

It is important to ensure that all at risk students have a chance to succeed. Unfortunately, according to the American Psychological Association (APA, 2017), "research continues to link lower SES to lower academic achievement and slower rates of

academic progress” (para. 13). Finding a way to close the achievement gap has become an ongoing ordeal in education and a particularly difficult challenge for Title I schools. Salah (2015) emphasized that “schools must take immediate action in order to alleviate these gaps” (p. 7).

The focus of this quantitative study was to determine whether Tier II RTI is effective in providing a significant difference in Title I public elementary school students’ IRL scores. The current literature gap and resulting lack of data could be preventing schools from implementing potentially beneficial RTI programs in Title I schools, which is worrisome. Therefore, my hope was to show quantitatively that RTI in Title I elementary schools is an effective way of providing a significant difference in students’ IRL scores.

### **Purpose Statement**

The purpose of this quantitative quasi-experimental study was to focus on the difference of IRL scores for Title I public elementary school students before and after Tier II RTI is implemented. Much of the current research surrounding RTI follows a qualitative or mixed methodology. Two previous research studies focused on special education, teachers, education levels, at-risk and Title I math and reading programs. Unfortunately, only two quantitative studies regarding RTI could be found. The first quantitative study by Gardenhour (2016) examined reading and math groups for primary sites and did not include Title I schools. The other quantitative study examined teachers’ professional development in RTI and did not assess student data at all (Mahoney, 2011). A quantitative study that focuses on the effectiveness and efficiency of RTI of Title I public elementary school students, through the lens of public administration, has not yet

been completed and is considered to be a gap in the literature. Much of the research surrounding RTI focuses on interviews and surveys rather than quantitative data, which is very concerning. Furthermore, it is frustrating that Title I students who are at-risk are not being included in quantitative RTI studies. This quantitative study attempted to fill the gap and examined the efficiency and effectiveness of the data through public administration.

### **Research Question, Hypothesis, and Variables**

The research question for this study asked, “Is there a significant difference in IRL scores, when RTI is provided to Title I public elementary school students?” The hypothesis posited that there was a correlation between RTI and Title I public elementary school students’ IRL scores. RTI is the independent variable within the study and the dependent variable is school district-provided IRL scores.

### **Significance of the Problem**

This study will be applied theoretically to public administration’s pillar of effectiveness and efficiency. Effectiveness and efficiency are both important factors within public administration and education. The term *efficiency* has changed from being just focused on data to looking at how useful it is to most people (Manzoor, 2014).

Manzoor (2014) stated,

At one point in time, it was just to increase output; afterward, it was defined along pure business lines; and later on, an element of value was added to cover the expectations of citizens as the most significant part of public goods and services. (Manzoor, 2014, p. 1)

In this aspect, public administration and education are connected when it comes to working with and positively impacting all stakeholders. For example, a school district's board creates policies that impact school sites when administrators and teachers implement policies at individual school sites. All stakeholders—whether a school district board member, an administrator, a teacher, parent, or student—must abide by these policies to help create the conditions for learning to occur. Furthermore, all stakeholders must also realize that individuals come from different backgrounds and levels and learn in different ways. RTI specifically assists teaching of evidence-based practices and allows for more students (of any socioeconomic status) to be impacted in a positive way. Furthermore, the following six federally mandated acts: Education of All Handicapped Children Act (EAHCA), Vocational Rehabilitation Act, Elementary and Secondary Education Act (ESEA), No Child Left Behind Act (NCLB), Individuals with Disabilities Act (IDEA), and Every Student Succeeds Act (ESSA) define and allow identified RTI, at-risk students, and disabled students to receive a free and equitable education, which makes it an effective and efficient public administration asset for everyone involved.

This quantitative study examines the current literature gap of the effectiveness and efficiency of RTI on Title I public elementary school students through their IRL scores. Title I schools whose administrators have or are thinking of implementing RTI programs can benefit from this study. For example, RTI at Title I sites might be initiated, maintained, or discontinued depending on the outcome. The research will also help schools and school districts when they apply for grants or try to set aside monies for materials or positions that will focus on RTI if the outcome is positive.

## Definitions

This study included the following terms and definitions:

**Academic Performance Index (API).** “A weighted average of test scores of students at each school” (Betts & Danenberg, 2003, p. 197) that was implemented in 2002, through the No Child Left Behind Act (NCLB) and was no longer administered after 2013 (California Department of Education, n.d.-a).

**Academic Yearly Progress (AYP).** “A measurement of annual achievement for public schools and districts mandated by the U.S. Department of Education (ED)” (California Department of Education, n.d.-b, para. 1). In addition, according to the California Department of Education (n.d.-b),

To meet AYP, districts, schools, and student groups were expected to meet three sets of requirements: (1) achieve 95 percent student participation rate on statewide tests, (2) demonstrate growth in percentage of students scoring at the proficient or above level in English language Arts (ELA) and Mathematics on statewide tests, and (3) meet established graduation rate targets, if applicable. (para. 2)

**Achievement Gap.** “Refers to any significant and persistent disparity in academic performance or educational attainment between different groups of students, such as white students and minorities, for example, or students from higher-income and lower-income households” (The Glossary of Education Reform, 2013a, para. 1).

**At-Risk.** The term *at-risk* has more to do with a student’s lifestyle rather than their learning capacity (The Glossary of Education Reform, 2013b, para. 3). According to The Glossary of Education Reform (2013b),



The term may be applied to students who face circumstances that could jeopardize their ability to complete school, such as homelessness, incarcerations, teenage pregnancy, serious health issues, domestic violence, transiency (as in the case of migrant-worker families), or other conditions, or it may refer to learning disabilities, low test scores, disciplinary problems, grade retentions, or other learning-related factors that could adversely affect the educational performance and attainment of some students. (para. 1)

**Diversity.** For the purpose of this study, diversity could include differences in “culture, race, language, economics, gender, experience, motivation to achieve, disability, advanced ability, personal interests, learning preferences, and presence or absence of an adult support system” (Tomlinson & McTighe, 2006, p. 1).

**Education for All Handicapped Children Act (EAHCA).** In 1975, a federal law, which was also known as PL 94-142, was mandated and required all “public schools to provide appropriate educational services for all children with disabilities between ages 3 and 21” (Healthwise Staff, 2020, para. 1).

**Elementary and Secondary Education Act (ESEA).** A law enacted in 1965 by President Johnson. According to the U.S. Department of Education (n.d.-a),

ESEA offered new grants to districts serving low-income students, federal grants for textbooks and library books, funding for special education centers, and scholarships for low-income college students. Additionally, the law provided federal grants to state educational agencies to improve the quality of elementary and secondary education. (para. 11)

**Every Student Succeeds Act (ESSA).** A law enacted in 2015 by President Barak Obama, which “reauthorized the 50-year-old Elementary and Secondary Education Act (ESEA), the nation’s national education law and longstanding commitment to equal opportunity for all students” (U.S. Department of Education, n.d.-a, para. 1).

**Individuals Disabilities Education Act (IDEA).** A reauthorized law enacted in 2004, which placed an “emphasis on early intervention services and specific provisions allowing districts to adopt service delivery models that focus on the child’s response to intervention (RTI)” (Fletcher & Vaughn, 2009, p. 30).

**Instructional Reading Level (IRL).** Is a criterion-referenced score that determines the highest grade level in which a student should be able to learn and correctly answer 80% of the questions given to them (Knowledge Base, 2019). In the case of this study, the score is estimated based off the overall score determined on a school district-provided assessment. IRL provides teachers with important information on how to provide instruction for groups or individual students (Knowledge Base, 2019).

**No Child Left Behind (NCLB).** A law enacted in 2002 by President George W. Bush, which showed “where students were making progress and where they needed additional support, regardless of race, income, zip code, disability, home language, or background” (U.S. Department of Education, n.d.-a, para. 4). Regrettably, NCLB was found to be unattainable through its increasing educational requirements of school districts, schools, teachers, and students. It was eventually replaced by ESSA in 2010.

**Pretest and Posttest Design.** “A research design in which the same assessment measures are given to participants both before and after they have received a treatment or been exposed to a condition” (American Psychological Association, n.d., para. 1).

Furthermore, the “design offers better evidence about intervention effectiveness than the other non-experimental designs ... [and] is most useful in demonstrating the immediate impacts of short-term programs” (Robson et al., 2001, p. 19). In this study, students will take a school district-provided assessment before intervention is provided and will then receive an IRL score. Another school district-provided assessment and resulting IRL score will be given after the intervention has been provided for a minimum of 6 consecutive traditional school months.

**Public Elementary School.** “A school supported by public funds” (Oxford Languages, n.d., para. 1).

**Protection of Pupil Rights Amendment (PPRA).** A law enacted in 1992, which “affords certain rights to parents of minor students” (U.S. Department of Education, , n.d.-b, para. 1).

**Response to Intervention (RTI).** RTI, is a three-tiered instructional design model that provides early intervention for students who are not meeting grade-level standards in the traditional classroom setting. According to Friedman (2010), “The interventions increase in intensity across the tiers [with a goal of] potential movement back to the starting point: the regular classroom setting” (p. 207). In all, “the three-tier framework is a way of thinking about instruction that emphasizes ongoing data collection and immediate intervention for any students who need it, not just those who are thought to be candidates for special education services” (McEwan-Adkins, 2010, p. 5). RTI’s three-tiered approach varies in purpose and construction to meet the needs of all students. Greenwood et al. (2015) stated,

Tier 1 is whole-class instruction, utilizing a high-quality general curriculum. Tier 2 typically provides supplemental instruction often in small groups to help children with delays overcome specific learning gaps. Tier 3 is more intensive, often individualized intervention, for those with significant learning needs. (p. 247)

**Title I.** Title I is a federally funded program, which assists schools with meeting standards for poverty students (USLegal, n.d.). According to USLegal (n.d.), “The types of students served by Title 1 funds include migrant students, students with limited English proficiency, homeless students, students with disabilities, neglected students, delinquent students, at-risk students or any student in need” (para. 3).

**Vocational Rehabilitation Act.** The Vocational Rehabilitation Act was created by Congress in 1973. The act states,

No otherwise qualified individual with a disability in the United States...solely by reason of his or her disability, [will] be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. (U.S. Department of Labor, Office of the Assistant Secretary for Administration & Management, n.d., para. 1).

**Zone of Proximal Development.** Developed by Vygotsky as a way to adjust the difficulty of a task relative to the learner’s ability to complete it, the Zone of Proximal Development (ZPD) is “the difference between the level of independent use of a new tool by the child and his use of this tool with adult assistance” (Karpov, 2014, p. 22). Furthermore, Vygotsky stated that

the zone of proximal development consists of two important components: the student's potential development and the role of interaction with others. Learning occurs in the zone of proximal development after the identification of current knowledge. The potential development is simply what the student is capable of learning. (Kurt, 2020b, para. 4)

### **Organization of the Study**

The specific aim of this quantitative study was to analyze and determine the effectiveness of OXO (pretest and posttest) IRL score data, gathered over the 2018-2019 academic school year for Title I public elementary school students who received Tier II RTI. The researcher anticipated obtaining a purposeful sample of 100 to 200 Title I public elementary school students. The students must have been enrolled in the second, third, fourth, fifth, or sixth grade during the 2018-2019 academic school year and received Tier II RTI for 6 consecutive traditional academic school months, for the study to be relevant. Furthermore, the students must have taken the school district-provided assessment (and received an IRL score—which is received automatically after the school district provided assessment is completed), before the intervention began in the fall 2018 and again in the spring 2019 after the intervention was completed. Finally, the researcher hoped to incorporate Vygotsky's sociocultural theory of cognitive development within the study and to add the effectiveness and efficiency public administration pillar.

## CHAPTER 2: REVIEW OF THE LITERATURE

There are many types of academic and behavioral interventions that have been utilized throughout history to help struggling students. Some types of intervention have proven to be successful while other interventions do not even make it past the preplanning stage. It is important to note that not one intervention will fit all students because individuals learn in different ways. In fact, there are four types of learning modalities for individuals: “Visual, Aural, Read/write, and Kinesthetic” (Fleming & Baume, 2006, p. 5). Visual learners use their sight to learn the content, while aural learners learn through listening. Read/write learners are able to pick up information through the traditional teaching modality of reading text and writing responses while kinesthetic learners require hands-on movement and manipulation. In reality, everyone has the ability to learn in multiple modalities, but some modalities may be stronger than others in an individual. Fleming and Baume (2006) stated, “Knowing one’s learning style can be beneficial if learners take the next step, and consider how and when they learn, as part of a reflective, metacognitive process, with action to follow” (p. 6). Finally, “different students may have different personal experiences and different interests, which may make certain knowledge interesting to some of them but uninteresting to others” (Karpov, 2014, p. 144), and can consequently impact a student’s learning ability. This chapter examines the history of interventions through federally mandated educational acts, defines RTI and notes how it is implemented, and describes how Vygotsky’s sociocultural theory connects to RTI and its ability to address academic concerns in at-risk students through the lens of public administration.

## **Intervention in Educational Acts**

Even though the term Response to Intervention (RTI) was not officially defined until the early 2000s, intervention was still an integral part of early federally mandated educational acts. There are six federally mandated educational acts ranging from 1965 until 2015, which include The Elementary and Secondary Education Act (ESEA, 1965), Vocational Rehabilitation Act (1973), Education for All Handicapped Children (EAHC, 1975), No Child Left Behind Act (NCLB, 2002), Individuals Disabilities Education Act (IDEA, 2004), and Every Student Succeeds Act (ESSA 2015; U.S. Department of Education, n.d.-a).

### **Elementary and Secondary Education Act**

To begin, the ESEA was implemented in 1965 under the Lyndon B. Johnson administration. The Ed Post Staff (2015) wrote, “The original goal of the law, which remains today, was to improve educational equity for students from lower-income families by providing federal funds to school districts serving poor students” (paras. 1-2). Federal funds were required for certain schools because property taxes paid a large portion of educational costs and in lower income areas the value of the property was much lower, which caused a deficit in funding (ED Post Staff, 2015). The federal funding provided by the act was intended to hold schools accountable in creating an equitable education for all students, whether they were in an affluent area or in one of poverty. According to Marion et al. (2020), “Given the considerable financial commitment in what had always been the state’s responsibility, it is not surprising the federal government required states to hold its schools accountable for how they used these resources” (p. 3). School districts had to prove their accountability by “working to

meet the needs and providing a quality education to all of their students” (ED Post Staff, 2015, para. 4).

ESEA, which was passed in 1965, lasted 36 years before being renewed. This act’s intervention focused on assessment sampling and strict curriculum adherence, which did not allow for teacher creativity or collaboration within the classroom. During the act’s timespan, teachers could be found lecturing from school district-bought curriculum at the front of their classrooms for most of the day. Unfortunately, “learning meaningless procedures [delivered] by rote does not only result in poor learning outcomes, but also makes the process of learning extremely boring” (Karpov, 2014, p. 158). Teachers were additionally discouraged from breaking from the set curriculum, and student collaboration with peers was limited to a few group projects during the academic year. Finally, assessment sampling (which was used to determine a school’s success), caused certain student groups to be excluded from overall assessment numbers (Marion et al., 2020). Marion et al. (2020) explained, “Students or student groups [were] ‘hidden’ from assessments and reporting” (p. 6), which allowed school districts to underreport students who were below grade-level standards. Even though ESEA had a good foundation, the assessment sampling and lack of creativity within the curriculum left more to be desired.

Federally mandated educational acts are created and then renewed and refunded years later to ensure that they are updated and continue to serve their original purpose. The ESEA is no different, having been renewed and renamed multiple times. The first revision occurred in 2002, when the ESEA was renamed as the No Child Left Behind Act (NCLB).



## **No Child Left Behind Act**

NCLB, implemented in 2002, was a readaptation of ESEA, which was originally created in 1965. NCLB was authorized under the George W. Bush administration and focused on setting stringent student standards. The types of intervention in the NCLB Act included passing an assessment to receive a high school diploma and creating improvement plans for schools that had consistently scored below minimum standards (Dee, 2003). Unfortunately, “the establishment of minimum competency tests and stricter course graduation requirements may suggest to students that learning for its own sake is not worthwhile” (Dee, 2003, p. 219) and is a negative aspect of the NCLB Act.

In addition, the NCLB Act did not really take into consideration that “students in low-score schools are clearly [more] economically disadvantaged than those in high-score schools” (Betts & Danenberg, 2003, p. 198). Even worse, teachers are often not eager or inclined to go to lower income schools because of less job security. Betts and Danenberg (2003) added, “One potential side effect of school accountability is that the threat of sanctions may include talented teachers to shy away from the low-performing schools most in need of improvement” (p. 198). Furthermore, the teachers that do end up being hired by low-income schools are usually less educated and may not even have a credential in the area in which they are teaching. Betts and Danenberg explained, “Low-scoring K-6 schools also have larger shares of novice teachers, teachers with at most a bachelor’s degree, and teachers who lack full credentials” (p. 198).

NCLB had unrealistic expectations of students, teachers, and schools. For example, “under No Child Left Behind, which was passed in 2002, schools were required to meet yearly progress goals that eventually had 100 percent of all kids on grade level by

2014” (ED Post Staff, 2015, para. 19). This was a noble and well-attended goal, but parents, teachers, and administrators understood that it was not attainable. A large segment of the NCLB was its immediate intervention programs, which were implemented for school districts that scored below the expected minimum standards. In California, the programs had a strict timeline in which to improve their school sites through Adequate Yearly Progress (AYP) and the Academic Performance Index (API). API is the “weighted average of test scores of students at each school” (Betts & Danenberg, 2003, p. 197) and AYP is the total growth schools made over the academic school year (Betts & Danenberg, 2003). School sites were required to meet a certain API and AYP number based off their previous scores. A major setback with NCLB is that the API and AYP numbers continued to increase year after year to the point where school sites would have to reach 100% efficiency. If the schools did not meet their API and AYP numbers, they could be placed in NCLB’s Improvement Plan program, which could lead to lost funding and possible school closure if they continued to fail (Betts & Danenberg, 2003). Betts and Danenberg (2003) stated,

Within twelve months, the district must hold a public hearing to discuss initial progress during the implementation phase. If after twenty-four months the school does not meet its API growth targets, the state may provide one additional year of grants to schools demonstrating some evidence of improvement. But if the school’s API score has not improved sufficiently, the school [would] be subject to a sliding scale of state sanctions, culminating in possible state takeover of the school. (p. 201)

It became obvious to educators that this program was not sustainable in the long run.

Betts and Danenberg explained, “School’s API scores can rise or fall between years because of random variations in test scores that are beyond the teachers’ control”

(p. 203). In fact, NCLB’s pressure, consequences, and penalties became so extreme that many educators found themselves teaching to the test all year long to meet the API and AYP numbers, or even cheating to meet the unrealistic demands. The Grio Staff (2011) stated,

Educators are accused of giving students inappropriate help, and in some cases, of changing students’ answers—all to raise their schools’ test scores. The high-stakes tests are used to measure student achievement, teacher effectiveness, and schools’ annual progress under the federal NCLB. School funding, staff bonuses, and jobs often hinge on the scores. (paras. 6-7)

Ultimately, school districts nationwide ended up opting out of participating in NCLB, with the help of “researchers and psychometricians [explaining] to policymakers and administrators the technical difficulties of using standardized achievement test scores to judge a school’s performance” (Cuban, 1998, p. 464). As a result, NCLB was readapted into ESSA in 2015 to re-examine and reimplement the original goal of providing an equitable education for all students.

### **Every Student Succeeds Act**

Currently, ESSA (2015; U.S. Department of Education, n.d.-a), is being implemented across the country. ESSA recognized that increasing numbers of proficiency to 100% from NCLB was not sustainable. Dee (2003) stated, “If standards are to be implemented, they should be accompanied by increased capacity building in the

form of higher teacher salaries, teacher training, and local control of schools” (p. 235).

The main goal of ESSA has stayed the same since its inception under ESEA, which is to provide an equitable education for all students.

According to Alvarez (2016), the “U.S. Department of Education released proposed regulations to implement the ESSA that attempt to tackle the problem in inequities in public education” (para. 7). ESSA requires states to identify and create agreed-upon plans for their low-performing schools. Klein (2019) spoke to that,

The majority of states have flagged their lowest-performing schools and high schools where less than two-thirds of students graduate for what the law calls “comprehensive school improvement,” using data from the 2017-18 school year.

In many states, school districts are submitting plans to fix those skills. Those plans must be approved by the state. (para. 6)

One of the major changes in ESSA is that “states are now measuring factors that get at school quality and student success alongside test scores” (Klein, 2019, para. 18).

A positive aspect of ESSA is its flexibility in funding. ESSA offers “a provision that ensures federal funds are added to revenue streams and are not used to replace state and local funds in low-income schools” (Alvarez, 2016, para. 8). This is accomplished through one of the following: a formula that focuses on staff employees, a formula that focuses on the amount of students (with an added amount for those students who may be at risk), individual student funding, or a funding formula that is created by the state and is additionally approved (Alvarez, 2016).

Ironically, one of the main challenges of ESSA is also one of its advantages: flexibility. Flexibility can be positive; however, too much flexibility and lack of clarity

can prove to be troublesome. For example, many states are not taking advantage of the different parts of the law that might provide the school districts with more funding. Klein (2019) stated,

Districts also got new funding flexibility under the law through a new program, the Student Success and Academic Enrichment Grants, better known as Title IV ... Districts could also choose to shift the funding to Title II, the part of the law that deals with teacher training, or Title I, which deals with disadvantaged students. (para. 19)

Another challenge of ESSA is that even though it has been implemented since 2015, the trickle-down effect to reach students, has been limited. Klein (2019) agreed, “ESSA has been in full swing for some time at the U.S. Department of Education and state education agencies. But many schools haven’t seen a huge impact from it yet” (para. 1). In fact, ESSA was set to conclude in 2020, but is still in effect today, because of the slow implementation (Klein, 2019). In summary, ESSA is the current federal act that is working toward helping students from low-income areas to receive a quality education.

### **Vocational Rehabilitation Act**

According to Encyclopedia.com (n.d.), “The Vocational Rehabilitation Act of 1973 triggered a major transformation of Federal Policy in public education” (“Equal Access for the Disabled,” para. 9). The act states that “no otherwise qualified individual with a disability in the United States ... solely by reason of his or her disability, [will] be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance” (U.S. Department of Labor, Office of the Assistant Secretary for Administration &

Management, n.d., para. 1). The Vocational Rehabilitation Act, also known as the Section 504 Plan, was the first stepping stone in recognizing the equal rights of disabled individuals.

According to the U.S. Department of Education (2010), “The U.S. Department of Education (ED) [enforced] Section 504 in programs and activities that receive funds from ED. Recipients of these funds include public school districts, institutions of higher education, and other state and local education agencies” (para. 2). Even though the U.S. Department of Education mandates Section 504, it does not provide funding for it. Russo and Morse (n.d.) stated, “Section 504, which is almost as far-reaching in serving children with disabilities, does not offer any financial assistance to school systems. Under Section 504, school districts must still make appropriate modifications to the educational environments of children with disabilities. However, the school districts receive no federal financial assistance for having done so” (para. 4). This lack of specific funding impacts the ability for school sites to provide support to their 504 plan students.

Two years after the Vocational Rehabilitation Act was initiated, “in order to clarify the schools’ responsibilities, the U.S. Congress passed what became known as the Education for All Handicapped Act [which] guaranteed all disabled students a right to a free public education” (Encyclopedia.com, n.d., para. 9). The U.S. Department of Education, Office for Civil Rights (2010) expounded, “In general, all school-age children who are individuals with disabilities as defined by Section 504 and IDEA are entitled to FAPE” (para. 7).

## **Education for All Handicapped Children Act**

The EAHCA, also known as PL 94-142, was a federal law that was implemented in 1975 two years after the Vocational Rehabilitation Act was passed. Unfortunately, before this law was created, the past thinking in educational policy was that disabled children were not capable of learning (Crockett, 2015). As a result of this widely held belief, “1.75 million children with disabilities were completely excluded from public school. And of the three million children with disabilities who went to school, many did not receive an education that was appropriate to their needs” (Crockett, 2015, para. 9). Even worse, “some states even had strict laws excluding children who were considered ‘crippled,’ ‘feeble-minded’ or ‘emotionally disturbed’ from public education, based only on their ‘handicaps.’ It was not unusual for them to be institutionalized” (Crockett, 2015, para. 11). The EAHCA became a major milestone for the education of children with disabilities, by making sure schools provided disabled students with a Free and Appropriate Public Education (FAPE). The U.S. Department of Education, Office of Special Education and Rehabilitative Services (2010), in “Thirty-Five Years of Progress in Educating Children With Disabilities Through IDEA,” wrote, “This law had a dramatic, positive impact on millions of children with disabilities in every state and each local community across the country” (para. 1).

The EAHCA requires all “public schools to provide appropriate educational services for all children with disabilities between ages 3 and 21” (Healthwise Staff, 2020, para. 1). Moreover, “the act suggested that, when possible, these students should be educated alongside mainstream students” (Encyclopedia.com, n.d., para. 9). Interestingly enough, just like the other acts already mentioned, the EAHCA requires school districts

to meet certain stipulations to receive funding, but does “not prescribe the specific educational programs local schools must make available in order to fulfill those requirements” (“Enforcing the Right to an ‘Appropriate’ Education,” 1979, p. 1103). To reiterate, the EAHCA does not state the actual or specific services a handicapped child may receive within a school. In fact, “congress adopted this approach for several reasons, the most obvious of which is the immense variety of special needs presented by children with different handicaps” (“Enforcing the Right to an ‘Appropriate’ Education,” 1979, p. 1108). Another reason is that there are differences in opinion on what program is the best for handicapped students, and this varies across states and school districts.

A disadvantage to the vagueness of the EAHCA is that it leaves school districts with the immense responsibility of determining what is the best program and setting for each handicapped child, which is often inhibited by a lack of local resources and funding. According to “Enforcing the Right to an ‘Appropriate’ Education,” (1979), “Budgetary constraints will inevitably color many decisions and restrict the range of alternatives offered in the formulation of individual educational programs” (p. 1109).

To combat the ambiguity of the act and help keep some guidelines and consistency across schools and school districts (despite major differences in budgets), the Individual Education Plan (IEP) was created under this act to document the specific needs and services for students with disabilities. In regard to RTI, the IEP falls under Tier III. Tier III is considered the most supportive of all the tiers, and should include the least amount of students within a school (a majority of the students should benefit from Tier I or II). An IEP is a document that is written by a team of educational professionals with parent input and support. The IEP helps determine and outline the appropriate



environment, modifications, accommodations, and services that a student would receive based on their disability and is transferrable across school districts and states.

One of the major unique and modern advantages of the EAHCA is that it provides procedural safeguards that allow parents to be an integral part of the educational decision-making process for their child (“Enforcing the Right to an ‘Appropriate’ Education,” 1979). The parent procedural safeguards allow a parent to be a part of the IEP team, which decides the educational services, accommodations, modifications, and environment for the disabled student. This teamwork approach has allowed schools and parents to determine the best course of action based on the individual student needs and has additionally decreased the amount of litigations against schools and school districts. In 1990, the EAHCA was updated with new terminology and reauthorized as IDEA.

### **Individuals with Disabilities Act**

In 1990, the EAHCA or PL 94-142, was updated to IDEA (Crockett, 2015). The act was ultimately restructured with new language because of the persistence and “activism on behalf of people with disabilities” (Crockett, 2015, para. 20). In fact, there were many different revisions of IDEA that focused on school accountability, reaching pre-kinder children, and working with students who were transitioning into careers and college (Crockett, 2015). Furthermore, “IDEA 1997 came to incorporate new goals—such as getting kids ready for school, improving academic achievement in reading and other subjects, increasing graduation rates, bringing in highly skilled teachers, making schools safer and building stronger partnerships with parents” (Crockett, 2015, para. 23).

IDEA requires public schools to provide a FAPE and a least restrictive environment (LRE) to students with disabilities who require special education support to

succeed in school. Lee (n.d.) stated, “IDEA places two big responsibilities on states and their public schools. First, school districts must provide a free and appropriate public education (FAPE) to kids with disabilities. And these kids must learn side by side with [their] peers as much as possible—something called the least restrictive environment, or LRE” (paras. 3-4).

IDEA also has many positive facets including testing and protecting students with disabilities for free in public, magnet, charter, and some private schools, and allowing parents to be involved in the IEP process through parent rights (also known as procedural safeguards; Lee, n.d.). Furthermore, “the law also provides early intervention services to infants and toddlers up to age 3” (Lee, n.d., para. 7) and to students who are transitioning to jobs, career, and college life.

One of the consequences of IDEA is that “restrictive placements have meant that minority special education students’ educational experiences have been more likely to be delivered in unequal and separate classroom environments” (Fierros, 2006, para. 10). To further complicate this matter, “placement patterns vary because of legal, economic, and social realities in a US educational system that is built on the premise of local control of schools” (Fierros, 2006, para. 9); therefore, it cannot be fixed with a single law or amendment to the act.

Another problem that has become evident in this act, is that there is a gap in support for children with disabilities. IDEA provides early intervention support for infants to 3 years old. Then, this support ends under IDEA, and picks back up again, if needed, when the child starts kindergarten. Unfortunately, this leaves a gap of support under IDEA for children 4 to 5 years old, if they do not enroll in a preschool or

Transitional Kinder (TK) program (which could allow for continued IEP support). Many students may experience this gap, simply by being at-risk. For instance, at-risk students may have parents who are not be able to afford to take off work to pick up/drop off their child at one of these programs, or many may not even live in an area that offers these options. This can lead to a significant gap, which can negatively impact a child with disabilities' growth. Consequently, this may place the disabled child further behind their peers before they are even able to step foot into a kindergarten classroom.

Crockett (2015) stated, "For the past 40 years, public schools in the US have been required to make a free, appropriate, public education available to all children with disabilities" (para. 24). IDEA is the current act in practice nationwide for children with disabilities.

### **History: RTI**

RTI was first "introduced within the 2004 reauthorization of the Individuals with Disabilities Act (IDEA)" (Special Education Guide, n.d., para. 2), and became one of the major interventions for struggling students before a psychological evaluation took place to check for possible disabilities. According to Guskey and Jung (2011), "Response-to-intervention represents a movement initiated by special educators to provide a systematic, tiered instructional process for students who are struggling in school but may not yet be identified for special education services" (p. 249). RTI places an "emphasis on early intervention services and specific provisions" (Fletcher & Vaughn, 2009, p. 30), to "determine a child's response to scientific, research-based intervention" (Posny, n.d., para. 1). Surprisingly, RTI has never been "mandated by federal law or federal

regulation” (Posny, n.d., para. 1) but continues to be developed across the country (Faggella-Luby & Wardwell, 2011).

### **Implementation: Response to Intervention (RTI)**

Response to Intervention (RTI) is a process used by educators to help students who are struggling with a skill or lessson; every teacher will use interventions (a set of teaching procedures) with any student to help them succeed in the classroom—it’s not just for children with special needs or a learning disability.

—Special Education Guide (n.d., para. 1)

In other words, RTI is a three-tiered instructional design model that provides early intervention for students who are not meeting grade-level standards in the traditional classroom setting. According to Friedman (2010), “The interventions increase in intensity across the tiers [with a goal of] potential movement back to the starting point: the regular classroom setting” (p. 207). In all, “the three-tier framework is a way of thinking about instruction that emphasizes ongoing data collection and immediate intervention for any students who need it, not just those who are thought to be candidates for special education services” (McEwan-Adkins, 2010, p. 5). RTI’s three-tiered approach varies in purpose and construction to meet the needs of all students.

Greenwood et al. (2015) stated,

Tier 1 is whole-class instruction, utilizing a high-quality general curriculum. Tier 2 typically provides supplemental instruction often in small groups to help children with delays overcome specific learning gaps. Tier 3 is more intensive, often individualized intervention, for those with significant learning needs. (p. 247)

Jones et al. (2015) added,

There are many options for school-wide screenings to monitor student progress in specific skill areas. In R.T.I., how progress is monitored is selected by the team, school, or district and will assist with initial identification of students who may be in need of additional supports. (p. 30)

In Jones et al.'s (2015) study, the school's RTI team supported teachers within the school through all three tiers whereas other schools may only have one person who is assigned to follow up on students who are falling behind. According to Samuels (2017),

Response-to-intervention models may differ in form among schools, but they contain some common features: universal screening tools that allow teachers to accurately determine which students need extra help, evidence-based interventions; multiple "tiers" of intervention intensity; and monitoring of progress, so that teachers have data on how well a student is responding to the extra help. (p. 6)

A remediation "that states appear to be giving themselves [is] 'wiggle room' around exactly how to implement and document RTI" (Hauerwas et al., 2013, p. 102). This not only gives school districts time to find and finance intervention services but also allows them to utilize materials they might already have to reduce the financial impact of the intervention program.

RTI was defined and developed in 2004 under IDEA. RTI is a three-tiered instructional design model that provides early intervention for students who are not meeting grade-level standards in the traditional classroom setting. Friedman (2010) expounded, "The interventions increase in intensity across the tiers [with a goal of]

potential movement back to the starting point: the regular classroom setting” (p. 207). In all, “the three-tier framework is a way of thinking about instruction that emphasizes ongoing data collection and immediate intervention for any students who need it, not just those who are thought to be candidates for special education services” (McEwan-Adkins, 2010, p. 5). RTI’s three-tiered approach varies in purpose and construction to meet the needs of all students. Greenwood et al. (2015) further explained,

Tier 1 is whole-class instruction, utilizing a high-quality general curriculum. Tier 2 typically provides supplemental instruction often in small groups to help children with delays overcome specific learning gaps. Tier 3 is more intensive, often individualized intervention, for those with significant learning needs.

(Greenwood et al., 2015, p. 247)

In the case of this study, Tier II which provides additional instruction to small groups to overcome gaps, was the focus in relation to Vygotsky’s sociocultural theory. RTI consists of three tiers which are outlined in the following sections.

### **Tier I: RTI**

Walker and Daves (2010) described Tier I: “The first tier involves the general education classroom teacher providing high-quality, scientifically based instruction for all students” (p. 41). Tier I developed and mandated specified quality instruction for all students. Furthermore, Tier I should include the highest number of students at a school site.

### **Tier II: RTI**

According to Walker and Daves (2010), “The secondary tier involves providing students identified as being at risk in Tier 1 with small-group, high-intensity

interventions” (p. 41). Furthermore, “the second tier, still part of the general education system of supports, consists of providing students with smaller group, more focused instruction in their area of need, and similar types of educational support” (Crepeau-Hobson & Bianco, 2013, p. 144). Tier II is a vital component to RTI and a major intervention method in helping at-risk students who are falling behind their peers. Tier II is the focus of this study.

### **Tier III: RTI**

Tier III, is the last tier in RTI and includes referring the student to special education services. Walker and Daves (2010) explained, “Children who fail to respond sufficiently to this intervention [Tier 2] enter another tier where either the intensity level of the interventions is increased or the child is referred for a special education evaluation” (p. 41).

### **Lev Vygotsky’s Sociocultural Theory**

Lev Vygotsky was a Russian educator and psychologist who created his sociocultural theory in 1934 (Karpov, 2014). Unfortunately for Vygotsky, “his life was very short (he died at the age of 37) and not very cheerful: Its beginning was darkened by the anti-Semitic laws of the Russian Empire, and its end by tuberculosis and baiting from Stalin’s oppressive regime” (Karpov, 2014, p. 8). The combination of these challenges led to “his ideas being banned from public consumption in Russia” and “many of his closest colleagues and followers [to flee] from Moscow to a Russian provincial city to avoid repression” (Karpov, 2014, p. 8). Once Stalinization ended in Russia in the 1950s-1960s, Vygotsky’s ideas and theories could finally be published (Karpov, 2014). Regrettably, Vygotsky’s theory was not implemented within education until the 1970s-

1980s, when his theories and ideas were finally able to be translated into English (Karpov, 2014).

According to McLeod (2018), “Vygotsky’s sociocultural theory views human development as a socially mediated process in which children acquire their cultural values, beliefs, and problem-solving strategies through collaborative dialogues with more knowledgeable members of society” (para. 2). In other words, the theory notes that educated adults may help facilitate learning in children through social and collaborative means. Karpov expounded,

The process of teaching the child a new psychological look can be presented as follows. In the context of a joint age-appropriate activity with a child, an adult presents to the child a new psychological tool in the form of an external device and orchestrates and monitors the process of the child’s use and mastery of this tool. As the child masters the tool, it gets internalized and turns into an internal mediator of the child’s mental process. Simultaneously, the adult is getting less and less involved in the child’s use and mastery of this too. As a result, the child transits from the use of the external psychological tool under the adult’s guidance to the independent use of the internal psychological tool, which indicates the completion of the development of a new higher mental process. (p. 18)

To reiterate, this process includes an adult presenting material that is age appropriate to a student, monitoring them, and then stepping back to facilitate once the student is ready (Karpov, 2014).

RTI and Vygotsky’s sociocultural theory are extremely similar in view despite a large time span and creation from two very different sources. The sociocultural theory



was created by a Russian teacher and psychologist, while RTI was defined within a federally mandated education act in a different century! RTI and Vygotsky's sociocultural theory concentrate on facilitating learning through constant interaction, communication, and focusing students' learning through their zone of proximal development (ZPD). Furthermore, Vygotsky's sociocultural theory and RTI do not focus on intelligence as the theory and intervention reveal that it is not the main factor in a student's ability to learn. Karpov (2014) stated,

Children's learning and development are the result of adult mediation, that is, the engagement of children in age-appropriate activities in the context of which adults promoted the development in children of new motives and teach them new tools of thinking, problem solving, and self-regulation. That is how (and that is why) children develop for example intrinsic learning motivation and school readiness, that is, the characteristics necessary for successful learning at school. (p. 9)

Vygotsky conceptualized ZPD as "the difference between the level of independent use of a new tool by the child and his use of this tool with adult assistance" (Karpov, 2014, p. 22). In other words, it is the range in which a student would be able to work independently and an area where the student would also need additional help to access the material. Kurt (2020b) explained,

Zone of proximal development consists of two important components: the student's potential development and the role of interaction with others. Learning occurs in the zone of proximal development after the identification of current knowledge. The potential development is simply what the student is capable of learning. (para. 4)

ZPD recognizes that intelligence quotient (IQ) is not the main factor in deciding if a child is capable of learning. According to Karpov (2014),

A child's level of independent performance as measured by IQ tests may not correlate with this child's learning ability. For example, a child may earn a very low IQ score, but when taught, learns very fast and, even more importantly, demonstrates a wide transfer of the knowledge learned. (pp. 23-24)

In other words, a person could argue that knowing a student's ZPD, which shows the capability of learning, is more beneficial than a single IQ score (Karpov, 2014). In summary, Vygotsky's sociocultural theory and accompanying ZPD, along with RTI and all the federally mandated acts, have tremendous connection and relevance in teaching children of all different levels and abilities for continued success.

### **Public Administration Efficiency and Effectiveness**

The six federally mandated educational acts detailed at the beginning of this chapter, which ranged from 1965 until 2015, are an integral part of the efficiency and effectiveness in public administration. In fact, "one of the imperatives of public administration is the achievement of efficiency at all levels" (Manzoor, 2014, p. 1).

Efficiency in public administration has changed over time. Manzoor (2014) explained,

At one point in time, it was just to increase output; afterward, it was defined along pure business lines; and later on, an element of value was added to cover the expectations of citizens as the most significant part of public goods and services. (Manzoor, 2014, p. 1)

The efficiency of the six federally mandated acts can be found through their ability to provide a free and equitable education (with the help of interventions such as RTI), to individuals who are underserved. Manzoor stated, “Public organizations are responsible to provide the necessary public goods and services to the citizens but that too without any discrimination specifically based on affordability” (p. 1). The ESEA of 1965, NCLB in 2002, and the ESSA of 2015, focused on improving the “educational equity for students from lower-income families by providing federal funds to school districts serving poor students” (Ed Post Staff, 2015, para. 1-2). In other words, ESEA, and its readaptations through NCLB and ESSA, were created to provide an equitable education to those who could not afford it. The three acts were efficient and effective, in that they were changed and updated as time progressed, to make sure that the focus of giving an equitable education to those who could not pay was realized. To continue, the Vocational Rehabilitation Act of 1973, created the premise that

no otherwise qualified individual with a disability in the United States ... solely by reason of his or her disability, [will] be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. (U.S. Department of Labor, Office of the Assistant Secretary for Administration & Management, n.d., para. 1)

The EAHCA and reauthorization under IDEA then followed, by helping to further mandate that students with disabilities were assured FAPE (Encyclopedia.com, n.d.).

The Vocational Rehabilitation Act, EAHCA, and IDEA specifically looked to provide FAPE to those with disabilities, which made the acts a strong factor in efficiency and effectiveness within public administration. As a reminder, the definition of efficiency in

public administration was changed from being focused only on data to examining how it is ultimately useful to people (Manzoor, 2014). Even though all six federal acts were given different names and founded in different decades, they all came to the same conclusion: Everyone deserves a free and equitable education, which is the essence of the definition of efficiency and effectiveness in public administration.

Public administration's pillar of efficiency and effectiveness can be examined further by exploring its critical theorists and transformational leadership. To begin, James Burns was a theorist who created the idea of transformational leadership, and also noted that "transforming leaders are idealized in the sense that they are a moral exemplar of working towards the benefit of the team, organization, and/or community" ("Transformational Leadership," n.d., para. 2). Transformational leadership should be the essence of education and public administration by having leaders focus on a team approach for the benefit of everyone. Burns also noted that transformational leadership helps to "redesign perceptions and values, and change expectations and aspirations" ("Transformational Leadership," n.d., para. 2) of people. In education, transformational leaders "share [a] vision with students, stimulate them intellectually and motivate them to put [forth] the best effort" (Mammen & Pushpanadham, 2018, p. 30). Therefore, transformational leadership can be seen as an important, effective, and efficient factor in educational public administration. In fact, some of the most well-known transformational leaders within history that helped make education and public administration more efficient and effective by giving access to all are Benjamin Franklin, Martin Luther King, and Hellen Keller (Johannsen, n.d.).

Critical theorists, who are additionally a fundamental part of public administration's pillar of efficiency and effectiveness and whose theories are integrated within this study include Henri Fayol and Frederick Winslow Taylor. To start, Henri Fayol created the classical management theory. Fayol's classical management theory focused on planning, delegating, and collaborating for effectiveness through four principles, which include the "breakdown [of] assignments into subtasks, [delegation of] responsibilities and train[ing] workers, monitor[ing] performance, and allocat[ing] work between managers and employees" (Caramela, 2018, paras. 6-9). Fayol's management theory is the essence of the Tier II RTI intervention that was provided to students in this study. The resource teacher is the transformational leader, who teaches and delegates instruction to the school staff, who in return, provide focused instruction to the students who require Tier II RTI intervention. Frederick Winslow Taylor created the scientific management theory and is the key theorist for public administration's pillar in efficiency and effectiveness. His scientific management theory includes 14 principles of management with five ways to interact with employees: "planning, organizing, commanding, coordinating, and controlling" (Brooks, 2011, paras. 4-8). Overall, Taylor's theory focused on productivity and efficiency. In terms of this study, productivity and efficiency are important factors in providing Tier II RTI within the school environment. Tier II RTI intervention requires specific and focused instruction to students, which is examined for its significant difference and efficiency in IRL scores at the conclusion of this study.

Ultimately, it is important to remember that "efficiency is the relationship between input and output. Output includes a quality dimension. Efficiency is just a

measure” (Pearson, 2016, para. 3). In the case of this study, RTI allows policymakers through federally mandated acts and transformational leaders (such as teachers) to focus on the efficiency and effectiveness of RTI for at-risk students.

### **Summary**

This quantitative study is important, because it focuses on the effectiveness and efficiency of RTI for Title I public elementary school students through the lens of public administration (which has not yet been completed and is considered a gap in the literature). Additionally, the research question (Is there a significant difference in Instructional Reading Level (IRL) scores, when Response to Intervention (RTI) is provided to Title I public elementary school students?), directly focuses on the implementation of RTI and the resulting IRL scores. Moreover, the efficiency and effectiveness in public administration, through the federally mandated acts, has been explored. Even though Vygotsky’s sociocultural theory was historically created before RTI, the theory and RTI are extremely similar in view. RTI and Vygotsky’s sociocultural theory focus on facilitating learning in small groups through constant interaction and communication, and both acknowledge that intelligence is not the main factor in a student’s ability to learn.

## CHAPTER 3: METHODOLOGY

### **Purpose Statement**

The purpose of this quantitative quasi-experimental study was to focus on the difference of IRL scores for Title I public elementary school students before and after Tier II RTI is implemented.

### **Research Question**

Is there a significant difference in IRL scores, when RTI is provided to Title I public elementary school students?

### **Research Design**

The researcher completed a quantitative study that utilized an OXO (pretest and posttest) design that measured interval data. The pretest and posttest design were identified by Campbell and Stanley (1963) in the book *Experimental and Quasi-Experimental Designs for Research*. Campbell and Stanley stated that the OXO design is “still widely used in educational research” (p. 7). Bourgoyne and Alt’s (2017) study further explained the positive purpose of a pretest and posttest design, as the ability to allow those who do “not already have adequate knowledge of [a topic] and therefore could be trained on [it]” (p. 1571). In the case of the researcher’s study, the pretest and posttest design examined whether there was a significant difference in IRL scores of Title I public elementary school students, before Tier II RTI was given and then after. Furthermore, the pretest and posttest design also allowed the researcher to perform a “paired samples t-test, [which is] conducted to compare the means of the pre- and post-[tests]” (Fischer & Meyers, 2017, p. 75).

This study included a secondary analysis of Title I public elementary school students' IRL scores, which was conducted from school district-provided data. The specific aim of this quantitative study was to determine whether there was a significant difference and effectiveness (through the lens of public administration), when Tier II RTI was applied for the 2018-2019 school year to Title I public elementary school students as determined by their IRL scores. This study addressed the literature gap because up to this point, there has not been a quantitative RTI study that has focused specifically on Title I public elementary school students and the intervention's efficiency and effectiveness in public administration. Given that the gap in the literature includes the fact that Title I students are not being included in quantitative studies surrounding RTI, a focus on interval student data through quantitative means was required to show the possible significant differences and effectiveness for students' IRL scores. The results of this study would most likely help determine where future monies might go for future interventions of Title I students in public administration and in education.

The researcher proposed using Vygotsky's sociocultural theory of cognitive development for this study. Vygotsky was a teacher and psychologist who used observation to create his sociocultural theory. The theory focuses on ZPD and notes that intelligence is not the main factor in determining whether a child learns (McLeod, 2018). Instead, the social aspect, or the people the student affiliates with, play a large factor in learning. Vygotsky believed that teachers should help facilitate learning within the student's ZPD (McLeod, 2018). The researcher believed that Vygotsky's theory follows the same teaching principles as RTI. Ultimately,



if a student is struggling, his or her teacher will use test scores and other measures of progress to choose a researched and proven intervention suited to help the teacher learn. If a child does not respond to the initial interventions more focused interventions are used to help the child master the skill [which is the essence of RTI]. (Special Education Guide, n.d., para. 1)

### **Population**

The population directly impacted within this study was a school district school board, administrators, teachers, school staff, parents, and students in a Title I public elementary school on the West Coast. This population was chosen to close the current literature gap and to implement an RTI study that focused specifically on Title I public elementary school students and the intervention's efficiency and effectiveness in public administration.

### **Sample**

The researcher anticipates obtaining a purposeful sample of 100 to 200 Title I public elementary school students. The students must have been enrolled in the second, third, fourth, fifth, or sixth grade during the 2018-2019 academic school year and received Tier II RTI for six consecutive traditional academic school months for the study to be relevant. Furthermore, the students must have taken a school district-provided assessment (and received an IRL score, which is received automatically after the school district-provided assessment is completed), before the intervention began in the fall of 2018, and again in the spring of 2019 after the intervention was completed.

### **Instrumentation**

The data-gathering instrument for this study was a pre- and post-school-district-provided assessment. More specifically, the study utilized a school district-provided assessment, which provided an IRL score once the assessment was completed. The school district-provided assessment was given twice in an OXO (pretest and posttest) design. For this study, the pretest took place in the fall of 2018 (before intervention was provided), and the posttest was completed in the spring of 2019 (after the intervention was provided).

### **Data Collection**

The Common Rule, Family Educational Rights and Privacy Act (FERPA), Protection of Pupil Rights Amendment (PPRA), and Health and Human Services (HHS) policy impacted this study's data collection. The Common Rule is the protection of humans in research. FERPA specifically focuses on the confidentiality of student information, whereas the PPRA is geared toward the confidentiality of student information within federally funded public schools. Finally, the HHS policy (Subpart D), supports children who are unable to consent to research because of their age. This study includes the secondary data collection of IRL scores from students who were enrolled in a Title I public elementary school at the time of this study.

HHS Policy 46.101, Subpart D identifies children as a vulnerable population who must be protected within research (U.S. Department of Health and Human Services [HHS], 2009). This protection can often be gained by collecting a parent or guardian's written consent when children are a part of a research study. It is important to note that there are some exceptions to this policy in which a parent or guardian's consent could be

waived. The first exception is when the parent or guardian's written consent would be the only link of the child being involved in the study. Since this quantitative secondary analysis study will not use any identifiers, "the only record linking the subject and the research would be the consent document and the principal risk would be potential harm resulting from a breach of confidentiality" (HHS, 2009, "46.117 Documentation of informed consent" section, para. 6). If the parent or guardian's written consent ends up being waived, the Institutional Review Board (IRB) "may require the investigator to provide subjects with a written statement regarding the research" (HHS, 2009, "46.117 Documentation of informed consent" section, para. 8). Again, a written statement to those involved in the study would be the only link that may identify the student within the study. Therefore, a written statement would also negatively impact the confidentiality the researcher is attempting to maintain. To sustain confidentiality for this study, the researcher proposed that the only communication of the study would be through the school district's required Procedure to Conduct Research Form, which was provided by the school district's Internal Review Committee (IRC). The school district's IRC also needed to approve the research agreement, only after the IRB has approved the study.

To continue, a research study may be considered for exemption from the IRB in certain educational situations. For example, if research is completed in a conventional school setting or investigates the effectiveness of a teaching strategy, the study may be exempted. According to HHS (2009),

Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the

comparison among instructional techniques, curricula, or classroom management methods [can be exempted]. (“46.101 To what does this policy apply?” section, para. 5).

In the case of this study, the sample students were enrolled in a Title I public elementary school and the study also examined the effectiveness of Tier II RTI. A study may additionally be exempted if it has “research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement)” (HHS, 2009, “46.101 To what does this policy apply?” section, para. 6). Coincidentally, this research study also included school district-provided pre-and posteducational achievement tests given to second- through sixth-grade students.

This research study was minimal risk, as it was based off a secondary analysis of school district-provided educational tests, which provided an IRL score for a student after the test was completed. According to the Electronic Code of Federal Regulations (2022),

Minimal risk means that the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examination or tests. (para. 20)

The school site in this study uses a school district-provided assessment at least quarterly during the school year. Therefore, the students are familiar with the instrument, making it a normal school routine. To conclude, this study is minimal risk, utilizes a school district-provided educational test and routine educational practices (RTI), is recorded without individual identifiers, and involves only secondary data. Furthermore, the researcher would like to note that informed consent, verbal minor assent, and written

statement would be the only connection of the student to the study, which impedes confidentiality.

The researcher received an exempt approval from the IRB in October 2021. The researcher then provided the IRB approval and additional proposal form to the school district's IRC. The IRC asked the researcher to revise her proposed study to reflect publisher and data release restrictions. Therefore, because of the amount of changes required by the IRC, the researcher had to go back to the IRB and complete an amendment regarding these changes. The IRB reapproved the amended proposal in January 2022.

The instrument for this study was a school district-provided assessment which provides an IRL score for each student. The anonymized IRL score data were provided from the fall of 2018 and spring of 2019 by the school district. Specifically, the pre- and posttest scores were IRL scores that were collected for second-, third-, fourth-, fifth-, and sixth-grade students who received Tier II support in the 2018-2019 academic year. No identifiers were used. The anonymized data, provided from the Accountability and Educational Technology (AET) department within the school district, were copied two times from different digital programs.

The AET department provided an anonymized list of data to the researcher for this study. The researcher first provided AET with a list of students who met the study's criteria, along with their student identification numbers, names, and birthdays through a private Google drive created by AET. Additionally, general information of what data needed to be collected (i.e., fall 2018 IRL scores and spring 2019 IRL scores), was provided by the researcher as well as through this drive to the AET department. Using

the same private Google drive, AET then provided the researcher with anonymized data. Then, the researcher used an online randomized number generator to apply numbers (10,000-20,000) to each of the anonymized students used in the study, which further de-identified the data.

Next, the anonymized data were transferred into APA tables within the dissertation. Lastly, the numbers were copied into the SPSS program to create tables that were pertinent to the study. One table shows the data set and/or possible growth set from the OXO design (no individual identifiers were used). Additional tables were created to discern the mean, median, mode, and range as well as the number of students who progressed, those who plateaued, and those who regressed. Finally, a paired *t* samples test (and additional tables related to this test-including Cohen's D effect) was conducted to examine the effectiveness of the Tier II RTI intervention on students' IRL scores.

Selection bias and conflict of interest (COI) were both possible limitations to this study. To help mitigate selection bias, a management plan was put into place. First, all Tier II students' data in second, third, fourth, fifth, and sixth grades were utilized for the study unless they were removed from the study because of criteria in the sample and limitations sections. To reduce a potential COI from the researcher's employment, the researcher must not have worked directly in facilitating small group instruction to the students who received Tier II instruction during the 6 consecutive academic months, in the 2018-2019 academic school year. Next, the researcher must not have administered the pre- or posttest for any of the Tier II students in the study. To continue, the AET department provided the researcher with the sample students' anonymized data through a private Google drive, created by the school district. Unfortunately, this led to a limitation

in results, as an ANOVA analysis was not able to be completed because of insufficient data from the school district's publisher and data restrictions. Finally, to further reduce a COI and potential researcher bias, an independent party who had at least minimal experience in reviewing and analyzing data, reviewed all the anonymized student data, tables, and data analysis procedures to ensure transparency and validity. This independent party, just like the researcher, did not have access to any IRL score data that are not already anonymized by the school district's AET department. All of these strategies helped to mitigate potential selection bias and COI.

Privacy and confidentiality were high priorities in this research study. Reducing the number of times that the information was copied from different documents and programs was key for confidentiality and reducing the amount of human-made errors. The research was quantitative; therefore, no interviews or questionnaires were completed. Once again, no individual identifiers or groupings were made within the tables to keep confidentiality at the forefront of the study.

### **Data Analysis**

Averages were taken from the anonymized pre- and post-data set to show a possible growth set from the OXO design. Additional tables were created to discern the median, mode, and range as well as the number of students who progressed, those who plateaued, and those who regressed. Finally, a paired  $t$  samples test (and additional tables related to this test, including Cohen's  $D$  effect) was conducted to examine effectiveness of the Tier II RTI intervention on students' IRL scores. To further reduce a COI and potential researcher bias, an independent party who had at least minimal experience in

reviewing and analyzing data, reviewed all of the anonymized student data and data analysis procedures to ensure transparency and validity.

Reliability and validity are both important measures for an instrument. According to Close (n.d.), “Simply stated, reliability is concerned with how precisely a test measures the intended trait; validity has to do with accuracy or how closely you are measuring the targeted trait” (para. 5). The instrument that the researcher chose to focus on for this study was the pre- and post-school-district-provided assessment.

The school district-provided “assessments have been highly rated by the US Department of Educations’ National Center on Intensive Instruction ... and has rated [the school district provided assessments] highly for both screening (2019a, 2019b) and progress monitoring (2016, 2018a, 2018b)” (Renaissance, 2020, p. 27). The reliability coefficient for the school district provided assessment is 0.9 (Renaissance, 2020). This means that the school district-provided assessment had a high reliability. The school district-provided assessment’s validity was based on “evidentiary data to support specific claims as to what the test measures, the interpretation of its scores, and the uses for which it is recommended or applied” (Renaissance, 2020, p. 29). Peer-reviewed studies, research publications, hundreds of studies, and billions of “real” data help ensure “the validity of [school district-provided assessments which] is trusted by educators and researchers nationwide” (Renaissance, 2020, p. 29).

### **Limitations**

The COVID-19 pandemic and accompanying stay-at-home orders impacted this study. Moreland et al. (2020) stated, “Stay-at-home orders are a community mitigation strategy used to reduce the spread of COVID-19 in the United States” (para. 1). The



2018-2019 school year was the last full academic year (to the date of this study) where students were able to receive full in-person instruction because of the pandemic and stay-at-home orders. Both the 2019-2020 and 2020-2021 academic school years included partial or full distance learning models, which drastically impacted student learning. In fact, a recent study determined, “The equity impact is severe—certain student groups, especially low-income students and English language learners, are falling behind more compared to others” (Pier et al., 2021, para. 9) because of the change in learning which occurred as a result of the COVID-19 pandemic. Therefore, RTI is going to be even more important to consistently implement across school districts to reduce the achievement gap and help the at-risk students in Title I schools.

Additional limitations include student data that had to be exempted for one of the following reasons: the student moved and was dropped from the school district; the student did not test within the pre- or posttest design “windows”; the student did not receive 6 consecutive academic school months of Tier II intervention; or the student was moved into a different Tier intervention during the 2018-2019 school year. Because the researcher was employed within the same site and school district as the data collection, selection bias, and COI, these are study limitations. As stated earlier, a management plan was put into place to help mitigate these issues. The researcher must not have worked directly in facilitating small group instruction with the Tier II students in groups in which the data had been collected. Additionally, the researcher must not have administered the school district-provided pre- or posttest to the Tier II students in the 2018-2019 school year. To continue, the AET department provided the researcher with the sample students’ anonymized data through a private Google drive created by the school district.

Unfortunately, this led to a limitation in results, as an ANOVA analysis was not able to be completed because of insufficient data from the school district's publisher and data restrictions. Furthermore, an independent party, who was familiar with data collection and analysis, reviewed all data and tables to ensure validity and maintain transparency.

Finally, the reliability and validity of the school district-provided instrument was found to be reliable and valid up to 2019. Unfortunately, once the COVID-19 pandemic erupted in 2020, school district-provided assessments were unavailable and eventually had to be adapted for the 2020-2021 distance learning school year. Regrettably, once distance learning began, many students and families started to become disengaged from learning and/or started to cheat for better scores on assessments. Discrepancies began to show in the primary grades, when students who had fluencies of less than 10 words per min, were scoring multiple grade levels above their own grade level on the school district-provided assessments. School districts across the country attempted to put measures into place to try to mitigate this problem by having students keep their camera on, share their screen, click whether they were in school or at home through a screen prompt, and/or tell parents/siblings not to read or give the student the answers.

According to Johnson (2020),

Now, many California teachers are putting more focus on a range of different techniques for both routine and standardized tests, from more frequent check-ins and break-out groups to gauge understanding, to open-note tests, and even using webcams and software to prevent cheating. (para. 3)

Sadly, these measures did not deter many of the students and families, and much of the data for the 2020-2021 distance learning school year are being viewed as questionable and inconsistent.

### **Summary**

The purpose of this study was to complete a quantitative study that focuses on the difference of IRL scores for Title I public elementary school students before and after Tier II RTI is implemented. The population that was directly impacted within this study was a school district school board, administrators, teachers, school staff, parents, and students in a Title I public elementary school on the West Coast. The researcher anticipated obtaining a purposeful sample of 100 to 200 Title I public elementary school students. The students had to have been enrolled in the second, third, fourth, fifth, or sixth grade during the 2018-2019 academic school year and received Tier II RTI for 6 consecutive traditional academic school months for the study to be relevant. An OXO design was utilized using a school district-provided assessment, which then provided an IRL score for each student. Averages were taken from the data set and tables showed the data set and/or possible growth set and effectiveness from the OXO design (no individual identifiers were used). Tables were created to represent anonymized student interval data. The randomized number system was used for further analysis on the number of students who progressed, those who plateaued, and those who regressed. The researcher tied in Vygotsky's sociocultural theory of cognitive development to RTI and to the effectiveness and efficiency within public administration. Finally, one of the major limitations of the study was that the 2018-2019 school year was the last academic year in

which full in-person instruction was received because of stay-at-home orders from the COVID-19 pandemic.

## CHAPTER 4: RESEARCH, DATA COLLECTION, AND FINDINGS

### Overview

The intent of this quantitative quasi-experimental research study was to focus on the difference of Instructional Reading Level (IRL) scores for second- through sixth-grade Title I public elementary school students, when given Tier II RTI. Pre- and post-school-district-provided educational assessments were given in the fall of 2018 and the spring of 2019. The hypothesis posits that there is a correlation between RTI and Title I public elementary school students' IRL scores. The study is minimal risk, utilizes a school district-provided educational test and routine educational practices (RTI). Additionally, the data were recorded without individual identifiers and involved only secondary data.

### Purpose Statement

The purpose of this quantitative quasi-experimental study was to focus on the difference of IRL scores for Title I public elementary school students before and after Tier II RTI was implemented. Much of the current research surrounding RTI follows a qualitative or mixed methodology. Two previous research studies focused on special education, teachers, education levels, at-risk and Title I math and reading programs. Unfortunately, only two quantitative studies regarding RTI could be found. The first quantitative study by Gardenhour (2016) examined reading and math groups for primary sites, and it did not include Title I schools. The other quantitative study examined teachers' professional development in RTI and did not assess student data at all (Mahoney, 2011). A quantitative study that focuses on the effectiveness and efficiency of RTI for Title I elementary public school students through the lens of public

administration has not yet been completed and is considered a gap in the literature. Much of the research centered on RTI focuses on interviews and surveys rather than quantitative data, which is very concerning. Furthermore, it is frustrating that Title I students who are at-risk are not being included in quantitative RTI studies. This quantitative study attempts to fill the gap and examine the efficiency and effectiveness of the data through public administration.

### **Research Question, Hypothesis, and Variables**

The research question for this study asked, “Is there a significant difference in IRL scores, when RTI is provided to Title I public elementary school students?” The hypothesis posited there was a correlation between RTI and Title I public elementary school students’ IRL scores. RTI is the independent variable within the study and the dependent variable is school district-provided IRL scores.

### **Research Methods and Data Collection Procedures**

This research study was based on a secondary analysis of IRL scores (received after taking a school district-provided assessment) for Title I public elementary students. Additionally, the quantitative secondary analysis study did not use any identifiers, examined the effectiveness of a teaching strategy (i.e., RTI), and was minimal risk. According to the Electronic Code of Federal Regulations (2022),

Minimal risk means that the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examination or tests. (para. 20)

The instrument in this study is a pre- and post-school-district-provided educational assessment. The school district-provided assessment is given each quarter; therefore, the students were familiar with the instrument, making it a normal school routine. Lastly, the researcher would like to note that the informed consent, verbal minor assent, and a written statement would be the only connection of the child to the study, which impedes confidentiality and has therefore been waived by the Institutional Review Board (IRB). IRB approval was first obtained in October 2021 and again through an amendment in January 2021 after changes were required because of the school district's publisher and data restrictions.

The population that is directly impacted within this study is a school district school board, administrators, teachers, school staff, parents, and students in a Title I public elementary school on the West Coast. This population was chosen to close the current literature gap and to implement a RTI study that focused specifically on Title I public elementary school students and the intervention's efficiency and effectiveness in public administration. The researcher anticipated obtaining a purposeful sample of 100 to 200 Title I public elementary school students. The students must have been enrolled in the second, third, fourth, fifth, and sixth grade during the 2018-2019 academic school year and received Tier II RTI for 6 consecutive traditional academic school months for the study to be relevant. The data gathering instrument for this study was a school district-provided educational assessment in a pre- and posttest model. The students must have taken the school district-provided assessment (and received an IRL score, which is received automatically after the school district-provided assessment is completed), before

the intervention began in the fall of 2018, and again in the spring of 2019 after the intervention was completed.

The Accountability and Educational Technology (AET) department provided an anonymized list of data to the researcher for this study. The researcher first provided AET with a list of students who met the study's criteria, along with their student identification numbers, names, and birthdays through a private Google drive created by AET. Additionally, general information of what data need to be collected (i.e., fall 2018 IRL scores and spring 2019 IRL scores) was provided by the researcher to the AET department. Using the same private Google drive, AET then provided the researcher with anonymized data for the researcher. Then, the researcher used an online randomized number generator to apply numbers (10,000-20,000) to each of the anonymized students used in the study, which further de-identified the data.

Next, the anonymized data were transferred into APA tables within the dissertation. Lastly, the numbers were copied into the SPSS program to create overall data that were pertinent to the study. Tables show the data set and/or possible growth set and effectiveness from the OXO design (no individual identifiers were used). Tables were also created to represent anonymized student data for further interval analysis on the number of students who progressed, those who plateaued, and those who regressed. Mean, median, mode, range, standard deviation, paired samples *t* test, and Cohen's *D* effect were utilized in this study. An ANOVA analysis was not able to be completed for this study because of the school district's publisher and data restrictions, and this was considered a limitation of the study.



Selection bias and conflict of interest (COI) were both possible limitations to this study. To help mitigate selection bias, a management plan was put into place. First, all Tier II students' data in second, third, fourth, fifth, and sixth grades were utilized for the study unless they were removed from the study because of criteria in the sample and limitations sections. To reduce a potential COI from the researcher's employment, the researcher must not have worked directly in facilitating small group instruction to the students who received Tier II instruction during the 6 consecutive academic months in the 2018-2019 academic school year. Next, the researcher must not have administered the pre or posttest for any of the Tier II students in the study. To continue, the AET department provided the researcher with the sample students' anonymized data through a private Google drive created by the school district. Unfortunately, this led to a limitation in results, as an ANOVA analysis was not able to be completed because of insufficient data from the school district's publisher and data restrictions. Finally, to further reduce a COI and potential researcher bias, an independent party who had at least minimal experience in reviewing and analyzing data, reviewed all of the anonymized student data, tables, and data analysis procedures to ensure transparency and validity. This independent party, just like the researcher, did not have access to any IRL score data that were not already anonymized by the school district's AET department. All of these strategies helped to mitigate potential selection bias and COI.

Privacy and confidentiality were high priorities in this research study. Reducing the number of times that the information was copied from different documents and programs was key for confidentiality and reducing the amount of human-made errors. The research was quantitative; therefore, no interviews or questionnaires were completed.

Once again, no individual identifiers or groupings were made within the tables to keep confidentiality at the forefront of the study.

### **Presentation and Analysis of Data**

In the fall of 2018, prepandemic, Title I public school elementary students sat down at their desks for another year of learning. Some were excited at what adventures were to begin while others seemed nervous at what they did not know. Teachers across the school district had students log into a school district-provided assessment in the first 6 weeks of school (August-September fall 2018 testing window). This assessment was given by teachers to students to obtain reliable and valid data on each student. The school district-provided test gave a multitude of scores, one of which was an IRL score for the student. The teachers and resource teacher then collaborated and determined (based on students' IRL scores), which students were going to benefit from small group, explicit Tier II instruction. Those students who were behind their grade level, based on their IRL score, were given the opportunity to receive RTI (Tier II), for 6 consecutive traditional school months in the 2018-2019 school year. In the case of this study, the Tier II intervention included small group explicit instruction facilitated by a staff member and overseen by a resource teacher. This intervention was provided four times weekly, at 60 min per session. In the spring of 2019 (March-April spring 2019 testing window), the school district-provided assessment was given again to the students, and a new IRL score was recorded as the posttest. The students in this study were given randomized numbers and no identifiers were used. A comparison was made between the fall 2018 IRL score and the spring 2019 IRL score, to see whether there was a significant difference in scores

after providing Tier II intervention. Additionally, the average of students' IRL scores for the fall 2018 and spring 2019 was acquired to see if the Tier II RTI was effective.

The original sample size for this study was 133 students. After reviewing the study limitation criteria for this study, the researcher determined that 38 students had to be removed from the data set. As stated before, students could be removed from the data set for the following reasons: the student moved and was dropped from the school district; the student did not test within the pre- or posttest design windows; the student did not receive 6 consecutive traditional academic school months of Tier II intervention; or the student was moved into a different tier intervention during the 2018-2019 school year. Five students moved and were dropped from the school district, 18 students did not test within the pre- or posttest design windows, and 15 students moved into a different tier intervention during the time period. Therefore, the total sample student size of second- through sixth-grade students who received Tier II RTI and had a pre- and posttest on the school district-provided assessments with resulting IRL scores was 95 ( $N=95$ ).

Reliability and validity are both important measures for an instrument in a study. According to Close (n.d.), "Simply stated, reliability is concerned with how precisely a test measures the intended trait; validity has to do with accuracy or how closely you are measuring the targeted trait" (para. 5). The instrument that the researcher focused on for this study was a pre- and post-school-district-provided assessment.

The school district-provided "assessments have been highly rated by the US Department of Educations' National Center on Intensive Instruction ... and has rated [the school district provided] assessments highly for both screening (2019a, 2019b) and progress monitoring (2016, 2018a, 2018b)" (Renaissance, 2020, p. 27). The reliability

coefficient for the school district-provided assessment was 0.9 (Renaissance, 2020). This means that the school district-provided assessment had a high reliability. The school district-provided assessment's validity was based on "evidentiary data to support specific claims as to what the test measures, the interpretation of its scores, and the uses for which it is recommended or applied" (Renaissance, 2020, p. 29). Peer-reviewed studies, research publications, hundreds of studies, and billions of real data help ensure "the validity of [school district provided assessments which] is trusted by educators and researchers nationwide" (Renaissance, 2020, p. 29).

The AET department provided an anonymized list of data to the researcher for this study. The researcher first provided AET with a list of students who met the study's criteria, along with their student identification numbers, names, and birthdays through a private Google drive created by AET. Additionally, general information of what data needed to be collected (i.e., fall 2018 IRL scores and spring 2019 IRL scores), were provided by the researcher through this drive to the AET department. Using the same private Google drive, AET then provided the researcher with anonymized data. Next, the researcher used an online randomized number generator to apply numbers (10,000-20,000) to each of the anonymized students used in the study, which further de-identified the data.

Next, the student randomized data were transferred into an APA table. Finally, the numbers were copied into the SPSS program to create multiple tables and a paired samples *t* test to help analyze the hypothesis and overall data within the study. Means, medians, modes, and ranges were taken from the fall 2018 and spring 2019 data to show the possible growth set from the OXO design (no individual identifiers were used). Another table was

created to represent student data, using the randomized number system for further interval analysis on the number of students who progressed, those who plateaued, and those who regressed. A paired samples  $t$  test was also created to determine whether the null should be rejected. Finally, Cohen's  $D$  effect (displayed through the paired samples  $t$  test) determined how effective the Tier II intervention was for the Title I public elementary school students.

Table 1, titled Response to Intervention: Fall 2018-Spring 2019 (6 months), includes anonymized student data with randomized numbers to ensure that no individual identifiers were used. The table has four sections which include randomized student numbers, fall 2018 IRL scores, spring 2019 IRL scores, and an overall growth score to show positive, negative, or no growth over the traditional consecutive 6-month school period. The original sample size for this study included 133 students. After reviewing the study's criteria, 18 of the students did not test within the August-September 2018 pretesting or March-April 2019 posttesting windows and had to be extracted.

Additionally, five students left the school district in the middle of Tier II intervention and 15 of the students moved into a different tier during the intervention time period.

Therefore, the sample size for this study ended up being 95 ( $N = 95$ ). It is important to note that some students scored below 0.0 and were labeled on the school district-provided test as a Primer (P) or Pre-Primer (PP) on their pre- or posttest IRL score. For the sake of this study, P and PP scores are identified in Table 1 and throughout the data collection and summaries as a numerical value of 0.0.

Table 1

*Response to Intervention: Fall 2018 Through Spring 2019 (6 months)*

Student random #	STAR IRL fall 2018	STAR IRL spring 2019	STAR IRL +/-
19271	2.8	3.7	+0.9
15190	3.7	5.4	+1.7
13362	3.3	4.9	+1.6
11382	1.6	2.5	+0.9
16083	2.9	3.9	+1.0
12653	1.5	2.9	+1.4
17099	2.2	2.5	+0.3
11616	2.6	3.5	+0.9
13196	1.4	2.9	+1.5
13279	2.5	2.9	+0.4
12196	2.7	4.7	+2.0
12138	2.9	4.7	+1.8
16462	1.7	3.5	+1.8
16509	0.0 (PP)	3.6	+3.6
14896	3.7	3.9	+0.2
18405	3.2	3.0	-0.2
11407	3.7	4.5	+0.8
18241	3.4	3.7	+0.3
19230	0.0 (P)	2.9	+2.9
13201	0.0 (PP)	1.9	+1.9
10188	3.2	4.0	+0.8
19581	2.4	2.8	+0.4
17081	3.6	4.0	+0.4
15936	3.6	4.9	+1.3
16621	1.9	4.2	+2.3
11711	4.5	4.8	+0.3
12028	2.9	3.5	+0.6
13488	1.6	2.4	+0.8
10997	1.5	2.0	+0.5
16365	3.5	3.9	+0.4
11699	2.5	2.8	+0.3
14296	1.7	3.1	+1.4
12163	2.6	3.6	+1.0
11219	4.8	4.1	-0.7
12874	1.5	2.6	+1.1
13371	3.2	4.2	+1.0
19708	1.7	2.4	+0.7
18754	4.2	4.6	+0.4
18023	3.7	4.4	+0.7
16901	0.0 (PP)	2.2	+2.2
18518	2.3	1.3	-1.0
15244	1.2	3.3	+2.1
19264	0.0 (P)	3.8	+3.8

Table 1 (*continued*)

Student random #	STAR IRL fall 2018	STAR IRL spring 2019	STAR IRL +/-
15395	2.9	4.1	+1.2
11244	3.7	4.8	+1.1
14401	1.5	2.3	+0.8
12706	3.6	4.1	+0.5
15187	3.3	5.0	+1.7
19066	3.3	4.8	+1.5
19449	3.0	3.0	+0.0
11115	3.3	2.5	-0.8
14775	1.3	2.4	+1.1
12968	2.0	2.1	+0.1
13515	2.1	3.1	+1.0
18584	3.8	4.9	+1.1
15359	2.3	2.9	+0.6
14349	0.0 (P)	3.0	+3.0
11008	3.8	6.1	+2.3
18674	0.0 (P)	3.1	+3.1
19013	2.5	3.2	+0.7
12019	3.9	4.0	+0.1
16134	2.9	3.5	+0.6
15001	1.8	2.1	+0.3
15672	2.0	3.4	+1.4
19034	4.2	4.7	+0.5
12501	2.4	3.0	+0.6
19002	3.5	4.2	+0.7
11200	2.9	3.7	+0.8
11876	3.0	3.7	+0.7
15289	1.5	2.9	+1.4
12076	2.0	4.4	+2.4
13046	4.2	5.1	+0.9
11987	5.4	4.6	-0.8
17222	2.8	3.1	+0.3
18962	3.1	4.1	+1.0
14023	1.0	0.0 (P)	-1.0
18159	1.4	3.3	+1.9
17463	2.9	3.3	+0.4
18300	0.0 (P)	2.4	+2.4
14521	2.6	3.8	+1.2
10234	3.9	4.3	+0.4
11512	1.2	1.9	+0.7
13881	3.1	3.9	+0.8
12399	0.0 (PP)	1.6	+1.6
10492	2.5	4.2	+1.7
14623	4.3	3.3	-1.0
15736	1.0	2.9	+1.9

Table 1 (*continued*)

Student random #	STAR IRL fall 2018	STAR IRL spring 2019	STAR IRL +/-
15514	3.4	4.9	+1.5
13477	2.3	3.6	+1.3
11789	2.0	3.2	+1.2
14901	2.6	3.7	+1.1
13061	0.0 (PP)	1.7	+1.7
12232	2.7	4.3	+1.6
13500	4.2	3.2	-1.0
12818	2.7	4.0	+1.3

*Note:* After extracting students from a sample size of 133, 95 students remained and were eligible under the study criteria. In the case of this study, Primer (P) and Pre-primer (PP) were identified in numerical terms as 0.0.

Table 2 provides the mean, median, mode, and range for the pretest and posttest within this study. First, the range is a “spread or dispersion, of scores” (Field, 2018, p. 21). In the fall of 2018, the minimum IRL score for students in the study was 0.0 and the maximum IRL score was 5.4. Therefore, the range for the pretest fall 2018 school district-provided test was 5.4. The median “is the middle score” (Field, 2018, p. 746) in a dataset and the mode is “the most frequently occurring score in a set of data” (Field, 2018, p. 746). The median for the pretest fall 2018 was an IRL score of 2.6, and the mode IRL score was 0.0. The mean, or “hypothetical estimate of the ‘typical’ score” (Field, 2018, p. 745) for the fall 2018 IRL scores was 2.481, or second grade, fourth month.

Table 2

*Response to Intervention: Mean, Median, Mode, Range*

	<i>M</i>	<i>Mdn</i>	Mode	Range
Posttest (spring 2019 IRL score)	3.493	3.5	2.9	6.1
Pretest (fall 2018 IRL score)	2.481	2.6	0.0	5.4



In the spring of 2019, the minimum IRL score for students was 0.0 while the maximum IRL score was 6.1. Therefore, the range for the posttest spring 2019 school district-provided test was 6.1. The median for the posttest spring 2019 was an IRL score of 3.5 and the mode for the posttest was 2.9. The mean for spring 2019 IRL scores was 3.493, or third grade, fourth month. The overall mean increase can be calculated by subtracting the spring 2019 IRL mean from the fall 2018 mean, with a result of 1.012. In other words, after rounding, students who received Tier II instruction within this study grew an average of 1 year within a traditional consecutive 6-month school period in which Tier II RTI intervention was provided. Another way to state this finding is that on average, the study's students' IRL score growth was double that of the time span provided (1 year of IRL score growth within a 6-month period).

Table 3 notes the number of students and percentage who regressed, plateaued, and progressed from the pretest (fall 2018 IRL score) to posttest (spring 2019 IRL score). Eight students, or approximately 8% regressed or had loss of growth after the 6-month RTI Tier II intervention period. One student plateaued, meaning that they did not regress or progress on their IRL scores between the pre- and posttest windows after receiving Tier II RTI instruction. Finally, 86 students or approximately 90% of the students, progressed from their pretest to their posttest IRL score, after receiving the 6-month RTI Tier II intervention.

Table 3

*Response to Intervention: Regression, Plateau, Progression*

	Number of students	Overall percentage
Pre- & posttest regression	8	8.42%
Pre- & posttest plateau	1	1.05%
Pre- & posttest progression	86	90.52%

To further confirm the hypothesis, and reject the null, a paired samples  $t$  test and resulting Cohen's  $D$  effect test were generated. Table 4 highlights the paired samples statistics between the pretest and posttest. A paired samples  $t$  test is "a test using the  $t$  statistic that establishes whether two means collected from the sample differ significantly" (Field, 2018, p. 748). The table labels the sample size, means, standard deviation, and standard error mean of both tests. The means and sample sizes have already been mentioned in previous tables, so the standard deviation and standard error mean were examined. Standard deviation "is an estimate of the average variability (spread) of set of a data measured in the same units of measurement as the original data" (Field, 2018, p. 752). The standard error "tells us how much variability there is in [a] statistic across samples from the same population. Large values, therefore, indicate that a statistic from a given sample may not be an accurate reflection of the population from which the sample came" (Field, 2018, p. 752). The pretest (fall 2018) has a standard deviation of 1.2460 with a standard error mean of .1278. The posttest (spring 2019) has a standard deviation of 1.0146 and a standard error mean of .1041. In the case of this study, the fall and spring standard error means are low at .12 and .10, which would indicate that the sample is a true representation of the overall population.

Table 4

*Response to Intervention: Paired Samples Statistics*

		Paired samples statistics			
		<i>M</i>	<i>N</i>	<i>SD</i>	<i>SEM</i>
Pair 1	Spring 2019 IRL score	3.493	95	1.0146	.1041
	Fall 2018 IRL score	2.481	95	1.2460	.1278

Table 5, Response to Intervention: Paired Samples Correlations, reveals that there is a .668 correlation between the pretest (fall 2018 IRL scores) and posttest (spring 2019 IRL scores). The significance on this test is .000, which indicates that there is a significant relationship between fall 2018 IRL scores and the spring 2019 IRL scores. It is important to remember, that “correlation does not imply causation” (Rohrer, 2018, p. 27). If a student scores high on the pretest, it does not mean that they will score high on the posttest. Just as similarly, if a student scores poorly on the pretest, that does not automatically mean that they will have a low score on the posttest.

Table 5

*Response to Intervention: Paired Samples Correlations*

		Paired Samples Correlations		
		<i>N</i>	Correlation	Sig.
Pair 1	Spring 2019 IRL score & fall 2018 IRL score	95	.668	.000

The paired samples test (Table 6) provided the mean difference and standard deviation difference required to calculate Cohen’s D effect. Cohen’s D effect is the “effect size that expresses the difference between two means in standard deviation units” (Field, 2018, p. 737). The purpose of examining Cohen’s D effect in this study was to

see if the effect size of the Tier II RTI on the pretest (fall 2018 IRL scores) and posttest (spring 2019 IRL scores) was small, medium, or large.

Table 6

*Response to Intervention: Paired Samples Tests*

		Paired samples test							
		Paired differences			95% confidence interval of the difference		t	df	Sig. (2-tailed)
		<i>M</i>	<i>SD</i>	<i>SEM</i>	Lower	Upper			
Pair 1	Spring 2019 IRL score – fall 2018 IRL score	1.0116	.9446	.0969	.8191	1.2040	10.438	94	.000

The result of dividing the mean difference by the standard deviation difference in Table 7 was 1.0709. A small effect size is between .2 and .4, a medium effect size is between .5 and .7, and a large effect size is .8+. The effect size for this study was 1.0709. Therefore, RTI Tier II intervention's effect on students' IRL scores as presented in this study was largely effective. With the conclusion that Tier II RTI intervention had a large effect on students' IRL scores, the hypothesis of a correlation between RTI and Title I public elementary school students' IRL scores is supported. Therefore, the null, which states that there is no correlation between the RTI Tier II intervention and IRL scores, is rejected.

Table 7

*Response to Intervention: Cohen's D Effect*

<i>M</i> difference/ <i>SD</i> difference	Cohen's D effect size	Effect size
1.0116/.9446= 1.0709		.8+= large effect

*Note.* The effect size was large (1.0709). Therefore, the RTI Tier II support program was effective.

### Summary

In summary, the tables noted many important findings within the study. Table 1 provided the anonymized data of the pre- and posttests, randomized numbers for each IRL score, and positive and negative numbers that showed the difference between both tests. Table 2 examined the pre- and posttest mean, median, mode, and range. There was a difference of 1.012, or 1 year on average, between the mean of the pretest and the mean of the posttest after the 6-month RTI Tier II intervention. Table 3 noted the number of students and the percentage that regressed, plateaued, and progressed from the pretest (fall 2018 IRL score) to posttest (spring 2019 IRL score). Overall, Table 3 showed that approximately 8% of the students regressed, 1% of the students plateaued, and 90% of the students progressed between the pre- and posttests. A paired samples *t* test and additional tables related to this test were shown in Tables 4, 5, and 6. There was a .668 positive correlation between fall 2018 IRL scores and spring 2019 IRL scores. After calculating Cohen's D effect, the researcher noted that the RTI Tier II intervention and resulting IRL scores for Title I public elementary school students was 1.0709; therefore, a large effect for the study was found. In conclusion, the hypothesis of a correlation between RTI and Title I public elementary school students' IRL scores was supported.

## CHAPTER 5: FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this quantitative quasi-experimental study was to focus on the difference of IRL scores for Title I public elementary school students before and after Tier II RTI is implemented. The research question asked, “Is there a significant difference in Instructional Reading Level (IRL) scores, when Response to Intervention (RTI) is provided to Title I public elementary school students?” The hypothesis posited that there is there was a correlation between RTI and Title I public elementary school students’ IRL scores. This research study was based on a secondary analysis of a school district-provided educational assessment, which provides an IRL score for Title I public elementary students. Additionally, the quantitative secondary analysis study did not use any identifiers, examined the effectiveness of a teaching strategy (i.e., RTI), and was a minimal risk. The population that was directly impacted within this study was a school district school board, administrators, teachers, school staff, parents, and students in a Title I public elementary school on the West Coast. This population was chosen to close the current literature gap, and to implement a RTI study that focused specifically on Title I public elementary school students and the intervention’s efficiency and effectiveness in public administration. The sample size was 95, and the students must have been enrolled in the second, third, fourth, fifth, or sixth grade during the 2018-2019 academic school year and received Tier II RTI for 6 consecutive traditional academic school months for the study to be relevant.

### **Major Findings**

The hypothesis, which posited that if there is a correlation between RTI and Title I public elementary school students’ IRL scores, was supported. The null, which stated

that there is no correlation between the RTI Tier II intervention and IRL scores, was rejected. Furthermore, the RTI Tier II intervention presented in this study, was found to be largely effective with a Cohen's D effect size of 1.0709. Out of the 95 students in the sample, 90% of the students progressed between their pre- and posttest IRL score, 8% regressed, and 1% did not grow or fall in their IRL score. Finally, there was an overall difference of 1.012, or 1 year on average, between the mean of the pretest and the mean of the posttest, after a 6-month RTI Tier II intervention was provided.

### **Conclusions**

In conclusion, there was a significant difference in IRL scores, when RTI was provided to Title I public elementary school students. Title I public elementary school students in the sample who received Tier II RTI instruction for 6 consecutive traditional school months, scored on average 1 year higher from their IRL pretest score to the IRL posttest score. Therefore, this study's Tier II RTI provided to Title I public elementary school students, was found to be largely effective.

### **Implications for Action**

The purpose of this quantitative quasi-experimental study was to focus on the difference of IRL scores for Title I public elementary school students before and after Tier II RTI was implemented. Much of the current research surrounding RTI follows a qualitative or mixed methodology with interviews and surveys rather than quantitative data. A quantitative study that focuses on the effectiveness and efficiency of RTI for Title I public elementary school students through the lens of public administration has not yet been completed and is considered a gap in the literature. This quantitative study examined the current literature gap of the effectiveness and efficiency of RTI on Title I

public elementary school students through their IRL scores. Ultimately, this study found that Tier II RTI provided a large effect on Title I public elementary school students' IRL scores. This is important, because Title I school administrators who have or are thinking of implementing RTI programs now know that this study showed there is a significant difference in pre and posttest IRL scores of Title I public elementary students.

Furthermore, 6 consecutive traditional school months of Tier II RTI were found to be largely effective, with an average student growth of 1 year within the pre and posttest period. This knowledge will help Title I sites to initiate or maintain funds for RTI-focused intervention and may also lead to future support of this type of intervention in federally mandated acts through public administration.

### **Recommendations for Further Research**

Based on the researcher's findings, Tier II RTI was found to be largely effective in Title I public elementary school students' IRL scores. Research can be expanded by including Tier II RTI in Title I public elementary schools throughout the country to see if the results can be replicated or even improved elsewhere. To start this venture, individual school districts and subsequent school sites could be examined to see who is interested in implementing RTI. Then, collaborative conversations can be held with the stakeholders to determine details and funding. It is also important to mention that the school sites that implement an RTI model must have an effective teacher who has a similar mindset to that of Vygotsky's sociocultural theory. This is important because there is a "link between teacher quality and learning outcomes" (Hunt, n.d., p. 383). In other words, teachers who implement Tier II RTI must be effective in their teaching for the intervention to be successful. The "potential of a highly effective teacher to significantly enhance the lives



of their students” (Burroughs et al., 2019, p. 8) is substantial. Students who are receiving Tier II RTI are already struggling with the traditional classroom setting, and require additional intervention and teacher effectiveness to succeed.

To continue, when looking through the lens of public administration, future federally mandated acts might consider the results of this study to help shape an equitable education for all students. These federally mandated acts may be able to also help with future funding. For example, Every Student Succeeds Act (ESSA) is known for its flexibility in funding, which may be helpful in subsidizing an RTI intervention at school sites that do not have the necessary monetary means. Another funding opportunity may be found through community stakeholders in the private and public sectors. The community funding could be as simple as a book drive, or more in depth, to include local business partners who support and donate money to support education annually.

### **Concluding Remarks and Reflections**

The researcher has gained a greater perspective from this project. Before the study, the researcher worked closely with students through a hands-on approach, which focused on the students’ strengths and challenges. This perspective, though important, did not focus on the bigger picture of how federally mandated acts influenced one’s ability to work with students in this capacity. After completing this study, I realized how public administration creates and transforms education before it even reaches the school site. The literature review shows how federally mandated acts have adapted and changed; yet, there still seems to be a discord between public administration regulations and the practicality of implementing the acts to a diverse population of sites across the country. Perhaps in the future, education and public administration can learn to work

together to create federally mandated acts, which will be efficient and effective for all stakeholders.

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