Reading Achievement of English

Learners Who Participated in the Response to Intervention Model

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Abstract

The purpose of this study was to determine if English Learners (ELs) reading achievement scores could be related to the group’s participation in Response to Intervention (RTI). RTI addresses the challenges many public schools face as they seek the best methods for teaching reading and language while facing a nationally significant growth in the population of ELs students. This quantitative study utilized a repeated-measures design with English proficiency as the one between-groups factor and California Standardized Test (CST) as the one repeated-measures factor with two levels. The data were gathered from CSTs for the 2009-2010 and 2010-2011 school years. Each research question was answered with descriptive statistics gathered from a general linear model ANOVA to determine if there was a statistically significant relationship between participation in RTI and ELs reading achievement scores. As a result of the data analyzed for this study, students who are ELs and also participants in the RTI model demonstrated a relationship between their participation in RTI and reading achievement. To support effective implementation practices for RTI, school administrators can use the descriptive data found in this study to consider possible RTI implementation options. The results of this study indicated that RTI was a beneficial practice for ELs. Further study is needed to address the decline in test scores for both ELs and English Only (EO) students in grade 3. District administrators can use the results of the study to address curricular needs for ELs during the first year of schooling between the scaffolded grade 2 administration of the CST and the independently read grade 3 administration of the CST. The results of this study are significant for ELs and the schools that serve them. Schools similar to those that participated in this study can glean important information about RTI implementation and the effect it has on ELs and their reading achievement. Administrators and school leaders can consider the data presented in this
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study and the interpretation of the results and construct a similar RTI model or begin implementation of an RTI model that will ultimately be beneficial to the EL population in schools.

*Key Words:* English Learners (ELs), English Only Students (Eos), Response to Intervention (RTI)
The reauthorization of the Individuals with Disabilities Education Act (IDEA, 2004) and the No Child Left Behind Act (NCLB) of 2001 made the RTI process a widely used model in schools around the country. As an alternative to the IQ-achievement discrepancy determination of identifying students with specific learning disabilities, IDEA specifies that local governments may use a process that determines if a child responds to scientific, research-based intervention as part of an evaluation procedure. “Both IDEA and NCLB ask for improving the outcomes for all students by using evidence-based instructional practice” (Cummings, Atkins, Allison & Cole, 2008, p. 24). The processes of identifying students in need of special services through RTI requires a paradigm shift as schools examine contextual issues of quality of instruction and shift focus from identifying students who are experiencing learning problems in the general education classroom to identifying students at risk (Ardoin, Witt, Connell, & Koenig, 2005).

**Bilingual Education Act**

When the Bilingual Education Act (BEA), Title VII of the Elementary and Secondary Education Act, was enacted in 1968, it turned an untargeted spotlight on bilingual education and the needs of ELs as well as the needs of the schools that served them. Initially, Title VII was passed to combat the effects of economic and language poverty apparent in the immigrant communities and the schools that served them in the United States (Morrow, Rueda, & Lapp, 2009). The implementation of Title VII can be seen as a process of trial and error. In its initial implementation, Title VII made provisions for ELs to receive educational opportunities equal to their English Only (EO) counterparts. English Only (EO) is a student who is identified as having English as his or her primary language. An English Learner (EL) is any student who is identified
as having any language other than English as his or her primary or native language and who does not demonstrate initial fluency or fluency that would qualify him or her for designation or re-designation as a proficiently fluent student. The governing language of the bilingual education programs called for the children being educated only so that they might progress effectively through the educational system.

One of the problems associated with the initial implementation of the BEA was that it was largely a remedial effort with interpretations left to individual states. Furthermore, local agencies had license to develop new and imaginative programs with financial assistance and no recommendations from the government (Morrow et al., 2009). The federal government enacted the BEA to address the growing demand for educational opportunity and support for ELs without directives that informed educational practices.

This lack of directives for school and classroom practices for implementation resulted in a wide variety of interpretations from the state level down to the classroom level. The different interpretations became the main implementation problem of the BEA. Elmore (2006) describes the process of the BEA implementation as a challenge of overall school effectiveness in fostering student learning, since it is the normative structures within a school that determine the implementation of policy. When considering the research on the BEA in schools, parallels between the BEA and RTI as solutions for ELs are evident. Implementation changed as the BEA was revised. Ultimately, as a result of a heavily revised BEA, schools began assessing the language and literacy proficiency of students, including EO students, in their programs, and they focused on mastering the English language rather than progressing through an educational system. However, this is problematic for ELs since research shows cognitive academic language proficiency (CALP) takes on average five to seven years to master (Lee, 2012). In the United
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States, ELs are required to demonstrate English proficiency soon after entering the classroom with little regard for the actual time it takes for these children to acquire language proficiency (DelliCarpini, Ortiz-Marrero, & Sumaryono, 2010). This pressure to demonstrate proficiency has resulted in ELs being unduly identified as behind in reading achievement (DelliCarpini et al., 2010).

The need for differentiated instruction is not a new concept to educational institutions and their reform; however, the RTI model is innovative in that it uses differentiation to deliver instruction, as well as a structured continuous achievement monitoring system, beyond a single classroom on a large scale. With a central tenant being social reform, Deweyan pragmatism influences the implementation process of RTI in schools in that it defines the basis for the existence of RTI (Hall, Strangman, & Meyer, 2003). Pragmatism’s assertion that the world is constantly evolving and, therefore, one’s experiences change over time, can best help to explain the ideas behind the need for a tiered system of interventions such as RTI. Though some literature on RTI alludes to pragmatic ideas, this study explores how Deweyan ideals inform the practice and progress of RTI (Hall et al., 2003).

In order to expand upon the change process related to RTI and how it involves ELs, one must consider the evolution of learning that pragmatists place at the center of their learning theories. Though pragmatist theory is complex and multi-faceted, for the purposes of this study a pragmatist theory of differentiation will be the focus. The differentiation of instruction provided by RTI can be explained by the pragmatist belief that student learning is constructed or dependent upon a social construct. That is, student experience constructed by varied understandings, involvements, and values, influences the way in which a student perceives and understands information. Therefore, students learn and understand differently and will have the
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need for different instructional approaches over time (Hall et al., 2003). Pragmatist learning theory supports the need for differentiated instruction in RTI and the further differentiation for ELs participating within RTI.

At this time ELs in California are growing exponentially and RTI services are being mandated in schools. Few studies have been conducted in order to show the relationship between any reading achievement behaviors or curriculum and school practices that have been modified, as in the case with the tiered system associated with RTI and the reading acquisition of ELs; however, RTI’s effectiveness must be measured, as it is being used as an intervention for ELs. With the current widespread implementation of RTI in public elementary schools, especially in California, it is incumbent to assess whether RTI truly addresses the needs of ELs.

Challenges of the Response to Intervention Model

The availability of special education services and language support instruction in public schools has been reduced, which has increased the demand for schools to transition ELs to primarily unsupported English language instructional programs as quickly as possible. RTI was presented to teachers as an alternative to the “wait to fail” model for special education that requires a discrepancy to exist between student achievement and potential. The RTI model allowed schools to address the problems of a disproportionate number of children qualifying for special education, ELs overrepresented in special education classrooms, and fewer classrooms in which a large number of students could be serviced. RTI also addresses the challenges many public schools face as they seek the best methods for teaching reading and language while facing a nationally significant growth in the population of ELs. The intent of RTI is for general education teachers to service students with special needs within the general education classroom without referring them to special education. RTI is used for entire classes of students or school
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populations. Rather than benefitting only students with special needs within a classroom or school, RTI addresses reading intervention needs for all students.

Many ELs are placed in special education settings due to their lack of the English language skills, especially in places where the quantity of non-English speakers is very limited (Orosco & Klinger, 2010). Especially in this context, RTI plays an important role in reducing the number of individuals in populations that are over represented in special education. IDEA 2004 refers to the fact that the disproportionate number of culturally and linguistically diverse students in special education has to be diminished (McMaster, Kun, Han, & Cao, 2008).

One of the most difficult tasks in assessing ELs who are having academic difficulties is identifying the cause of the difficulties. The problem could be English proficiency or an unidentified learning disability. The RTI model provides an additional source of information during the special education referral process, using data with scientifically based instruction. RTI has also set procedures in place to assist schools in identifying students who truly need special education services and distinguishing between the needs of the special education student and the needs of ELs (Rinaldi & Samson, 2008).

Mellard (2004) of the National Research Center on Learning Disabilities states that “RTI is a valuable model for schools because of its hypothesized utility in identifying students with learning disabilities] and preventing academic failure among all students” (p. 1). The process of RTI hopes to prevent academic failure among all students by providing a close match of students’ current skills and ability levels with the instructional and curricular materials provided in the classroom (Mellard, 2004). Students who do not learn at the same rate as their peers and do not demonstrate commensurate growth through standardized test scores are identified and provided appropriately tailored intervention instruction. “Identifying students who are not
achieving at the same level and rate as their peers and providing appropriate interventions are two features that RTI advocates emphasize” (p.1). RTI emphasizes strong core curriculum and intervention for all students. To be successful, the model should be formally in place throughout a school (Berkeley, Bender, Gregg, Saunders, & Saunders, 2009). Formal implementation of the RTI model ensures that components of the RTI model can be implemented with fidelity, rigor can be built within instruction, and student achievement can be monitored in a standardized fashion.

**English Learners and Response to Intervention**

Within the general population of a school, there are ELs, gifted students, and students who perform proficiently. While RTI is generally thought to address the needs of at-risk readers, there has been little research on its effectiveness for ELs (Brown & Doolittle, 2008; Newman Jacobs, 2009). Currently, ELs are grouped with English Only (EO) students in reading intervention groups and, as such, have not been studied separately. After ELs have taken the California English Language Development Test (CELDT) and qualified for designation, as Re-designated Fluent English Proficient (RFEP) students, they are categorized as proficient English language students. Students with RFEP designations are included in the EL subgroup for CST scores until the RFEP student demonstrates proficiency three times after being reclassified. When data are disaggregated, new RFEPs are considered part of the EL population. This study included RFEPs as part of the EL population. Because the guidelines for RTI implementation are broad, school districts have a great deal of freedom with which to interpret their relevance for at-risk readers (Orosco, 2008).

Healy, Vanderwood, and Edelston (2005) assumed that students benefit from the structured intensive instruction provided by the RTI model; *therefore*, it is important to
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determine whether ELs benefit from an English phonological awareness intervention. It is also instrumental in understanding EL reading achievement to know whether determining the students’ assessment scores facilitates the identification of those students most in need of additional services. Lack of response to a high-quality intervention is intended to provide the individual educational plan (IEP) team with data indicating whether the student may have a disability and, if need is established, is eligible for special education.

RTI was implemented in response to the disparity in achievement between students who do and do not need accommodations or modifications (Lovett et al., 2008). Research on RTI implementation in public schools has generally focused on the achievement of students with special needs in the general education classroom (Newman Jacobs, 2009; Siegel, 2009). It is important that teachers understand how implementation of the RTI model affects ELs since language needs and reading needs present a unique instructional challenge within the RTI model. This understanding of ELs in RTI necessitates further research as there is a gap in current research literature. Further, school leaders need more information regarding how curricular changes such as RTI affect the educational experience for ELs.

The design of intervention for ELs in RTI unifies the use of best teaching practices while considering language acquisition and knowledge as it relates to reading acquisition and skill (Lovett et al., 2008). In the Lovett et al. study, ELs and other struggling readers demonstrated a correlation between oral language delay and reading difficulty. The language difficulty often demonstrated by ELs during the early years of English language acquisition was not a sufficient predictor for reading difficulty. The language acquisition rate of struggling students was addressed through the RTI model with small-group phonics and language instruction.
Since the authorization of NCLB many schools have adopted the RTI model. The model measures students’ need in relation to performance relative to quality instruction and valid assessment rather than the previously and widely accepted deficit model used in the past for special education consideration. Schools with high percentages of ELs must begin with an examination of the teaching practices used for the population and the history of results gathered for the EL population from past intervention methods. Orosco and Klingner (2010) also note that valid assessment is vital in evaluating successful RTI implementation for EL students.

Previous studies examining intervention models for EO students have had high degrees of researcher control; therefore, district monitoring of ELs progress is necessary in order to determine the effectiveness of RTI implementation.

Rinaldi and Samson (2008) speak specifically to the misidentification of many ELs as either struggling readers or students with special needs and how this has affected achievement results in reading for the EL populations participating in reading interventions. Since RTI is an alternative intervention intended to move away from the previously used discrepancy model for special education identification, screening and monitoring of ELs’ participation in RTI must also reflect the alternative nature of the intervention.

Currently, most standardized assessments do not measure reading achievement until the end of second grade. By this time, two or three years of reading instruction have passed before standardized indicators reveal that a student is in need of remediation. It is the unique reading instruction needs of the ELs that fit within structured alternative intervention models such as RTI (Fien et al., 2011). For ELs, their dependence on effective and differentiated instruction is key to understanding their success in relation to reading acquisition. In order to measure the effectiveness of reading instruction by measuring student-reading achievement within the
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alternative model (RTI), assessments must also employ an alternative to traditional methods. With proper assessment tools, the RTI model allows for the placement and monitoring of ELs progress as well as instructional practices. Monitoring progress and practice allows for student response to drive reform within an intervention model; however, how the monitoring is utilized is highly dependent upon the experience and leadership of school personnel.

According to Brown and Doolittle (2008), approximately half of all teachers in the United States with one or more ELs in their classrooms do not have the proper certification to teach ELs. This is problematic when considering teacher certification in relation to the research on ELs and reading acquisition. Factors such as teacher fidelity to research-based teaching practices and the use of foundationally sound cultural and linguistic practices in RTI instruction are necessary for effective reading instruction for ELs. Haager, Calhoon and Linan-Thompson (2007) assert that ELs respond best to direct reading instruction. In the 2007 study, Haager et al. discuss the success of ELs who participated in additional balanced literacy activities within the RTI intervention model. English Learners who consistently participated in multiple tiers of RTI had greater reading success and lower rates of referral to special education.

RTI is composed of results-oriented assessments that are systematic and repeating. In order to properly assess the effectiveness of something as multidimensional as reading achievement, a school must use multiple measures to assess the efficiency with which they reach their ELs and under-performing students. In addition to the instructional and assessment considerations outlined above, consideration must also be given to elements of the RTI model that can assist all struggling readers, including ELs and under-performing readers. Research indicates that with effective instructional practices and early, targeted assessment, RTI is a successful reading intervention for ELs (Brown & Doolittle, 2008). When ELs receive support,
as well as intensive small-group support that incorporates best practices, language support, and remediation, their reading success is greater than if they had received instruction within the regular education classroom in the way a non-EL would. In a synthesis of reading and special education research that spans 20 years, Wanzek, Wexler, Vaughn, and Ciullo (2010) assert that reading instruction for at-risk and struggling readers must incorporate foundational skills as well as higher level reading tasks while focusing on vocabulary and reading comprehension. In order for the kind of instruction Wanzek et al. (2010) suggest to take place, a school would need to adopt an instructional model like RTI in order to accommodate regular and specialized instruction.

Adjustments to the typical teaching model have proven successful in addressing the unique needs not only of ELs but also of all struggling readers. Teaching practices have changed with RTI implementation. McMaster, Kung, Han, and Cao (2008) assert that the identification model and teaching found in the RTI model offer little difference from the old model of identification and remediation, since RTI instruction is heavily dependent on quality instruction by teachers who understand the reading needs of ELs and at-risk students. Students are no longer separated because of language ability issues that arise during reading instruction; therefore, RTI has eliminated a school cultural factor of reading shame since the model incorporates all students within a school into the RTI intervention model. This inclusion results in an enhancement of teacher skills in reading instruction. As a result of RTI, teachers deliver a greater amount of scientifically-based reading instruction that addresses the specific needs of the population they serve (Xu & Drame, 2008).

**Purpose of the Research**
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The purpose of this study was to examine the relationship between RTI and the reading acquisition of ELs. Specifically, this study examined RTI and its effectiveness and appropriateness for ELs in a general classroom setting. In addition, this study examined teacher pre-service programs in relation to how teachers are prepared to meet the needs of ELs in settings where targeted reading instruction is expected. By examining the RTI model used as a means to remediate lower achieving readers of all language designations, this study explored the possible relationships between the rate at which ELs acquire grade-level reading skills and their participation in RTI. Schools typically implement RTI to address the needs of learners with special needs falling within the special education categories; however, this study considered the EL population of a school district as an independent population requiring special support for reading instruction (Fien et al., 2011; Haager, 2007).

Method

Setting

The research was conducted in an urban K-8 school district in the greater Los Angeles area. The district was composed of seven elementary schools and two middle schools that housed 4,900 students. Of these students, 24% were ELs and 69% were from low-income families. The population located within this district was 67% Latino, and nearly 10% of the families lived at or below the poverty level. All teachers employed by this district were considered highly qualified as reported on the School Accountability Report Card (SARC). The research focused on two of the seven elementary schools in the district, with a total population of 368 students, of whom 89 were ELs and 279 were EOs. The two schools studied were chosen for their similar student populations and size. The two schools represented in this study were not
the same as other schools in the district as they both housed smaller than average student populations within the district.

Participants

Only those schools with similar demographics, population size, and RTI implementation methods were chosen for this study. Nevertheless, each school site offered variations in student-grouping criteria for RTI groups, materials used for instruction, and criteria for placement and movement among the RTI groups. Such variations were minimal, however, and the overall implementation followed specific grouping and instructional ideals consistent with tiered-intervention models. In general, both schools studied used reading assessment data from CST and teacher-administered reading assessments to determine grouping for ELs and EOs. Because students in kindergarten through fifth grade participate in RTI, all primary grades were included in the study (2nd to 5th). Students chosen for participation were designated as either ELs or EOs. Students of varying degrees of EL proficiency and EOs, regardless of grade, were included in the study. Students who were designated as Fluent English Proficient (FEP) or Re-designated Fluent English Proficient (RFEP) were excluded from the study as a separate group. This exclusion was based on the inclusion of these groups in the EL population once being re-designated. That is, students designated as RFEPs are included in the EL group until three years of proficiency is demonstrated in English Language Arts on the CST. The anonymity of school sites and participants was protected. They were not described in any way that would allow internal or external personnel to identify either.

Instrumentation and Data Collection

The study used a repeated-measures design with English proficiency as the one between-groups factor, and California Standardized Tests (CST) as the one repeated-measures factor with
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three levels. The CST examination is given one time per year and is administered within a two-week window at the end of each school year. The examinations are used to measure growth over time in a particular core subject. The CST reading tests are composed of questions written by professional testing companies and are administered under highly secure circumstances. The assessments were administered within a two-week window at each school site within the district; by grade-level teachers, who administered the assessments on the same day so as not compromise the validity of the assessment.

California Standards Test (CST) data for English Language Arts were acquired from *Data Director*, the database housing multiple data for ELs and EOs. The data were collected over the course of two school years. The data collection for this study included the collection of state (CST) scores for both ELs and EO students over the course of two years. The population and sample size was first determined by determining the number of students at each of the two schools studied and then by determining how many EL students were a part of the population at both schools. The data were collected for each assessment and then student scores were separated according to the language designation of the student earning the score.

**Data Analysis**

The data were managed in SPSS and were stored on a password-protected computer. The data were compiled for each trimester. Archived data for each group studied were compared once all data were collected over the course of one school year. The collected data were analyzed through a repeated-measures design in General Linear Model. A repeated-measures design can reveal differences between groups at each repeated-measure level or for each repeated measure. It also can reveal any differences between the three levels of repeated-measures variable and interactions between the subjects and repeated-measures variable.
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The researcher collected data from one grade level at a time. After gathering each grade level’s results for one year at a time of the CST, the individual student scores were disaggregated to remove all student data for individuals who had not participated in RTI for an entire school year. These data were eliminated as anomalies that represented students who were transient during a school year. Additionally, ELs and EOs data were separated into two categories, and each group’s data were coded. The data for each grade level in a single year were then combined for the EL group; the same process was repeated for the EO group and then repeated for the following year’s data. Further, a color code was created for data that showed an increase, decrease, or stagnation in reading achievement scores for subsequent data collection that occurred after the initial collection.

Results

This study was conducted to explore the relationship between English Learners’ (ELs) reading achievement and their participation in the Response to Intervention (RTI) model. Two years of standardized test data were examined to determine if there was a co-relationship between ELs reading achievement and students’ participation in the RTI model. The intent of the study was to determine if test scores suggested a relationship between ELs reading achievement and students’ participation in RTI. The results revealed a significant relationship for ELs who had participated in RTI. Additionally, the data for English Only (EO) students revealed a significant relationship between standardized reading test scores and students’ participation in RTI. When examined as an entire group with grade level eliminated as a factor, there was a significant relationship between students’ reading achievement and their participation in RTI; however, when data were disaggregated and grade levels were used to separate the students,
there were no significant relationships noted between students’ reading achievement and their participation in RTI.

The data were analyzed using SPSS. A repeated-measures design in General Linear Model (GLM) was used with statistical significance considered to be $p < .05$. The data were collected from an independent third-party database service that stores all test data for the district studied. The data were retrieved from the database and filtered to include only students who had participated in RTI for more than one school year were included. Furthermore, the data were filtered by language designation for each student. ELs and EOs were coded to distinguish them within the data. Redesignated Fluent English Proficient students (RFEPs) were included in the study. The students were included as part of the EL group. The rationale behind including RFEP students coincides with current California law that requires RFEP students to be counted in the EL population when calculating API (Academic Performance Index) and AYP (Adequate Yearly Progress) until they demonstrate three years of proficiency on the California Standards Test (CST). Since students are typically re-designated after third grade, all students included in the data for this study would also be included in the calculations for the schools’ API and AYP score. Of the 296 students included in the study, 22 students (7.5% of the total population), were RFEP students. Students who entered the schools mid-year or had not completed a full year of RTI were considered an anomaly and were removed from the collected data.

**Demographic Information**

The participants in the study were selected based on language designation and a minimum of one year’s participation in RTI. Because the researcher determined the criteria for participant selection, random sampling was not used. In this quasi-experimental process, convenience samples were collected from naturally formed groups. The approximately 296 participants were identified by grade level (i.e., year in school) and language designation.
Participants attended two separate school sites; however, scores from both schools were combined and included in the participant group for this study. Consideration was also given to the amount of time a student spent participating in RTI. Students were sorted by number of years participating in RTI.

Although the participant data were combined for all grade levels, the participant group consisted of students who had either participated in RTI starting with the first implementation year, had at least two consecutive years of RTI instruction, or had participated in RTI throughout their time in school. Thus, the matching of participants was reliant upon the criteria of language designation and the length of participation in RTI. This type of participant selection ensured control of factors such as grade level and language designation. The analysis and impact of these factors are detailed in subsequent sections of the results. Since School 1 and School 2 demonstrated a decline in enrollment commensurate with district enrollment rates, the studied population had 71 fewer students in 2010-2011 than in 2009-2010. See summary of data sorted by school and language designation in Table 1.

Table 1

*Participant Numbers by Population Type for School 1 and School 2*

| CST Test Year & School | School 1 (2009-2010) | School 2 (2009-2010) | School 1 (2010-2011) | School 2 (2010-2011) |
|------------------------|----------------------|----------------------|----------------------|----------------------|
| ELs                    | 61                   | 69                   | 62                   | 60                   |
| Eos                    | 111                  | 116                  | 91                   | 83                   |
| **Total Number**       | **172**              | **185**              | **153**              | **143**              |
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To determine the existence or lack of existence of a relationship between EL participation in RTI and reading achievement, a general linear model was used \((Y=XB+U)\) incorporated within the model of analysis of variance (ANOVA). The model allowed for multiple measures \((Y)\) within the design matrix \((X)\) that consisted of parameters \((B)\) and accounted for possible errors \((U)\). The variability of achievement scores was calculated between groups and within groups. Both the between and within groups designs are discussed as each research question was analyzed.

When examining the reading achievement of EL students who participated in RTI, the variability of achievement scores was calculated within groups. That is, the scores of EL students were examined for each grade level \((2^{nd} \text{ to } 5^{th})\) and each year of CST administration (i.e., 2009-2011).

The average CST English Language Arts (ELA) score for each student was sorted in descending order for each grade level and further disaggregated by grade level and then by language designation. Data from two consecutive school years were examined to determine if a relationship existed between RTI instruction and ELs reading achievement. That is, scores were examined to determine if there was a consistent rise in scores for EL students based on CST proficiency rates. This study examined CST data for all students who participated in RTI. EL student data were used to determine if there was a relationship between RTI participation and reading achievement and to examine the progression of grade-level groups. Continuing the within-group design, the data for EL students were examined to determine if CST scores demonstrated an increase for the same group of EL students over time. That is, grade 2 EL student scores from the 2010 administration of the CST were examined in comparison to grade 3 EL scores in 2011. The within-group design remained consistent with demographic selection
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(i.e., language designation) and participation in RTI. The design was not meant to serve as a measure of an increase in performance due to an identical repeated measure. In this study, the CST was used to assess if reading achievement as measured by the grade level standards would show a rise in proficiency over time while EL students simultaneously participated in the RTI model.

Of the test scores collected for students at School 1 and School 2, each grade level showed a different rate or reading achievement when the CST scores were compared within groups. For the purposes of this study, the scores for School 1 and School 2 were combined to create a larger sample in addition to creating a context for the relationship between RTI and reading achievement of ELs in general. For the analysis of these results from this within-group design, the grade 2 EL population for the 2010-2011 school year were excluded, as they did not have test data for the 2009-2010 school year. In California, CST is administered for grades 2-11; therefore, data gathered for grade 2 students for the 2010-2011 school year is the first achievement data for the subgroup. The within-group design data showed that 2009-2010 grade 2 students demonstrated a decline in CST scores (M=59.0%) as grade 3 students in 2010-2011. However 2009-2010 grade 3 students demonstrated a significant increase in reading achievement scores (M=35.5%) from data gathered for the 2010-2011 CST. That is, grade 4 ELs demonstrated increases in proficiency from grade 3 scores in 2009-2010 and grade 4 scores in 2010-2011. Grade 5 ELs demonstrated an increase in reading achievement scores between the 2009-2010 and 2010-2011 school years. Grade 5 ELs from demonstrated an increase from 39.0% to 66.5% for a total increase of 27.5% in EL reading proficiency scores.

Grade 2 students who took the 2009-2010 CST demonstrated at least 63.0% proficiency with the mean proficiency rate being 69.5%. The mean proficiency rate for grade 3 students in
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2010-2011 was 10.5%. Therefore the grade 2 ELs who participated in the 2009-2010 administration of the CST demonstrated a 59.0% decline in proficiency rates as grade 3 students during the 2010-2011 school year.

Scores for CST grade 2 ELs showed a consistent score reported for EO students for the 2009-2011 school years (M=66.5%). Scores for ELs in grade 2 showed a mean score that was relatively similar to the EO population of participants (M=69.5%). Thus, more than half of all grade 2 participants regardless of language designation demonstrated proficiencies on the CST in ELA. Grade 3 CST ELA scores for EL participants demonstrated a significant decline for both the 2010 and 2011 CST administrations. Grade 3 ELs demonstrated an overall decline of 59.0% in reading achievement scores. EL student scores for grades 4 and 5 increased after the grade 3 decline. That is, the EL mean score for CST ELA did not fall below the initial grade 3 declines for the 2010 and 2011 school years. Grade 4 EL scores for the 2010 and 2011 school years demonstrated a significant increase in proficiency rates (M=35.5%). Grade 5 EL scores for the 2010 and 2011 school years demonstrated a higher rate of achievement than the initial decline in grade 3; the data reflect a second increase in proficiency (M=27.5%) for ELs for the CST ELA administered for 2010 and 2011. Figure 1 shows the combined participant reading achievement data for Schools 1 and School 2.
A between-subjects design was used to examine data to determine if CST reading achievement scores were comparable for both the English Learners (ELs) and English Only (EO) groups. RTI instruction in the participating school district was delivered within a model that serviced K-5 students regardless of language designation, and all students, regardless of language designation, begin taking the CST in grade 2. In general, EO scores remained consistent from 2009-2011. Grade 2 students performed about the same from year to year as did students in grades 3, 4, and 5 with little or no significant change in reading achievement scores for the group as a whole. Grade 2 EO scores for the 2009-2010 and 2010-2011 CST were similar to EL scores in that there was an insignificant difference between the groups’ reading achievement scores. EO students’ scores also declined in grade 3 for both the 2009-2010 and 2010-2011 CST. The data revealed a less significant decline in reading achievement scores for EO students than for ELs (M=29.5%).

EO students also demonstrated a more substantial rebound for subsequent years of reading achievement scores after grade 3. When considering the difference in scores from grade
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2 to grade 3, EO students demonstrated a decline with a mean difference of 29.5%. In comparison, ELs showed a consistent decline in reading achievement scores from grade 2 to grade 3 (M=59.0%). During each administration of the CST, EO students demonstrated a higher reading achievement rate than did ELs. The data does, however, reveal a consistent pattern of ascents and declines much like that of ELs with a final and unique rise in grade 5 scores for ELs. Following the above-mentioned decline in the demonstration of reading achievement, EO students demonstrated a significant increase in reading achievement scores. CST data show a mean increase of 37% from grade 3 to grade 4 for EO students. This increase in reading achievement scores is nearly identical to the increase revealed in the data for ELs. Students in the EL population demonstrated a mean increase of 35.5% from grade 3 to grade 4. From grades 4 to 5, EO data revealed a slight decline in reading achievement scores similar to the data for ELs. A mean decrease of 7.5% in reading achievement scores was revealed in the data for EO students. Grade 5 ELs, however, did not show the same type of decline from grades 4 to 5 as did the EO students. In fact, grade 5 ELs demonstrated a 27.5% increase in CST reading achievement scores. Variance and error were estimated within ANOVA and a significant (less than 0.5) correlation does exist between RTI participation and reading achievement scores between groups [F(1,216)=7.40, p<0.5]. In accounting for the factors of RTI participation and repeated CST reading achievement scores, it can be concluded that there was a significant relationship between the factors of RTI participation and reading achievement scores within groups. While EL and EO participants participated in RTI for the same amount of time, the reading achievement scores did not demonstrate the same rate of reading achievement for both groups. Table 2 shows the general linear model between group data.
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Table 2

*Difference in Reading Progress Between Two Groups*

| Source    | df  | F    | Sig. |
|-----------|-----|------|------|
| Groups    | 1   | 7.40 | .01* |
|           | 216 |      |      |

*p<0.5

When accounting for the data demonstrating a decline in proficiency and therefore reading achievement, the EO students showed a larger percentage of recovery at a faster rate than did ELs. That is, though both groups’ data showed a decline in grade 3, EO students showed higher scores, yet EL students showed larger gains in scores; therefore, ELs demonstrated a larger increase in the number of students demonstrating reading achievement in a shorter amount of time in grades 4 and 5. This can be accounted for in the pattern of ascents and declines the EO students demonstrated consistently throughout test years and grade levels. Though the EO and ELs began their CST reading achievement with relatively similar scores, and demonstrated a similar pattern of declines and increases in scores, the EO population outscored the EL population in each grade level for both the 2009-2010 and 2010-2011 school years. The results of this study, however, indicate that the EO population received an overall higher score, the EL scores grew significantly faster as EL students spent more time participating in RTI. The interaction between factors for the between-groups design qualifies the notion that reading achievement is modified by language designation and participation in RTI. Figure 2 shows the data for the between-groups design.
Discussion

The Response to Intervention (RTI) model is designed to assist all students, identify learning disabilities early, and prevent the failure of struggling learners. There are relatively few studies that show a relationship between RTI and English Language Learners (ELs). Studies have shown that schools which formally implement RTI do so with fidelity. RTI emphasizes a strong core curriculum and intervention for all students. To be successful, the model should be formally in place throughout a school (Berkeley et al., 2009). The purpose of this study was to examine the relationship between participation in the RTI model and EL reading achievement.

Because the EL population was over-represented in special education, and ELs were often incorrectly identified as needing special services rather than differentiated teaching or intervention, RTI was presented as a solution to this problem (Ross & Begeny, 2011). Linan-Thompson and Ortiz (2009) describe RTI as an alternative to special education for EL students. As an alternative, RTI provides all students with necessary intervention or enrichment instruction that works to promote student success (Haager, 2007; Orosco & Klingner, 2010).
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The RTI model attempts to meet the target for effective instruction by providing a comprehensive school-wide system that encourages early intervention for those students who experience difficulties in learning to read, regardless of their language background or school history (James, 2004). With RTI as the school-wide intervention model, schools began shifting their focus from one teacher’s results with one group of students to the success of all students being taught through a collaborative effort by all teachers. Through these efforts, evidence of a systematic attempt at narrowing the achievement gap and increasing students’ chances for long-term success emerged (Fien et al., 2011).

RTI significantly impacts schools on multiple levels. Schools have been economically impacted in the fulfillment of both the staff development and supply accrualment demands that are posed by such an intervention (Murawski & Hughes, 2009). Federal regulations require RTI to function as a step between the general education classroom and the special education classroom. Schools that use the RTI model and provide intervention to students had to face several changes to institutionalize practices and make curricular adoptions, including implementing and sustaining the model (Murawski & Hughes, 2009).

The results of this study revealed the relationship between reading progress for EL students and their participation in RTI. Scores for students were collected over the course of two years. The CST scores were then examined for each individual school. The overall combined scores were also examined. The results for EL and EO students were reported separately in this study to provide a context for relationships between RTI participation and EL reading achievement revealed by the data collected.

Review of the CST scores for EL students over two years indicated a significant relationship between EL student participation in RTI and reading achievement. Scores for ELs
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demonstrated different results at the two schools participating in this study; however, English Learners demonstrated the same pattern of declines and increases at both schools, and when the scores for ELs at both schools were combined, the results showed a significant relationship between EL participation in RTI and reading achievement. ELs at both school sites demonstrated a high rate of reading proficiency with the first administration of the CST in grade 2. The second administration of the CST showed a steep decline in reading proficiency for grade 3 EL students. In grades 4 and 5 a similar pattern for both schools showed that EL students recovered from the decline in grade 3 reading achievement scores; however, scores for EL reading achievement never returned to the initial high rate of reading proficiency scores in grade 2.

It was hypothesized that ELs would demonstrate a faster rate of reading achievement than ELs who did not participate in RTI. The district that participated in this study did not have a school population that did not have RTI instruction. RTI instruction in the participating school district was delivered within a model that serviced K-5 students regardless of language designation. Although this study did not include students who did not participate in RTI, this study demonstrates reading achievement results that exceed other research on ELL reading achievement. According to Genesee, Leary, Saunders, and Christian (2005), EL students take several years (at least 3-5 years) to acquire the language necessary to be literate. The study by Genesee et al. (2005) also provides a correlation between EL academic language acquisition and the demonstration of reading proficiency.

The schools studied adopted identical semi-scripted programs that focused on academic vocabulary acquisition. A significant relationship between EL reading scores and participation in RTI can be identified from the data in this study. The students who had also received RTI
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instruction for at least two full years had scores that were reflected in the EL proficiency scores for grade 2 students in both the 2009-2010 and 2010-2011 school years. This group of students demonstrated an overall proficiency rate of 69.5% in English Language Arts. The high proficiency rate combined with the differentiated and targeted instruction provided by the RTI model demonstrated a relationship between the two factors for grade 2 students (See Figure 1: 2009-2010 school year). Contrary to the findings of Genesee et al., the grade 3 students did not demonstrate a growth in reading proficiency, though they had ultimately received an additional year of RTI instruction using the same model with the same curricula as all groups included in the study. Despite acquiring an additional year of reading intervention focused on vocabulary, the grade 3 EL group demonstrated the most significant decline in reading achievement of any of the EL student groups included in the study. In fact, the grade 3 decline in scores was demonstrated in both the 2009-2010 administration of the CST and the 2010-2011 administration at both schools that participated in the research. Research has shown that this type of decline in reading coincides with the fact that in grades kindergarten through second grade, students learn to read and in grades 3 and beyond, students read to learn. In California, students in grade 2 have portions of the test read to them by the teacher or proctor. While the grade 2 administration of the CST is the students’ first exposure to a standardized test, reading skills are put practice by individual students through vocabulary application and comprehension skills that must be demonstrated by answers provided individually. The extra scaffolding in grade 2 for standardized testing, and the drastic change in grade 3 where students must read the entire test on their own, may account for the drastic decline in reading achievement proficiency scores.

The results for CST administrations during the 2009-2010 and 2010-2011 for grades 4 and 5 EL students indicated that students at both school sites recovered from the initial decline in
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third grade. After participating in the RTI model from five to six years, EL students demonstrated a high rate of student achievement. In grades 4 and 5, students demonstrated a rate of reading proficiency that was higher than grade 3 reading proficiency. By grade 5, students demonstrated a rate of proficiency that was within 3% of the grade 2 rate of proficiency. The reading achievement by EL students demonstrated a reading proficiency rate that was similar to the Genesee et al. (2005) study, in that it demonstrated the highest rate of reading achievement with the most difficult reading contained within the CST for grades 2 through 5. EL students who have had the most academic support for acquiring reading skills demonstrate a reading achievement rate of 66.5%. With more than half of the study’s population included in demonstrating reading growth, the results can be considered significant.

The results of this study hypothesized that ELs who participate in RTI will show a lower rate of reading improvement than their EO counterparts. Though language acquisition is often an indication for reading achievement, EL students did not demonstrate a slower rate of achievement to acquire a score on the CST that demonstrated reading achievement (Genesee et al., 2005). EO students also demonstrated a significant decline in test scores in grade 3. In spite of this decline, like the EL population, the EO population showed a recovery in scores for grade 4. The EO population, however, did not demonstrate a faster rate of reading achievement because the EO group of students did not continue to consistently increase reading achievement scores after grade 3. The EO group showed a consistent pattern of increases and declines that did not mirror that of the EL population. Therefore, with consistent increases in reading achievement, ELs demonstrated reading achievement while participating in the RTI model at a faster and more consistent rate than their EO counterparts. EO students ultimately earned higher scores in each grade level. This can be attributed to their advantage of learning in their primary
language; whereas, ELs often must first acquire the vocabulary and the ability to apply thinking skills as well as meta-cognition to their learning before demonstrating proficiency.

Limitations

Because this study was conducted in a district that serves a largely homogeneous community, when discussing EL achievement, this study addresses students with Spanish as a first or native language. There is room for future study regarding students from various language backgrounds. The relationship between EL speakers and their participation in RTI has not yet been widely researched as a study that categorizes the relationship by native language and differences in acquiring language. Further limitations of this study included the size of the district that participated in this study. The study was conducted in a district comprised of only seven elementary schools, however, only two schools were selected for participation in this study. The geographic area served by the district contains a relatively homogeneous population, with little variation in socioeconomic status. Students with special needs and middle school ELs, although receiving reading intervention outside of the RTI model, were not included in this study. The EL population studied was limited to general education, native Spanish speakers in the primary grades. Students with RFEP language designations were included in the EL population for this study because their CST scores are counted as part of the EL subgroup for approximately three years after being reclassified. Excluding RFEP students from this study could yield a different depiction of reading achievement for both EL and EO students. Because the focus was on reading, other subjects commonly addressed in RTI, such as math, were not studied. These limitations affect the generalizability of the findings.
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Limitations also include examining the relationship between RTI and EL reading achievement over a period of two years. A greater length of time is needed to monitor changes in achievement, trends, and patterns in CST reading scores for ELs.

Implications

Students who are English Learners and also participants in the RTI model demonstrate a relationship between their participation in RTI and reading achievement. ELs consistently showed reading progress (for the purposes of this study, consistent is defined as three out of the four grades included in this study) in the grade levels that participated in RTI and measured for progress by the CST. The results of this study suggest that EL students who participate in RTI involving target literacy instruction focused on vocabulary acquisition, acquire proficient reading skills at a rate commensurate with or more quickly than the three-to-five-year time period indicated in previous research (Genesee et al., 2005). School administrators can use the results of this study to guide their RTI model implementation. To support effective implementation practices for RTI, school administrators can use the descriptive data found in this study to consider possible RTI implementation options. Furthermore, administrators can refer to this study when evaluating the consistency of school-specific reading interventions and determine if consistency is effectively influencing EL instruction.

The results of this study indicated that RTI was a beneficial practice for EL students. Further study is needed to address the decline in test scores for both EL and EO students in grade 3. District administrators can use the results of the study to address curricular needs for ELs during the first year of schooling between the scaffolded grade 2 administration of the CST, and the independently read grade administration of the 3 administration of the CST.
Recommendations

Based on the findings of this study, it is apparent that many more years of research are needed to examine the effects of RTI. This study covered the span of two school years. There clearly was, and is, a need for longitudinal data on reading achievement for ELs participating in RTI. By conducting the study during a lengthier frame of time, more data would be provided. With longitudinal data, administrators could examine changes within test scores over time to determine whether existing patterns could inform teaching practices.

Two schools were selected to participate in this study. Because the participants in this study could be considered marginalized for a variety of reasons, further study is needed. Further study of RTI could better inform teaching practices of ELL students if a consistently implemented RTI program were established and studied within a larger school district or a larger number of schools. By examining a larger sample from a larger number of schools, a slightly less homogeneous population might be studied. This study included participants who were of the same race and socio-economic background with little difference in demographics. Including a more diverse sample from a variety of schools will allow researchers to reduce bias in a study.

A study of a more diverse sample would also inform school administrators about how RTI affects different groups of varying backgrounds. Although ELs are considered a marginalized population, further study on RTI could include students in special education classroom settings and exclude RFEP student performance. Students with RFEP designations, as mentioned previously, though no longer considered ELs, are monitored and counted in the EL population for three years when it comes to CST test scores. Including data from students in special education and excluding RFEP students would allow school administrators to evaluate the relationship between the tier system and student progress. However, we may continue to
monitor the progress of the RFEP students to see if they continue to advance as expected but doing this outside of the RTI process.

A further study of RTI could examine the relationship between reading achievement and participation in RTI with older students. This study included only participants from a K-5 school setting. Reviewing the reading achievement scores of middle school students would provide more data on RTI participation and the possible effects on reading achievement with middle school students. It would also provide opportunities to see what happens in content areas where teachers do not feel the necessity to teach reading skills because they are only teaching contents such as science and social studies. Currently, most research on RTI focuses on early intervention in the primary grades. The need for RTI, however, exists beyond the elementary school setting and could inform school leaders by providing a longitudinal understanding of reading intervention for all students.
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