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# RATE OF GROWTH IN SPANISH-SPEAKING ENGLISH LANGUAGE LEARNERS RECEIVING INTERVENTION THROUGH MULTITIERED SYSTEMS OF SUPPORT

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by

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# DEDICATION

This dissertation is dedicated to my parents for instilling in me the values of faith, integrity, hard work, and perseverance. May they rest in peace.

# ACKNOWLEDGMENTS

My heartfelt gratitude goes to my husband, John, and my two sons, Ethan and Andrew, for all of their sacrifices, patience, love, and willingness to accompany me on each step of this academic journey. This would not have been possible without your constant encouragement. To my family and close friends, I extend my deepest appreciation for all the support given, not only to me, but also to John and the boys. I would like to thank my committee members and department faculty for their guidance and their time from the beginning through the end of this endeavor. A special thanks to my dissertation chair, Dr. Justin Low, for helping me "trust the process" and to my dissertation buddy, Amy Jean Burns, for not only being "my person" in graduate school, but most of all, for giving me the gift of your friendship.

# Rate of Growth in Spanish-Speaking English Language Learners Receiving Intervention Through Multitiered Systems of Support

## Abstract

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Spanish-speaking English language learners (ELLs) encounter challenges in successfully navigating through the United States educational system. With state and federal laws adding to ELLs' already lower educational outcomes than that of their English-only peers through a reduction of primary language supports and requirement of high stakes testing, consideration is warranted into the evidence-based interventions aimed to support and promote ELLs' academic success. Within a tiered Response to Intervention (RTI) model, ELLs' progress can be examined to determine when they demonstrate the need for additional targeted intervention or even referral for special education assessment. Understanding this progress begins by analyzing ELLs' growth trajectories through progress monitoring of interventions in order to timely identify, through a data driven method, if lack of anticipated ELLs' progress requires further examination. Results suggested ELLs in this study were able to make positive growth within the same time frame as their English only peers albeit with different patterns of growth for each group.

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## Chapter 1: Introduction

English language learners (ELLs) compose a growing number of students within the United States' educational system, facing poor educational outcomes when compared to their monolingual peers. In California, native Spanish-speaking ELLs make up 83.5% of the English language learner school-age population as reported by the California Department of Education (2016). These students have been affected by various state and federal laws including Proposition 227 and No Child Left Behind. As the population of Spanish-speaking students continues to grow, public schools require focused interventions to facilitate their academic success. Of continued concern is the inconsistent numbers of Spanish-speaking students in special education. Elementary students in kindergarten through fourth grade are under identified while beginning in fifth grade, there is an overrepresentation of ELLs continuing into high school (Artiles, Rueda, Salazar, & Higareda as cited by Linan-Thompson, 2010). It has been hypothesized the numbers are greater in the upper grades because at the elementary level, schools are less likely to identify students with a disability and assume their difficulties in school are due to a language difference rather than a disability (Linan-Thompson, 2010). Furthermore, the use of the ability-achievement discrepancy model in the qualification of a student with learning disability for special education services along with the inherent difficulties in properly identifying ELLs who have learning disabilities create disparities with this group in special education. Through multitiered systems of support (MTSS) via a

Response to Intervention (RTI) model, ELLs' progress can be monitored through evidence-based instruction to appropriately identify the need for prereferral, referral, and assessment to special education services (Rinaldi & Samson, 2008). RTI utilizes a data driven method offering three tiers of support: Tier 1, accessible for all students as part of core curriculum, Tier 2, general education accessed targeted interventions for small group instruction, and Tier 3, individual and intensive interventions accessible primarily through special education services (Burns & Coolong-Chaffin, 2006; Rinaldi & Samson, 2008). It is possible RTI can guide educators in a comprehensive approach, when progress monitoring ELLs' growth, to determine when their lack of progress warrants further action including the possibility of assessment for special education services.

**Statement of Problem**

Presently, research in the field of RTI lacks information specifically on ELLs' growth. Gutierrez and Vanderwood (2013) stated there is a need to examine through a longitudinal study the connection with English proficiency and reading growth through progress monitoring. Considering this body of research, the proposed study will examine whether there is a difference in the rate of growth through RTI progress monitoring for ELLs when compared to their English only peers.

**Purpose**

The ability-achievement discrepancy model coupled with the difficulty in properly identifying ELLs with learning disabilities creates challenges for this group in their proper identification for special education eligibility. Through an RTI model, Spanish-speaking ELLs' progress can be monitored to facilitate a team decision of when there is a need for a referral and possible assessment for special education services. There

is a need to first progress monitor ELLs' growth, through RTI, to guide educators in a comprehensive approach to determine when ELLs' lack of academic progress warrants further assessment and referral for special education. Additionally O'Connor and Klinger (2010) stated responsiveness in RTI can facilitate more informed decisions surrounding students' need for services including importance of good, targeted interventions, teacher skills, and growth rates which can be indicative of progress when students are out of Tier 2 interventions.

**Significance of Study**

This study may be of particular significance to education policy makers, administrators, teachers, support staff, and parents on how to best utilize RTI. Using an RTI model may reduce the disproportionality of culturally and linguistically diverse students in special education by providing information that reveals how ELLs' growth improves over time thereby effecting the perception that an underlying learning disability may be present. Moreover, understanding if there is a difference in the growth between English only students and ELLs also can address how the RTI process can be tailored to ELLs to encourage their educational progress and improve their academic success.

**Research Questions**

The following research questions were used to guide this study's methodology:

**Research Question #1:** Is there a difference in the rate of improvement among Spanish-speaking ELLs' progress monitoring scores through reading-curriculum based measurement scores when compared to their English only peers when receiving interventions through a tiered RTI model?

To address this research question a model will be generated using multi-group models. Model fit statistics as well as maximum likelihood estimation will be used to estimate missing data.

## Chapter 2: Review of Literature

Students identified as ELLs, or non-native English speakers who have limited English proficiency, constitute a growing number of the population of students enrolled in the United States education system. According to the United States Department of Education National Center for Education Statistics (2017), an estimated 4.6 million ELLs were enrolled in public schools during the 2014-2015 academic school year. With such a large number of students enrolled in United States schools who speak a language other than English, comprehensive examination is warranted to address and meet their educational needs and to promote their successful outcomes.

One area that continues to be problematic for educators is in the referral and assessment process of ELLs for special education services. Multiple studies reported English learner characteristics, language development, and unique learning processes confound the identification of learning disabilities (Klingner, Artiles, & Barletta, 2006; Klinger & Edwards, 2006). Further convoluting the discernment of proper identification for special education services for ELLs is second language acquisition, which takes up to seven years to develop (Cadiero-Kaplan & Rodriguez, 2008). Hence, ELLs are often stuck in limbo, as there is ambiguity in where to attribute their lack of progress. English language learners often show similar academic difficulties as students believed to have a learning disability making it a continuous question of whether more time is needed for an English language learner to develop English language proficiency or whether the English

language learner's lack of progress is due to a specific learning disability (Olvera & Gomez-Cerrillo, 2011). As time goes by, ELLs who are not receiving adequate, specialized instruction, have greater achievement gaps among their monolingual peers, a factor contributing to over-identification of ELLs in special education (Linan-Thompson, 2010). For example, Callahan (2005) reported on the eighth-grade National Assessment of Academic Progress reading test in 2002, English proficient students' scores were, on average, 1.2 standard deviations above the ELLs' scores. The delay in the referral and assessment process negatively impacts the academic success of ELLs with a specific learning disability and further influences an already bleak trajectory for ELLs' academic success.

When compared to their monolingual peers, studies indicate ELLs are at the greatest risk for poor educational outcomes and increased rates for dropping out of school altogether when they lack sufficient language proficiency to succeed in school (Sheng, Sheng, & Anderson, 2011; Slama, 2012; Melby-Levråg & Levråg, 2014). Sheng, Sheng, and Anderson (2011) indicated English language proficiency is a key factor in dropping out of school as the language proficiency of ELLs is "directly linked to academic performance and grade retention" (p. 99). Concordantly, Yates (2008) adds students with learning disabilities are also more likely to have been retained at least once by the time they obtain a special education placement. Slama (2012) indicates ELLs who do not successfully acquire a high school diploma are subsequently at further risk for negative life outcomes. Thus, understanding and addressing the surmounting challenges facing this population not only serves to promote their academic success but also their positive life trajectories.

**Latino Students**

When looking at the population in the United States' as a whole, the United States Census Bureau (2010) reported 308.7 million people living in the United States with 50.5 million of those people of Hispanic/Latino decent. Hispanics/Latinos accounted for over half of the growth of United States total population between 2000 and 2010. This has significantly impacted in the demographics of students enrolled in the United States public school system. The United States Department of Education, National Center for Education Statistics (2017) reported out of the total amount of ELLs enrolled in schools during the 2014-15 school year, 7.6 percent had Spanish listed as their designated home language. Researchers report Spanish is the most common non-English language spoken by students in the United states with Spanish-speaking homes accounting for 60 percent of the growth in public school enrollments between 1990 and 2006 (Olvera and Gomez-Cerrillo, 2011; Mancilla-Martinez and Lesaux, 2011). In California, during the 2015-16 school year, the number of ELLs enrolled public school totaled approximately 1.374 million with 83.5 percent identifying Spanish as their designated home language. These numbers alone serve as a purpose to examine Spanish-speaking, ELLs' needs in education and delineate the importance of interventions meeting their unique needs. Unfortunately, Hispanic academic outcomes, as reported by Yates (2008), continue to contain the highest dropout rates in education reporting more than one in five Hispanic students did not successfully complete high school in 2006.

**English Language Learners and Education Law**

Awareness of the characteristics of ELLs who struggle with language acquisition with and without learning disabilities requires examining the context in which the

educational policies influence such characteristics. The California Department of Education (2016) reported 1.374 million ELLs enrolled in California public schools during the 2015-2016 academic school year. Accordingly, policies in place for this group have a profound influence on achievement statewide and require an examination of English language learner needs as well as teacher pedagogy. In California, Proposition 227, coupled with the federal No Child Left Behind Act (2001), created mounting difficulties for ELLs' success. With the high number of ELLs in California, these laws and policies affecting ELLs influenced the performance of the state's education system (Gandara & Baca, 2008). The supposition made under Proposition 227 was for ELLs to catch up academically with their monolingual, English speaking peers (Yates, 2008). Most recently, Proposition 227 was repealed as the California Non-English Languages Allowed in Public Education Act (Proposition 58) recently passed in 2016. However, the effects of Proposition 227 are ubiquitous for the Spanish-speaking ELLs.

**Proposition 227. "**English for the Children" or Proposition 227 was passed in 1998 in California, requiring all children to be in English only classes; the exception of native language instruction was allowed only in situations whereby the parents made a written request through the signing of a waiver (Garcia & Curry-Rodriguez, 2000; Gandara & Baca, 2008). California's reduction of primary language support programs for ELLs attempted to increase the academic successes of ELLs, who were being underserved by the California public schools. Gandara & Baca (2008) reported in 2007, triple the number of ELLs in sixth grade scored Below Basic in English Language Arts and more than half scored Below Basic in Mathematics when compared to their monolingual peers. Unfortunately, Proposition 227's emphasis on English only academic

settings failed to consider second language developments can take up to seven years to manifest thereby stifling ELLs in the classroom academically and socially by treating their native language as a deficit (Cadiero-Kaplan & Rodriguez, 2008). The importance of native language instruction and mastery was not recognized, which provide both cognitive and social foundations for second language acquisition (Garcia & Curry-Rodriguez, 2000).

The Proposition 227 Preamble also addressed bilingual education stating it was a waste of financial resources as immigrant students had high dropout rates and were attaining lower literacy levels. However, only 29% of California's ELLs were enrolled in bilingual education programs and instruction with bilingual teachers was amongst the least expensive programs available prior to Proposition 227 being passed in the state (Gandara & Baca, 2008). Proposition 227 attempted to promote ELLs' English proficiency but the response to the new law did not redirect policies in districts or schools as it pertained to instruction of ELLs. Teachers were lacking experience and training with ELLs and were not able to meet the needs of this group of students. While the proposition was explicit in explaining the truncation of bilingual education, it did not explicitly state what instruction should take its place. Thus, it was up to teachers to interpret and implement the law individually (Gandara & Baca, 2008).

**No Child Left Behind.** In 1965, the Elementary and Secondary Education Act was authorized by Congress. Although it has been reauthorized and is now the Every Student Succeeds Act (2015), the version most important to this study was the No Child Left Behind Act of 2001 (NCLB). This law required all students in third through eighth grade to take mandatory proficiency tests to make school districts more

accountable for the performance of their students (Merrell, Ervin, & Peacock, 2012). This law further impacted the low achieving ELLs in California whose inexperienced teachers were already struggling with inconsistent curriculum practices. NCLB has been controversial for ELLs; for students in the early stages of English language acquisition, researchers contemplate the suitability of the length of time required for academic proficiency in English and high stakes testing (Gandara & Baca, 2008; Merrell, Ervin, & Peacock, 2012).

NCLB also required teachers to be highly qualified. For ELLs, this created additional challenges. Cadiero-Kaplan and Rodriguez (2008) reported a pattern of teachers with lower pay, less experience, and lower qualifications working in academic settings with greater concentrations of ELLs. Yet, the United States Department of Education indicated teacher quality was reliant on the content knowledge teachers possess (Cadiero-Kaplan & Rodriguez, 2008).

**Individuals with Disabilities Education Improvement Act.** In 2004, Public Law 108-446 or the Individuals with Disabilities Education Improvement Act (IDEIA) passed, changing special education law and evaluation of learning disabilities by professionals in the field. States would no longer be required to solely utilize the discrepancy model to determine whether a student had a specific learning disability, which had thus far specifically required meeting the criteria of a severe discrepancy to be found between students' cognitive ability and academic achievement in identifying a learning disability. IDEIA presented the option to use students' response to scientific and research-based interventions (Merrell, Ervin, & Peacock, 2012). RTI allows for an alternative to the ability-achievement discrepancy model for learning disability eligibility

with the reauthorization in 2004 of IDEIA (Linan-Thompson, 2010; Merrell, Ervin, & Peacock, 2012).

**Response to Intervention**

As a multitiered systems of support (MTSS), response to intervention (RTI) is a school-wide model used as a framework for school-wide prevention for identifying children with specific learning disabilities by pairing intervention with the needs of the students (Castillo & Curtis, 2014). RTI utilizes a multitier assessment system designed to work as a prevention model or systematic model to inform prereferral, referral, and assessment processes of students for special education (Linan-Thompson, 2010; Rinaldi & Samson, 2008). Several studies have found the RTI model can serve to alleviate ambiguity in discriminating the academic difficulties of ELLs and improving their educational outcomes through the use of a data-based problem-solving model monitoring of students' responses to evidence-based practices (Rinaldi & Samson, 2008; Scott, Hauerwas, & Brown, 2014). Additionally, Klingner & Edwards (2006) report this preventative model has the potential to thwart ELLs' educational shortcomings by delivering interventions and supports prior to academic underachievement. However, Linan-Thompson (2010) found current measures lack specificity and may still cause disproportionate identification of ELLs as learning disabled. The need to identify which interventions work with ELLs is essential in providing specific instructional interventions that are evidence-based and showing benefit to ELLs (Klingner, Artiles, & Barletta, 2006; Klingner & Edwards, 2006; Scott, Hauerwas, & Brown, 2014). Similar to the lack of consensus with instruction after the implementation of Proposition 227, there is no national consensus in place to address ELLs' needs, indicating the need for

comprehensive, skillful team involved in RTI, referral, and identification processes (Gandara & Baca, 2008; Scott, Hauerwas, & Brown, 2014).

**Assessment**. Identifying students for special education, through the RTI model, monitors a students' progress in response to a specific intervention through formative assessments, serving to identify the student's progress towards a specific goal and to measure whether the intervention is effective (Linan-Thompson, 2010). For ELLs, a concern is whether the students' English language proficiency impacts how they perform on a general outcome measure (GOM). A GOM is an equivalent measure on a specific task that is assessed at various points in time (Linan-Thompson, 2010). This is important as progress-monitoring the students' performance can increase the understanding of the expected average gains in ELLs' rate of growth and learning trajectories. This not only can facilitate the understanding of educators in how to implement specialized interventions to decrease the academic achievement gap but also help to determine when ELLs need more intensive interventions or assessments for identification of specific learning disabilities.

For example, while Ross and Begeny (2011) report reading fluency is a critical component necessary for reading comprehension, examination of language differences by other researchers postulates other considerations. In the study conducted by Mancilla-Martinez & Lesaux (2011), ELLs demonstrated a gap between their ability to read words and their understanding of word knowledge in English. Similarly, Kieffer & Vukovic (2013) found ELLs possess strengths in phonological awareness and weaknesses in vocabulary and oral comprehension. Swanson, Saez, and Gerber (2006) reported ELLs develop basic literacy skills similarly as to their monolingual peers but added

phonological short-term memory in ELLs' primary language (Spanish) were related to their second language (English) reading skills development.

These studies suggest the need for more intensive interventions focusing on extensive vocabulary, oral language comprehension, and monitoring of cognitive processing such as working memory. Although Gonzalez and Valle (2000) agree on the importance of phonological factors, they report differences in orthography, or the relationship between sounds and letters, between languages that are transparent (consistent ways to sound out words, e.g. Spanish) versus those that are opaque (various ways to sound out words, e.g. English), in explaining why a deficit in phonological skills may not be present for ELLs. This indicates phonological processing may not be an indicator of reading difficulties for all ELLs, requiring a different intervention based on the student's individual needs.

**Conclusions**

The mounting number of Spanish-speaking ELLs in the United States public schools continues to grow. Meeting ELLs' needs in the education setting requires specialized instruction to promote their academic growth and careful monitoring of their progress when evidence-based interventions are utilized. Determining the need for special education referrals for ELLs, through the RTI process, can ensure this group of students receives adequate and timely services they require, including identification of learning disability and need for special education or alternatively, additional supports and interventions offered through the general education curriculum. Several studies have found there is a lack of research specific to ELLs' language learning growth trajectories (Linan-Thompson, 2010; Kieffer & Vukovic, 2013; Rojas & Iglesias, 2013).

Identification of the areas where ELLs require additional support and instruction, combined with information on expected growth rates, can help educators tailor specific interventions to help promote the academic success of ELLs and properly identify when their lack of progress is indicative of further need to explore a potential assessment for a learning disability. This is an important area for research in education in California and nationwide as positive educational outcomes for the largest minority group in the United States also can promote their social mobility and life trajectories.

# Chapter 3: Methodology

## Participants

Archival Data was collected for this study from a total of 2,362 students enrolled in four elementary schools located in a small rural school district in California's Central Valley during the 2014-2015 and 2015-2016 academic school years. The researcher worked as a school psychology fieldwork student in the cooperating district and the coordinator for special education services gave permission for the research to be conducted. Data for the current study was gathered from progress monitoring data that was collected between August 2014 and May 2015 and between August 2015 and May 2016 on students receiving Tier 2 interventions daily in small group for 30 minutes. The sample consisted of students who were enrolled in either second (n=34) or third (n=34) grades at one of the four elementary schools in the district during the academic school years and who were progress monitored using reading-curriculum based measurement (R-CBM). Data was examined to ensure students included in this study were classified as either English only (n=21) or limited English proficient (n=47) with their primary language identified as Spanish. Students were excluded in this study if they were identified as receiving special education services through an Individualized Educational Plan (IEP) or were identified as having a home language other than English or Spanish. The confidentiality of the subjects was ensured by utilizing numerical codes instead of names for the individual subjects and by reporting the findings by groups rather than the individual subjects' results (McMillan & Schumacher, 2010).

Analyses on the sample were conducted utilizing *Analysis of Moment Structures* (*AMOS*) software package. *AMOS* is used to conduct structural equation modeling (SEM), including specification, estimation, assessment, and presentation of models in order to show hypothesized relationships among various variables of interest. Additionally, *AMOS* uses the Full Information Maximum Likelihood (FIML) procedure when dealing with missing data (Keith, 2006). Researchers have shown that FIML is a superior method for handling missing data and is preferred over listwise and pairwise data deletion, mean substitution and the Similar Response Pattern Imputation (SRPI) procedure when conducting SEM procedures. FIML is identified as being less biased and more efficient than other methods. Additionally, it demonstrates the lowest proportion of convergence failures and optimal Type 1 error rates (Enders & Bandalos, 2001). FIML utilizes all information of the observed data and a likelihood is computed for the observed portion of each participant's data and then accumulated and maximized (Marcoulides & Schumacker, 1996). The sample size obtained in this study was sufficient for SEM procedures even though this study consists of a small sample size, which will be less than 100 cases (Kline, 2005).

**Instrumentation**

The moderator in this study was the students' English language learner status; students who were classified as speaking English only or students who were classified as ELLs. The dependent variables in this study were the rate of growth and initial status of the two groups as measured by Reading Curriculum-Based Measurement (R-CBM) progress monitoring assessments conducted through AIMSweb, a universal screening,

progress monitoring, and data management system that supports RTI. Data was collected using AIMSweb R-CBM.

**AIMSweb**. AIMSweb is a curriculum-based measurement supporting tiered assessment and instruction used for universal screening, progress monitoring, and program evaluation in reading, language arts, mathematics, and behavior. For the participants in this study, the R-CBM primary scores of number of words read correctly (WRC) in one minute were analyzed from August 2014 through May 2015 and from August 2015 through May 2016. R-CBM scores are designed to be used for frequent progress monitoring of students identified at risk and contain scores which reflect WRC in one minute; student forms and examiner probes are available in multiple equivalent forms to reduce practice effects on retesting and were given through the use of computer assisted administration and scoring. Evidence for criterion validity is .7 with state reading tests for primary grades and mid to low .60s for grades six through eight. Evidence of reliability of both alternate form correlations and intercorrelations average .94; long-term test-retest reliability was found in the mid .90s. The interrater reliability for AIMSweb was found to be .99 with an internal consistency reliability ranging from .90 to .92.

**Analysis**

English language proficiency status was used in the model as a moderator to examine both English only speakers and ELLs. The model, as shown in Figure 1, estimated growth curves of the students' R-CBM progress monitoring total WRC scores. The dependent variables consisted of slope and intercept latent variables for the WRC scores. Intercept and slope factors for WRC scores were allowed to covary. Error variances of WRC scores were allowed to covary to account for common variance shared

between the scores for the various dates of progress monitoring. Each growth curve was initially constrained to be linear and to be equivalent for both English only and ELLs. Then, path constraints were systematically removed to test for nonlinearity and invariance for the two groups. Paths were estimated from background variables to the dependent variables.

Structural equation models typically are utilized or rejected based on the consistency between the proposed model and the data set. Fit statistics were used to determine whether the model could reasonably explain the data. When using AMOS, competing theoretical models and their embedded hypotheses can be compared through fit statistics (Keith, 2006). The Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean-Square Error of Approximation (RMSEA) fit statistics were utilized to determine whether the model should remain the same or if modifications were required. The CFI provided a population estimate of the improvement in fit for the null model and the TLI provided an adjustment for parsimony to the model. Determining the fit for the model to the data utilizing these fit statistics, Keith (2006) suggests values approaching 1.0 demonstrate a better fit with values over .95 demonstrating a good fit. RMSEA was used to explore the fit of the model as it relates to the degrees of freedom. Values below .05 suggest a good fit (Keith, 2006).

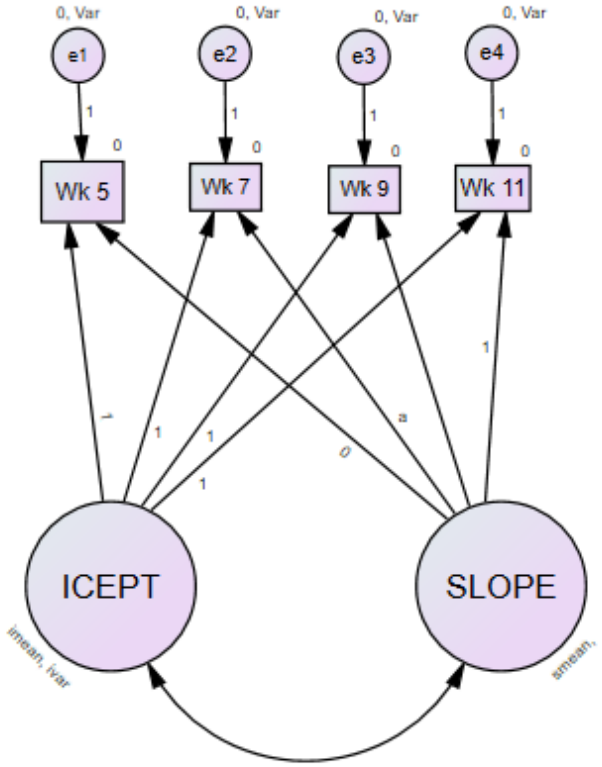


*Figure 1*. Hypothesized growth curve model

# Chapter 4: Results

Descriptive statistics indicated that the final sample consisted of a total of 68 participants. Sample descriptive statistics are reported in Table 1.

## Initial Growth Model and Model Interpretation

An initial multiple group growth model was estimated with constrained parameters to be equal between the two groups for each of the four weeks. The model fit the data well (CFI = 1.0, TLI = 1.002, RMSEA = .000). In order to test for linearity of growth for each of the weeks, parameter constraints were then released, systematically, in order to determine if the growth was linear for the two groups. As constraints were released and models were compared using the chi-square difference test, model fit improved for only one of the four weeks (Week 9), suggesting the best fit of the model was when the paths were constrained for Week 5, 7, and 11 and released for Week 9 (CFI = 1.0, TLI = 1.021, RMSEA = .000). Chi-square difference test statistics are reported in Table 2 for the base model and weeks 7 and 9. Results suggested non-linear growth for both groups. Results also suggested a different pattern of non-linear growth for English only and ELLs. In other words, English only students and ELLs from the current sample were improving their R-CBM scores at different rates during Week 9. Table 3 shows the unstandardized slope coefficients for both English only students and ELLs from the final model.

The mean of the initial R-CBM scores (42.728) and the mean of the R-CBM growth (18.257) are statistically significant for both groups suggesting both values are significantly different from zero. Both groups were similar in their R-CBM initial scores at the beginning of intervention. The variance of initial R-CBM scores is 382.787, which is statistically significant indicating there is considerable variability in the student's initial R-CBM scores. Similarly, the R-CBM growth variance of 302.878 was also statistically significant indicating there was considerable variation in the individual growth (slope) for the students. Overall, all students increased in their R-CBM scores as the mean of the students' growth is positive and is significant for both groups.

Table 1

*Sample Demographic Features*

| | *n* | Percentage |
|---|---|---|
| Grade | | |
| Second | 34 | 50 |
| Third | 34 | 50 |
| Language Proficiency | | |
| English only | 21 | 31 |
| English Language Learners | 47 | 69 |
| Total (N=68) | 68 | |

Table 2

*Chi-squared Difference Test*

| | $\chi^2$ | df | $\Delta\chi^2$ | Δch df | p value |
|---|---|---|---|---|---|
| Base model | 12.799 | 13 | | | |
| Week 7 | 12.864 | 14 | 0.065 | 1 | 0.798 |
| Week 9 | 16.781 | 15 | 3.917 | 1 | 0.047 |

Table 3

*Intercept and Slope Coefficients for Final Model*

| | Intercept (Initial R-CBM Score) | Slope (R-CBM Growth) | Week 5 | Week 7 | Week 9 | Week 11 |
|---|---|---|---|---|---|---|
| English Only | 42.728 | 18.257 | .00 | .33 | .85 | 1.00 |
| ELLs | 42.728 | 18.257 | .00 | .33 | .58 | 1.00 |

# Chapter 5: Discussion

## Overall Findings

Students identified as Spanish-speaking ELLs continue to compose a growing number of the students enrolled in United States public schools. Poor educational outcomes, stifling state and federal laws, and use of the ability-achievement discrepancy model to qualify students for special education have compounded the challenges faced by this group. Using school district RTI data, this study examined the growth trajectory of both Spanish-speaking ELLs and their English only speaking peers through an analysis of their R-CBM scores when receiving intervention through MTSS, which was used as a preventative, school-wide model aiming to pair intervention with the needs of students as measured by AIMSweb. Through this data-based problem-solving model, students' responses to interventions were monitored to understand their groups' progress over time. Understanding the growth trajectories of both English only and ELLs is indispensable as part of a comprehensive data collection process for educators to facilitate informed decisions in identifying when the need for further intervention and/or consideration of a special education assessment is warranted. This, in turn, can aim to reduce the disproportionality of ELLs in special education through a more comprehensive process in an effort to ensure proper identification of ELLs who may be learning disabled rather than struggling solely with second language acquisition. The present study demonstrates ELLs in this sample were able to make positive R-CBM growth within the same time

frame as their monolingual English only peers. This supports previous research findings which suggested with targeted and specific interventions delivered and monitored through MTSS in a data-based problem-solving model, the educational outcomes for ELLs can be improved (Rinaldi & Samson, 2008; Scott, Hauerwas, & Brown, 2014). Furthermore, monitoring specific goals and ELLs' progress towards those goals, can determine if interventions aimed to remediate academic achievement shortcomings are effective, which was demonstrated in the present research through the positive R-CBM growth (Linan-Thompson, 2008).

Yet, it is important to note the present study found that during the weeks the two groups of students received intervention, English only and ELLs did not make growth at the same pattern; the pattern of growth was different for the two groups. However, while the growth was lower at one of the time points for ELLs, they were able to demonstrate growth by the end of the progress monitoring time frame similar to the growth made by their English only peers. Educational professionals should remember whereas the rate of growth may differ, both English only and ELLs are likely to achieve their goals and make adequate growth in terms of their R-CBM scores. Hence, while it may appear ELLs wane in their pattern of growth when compared to that of their English only peers, educators need to forego making judgments prematurely. Previous research, along with the present findings, illuminate the importance in identifying the evidence-based interventions with specificity to benefit ELLs for this reason (Linan-Thompson, 2010; Klinger, Artiles, & Barletta, 2006; Klinger & Edwards, 2006; Scott, Hauerwas, & Brown, 2014).

Furthermore, the mean initial R-CBM score of both English only students and ELLs was equal in the findings of the present study. This is an important finding as previous research has found RTI to help the challenges in parsing out academic difficulties for ELLs (Rinaldi & Samson, 2008; Scott, Hauerwas, & Brown, 2014). Equal mean initial R-CBM scores of English only and ELLs in the present study suggest the school district identified both groups in the same way when considering the need for Tier 2 interventions. As a result, when examining the mean initial R-CBM scores and ELLs pattern of growth when compared to their English only peers, both groups began the intervention with similar R-CBM scores which was surprising and unexpected. The English only group did not demonstrate higher initial R-CBM scores when compared to the ELLs.

**Limitations and Future Directions**

This study presented several limitations. First, data utilized in this study was obtained from a small rural school district which had implemented a MTSS utilizing AIMSweb as their system of data collection and progress monitoring. The school district had previously implemented a RTI model through their elementary schools; however, it was evident from the data obtained there were inconsistencies in the progress monitoring procedures from school to school within the district. As a result, the data was limited as intervention progress monitoring data was inconsistently collected at each of the four elementary schools. This suggests the need for school districts to provide continuing professional development for teachers who are providing Tier 2 interventions accompanied with professional development for teachers and staff who may be collecting the progress monitoring data. This study further illustrated the need to evaluate progress

monitoring procedures and ensure they are implemented with fidelity throughout the school to examine if the data is being collected and documented properly for all students consistently when receiving intervention, whether through AIMSweb or the preferred system of data collection being utilized by the school district.

While the R-CBM data for second and third grade students examined in this study was limited, other students in these grades were being progress monitored with other lower level grade AIMSweb probes (Letter Sound or Nonsense Word Fluency). Previous researchers (Ross & Begeny, 2011) have indicated reading fluency is necessary for reading comprehension and as such, this suggests examination of other AIMSweb progress monitoring areas for second and third grade students could be examined. Rather than limit the progress monitoring data collected to R-CBM data, future research could examine multiple progress monitoring measures with students in various grades to examine the learning growth trajectories of a greater number of students. Furthermore, identifying the ELLs language proficiency level can also provide valuable information as to the rate of growth for students based on their English language proficiency. Again, as indicated by Mancilla-Martinez & Lesaux (2011), students have demonstrated a gap in their ability to read words and their understanding of word knowledge in English, suggesting the need to consider English language proficiency in conjunction with progress monitoring data of ELLs.

The need for continued specificity in identifying which interventions are beneficial to ELLs continues to be an area needed for further research. While the present study did not consider the intervention being implemented, but rather only examined the progress monitoring data available by the school district, additional studies can aim to

examine what data-based interventions are being utilized in schools with English only and ELLs. There continues to be a need to identify which interventions work specifically with ELLs in order to provide specialized interventions based on their unique needs as second language learners.

**Conclusion**

Although there are limitations in the present study, contribution was made to the area of research analyzing the longitudinal patterns of growth of ELLs receiving intervention through RTI. Educational professionals and multidisciplinary teams involved in the prereferral, referral, and assessment of ELLs into special education can utilize this information to identify the importance of implementing MTSS to provide evidence-based interventions while progress monitoring ELLs' growth to enhance the understanding of ELLs' learning profiles. Specifically, the findings from the present study can be integrated into this area of educational research to continue to work towards a better understanding of how to increase positive educational outcomes for this marginalized group while decreasing their disproportionality in special education. While not all referrals for special education assessment end with placement in special education, utilizing a problem solving model can encourage a more comprehensive decision making process in an effort to address the academic needs of ELLs based on their response to evidence-based interventions.

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