Determining the Academic Achievement of English Language Learners (ELLs) by Using Additional Measures of Growth

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DETERMINING THE ACADEMIC ACHIEVEMENT OF ENGLISH LANGUAGE LEARNERS (ELLs) BY USING ADDITIONAL MEASURES OF GROWTH

by

Adriana Maria Marin

Abstract of a Dissertation Submitted to the Graduate School of The University of Southern Mississippi in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

August 2015
ABSTRACT

DETERMINING THE ACADEMIC ACHIEVEMENT OF ENGLISH LANGUAGE LEARNERS (ELLs) BY USING ADDITIONAL MEASURES OF GROWTH

by Adriana Maria Marin

August 2015

Accountability measures employed in the country to determine the academic achievement of all the student population rely solely on the results obtained on the standardized tests. Such measures have often placed English language learners’ (ELLs) at risk of academic failure despite the fact that research on second language acquisition (SLA) has stated the complexity involved in the learning/acquisition process of a target language. Scholars have also discussed the influence accountability measures and the issues with the validity of the tests implemented to assess ELLs may have on such results. Therefore, in an effort to obtain a more comprehensive idea of the academic achievement of ELLs in an inner-city school district in the Southeastern part of the United States, three additional measures of growth, along with the state standardized test, were utilized over a two-year period. The English language proficiency test, ACCESS for ELLs test scores, a computerized formative academic assessment, MAP test, end of the year grades for Reading and Mathematics, and the state standardized test, MCT2 test, were analyzed for the 2012-2013 and the 2013-2014 school years. Growth on the ACCESS for ELLs, MAP test scores, and MCT2 test scores were calculated using repeated measures analysis of variance (ANOVA). Then, the relationship between the variables was analyzed using Pearson’s r correlation coefficients. The statistical analyses showed growth and relationships on some areas but not on others.
DETERMINING THE ACADEMIC ACHIEVEMENT OF ENGLISH LANGUAGE LEARNERS (ELLs) BY USING ADDITIONAL MEASURES OF GROWTH

by

Adriana Maria Marin

A Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

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August 2015
DEDICATION

To my husband Juan and my son Santiago for their support, patience, and understanding while I conducted the research and worked nights, weekends, and every free moment I had to complete the study. This event showed me how great their love is. To my mother Asseneth for instilling in me the importance of hard work, discipline, and perseverance despite the curved balls life may sometimes throw at me. To my father whose actions helped shape the woman I became. To my brothers who have always been an incessant voice of support. To my friends for their help and support during this process. To my students who perform daily between two, three, and even more cultures and languages. Their struggles with the educational system encouraged me to conduct the research to validate their gradual growth while learning/acquiring the target language.
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TABLE OF CONTENTS

ABSTRACT ........................................................................................................................................... ii
DEDICATION ........................................................................................................................................ iii
ACKNOWLEDGMENTS ....................................................................................................................... iv
LIST OF TABLES ..................................................................................................................................... vii
LIST OF ILLUSTRATIONS .................................................................................................................. viii
LIST OF ABBREVIATIONS .................................................................................................................. ix

CHAPTER

I. INTRODUCTION ............................................................................................................................... 1
   Background
   Theoretical Framework
   Statement of the Problem
   Purpose of the Study
   Research Questions and Expected Outcomes
   Definition of Terms
   Delimitations
   Assumptions
   Justification

II. REVIEW OF THE LITERATURE ....................................................................................................... 24
   Theoretical Foundations

III. METHODOLOGY ............................................................................................................................. 71
   Overview
   Participants
   Research Design
   Instruments
   Procedures
   Data Analysis
   Summary
LIST OF TABLES

Table

1. MCT2 Cut off Scale Scores for English Language Arts .......................... 84
2. MCT2 Cut off Scale Scores for Mathematics ........................................ 85
3. Results of the K-S test ........................................................................... 91
4. Pseudo-z scores for the variables in the 2012-2013 school year ............. 92
5. Pseudo-z scores for the variables in the 2013-2014 school year ............. 94
6. Missing Data for the variables in the 2012-2013 school year ............... 97
7. Missing Data for the variables in the 2013-2014 school year ............... 98
8. Main Variables Descriptive Statistics for the 2012-2013 school year .... 100
9. Main Variables Descriptive Information for the 2013-2014 school year .... 101
LIST OF ILLUSTRATIONS

Figure

1. Two-level hierarchical data structure ........................................... 109
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCESS for ELLs</td>
<td>Assessing Comprehension and Communication in English State-to-State for English Language Learners</td>
</tr>
<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
</tr>
<tr>
<td>BICS</td>
<td>Basic Interpersonal Communicative Skills</td>
</tr>
<tr>
<td>CALP</td>
<td>Cognitive Academic Language Proficiency</td>
</tr>
<tr>
<td>CCSS</td>
<td>Common Core State Standards</td>
</tr>
<tr>
<td>ELA</td>
<td>English Language Arts</td>
</tr>
<tr>
<td>ELLs</td>
<td>English Language Learners</td>
</tr>
<tr>
<td>MAP</td>
<td>Measure of Academic Progress</td>
</tr>
<tr>
<td>MCT2</td>
<td>Mississippi Curriculum Test, Second Edition</td>
</tr>
<tr>
<td>MDE</td>
<td>Mississippi Department of Education</td>
</tr>
<tr>
<td>PARCC</td>
<td>Partnership for Assessment of Readiness for College and Careers</td>
</tr>
<tr>
<td>SLA</td>
<td>Second Language Acquisition</td>
</tr>
<tr>
<td>SS</td>
<td>Scale Scores</td>
</tr>
<tr>
<td>TL</td>
<td>Target Language</td>
</tr>
<tr>
<td>WIDA</td>
<td>World-Class Instructional Design and Assessment</td>
</tr>
</tbody>
</table>
CHAPTER I
INTRODUCTION

Background

According to the United States Census Bureau, the United States has seen an increase in immigration rates during the last two centuries (U. S. Census Bureau, 2013). Foreign born nationals account for 12.9% (39,956,000) of the total population in the country (309,350,000; Greico et al., 2012); a number expected to increase because immigration patterns are predicted to impact U.S. population growth between 2027 and 2038 (Greico et al., 2012). According to the Immigration Policy Center (2014), Mississippi has experienced this immigration growth pattern in the last three decades. The population of immigrants in Mississippi rose from 0.8% (20,383) in 1990 to 1.4% (39,908) in 2000 to 2.2% (65,056) in 2011 (Immigration Policy Center, 2014); a steady increase that reflects the U.S. Census Bureau’s (2013) estimated population growth projection.

Nowhere is international migration as salient as in the educational effectiveness of the academic measures implemented in the country as the result of NCLB Act of 2001 (2002). Similar to the 1965 Elementary and Secondary Education Act (ESEA; Public Law 89-10) that enabled local educational agencies (LEAs) to provide financial support to school-aged populations considered at-risk of academic failure (Irons & Harris, 2007), the bulk of NCLB funding is used to support schools and school districts that serve socioeconomically disadvantaged children. The English Language Learners (ELL) subgroup falls into this category as recognized by the Lau v. Nichols (1974) decision that acknowledged children who speak other languages the right to receive assistance in the
K-12 setting and is reinforced by the Supreme Court decision in *Plyler v. Doe* (1982) that stated that non-English speaking minors have the right to an education regardless of immigration status.

English Language Learners (ELLs) comprise the fastest growing population in the country (U. S. Census Bureau, 2013). Demand for English language instruction as a second language has intensified (Verdugo & Flores, 2007) not only in the country but also in the state seeking to improve the academic achievement of the ELL population that has traditionally underperformed in the classroom and on standardized tests (Bailey, 2000, 2006; Cummins, 2008; Tsang, Katz, & Stack, 2008). In the long term, increasing ELLs’ academic achievement may result in students’ higher levels of academic preparation leading to a higher quality of life (Jerald, 2008). Jerald’s (2008) sentiment is replicated in the Mississippi Guidelines for ELLs (MDE, 2011a) that reported that ELLs’ academic success is likely to contribute to the U.S. culture.

The question remains, however, about the way measures of academic achievement are applied in regard to the English Language Learners (ELLs) population. Measures of academic achievement in different states around the country use standardized tests (U.S. Department of Education, 2008) to determine all students’ college and career readiness without taking into consideration that standardized tests do not account for ELLs’ diverse levels of English language proficiency when measuring subject area content (Tsang et al., 2008). Although the United States has been regarded a country of immigrants (Verdugo & Flores, 2007), the idea of a monolingual society inspired the creation of standardized tests in the nation in which English language proficiency at the listening, speaking, reading, and writing level is assumed and expected.
along with knowledge of culture and societal rules (Chaika, 1994; Cummins, 1988; Solórzano, 2008).

Such assumption has been shown to be inaccurate when looking at ELLs’ underperformance on standardized tests (Geisinger, 1992, 2003; Mahon, 2006; Olmedo, 1981). ELLs lack the English language proficiency needed to perform at higher levels on standardized tests when adequate time has not been provided for language acquisition/learning and academic language development to take place (Cummins, 1979, 1999; Verdugo & Flores, 2007). Research has shown that ELLs need between five and ten years to develop academic language in the target language (Collier, 1987; Cummins, 1979; Krashen, 1982, 1985; Nunan, 1999). Hence, the recurrent issues with the validity of standardized tests, when used as the sole measure to determine ELLs’ academic achievement (Chapelle, 1998; Solórzano, 2008).

With the increase of the ELL population inside the K-12 educational system in the country (U.S. Census Bureau, 2013), different accommodations have been implemented to offset the weight of standardized tests for ELLs. Accommodations currently provided in the state for middle of the year and end of the year tests are: extended time to complete the test, the use of word-to-word dictionaries (English/students’ native language), test administration directions read aloud and repeated in the students’ native language, test administration directions clarified in the students’ native language, and text-to-speech for the standardized test in Mathematics (PARCC, 2014b).

The testing accommodations used with the Mississippi Curriculum Test, Second Edition (MCT2 test), and administered prior to the new standardized test, included: testing in a small group, testing with a familiar teacher, reading test directions repeating
and/or paraphrasing if needed, reading test directions and items repeating but not paraphrasing, reading test directions and items repeating and/or paraphrasing, and using native language dictionaries with no definitions (MDE, 2013b). In regard to time allotment, the MCT2 test was untimed. None of the accommodations mentioned addressed the linguistic complexity of the standardized test ELLs are required to take every year regardless of the target language proficiency level achieved at the time of the test.

Assessing ELLs’ academic achievement inside the classroom helps different stakeholders learn where each individual student is in regard to the development of academic knowledge (Chapelle, 1998; Cummins, 1999). Using standardized tests as a single measure to determine the academic achievement of ELLs in the state where the study was implemented may not accurately reflect subject area knowledge (Abedi & Gándara, 2006; Sireci, Han, & Wells, 2008; Solórzano, 2008) because ELLs’ diverse levels of English language proficiency may have an impact on standardized test scores. A more comprehensive way to determine ELLs’ academic achievement would be to utilize English language proficiency test scores, a computerized formative academic assessment, end of the year grades for Reading and Mathematics, and the standardized test score. The proposed course of action to measure ELLs’ academic achievement in the state may provide more realistic results due to the analysis of units that address English language proficiency and subject area knowledge as a whole.

Understanding and promoting ELLs’ academic achievement may not be an easy feat due to the diverse aspects, both internal and external, that impact ELLs’ performance inside the classroom and on standardized tests. Among the internal aspects to consider are
the Second Language Acquisition (SLA) theories that explain the cognitive and psychological processes ELLs experience when learning/acquiring the target language. Among the external aspects to consider is the role Accountability and Testing play in the measurement of the academic achievement of ELLs.

To illustrate how internal aspects shape the target language acquisition/learning process, it is deemed appropriate to explain the concept of language analysis. The beginnings of language analysis may date back to 1916 with Saussure’s (1916/1966) notion of *langage* that was divided into *langue*, and *parole*. Saussure (1916/1966) defined *langage*, as signs that conveyed meaning in which *langue* referred to the abstract aspect of the language, whereas *parole* dealt with the speakers’ use of a language for communication purposes.

In the field of teaching/learning a second and/or foreign language, Saussure’s (1916/1966) view of *langue* and *parole* may have laid the foundation for researchers to develop theories about second language acquisition (SLA). Communicative competence (Canale & Swain, 1980; Hymes, 1967), error analysis (Corder, 1967), interlanguage (IL) (Selinker, 1972, 1992), the Monitor Model with the five hypotheses to SLA (Krashen, 1977, 1982, 1985), and Cummins’ (1979) distinction of language usage into Basic Interpersonal Communicative Skills (BICS), and Cognitive Academic Language Proficiency (CALP), among others, have contributed to the field of SLA.

The constant debate about the state of the general education in the country has made the outcomes of the ELL subgroup more visible at the federal and state level (Gottlieb, 2012). ELLs’ underperformance in the classroom and on standardized tests (Lin & Zhang, 2013) has had an effect on second language instruction that seeks to help
ELLs develop language proficiency and improve academic content inside the classroom (Short, Fidelman, & Louguit, 2012). ELLs’ underperformance on standardized tests has also raised concerns on the fairness of the accountability measures implemented for such purpose (Cummins, 1988; Solórzano, 2008).

Assessing English Language Learners’ academic performance is a difficult process, especially when accountability measures are higher than ever under the controversial signing of the *No Child Left Behind (NCLB)* Act of 2001 (2002). The measure, aimed at providing financial support to states to address the education of at-risk populations, allowed the federal government to impose higher accountability measures on schools and school districts across the country (Manzo, 2000). Accountability can be defined as the collective responsibility state and local educational agencies (LEAs) share in regard to students’ academic success (Irons & Harris, 2007).

LEAs’ responsibilities in regard to the academic success of the ELL population are outlined under Title III of *NCLB* of 2001 (2002). The Mississippi guidelines for ELLs (MDE, 2011a) state that ELLs have the right to receive language and academic content instruction provided by the mainstream teacher, the English as a Second Language (ESL) teacher/specialist, and any other professionals working with ELLs. As such, the above mentioned stakeholders share collective responsibility in the education of ELLs, having ELLs’ increased performance at the academic level (MDE, 2011a) as a common goal.

In the educational system, the standardized test is the instrument currently utilized to measure students’ academic achievement, including the ELL population (*NCLB*, 2002). However, ways to measure student academic achievement and to determine school and district accountability vary across states. Regarding to measures of student academic
achievement, the state where the research was conducted employed four performance levels: Minimal, Basic, Proficient, and Advanced (MDE, 2010). In regard to school and district accountability, the 2009 model of accountability for the state of Mississippi provided seven levels to rank schools and school districts going from Star, the top rank, to Failing, the lowest one (MDE, 2010). According to MDE (2012a) the ranking for schools and school districts was later modified from seven levels to five letter grades (A, B, C, D, and F). The change began starting the 2011-2012 school year (MDE, 2012a) and it was the model used in the state for the 2013-2014 academic year.

The assignment of letter grades is based on a complex formula the Mississippi Department of Education employs in which Adequate Yearly Progress (AYP), that deals with the academic growth of schools and school districts, and Quality of Distribution Index (QDI), that deals with the scores schools obtained after factoring in students’ individual standardized test scores, are calculated to establish the schools and school districts’ rate of academic success in the area (MDE, 2013a). Therefore, attention may be given to English Language Learners (ELLs) because the individual and collective standardized test scores of the ELL subgroup are included in the state’s accountability measures implemented to rank schools and school districts.

Under the provisions of Title II and Title III of the NCLB Act of 2001 (2002), local educational agencies (LEAs) are required to provide ELLs with highly qualified teachers whose job is to build ELLs’ language skills, to promote academics, and to prepare students for the rigor of the standardized tests. The rigor of the standardized tests in Mississippi has progressed since the implementation of the Mississippi Curriculum Test Second Edition (MCT2) in 2008 (MDE, 2013c). The new standardized test sought to
assess content of the Mississippi Language Arts curriculum frameworks, revised in 2006, and the Mississippi Mathematics curriculum frameworks, revised in 2007 (MDE, 2014a). The change did not yield the results expected in regard to students’ academic achievement.

The continued underperformance of Mississippi K-12 students on the National Assessment of Educational Progress (NAEP) test and the American College Test (ACT) motivated the Mississippi Board of Education to adopt the Common Core State Standards (CCSS) in 2010 (CCSS, 2014) in an effort to boost students’ academic performance at the state and national level (Joint Committee on PEER, 2014). The new curriculum resulted in a new generation of assessments to determine student academic achievement.

The new standardized test will also be implemented as the sole measure of ELLs’ academic achievement. Standardized test scores are expected to be lower for all students as a result of the administration of the new test (MDE, 2014b). The unique characteristics of the ELL population at the linguistic, cultural, and social level (Cummins, 1979, 1999; Gass & Selinker, 2001; Krashen, 1988) have raised concerns about the validity and reliability of standardized tests, in which the ELL subgroup has shown unsatisfactory results (Geisinger, 1992, 2003; Mahon, 2006; Olmedo, 1981). The fact that ELLs are tested in the language of instruction (English) at early stages of language acquisition may bias the results of the test (Bachman, 2002), especially when the construct to measure is students’ subject area knowledge and skills (Abedi & Gándara, 2006; Sireci et al., 2008; Solórzano, 2008) and not English language proficiency.

Ardasheva, Tretter, and Kinny (2012) asserted that it is unclear, however, what level of language proficiency ELLs need before achievement tests are able to accurately
measure academic development. Other researchers (Mahon, 2006; Solórzano, 2008; Tsang et al., 2008) share the same sentiment. Therefore, the effectiveness of the new standardized test to determine the academic achievement of Mississippi students, including the ELL population, may be subject to future discussions in the field of education if additional measures, besides the utilization of standardized test scores, are not included in the state accountability model to determine ELLs’ academic achievement.

Porter, McMaken, Hwang, and Yang (2011) noted CCSS expected students to use higher levels of thinking skills on ELA and Mathematics at higher percentages when compared to the skills needed on the former curricula of different states. Therefore, it may be expected that the adoption of CCSS and the new standardized test in the state may have an impact on ELLs’ academic achievement. Higher order thinking skills call for students to be proficient in the English language not only at the interpersonal level but also at the academic level; what Cummins (1979, 1981, 1999) referred to as BICS (Basic Interpersonal Communicative Skills) and CALP (Cognitive Academic Language Proficiency).

BICS and CALP are two different concepts that different stakeholders, for instance English as a Second Language (ESL) and mainstream educators may need to understand so that satisfactory results on the new standardized tests are to be expected. Abedi and Gándara (2006) noted that the linguistic complexity on standardized tests is a major source of difficulty for ELLs (Menken, 2010). Therefore, determining ELLs’ academic achievement using a single measure of accountability, the state standardized test, may not accurately reflect ELLs’ growth, neither on the English language nor at the academic level.
Theoretical Framework

Research has shown that English Language Learners’ (ELLs) academic achievement has been measured by using standardized tests scores with devastating results (Geisinger, 1992, 2003; Mahon, 2006; Olmedo, 1981). The ELL population is subject to instruments that assess academic skills starting at early stages of English language acquisition (Abedi & Gándara, 2006; Sireci et al., 2008; Solórzano, 2008) overlooking the natural progression of the English language acquisition/learning process (Dulay & Burt, 1974; Krashen, 1982, 1985; Pinker, 1995), in which many language learners experience a silent period (Krashen, 1988).

Communicative Competence (Canale, 1983; Canale & Swain, 1980, 1981), Error Analysis (Corder, 1967) and Interlanguage (IL) (Selinker, 1972), Krashen’s (1982) Monitor Model with the Five Hypotheses to Second Language Acquisition (SLA), and the difference between Basic Interpersonal Communicative Skills (BICS) and Cognitive Academic Language Proficiency (CALP) (Cummins, 1979) are the Second Language Acquisition (SLA) theories that provide the foundation for this study, and that in the Background of this document were referred to as ELLs’ internal aspects to consider when determining ELLs’ academic achievement.

Canale and Swain (1980, 1981) and Canale (1983) defined communicative competence by incorporating grammatical competence, sociolinguistic competence, strategic competence, and discourse competence in an effort to provide a broader definition of the term Hymes (1967) had coined. According to Canale and Swain (1980, 1981), grammatical competence refers to the knowledge a speaker of a language has about syntax (grammatical rules), semantics (the study of the link that words have with
their corresponding meanings), morphology (the study of a language’s linguistic units such as parts of speech, roots, and affixes), and phonology (the study of sounds).

In Canale and Swain’s (1980, 1981) words, sociolinguistic competence deals with the speaker’s ability to comprehend, know, and select the language to use in a specific social context whereas strategic competence deals with the speaker’s use of verbal and nonverbal strategies aimed at compensating for problems encountered in communicative exchanges due to lack of grammatical or sociolinguistic competence. Finally, discourse competence (Canale, 1983) refers to the speaker’s ability to understand the way ideas are linked together either in written or spoken form. Cohesion and coherence are components of this type of competence.

In the learning/acquisition process of a target language, errors are expected when language learners are developing communicative competence. Corder (1967) brought into light the relevance of language learners’ errors when determining language acquisition/learning. The researcher differentiated between mistakes and errors, in which the former are considered slips of the tongue whereas the latter are seen as evidence of language learners’ acquisition/learning process. When error analysis is conducted, it provides educators with information about the language learners’ syntactic, semantic, and phonological progress in the target language; that for this study is the English language.

Inaccurate uses of grammar, lexicon, or pronunciation patterns dominated by the presence of students’ native language are common and expected when learning English as a Second Language (Brown, 1980; Canale & Swain, 1980). ELLs’ attempt at using the English language inside the classroom results in the creation of a new language that Selinker (1972, 1992) called Interlanguage (IL). The presence of the interlanguage is
observed at all levels of English language proficiency, although, it is prevalent at lower and intermediate levels of proficiency. The more proficient ELLs become, the less observable the use of the interlanguage is.

English Language Learners (ELLs) thrive in the use of the English language when adequate time is provided for the acquisition/learning of the target language (Cummins, 1979, 1999; Nunan, 1999) due to the complex nature of SLA. Krashen (1977, 1982, 1985) introduced the Monitor Model that provided five hypotheses to SLA in an attempt to explicate what language learners experience while learning the target language. The five hypotheses to SLA are as follows: The Learning/Acquisition Hypothesis, the Natural Order Hypothesis, the Monitor Hypothesis, the Comprehensible Input \((i+1)\) Hypothesis, and the Affective Filter Hypothesis (Krashen, 1977, 1982).

In regard to the first hypothesis, The Learning/Acquisition Hypothesis, Krashen (1982) stated that educators and researchers needed to differentiate between learning and acquisition. Learning occurs in a setting where instruction is provided whereas acquisition happens in any context, at any time without explicit instruction. The second hypothesis, the Natural Order Hypothesis, deals with the progression in students’ language learning/acquisition. Research has shown that students go through different steps when learning a target language (Krashen, 1982, 1985). One of those steps is the silent period that may last between one week and up to one year, and is characterized by the students’ unwillingness or inability to employ the target language to communicate (Krashen, 1988).

The Monitor Hypothesis refers to students’ conscious attention to the way the target language is used for communication purposes. In this stage, students have learned/
acquired sufficient knowledge of the language to self-correct when errors are made. The Monitor helps ELLs transform the language (Krashen, 1982) utilized in the classroom to better reflect the patterns of language usage implemented by native speakers of English. The Comprehensible Input Hypothesis, also called \((i+1)\), refers to students’ participation in a linguistically-rich environment that is one step above students’ current level of proficiency. Krashen (1985) noted that students need to feel challenged to improve proficiency in the TL that in this research is the English language. Finally, the Affective Filter Hypothesis states that language learners perform better in a non-threatening environment. Therefore, it is expected that the English language acquisition/learning process takes place in a stress-free environment conducive to learning where students’ affective filter is low so that English language proficiency can be developed at a faster pace.

Cummins (1979) differentiates proficiency in the English language into social and academic. The researcher coined the terms Basic Interpersonal Communicative Skills (BICS) and Cognitive Academic Language Proficiency (CALP) to refer to the two forms of language proficiency learners of a target language develop and experience. Research has shown that ELLs developed BICS faster than CALP because the development of academic vocabulary is an endeavor that takes between five and ten years (Collier, 1987; Cummins, 1984, 1999). Therefore, it is not surprising to evidence the difficulties English Language Learners (ELLs) experience when faced with standardized tests at early stages of English language development (Abedi & Gándara, 2006; Cummins, 1999; Sireci et al., 2008).
The Second Language Acquisition theories described above are not considered at the state, district, and school levels when analyzing ELLs’ academic achievement. Learning/acquiring a target language is a process that requires time (Collier, 1987; Cummins, 1979, 1981, 1999, Nunan, 1999). The stringent accountability measures imposed by the NCLB (2001) Act of 2002, in which academic achievement is determined by the score students obtained on standardized tests, make the ELL population susceptible to being labeled at risk of failing. The perception of ELLs’ lack of achievement after taking the state standardized tests regardless of the English language proficiency developed, calls for a more comprehensive way to determine the academic achievement of the ELL population. Using English language proficiency test scores, a computerized formative academic assessment, end of the year grades for Reading and Mathematics, and the standardized test score may provide a more complete assessment of ELL’s academic achievement.

For schools’ and school districts’ accountability purposes, the scores ELLs obtain during the first year of residence in the country do not count towards schools’ and school districts’ rankings. However, ELLs’ standardized test scores are factored in beginning the second year of residence. Accountability measures and testing practices may have an impact on the way ELLs’ growth is analyzed in the state. Both concepts were referred to in the Background as external aspects that contribute to ELLs’ academic achievement. Being able to identify the different aspects ELLs experience during the learning/acquisition process of the English language may be helpful for state, district, and school stakeholders; so that a more comprehensive way is employed, besides ELLs’ standardized test scores, to determine ELLs’ academic achievement.
Statement of the Problem

Analyzing English Language Learners’ (ELLs) growth inside the classroom is a pivotal endeavor under the NCLB Act of 2001 (2002) to determine ELLs’ academic achievement. Many studies have explored the relationship between English language proficiency test scores and standardized test scores. However, none of the sources consulted for the present research showed studies in which the relationship among English language proficiency test scores, a computerized formative academic assessment, Reading and Mathematics end of the year grades, and the state standardized test scores were analyzed to determine ELLs’ academic achievement. The steady growth of the ELL population in the state (Immigration Policy Center, 2014; U. S. Census Bureau, 2013) calls for research that deal with such a relationship.

The present study sought to analyze ELLs’ academic achievement as determined by the English language proficiency test (WIDA, 2014a), the MAP test (Measure of Academic Progress) — a computerized formative academic assessment for Reading and Mathematics for the fall and spring terms, Reading and Mathematics end of the year grades, and the MCT2 test (Mississippi Curriculum Test, Second Edition) for English Language Arts and Mathematics, that was the standardized test implemented in the state from 2008-2014. Determining ELLs’ academic achievement using additional instruments besides the standardized test may show a realistic picture of what ELLs have accomplished at the academic level with the English language skills developed at the time of the assessment.

Because the ELL subgroup has traditionally underperformed on standardized tests (Abedi & Gándara, 2006; Mahon, 2006; Solórzano, 2008; Tsang et al., 2008), using
standardized test scores as the only instrument to establish ELLs’ academic achievement may continue to harm the ELL population when academic achievement is determined. Taking into consideration internal and external aspects that may have an impact on ELLs’ performance inside the classroom and on standardized tests is imperative to accurately assess the academic achievement of the ELL population at the school and district level.

Purpose of the Study

The stringent accountability requirements imposed by the NCLB Act of 2001 (2002) have driven schools and school districts to closely track the performance of at-risk students, among those groups: the English Language Learners (ELLs) subgroup (NCLB, 2002). The steady growth of immigrants in the state is undeniable (Immigration Policy Center, 2014) and with it, the increase of ELLs in the educational setting. Determining the academic achievement of ELLs is of paramount importance for schools and school districts in general, but in particular for schools and school districts where the population of ELLs has surpassed 30 ELL students or more. ELLs’ individual and collective standardized test scores are included in the schools’ and school districts’ rankings as determined by the state accountability measures.

Using a single measure to determine ELLs’ academic achievement has shown to be detrimental for ELLs (Abedi & Gándara, 2006; Mahon, 2006; Solórzano, 2008; Tsang et al., 2008) and for schools’ and school districts’ accountability purposes. In an effort to provide a more comprehensive way to determine ELLs’ academic achievement, the researcher analyzed the scores ELLs obtained on the English language proficiency test as measured by the WIDA test called ACCESS for ELLs (Assessing Comprehension and Communication in English State-to-State for English Language Learners) in order to
assess ELLs’ annual progress (WIDA, 2014a). The ACCESS for ELLs test measures listening, speaking, reading, and writing skills students possess in the English language providing scores for each individual skill and a combined scale score that was utilized for this study. The extent to which ELLs’ improvement on the English language (ACCESS for ELLs test) predicted ELLs’ academic performance inside the classroom, as determined by the Reading and Mathematics end of the year grades, was analyzed. Then, ELLs’ scores on the English language proficiency test called ACCESS for ELLs, a computerized formative academic assessment called MAP (Measure of Academic Progress) test for Reading and Mathematics for the fall and spring terms, and the MCT2 (Mississippi Curriculum Test, Second Edition) English Language Arts and Mathematics were analyzed for the 2012-2013 and the 2013-2014 school year.

Research Questions and Expected Outcomes

Based on the discussion above, the research questions for the proposed study are:

1. How much growth in regard to English proficiency scale scores did English Language Learners (ELLs) experience from the 2012-2013 to the 2013-2014 school year?

*Expected Outcome:* It is expected to observe ELLs’ growth on the English language proficiency test (ACCESS for ELLs) from the 2012-2013 to the 2013-2014 school year (Cummins, 1979; Krashen 1982; MDE, 2011b; NCLB, 2002).

2. How did growth in the English language proficiency test (ACCESS for ELLs) predict the academic achievement of ELLs in regard to Reading and Mathematics end of the year grades during the 2012-2013 and 2013-2014 school years?
Expected Outcome: It is expected that ELLs’ higher scale scores obtained on the ACCESS for ELLs test may result in higher Reading and Mathematics end of the year grades at the classroom level for the 2012-2013 and 2013-2014 school years (NCLB, 2002).

3. a. How much growth in regard to MAP test scores for Reading and Mathematics did ELLs experience from the fall to the spring in the 2012-2013 school year and from the fall to the spring in the 2013-2014 school year?

Expected Outcome: It is expected to observe ELLs’ growth on the MAP test scores for Reading and Mathematics for the 2012-2013 and 2013-2014 school year (Krashen, 1982; NCLB, 2002).

b. What is the relationship between the MAP test scores for Reading and Mathematics and the Reading and Mathematics end of the year grades for the 2012-2013 and the 2013-2014 school years?

Expected Outcome: It is expected that ELLs’ MAP test scores for Reading and Mathematics are correlated to the Reading and Mathematics end of the year grades for the 2012-2013 and the 2013-2014 school years (NCLB, 2002).

4. What is the correlation between growth on the English language proficiency test scale scores, the MAP test scores, and the MCT2 test scores from the 2012-2013 to the 2013-2014 school years?

Expected Outcome: It is expected that ELLs’ higher scale scores obtained on the English language proficiency test (ACCESS for ELLs) may result in higher test scores on the MAP test and on the MCT2 test (MDE, 2011b; NCLB, 2002).
Definition of Terms

Throughout the study, the following terms are to be understood based on the definitions that follow:

*Academic achievement* is defined as the successful achievement of grade level benchmarks as determined by the Mississippi Department of Education (2011a).

*Accountability:* is defined in this study as the collective responsibility state and local educational agencies (LEAs) share in regard to students’ academic success (Irons & Harris, 2007).

*Communicative competence* is defined as the knowledge of how grammar and social rules are used for communicative purposes (Canale & Swain, 1980). According to Canale and Swain (1980) grammatical, sociolinguistic, and strategic competence along with discourse competence (Canale, 1983) comprise the notion of communicative competence.

*English Language Learners* are students “classified as Limited English Proficient (LEP) or Immigrant Children and Youth” (MDE, 2011c) who are enrolled in the K-12 educational setting. ELL or ELLs is the most common abbreviation for the term in the state where the research took place (MDE, 2011c).

*English as a Second Language* is the study of the English language in a context where the language is used for communicative purposes (Dulay, Burt, & Krashen, 1982).

*Error analysis* is the study of language errors made while learning/acquiring a second or target language that shows the development of the language system at different stages of language development (Corder, 1967).
Interlanguage is the language employed by English language learners in which patterns of students’ native language are used to communicate ideas in the English language (Selinker, 1972).

Learning/acquisition The researcher used this term in this study to refer to the language learners’ process of developing target language proficiency either inside or outside the classroom in a conscious or unconscious way. There have been some discussions in the field of SLA in regard to the difference between both terms, being Krashen’s (1982, 1988) work a good starting point.

Linguistic competence is the knowledge of the grammar system of a specific language (Chomsky, 1965)

Second Language Acquisition is the study in regard to the way second languages are learned in and outside the classroom (Gass & Selinker, 2001). SLA is the common abbreviation for this term.

Target Language (TL) refers to the language students are learning/acquiring (Gass & Selinker, 2001).

Universal grammar (UG) is the notion that human beings are innately equipped with a cognitive device that fosters the learning of any language (Chomsky, 1968).

Delimitations

This study used purposive sampling. It was conducted in a Southeastern state in an inner-city school district that serves approximately 220 English Language Learners (ELLs) from K-12. ELLs’ English language proficiency test scores along with MAP test scores, Reading and Mathematics end of the year grades, and MCT2 test scores for
grades 3-8 were analyzed to determine growth and academic achievement from 2012 to 2014. Sample size was small thus the probability of generalizing results is limited.

The transient aspect that characterizes the ELL population in the local school district where the study took place may account for a large percentage of missing data that contributed to a reduction in sample size. Standardized test scores for grades 9-12 were not included in this study due to the lower number of ELLs enrolled in those grades. The majority of ELLs in the district were enrolled in grades 3-8 for whom MCT2 test scores were supposed to be available. A longitudinal study may provide a clear depiction of ELL’s academic achievement during the two years analyzed in a time when the accountability measures currently implemented to determine ELLs’ academic achievement have portrayed the ELL population at risk of failing academically.

Assumptions

The researcher assumed that:

1. ELLs’ end of the year grades for Reading and Mathematics and test scores for the standardized tests described were available for the 2012-2013 and the 2013-2014 school years. The analysis of the data helped provide a better depiction of the academic achievement of the ELL population.

2. The data gathered was accurately and properly recorded into the original dataset created.

3. The standardized tests utilized for the analysis: the WIDA test called ACCESS for ELLs (the English language proficiency test), MAP (a computerized formative academic assessment), and the MCT2 test (the Mississippi Curriculum Test, Second Edition) were valid and reliable instruments that measured English
language Proficiency (ACCESS for ELLs) and subject area content (MAP and MCT2) respectively as discussed in Chapter III: Methodology.

4. The non-standardized instrument used for this analysis, end of the year grades for Reading and Mathematics, may not be valid and reliable since psychometric properties for the instruments were not available.

Justification

A study that deals with the relationship of more than one indicator of English Language Learners’ (ELLs) academic achievement inside the classroom may be beneficial for the ELL population, schools and school districts in the state. English proficiency test scores have been linked to ELLs’ achievement as measured by standardized tests (Mahon, 2006; Solórzano, 2008). However, other indicators of growth such as Reading and Mathematics end of the year grades, and the Measure of Academic Progress (MAP) test scores for Reading and Mathematics for the fall and spring terms have not been included and studied when dealing with ELLs’ academic achievement. Few longitudinal studies have been conducted in regard to ELLs’ academic achievement in the country that used measures other than the standardized test; none was found in which the four indicators of achievement proposed in this study- English proficiency test scores (ACCESS for ELLs), Reading and Mathematics end of the year grades, a computerized formative academic assessment test scores (MAP) for Reading and Mathematics, and standardized test scores, MCT2 (Mississippi Curriculum Test, Second Edition) for ELA and Mathematics - have been used to determine ELLs’ academic achievement.
There is no evidence of a study of this nature in the state where the research took place. The implementation of a new standardized test beginning in the spring of 2015, the PARCC test referred to as MCT3 (MDE, n.d.), and the possibility of a new one in the spring 2016 (MDE, 2015a) calls for the exploration of ELLs’ academic achievement through the use of more than one single indicator of progress. The results and conclusions of the study may be relevant in the K-12 educational field when devising different forms to determine ELLs’ academic achievement.
CHAPTER II
REVIEW OF THE LITERATURE
Theoretical Foundations

English Language Learners (ELLs) comprise the fastest growing population in the country (U.S. Census Bureau, 2013). Demand for English language instruction as a second language has intensified (Verdugo & Flores, 2007) in the country and in the state seeking to improve the academic achievement of the ELL population. However, understanding and promoting ELLs’ academic achievement has posed a challenge due to the diverse internal and external aspects to consider. Second Language Acquisition (SLA) theory may be an internal aspect to have in mind whereas Accountability and Testing may be external aspects to take into consideration.

The new accountability measures implemented in the nation have placed the ELL subgroup at-risk of failing. Research has shown that English Language Learners’ (ELLs) academic achievement has been measured by standardized tests scores with devastating results (Geisinger, 1992, 2003; Mahon, 2006; Olmedo, 1981; Verdugo & Flores, 2007). The ELL population is subject to instruments that assess academic skills starting at early stages of English language acquisition/learning overlooking the natural progression of the English language acquisition/learning process (Cummins, 1979, 1999; Krashen, 1982). Therefore, Communicative Competence, Error Analysis (EA) and Interlanguage (IL), Krashen’s Monitor Model with the Five Hypotheses to SLA, and Cummins’ (1979) difference between Basic Interpersonal Communicative Skills (BICS) and Cognitive Academic Language Proficiency (CALP) are the SLA theories that provided the
foundation for this study. Accountability and Testing added to the discussion in regard to ELLs’ academic performance.

The subsequent sections will address Second Language Acquisition theories starting with the most comprehensive one, Communicative Competence (Canale & Swain, 1980, 1981; Canale, 1983) and finishing with the difference between BICS and CALP (Cummins, 1981) that provided information about the distinction in the English language proficiency skills ELLs need in order to determine academic achievement. Then, Accountability and Testing were addressed to illustrate the situation the population faces when it pertains to measures implemented to assess ELLs’ successful performance on standardized tests.

**Second Language Acquisition (SLA)**

Understanding the role Second Language Acquisition (SLA) plays in the development of English Language Learners’ language proficiency is a vital step in determining ELLs’ academic achievement (Ellis, 2003). A lower level of proficiency in the English language demand intensive work in the acquisition/learning of the English language at basic syntactic, semantic, morphological, and phonological levels (Dulay et al., 1982), which results in a delay of academic instruction (Ellis, 2003; Nunan, 1999). Implicit or explicit instruction on different subject areas at early stages of language acquisition depends on ELLs’ ability and literacy in the native language (Gass & Selinker, 2001).

The time ELLs necessitate to achieve communicative competence in the target language (Collier, 1987; Cummins, 1979, 1981, 1999; Krashen, 1982) is not considered when the federal government and the state implement higher accountability measures to
assess districts and schools (Mahon, 2006; Olmedo, 1981). Accountability measures have overlooked the natural progression English language students experience when learning English as a second language (Dulay & Burt, 1974; Krashen, 1982, 1985; Pinker, 1995). Explicating the origins of language analysis and the way languages are learned may help the reader comprehend the Second Language Acquisition (SLA) theories that provided the foundation for the study.

The beginnings of the analysis of language as a whole date back to Saussure’s (1916/1966) notion of *langage* that the linguist divided into *langue* and *parole*. Saussure (1916/1966), considered the father of modern linguistics (Chomsky, 1968, 1969; Gass & Selinker, 2001; Nunan, 1999; Pinker, 1995), defined *langage* as signs that conveyed meaning. Within *langage*, *langue* referred to the abstract aspect of the language internalized by a particular group whereas *parole* was associated with the speakers’ use of the language for communicative exchanges.

Saussure’s (1916/1966) view of *langue* and *parole* laid the foundation for Chomsky’s (1965) notion of linguistic competence and linguistic performance and Hymes’ (1967) concept of communicative competence. Both concepts served as the bases for Canale and Swain’s (1980, 1981) expanded definition of the term. Around communicative competence, other theories to Second Language Acquisition have been developed such as Corder’s (1967) Error Analysis (EA), Selinker’s (1972) Interlanguage (IL), Krashen’s (1977, 1982, 1985) Monitor Model with the Five Hypotheses to Second Language Acquisition, and Cummins’ (1979) distinction of language into Basic Interpersonal Communicative Skills (BICS) and Cognitive Academic Language Proficiency (CALP).
Communicative competence. Throughout the years, English language learners’ (ELLs) academic achievement has been determined by using standardized test scores obtained in the target language regardless of the language proficiency ELLs had developed at the time of the test (Geisinger, 1992, 2003; Mahon, 2006; Olmedo, 1981; Solórzano, 2008). In some instances, English language proficiency tests along with standardized test scores have been used to determine ELLs’ academic achievement (O’Conner, Abedi, & Tung, 2011) excluding other measures of growth such as computerized formative academic assessments and end of the year grades for Reading and Mathematics. Limiting the analysis of ELLs’ academic achievement to the use of a specific standardized test would be undermining the academic and linguistic growth ELLs experience during a school year (Cummins, 2008). Determining ELLs’ academic achievement may require the inclusion of other measures, besides the standardized test, in order to provide evidence of ELLs’ growth. Otherwise, schools and school districts that serve ELLs will continue to be placed in an unfavorable position when accountability measures are calculated (Kim & Sunderman, 2005).

Canale and Swain (1980, 1981) noted that achieving proficiency in a foreign language means much more than to have knowledge of the syntactic, semantic, morphological, and phonological aspects of a language (linguistic competence). Language proficiency also requires possessing the knowledge of how to use the language for communicative purposes. Hence, the authors’ broader definition of the term that included not only linguistic competence but also sociolinguistic competence, strategic competence (Canale & Swain, 1980), and discourse competence (Canale, 1983).
Before explaining Canale and Swain’s (1980, 1981) and Canale’s (1983) theories, it is deemed appropriate to address how native languages are acquired and how the concept provided the foundations to explore the acquisition/learning process of a second language (Gass & Selinker, 2001; Krashen, 1982, 1985). The field of SLA has devoted a great deal of research to the study of language (Chomsky, 1965; Chomsky, 1968; Gass & Selinker, 2001; Nunan, 1999). Chomsky (1965) was among the first linguists in defining language and providing an explanation for the processes involved in oral communication. Chomsky (1965) stated that linguistic competence and linguistic performance were necessary for speakers to communicate.

In Chomsky’s (1965) words, linguistic competence related to the knowledge the speaker and listener shared of the language being used. Knowledge of the language was universal to a particular community and was not altered by lack of attention, memory problems, distractions, and errors when it came to applying language knowledge for communication purposes; what Chomsky (1965) referred to as linguistic performance. The innateness of language use was central in Chomsky’s (1968) notion of Universal Grammar (UG) that asserted that human beings are hard-wired to produce and understand language. The difference Chomsky (1965) made between linguistic competence and linguistic performance, in which the latter was independent of the former, motivated Hymes (1967) to refute Chomsky’s conception. Hymes (1967) contended that linguistic performance was central to the linguistic examination as so was linguistic competence because the study of linguistic competence and linguistic performance was interrelated.

Hymes (1967) argued that language usage depended upon the social rules imposed by the community where the speech act was taking place. As such, knowledge
of language was neither universal to all speakers of the same mother language nor enough for the development of successful communication. The speaker needed to have knowledge of the social rules of a particular environment for the communicative act to achieve the desired goal. This concept was called communicative competence (Hymes, 1967). Linguistic competence and linguistic performance together guaranteed the success of speakers’ communicative encounters, not the mere knowledge of linguistic competence as Chomsky proposed (Hymes, 1967). The subtle difference in the way to approach both terms led to a different and expanded view of communicative competence.

Canale and Swain (1980, 1981) addressed communicative competence in terms of linguistic or grammatical competence, sociolinguistic competence, strategic competence, and discourse competence (Canale, 1983) in an effort to provide a more comprehensive definition of the term Hymes (1967) had previously coined. Canale and Swain (1980, 1981) agreed that linguistic or grammatical competence refers to the knowledge a speaker of a language possesses about syntax (grammatical rules), semantics (the study of the link that words have with their corresponding meanings), morphology (the study of a language’s linguistic units such as parts of speech, roots, and affixes), and phonology (the study of sounds). The scholars suggested that a combination of grammatical accuracy and meaningful communication was essential when learning/acquiring a second language. In Canale and Swain’s (1980) words neither of the two aspects was more important than the other; both complemented each other since the start of the target language learning/acquisition process.

A further description of each factor that encompasses linguistic or grammatical competence will be discussed followed by the other three types of competences proposed:
Learning the syntactical aspect or grammar rules (Canale & Swain, 1980, 1981; Chomsky, 1965; Hymes, 1967) of any target language requires time (Collier, 1987; Cummins, 1979, 1981, 1999; Krashen, 1982; Nunan, 1999; Pinker, 1995); although, in Canale and Swain’s (1980) narrative, addressing the grammatical component of a second language is important even at early stages of language instruction. The amount of time ELLs need to be able to comprehend and use the grammatical aspect of a language vary depending on students’ native language (Nunan, 1999) and on when ELLs are developmentally ready to learn/acquire an aspect of the second language (Pienemann, 1984); what Pinker (1995) called The Teachability Hypothesis.

Gass and Selinker (2001) noted that researchers distinguished between two different kinds of grammar: Prescriptive and descriptive. Prescriptive grammar addresses the linguistic rules that govern a language whereas descriptive grammar deals with the way linguistic patterns are actually used in communicative exchanges. In the case of the English language, for instance, the negative auxiliary doesn’t is supposed to follow the pronouns he, she, and it in the simple present tense. However, some native speakers of the language use don’t instead of doesn’t contrary to what it is expected in standard English evidencing that the social rules of the target culture have an influence in the syntactical aspect of the language (Chaika, 1994).

Languages that share similarities with ELLs’ first languages are learned at a faster pace than languages with dissimilar grammatical features (Gass, 2013; Krashen, 1988) either at the prescriptive or descriptive level. English language learners’ age, referred to as the critical period hypothesis (Lenneberg, 1967; Penfield & Roberts, 1959), also plays
a role in the second language acquisition/learning process with younger learners acquiring/learning the target language more rapidly than adolescent and adult learners (Bley-Vroman, 1988; Gass & Selinker, 2001; Johnson & Newport, 1989; Nunan, 1999; Oyama, 1976, 1978; Patkowski, 1994; Thompson, 1991). Opponents of the critical period hypothesis stated that age-related differences in SLA and language learning are not substantial (Birdsong, 1992; Birdsong & Molis, 2001; Krashen, 1975) because many of the studies were conducted on only syntax and phonology.

According to Ellis (1985), age alone did not significantly predict target language acquisition/learning because exposure to the target language played a role in the process as well. White and Genesee’s (1996) research showed that some adults learning a second language were able to acquire language proficiency similar to that of native speakers of the language. This finding challenges the premise that a critical period has an effect on SLA and learning and that adults are unlikely to acquire/learn a second language with native-like performance. Cognitive abilities account for the success of adults acquiring/learning a second language (Brundage & MacKeracher, 1980; Schouten, 2009). Cognitive abilities, however, are developed throughout life (Gass & Selinker, 2001; Schouten, 2009).

Understanding semantics, the study of the link between words and their meanings (Canale & Swain, 1980), is challenging for English language learners. Pinker (1995) asserted that to understand the meaning of words, Saussure’s (1916/1966) premise of the sign, the signifier, and the signified had to be addressed along with Chomsky’s (1968) notion of infinite language usage. The latter referred to the infinite number of sentences with different meanings a native speaker of a language is able to make with a finite
language repertoire. Shared knowledge of language among the speakers of a particular community ensures successful communication (Chaika, 1994; Pinker, 1995).

In the former, the sign referred to the object or image as a whole. The object is composed of the signifier, the relationship between the sound and the image, and the signified, the concept that represents the object as a whole (Saussure, 1916/1966). For instance, the word *hand* carries the connotation of the object as a whole upon listening to the word being used in a specific context (sign) and is composed of the relationship between the sound and the image (signifier) and the concept (signified). As such, according to Gass and Selinker (2001) native speakers of a language are able to distinguish *hand*, a part of the body, from *hand* when talking about a part of a clock or a watch from *hand* in the sentence *give me a hand*.

The relationship among the three notions (the sign, the signifier, and the signified) is important when talking about the meaning of words (Pinker, 1995; Saussure, 1916/1966). English language learners (ELLs) perform the task described in the native language (Nunan, 1999). The process needs to be replicated in the target language so that communication takes place (Krashen, 1988). Scholars have agreed that ELLs necessitate time to differentiate between the multiple meanings of words (Gass & Selinker, 2001; Krashen, 1988; Nunan, 1999) for the communicative exchange to take place.

Krashen (1988) pointed out that interference, also called negative transfer (Dulay, Burt, & Krashen, 1982; Gass & Selinker, 2001), is responsible for ELLs’ obstacles in second language acquisition/learning. Native language interference has been associated not only with inaccurate syntactic patterns in the target language but also with imprecise meanings of words (semantics) because of insufficient knowledge of the target
language. The phenomenon is more common in adolescent and adult learners than it is in children. The cognitive processes adolescents and adults utilize to make sense of any aspect of the target language being learned accounts for the initial confusion experienced (Krashen, 1988). However, as Brundage and MacKeracher (1980) admitted, cognitive ability is useful for adults learning/acquiring a target language especially when it comes to ELLs’ own metacognition process that is the knowledge about how an individual better learns (Flavell, 1985).

Morphology refers to the study of a language’s linguistic units such as parts of speech, roots, and affixes (Canale & Swain, 1980). The analysis of morphological factors requires higher order thinking skills and cognitive abilities adolescent and adult learners are more able to exercise (Brundage & MacKeracher, 1980; Schouten, 2009) than the younger counterparts. According to Pinker (1995), the Teachability Hypothesis (Pienemann, 1984) is of significant importance at this stage because English language learners need to be developmentally ready for the explicit instruction of a second language to take place. Pinker’s premise suggested that older language learners benefitted from the study of morphology when learning/acquiring a second language.

Schouten’s (2009) thinking was in line with that of Pinker’s (1995), when it was noted that English language learners necessitate certain proficiency level in the language of instruction along with cognitive skills to be able to discern and understand linguistic units. For Nunan (1999), the linguistic units were part of a broader term: vocabulary. The researcher stated that the lexicon of any language was able to be divided into “grammatical words” (p. 101); thus, the notion that vocabulary cannot be reduced to a mere list of words in the target language. Cook (2001), that shares Nunan’s (1999)
sentiment about vocabulary, suggested that the learning/acquisition of vocabulary is required for learners of a language to be able to utilize the target language to express ideas. The number of words needed to perform appropriately in a TL is unknown, however (Cook, 2001).

The study of word formation has been beneficial for English language learners seeking to make sense of the target language being learned/acquired (Schouten, 2009). The conscious analysis of the linguistic units present in the vocabulary of a second language alleviates the stress language learners feel when learning/acquiring the L2 (Gass & Selinker, 2001) because of the sense of commonality provided. Language learners need highly developed cognitive abilities to gain knowledge of the target language through morphological analysis; thus, the notion that younger learners do not benefit from this aspect as much as adolescents and adult learners do (Brundage & MacKeracher, 1980; Gass & Selinker, 2001; Schouten, 2009).

Phonology (the study of sounds) has been widely documented in second language acquisition (Chomsky, 1965; Gass & Selinker, 2001; Nunan, 1999) with origins tracing back to Lado’s (1957) research that contributed to the establishment of the Contrastive Analysis Hypothesis (CAH). The Contrastive Analysis Hypothesis (CAH) suggested that languages that shared similar features would be acquired/learned with less difficulty than those that were dissimilar (Lado, 1957). Brown (1980) suggested that CAH was useful in the identification of ELLs’ errors that were attributable to language learners’ interference, called negative transfer (Dulay et al., 1982; Ellis, 1994; Gass & Selinker, 2001), of the native language to the TL. Therefore, CAH provided educators
with a tool to predict language errors, especially at the phonetic level, to help second language learners overcome pronunciation issues (Edwards & Zampini, 2008).

Several studies concluded that children were more able to reach native-like pronunciation than adults were (Dulay et al., 1982; Gass & Selinker, 2001, Ioup, 2008; Lenneberg, 1967). White and Genesse (1996) rejected the finding by stating that some adult learners were able to use the second language at the phonetic level without major problems; although, the scholars agreed the number of success stories in regard to native-like pronunciation patterns among adult learners was not as impressive as those of children learning/acquiring a second language.

According to Krashen (1982) adolescent and adult learners were more likely to experience interference, negative transfer (Dulay et al., 1982; Ellis, 1994; Gass & Selinker, 2001), from one language to the other at higher levels when compared to children. The finding supported the notion of the critical period hypothesis (Lenneberg, 1967; Penfield & Roberts, 1959) widely discussed in the field of second language acquisition (Krashen 1982; Oyama, 1976, 1978; Patkowski, 1980, 1994; Thompson, 1991). Despite the conflicting opinions in regard to the critical period hypothesis, scholars agreed that age had a significant impact in the development of native-like pronunciation patterns of children acquiring/learning a second language (Bley-Vroman, 1988; Gass & Selinker, 2001; Johnson & Newport, 1989).

Nunan (1999) asserted that adolescents and adult learners’ problems with the phonology of a second language are observed in the problems English language learners (ELLs) experience with rhythm, stress, and intonation patterns of the second language. Such problems accounted for listeners’ greater difficulty in understanding ELLs’ spoken
language than in the inaccurate pronunciation of sounds or words in isolation. Although pronunciation patterns are important in spoken communication (Cook, 2001; Gass & Selinker, 2001), there are other aspects that account for the success of a communicative act such as English language learners’ cultural background (Chaika, 1994), personal experiences (Gass & Selinker, 2001; Nunan, 1999), age (Collier, 1987; Cummins, 1979, 1981, 1999; Krashen, 1982), and literacy in the native language (Nunan, 1999).

The above-mentioned aspects influence the way to approach the syntactical (Krashen, 1982; Nunan, 1999), semantic (Krashen, 1988; Pinker, 1995; Saussure, 1916/1966), morphological (Brundage & MacKeracher, 1980; Schouten, 2009), and phonological (Cook, 2001; Dulay et al., 1982; Gass & Selinker, 2001) patterns of the target language; aspects that composed what Canale and Swain (1980, 1981) referred to as linguistic competence.

The speaker’s and listener’s shared knowledge of the social rules, in which the communicative exchange is taking place (Chaika, 1994), also contributes to the success of a speech act within the social context. Sociolinguistic competence, the second component of Canale and Swain’s (1980, 1981) definition of communicative competence, refers to the speaker’s ability to comprehend, know, and select the language to use in a specific social context. In Andersen’s (1990) words, although the rules of interaction within a specific social group differed from culture to culture, they were related to the speaker’s age, gender, social status, and educational attainment. Therefore, different ways of spoken interaction were governed by the implicit knowledge speakers possessed of the social rules of the target culture (Andersen, 1990; Chaika, 1994).
Native speakers of a language and language learners of that language need time to acquire the knowledge of the social rules that govern a specific culture (Andersen, 1990) to be able to appropriately function in different social contexts. The time required to do so is greater for language learners learning/acquiring a target language because of the need to learn a novel set of social rules (Chaika, 1994; VanPatten, 2004). Swain and Lapkin (1990) observed that since the purpose of second language learning and teaching is to successfully perform in the target culture, it is essential to know not only the aspects involved in the linguistic competence (Canale & Swain, 1980, 1981) but also the ones included in the sociolinguistic aspect of the language. Such aspects comprise the topic being discussed, the participants, the objective of the communicative act, and the social context in which the spoken communication takes place (Chaika, 1994; Rintell, 1990; VanPatten, 2004).

Siegel (2003) identified five sociolinguistic settings in which language learning/acquisition takes place. The sociolinguistic setting ELLs in the country participate in is that of the dominant L2. The term refers to the target language that is the native language spoken by the members of the target culture (Siegel, 2003). Therefore, it is expected that language learners learn/acquire the English language to fully participate in the social, educational, and legal system of the country. Based on that premise, ELLs’ academic achievement is measured in English regardless of the length of time language learners have been in the country (Collier, 1987; Cummins, 1979; Krashen, 1982) and the fact that standardized tests have been devised with a more homogeneous linguistic population in mind (Geisinger, 1992, 2003; Mahon, 2006; Olmedo, 1981; Solórzano, 2008).
Strategic competence, the third component of communicative competence, deals with the speaker’s use of verbal and nonverbal strategies aimed at compensating for problems encountered in communicative exchanges due to lack of grammatical and/or sociolinguistic competence (Canale & Swain, 1980, 1981). Although scholars agreed that strategic competence is as important as linguistic competence is (Canale & Swain, 1980; Chaika, 1994; Nunan, 1987), this type of competence has not been widely researched (Bachman & Cohen, 1998; Dörnyei & Thurrell, 1991).

Possessing strategic competence allows the speakers of a native language or a target language to convey the intended message by using non-verbal strategies such as body language and drawings (Corder, 1981; Ellis, 1985) and/or verbal strategies such as language reduction, in which the use of paraphrasing and language approximation is utilized, to compensate for breakdowns in communicative exchanges (Corder, 1981; Dörnyei & Thurrell, 1991). Corder (1981) divided the compensatory strategies language learners use into resource expansion strategies and message adjustment strategies to refer to non-verbal and verbal strategies respectively.

Canale and Swain (1980, 1981) asserted that language learners’ development and use of the strategic competence has shown beneficial in the overall development of the communicative competence of any target language. English language learners who are skillful at using strategic competence are more likely to succeed in the attempts at communicating in spoken form; thus, the relevance of the explicit instruction when addressing this component of communicative competence (Dörnyei & Thurrell, 1991).

Finally, Discourse competence (Canale 1983; Canale & Swain, 1981) refers to the speaker’s ability to understand how ideas are linked together either in written or spoken
form. Cohesion and coherence are components of this type of competence (Canale & Swain, 1981) that different scholars have linked to linguistic competence (Levinson, 1983; Nunan, 1999). Canale and Swain (1981) claimed that the rules of discourse included the whole meaning of a particular utterance and the appropriateness of the idea being conveyed. The meaning of the utterance lay in the grammaticality of the idea whereas the appropriate use of the utterance had to do with the social rules of language usage (Canale, 1983; Canale & Swain, 1981; Chaika, 1994; Krashen, 1988).

In Canale’s (1983) words, mastering the rules that govern the way utterances are combined to express the intended meaning in written or oral communication is the goal in the development of discourse competence. Cohesion devises such as pronouns, nouns, and possessive adjectives help link sentences together in order to communicate ideas that are coherently organized around a particular topic (Canale, 1983). To be able to perform at this level, language learners necessitate mastery of the linguistic and social rules of the target language (Andersen, 1990; Canale & Swain, 1980, 1981; Chaika, 1994; Rintell, 1990; Siegel, 2003; Swain & Lapkin, 1990); knowledge that English language learners acquire/learn after sufficient time has been devoted to the acquisition/learning of the language (Collier, 1987; Cummins, 1979, 1981, 1999; Gass & Selinker, 2001; Nunan, 1999) so that standardized tests can be implemented to measure subject area knowledge (Cummins, 1979, 1999; Solórzano, 2008; Tsang et al., 2008).

In the field of SLA, Canale and Swain’s (1980, 1981) comprehensive definition of communicative competence that was later on expanded by Canale’s (1983) explanation of discourse competence provided the field with information about the different dimensions associated with the learning/acquisition of a second/target language. The
scholars expanded on Chomsky’s (1968) idea of grammatical competence and Hymes’ (1967) notion of communicative competence to include social aspects in the analysis of language; a move that placed the learning/acquisition of a second/target language in a different phase. Language and culture are interrelated (Andersen, 1990; Chaika, 1994; Rintell, 1990; Siegel, 2003; Swain & Lapkin, 1990), which means that language learners’ success in the target language depends not only on the successful development of the linguistic, sociolinguistic, strategic, and discourse competence (Canale 1983; Canale & Swain, 1980, 1981) but also on the amount of time spent developing target language proficiency (Collier, 1987; Cummins, 1979, 1981; 1999; Gass & Selinker, 2001; Krashen, 1982).

Providing adequate time for language learners to learn/acquire appropriate parameters of language use and usage (Collier, 1987; Cummins, 1979, 1981; Ellis, 2003; Gass & Selinker, 2001; Nunan, 1999) is essential for the optimal development of English language proficiency. Only then may language learners be adequately prepared to face academic measures aimed at assessing content knowledge, as measured by standardized tests, (Abedi & Gándara, 2006; Sireci et al., 2008; Solórzano, 2008) and not English language proficiency. Research has identified the linguistic complexity of standardized tests to be the major source of difficulty for ELLs (Abedi & Gándara, 2006; Menken, 2010). A finding that may cast a shadow on the validity of the standardized tests implemented to determine ELLs’ academic achievement (Sireci et al., 2008; Solórzano, 2008; Tsang et al., 2008).

Little has been added to the definition of communicative competence since Canale and Swain’s (1980, 1981) and Canale’s (1983) research. Newer research such as
that of Bachman’s (1990) communicative language ability and Bachman and Palmer’s (1996) model of communicative competence maintained the components identified by Canale and Swain (1980, 1981) but expanded the role strategic competence has in communicative exchanges. In Bachman’s (1990) words, Canale and Swain’s (1980, 1981) notion of communicative competence did not elaborate on how the components correlated with one another. The researchers also failed to convey the crucial role strategic competence had in understanding such correlation. For Bachman and Palmer (1996), grammatical and textual knowledge, called organizational knowledge, and the learners’ knowledge of the social conventions implemented in the target culture, referred to as pragmatic knowledge, were components needed to successfully combine sentences to express meaning, in which strategic competence had a bigger role than that of compensatory strategies used to deal with communication breakdowns.

Despite the critique, Canale and Swain’s (1980, 1981) approach to communicative competence provided the field of SLA with a comprehensive more expanded definition of the term (Bachman & Cohen, 1998). Along with communicative competence, Corder’s (1967) error analysis (EA) and Selinker’s (1972) interlanguage (IL) comprised the next aspect to consider when determining English language learners’ (ELLs) academic achievement by means of standardized test scores. Both concepts provide explications of the natural progression in the learning/acquisition patterns of the linguistic aspects of a second language (Dulay et al., 1982; Gass & Selinker, 2001; Selinker, 1992). Understanding the role error analysis (EA) and interlanguage (IL) play in the acquisition/learning of the target language is relevant when determining language learners’ success in a second/foreign language (Krashen, 1982).
Error analysis (EA) and Interlanguage (IL). The beginning of interlanguage (IL) dates back to Corder’ (1967) notion of error analysis (EA) that was a more appealing alternative than the contrastive analysis (CA) approach also known as Contrastive Analysis Hypothesis (Lado, 1957), popular in the sixties. The CA method to the dealing of errors stated that language learners’ errors were predicted based on the existing differences between the learners’ mother tongue and the target language (Lado, 1957); what scholars referred to as interference, negative transfer, (Dulay et al., 1982; Ellis, 1994; Krashen, 1982; Gass & Selinker, 2001). Opponents to the way CA treated error noted, however, that it was not always possible to trace language errors to the learners’ native language, which evidenced the gap between theory and the classroom reality (Brown, 1980; Dulay et al., 1982). As such, Corder’s (1967) views provided a more comprehensive alternative to error analysis. The scholar refuted the popular belief that the analysis of error was of little importance in the field of SLA. Error analysis was crucial for educators to understand the developmental process language learners experience when learning a second/foreign language (Brown, 1980; Corder, 1967; Nunan, 1999).

Corder (1967) brought into light the relevance of language learners’ errors when determining language acquisition/learning. The researcher talked about errors and not mistakes because in Corder’s words both terms differed from one another. The former were considered slips of the tongue any native speaker of a language experiences due to fatigue or lack of attention. Chomsky (1965) called the phenomenon “performance”. The latter are seen as evidence of language learners’ acquisition/learning process mostly due
to a dearth of knowledge of the grammatical rules that govern the target language; “competence” in Chomsky’s (1965) words.

Being able to determine, through error analysis, the stage at which the language learner was, allowed educators to select the appropriate language path for students to follow (Brown, 1980). That path, considered to be more meaningful for learners, was believed to lead to greater levels of language learning/acquisition because the analysis of learners’ errors provided stakeholders with specific information about the syntactic, semantic, morphological, and phonological progress made in the target language (Brown, 1980; Corder, 1967; Dulay et al., 1982).

Dulay, Burt, and Krashen (1982) noted that learners organize language, at the cognitive level, in such a way that a certain order in the learning/acquisition of linguistic patterns is present. Researchers have been able to determine that order by examining the systematic errors language learners make that do not necessarily reflect the sequence followed in the intended target language curriculum (Brown, 1980; Gass & Selinker, 2001; Krashen, 1982; Nunan, 1999). Among the most common errors language learners make is the omission of morphemes such as prepositions and articles and the double marking observed in present simple tense, *He is run*, and past simple tense negative, *They didn’t won the game*, (Gass & Selinker, 2001; Nunan, 1999). The scholars also asserted that learners’ errors allowed researchers to make inferences about the second language learning/acquisition process taking place, on one hand. On the other, it offered educators and curriculum developers the possibility to learn what aspects of the target language impeded learners’ successful communicative efforts.
The analysis of language errors has contributed to the field of SLA especially when it comes to target language pedagogy and teaching practices (Dulay et al., 1982). Error analysis has also permitted the identification of the interlanguage, IL, (Selinker, 1972, 1992) process the language learner undergoes; a process that provides evidence of the gradual development of the target language (Brown, 1980). As such, Interlanguage (Selinker, 1972, 1992) is a widely investigated topic in the field of SLA. Inaccurate uses of grammar, lexicon, or pronunciation patterns are common and expected when learning a second language (Gass & Selinker, 2001; Nunan, 1999; Selinker, 1992). English language learners’ attempt at using the language inside the classroom results in the creation of a new linguistic system that Selinker (1972, 1992) called Interlanguage (IL). The presence of the IL is observed at all levels of English language proficiency; although, it is prevalent at lower and intermediate levels because of the constant development of language (Gass & Selinker, 2001). The more proficient language learners become the less observable the use of the interlanguage is (Selinker, 1972).

In Selinker’s (1972) words, interlanguage (IL) manifests when language learners’ attempts to use the target language to express ideas result in output dissimilar to the one uttered by native speakers of the language. Therefore, the scholar believed that the language created was in a transformational process because it reflected neither the patterns used in the learners’ language nor the patterns used in the target language; but, a separate linguistic system. Such linguistic system was unique to the language learner and was influenced by external factors such as motivation (Dulay et al., 1982; Selinker, 1972).
The concepts of transfer (Ellis, 1994; Gass & Selinker, 2001) and fossilization (Preston, 1989; Scovel, 1988; Selinker, 1972, 1992), addressed in the subsequent paragraphs, have been associated with language learners’ interlanguage process. Transfer has been approached as either negative, referred to as interference (Ellis, 1994; Gass & Selinker, 2001) or positive, believed to facilitate language acquisition/learning by means of using the learners’ native language to make sense of the new set of linguistic rules being learned (Corder, 1967). Brown (1980) suggested that transfer was of two types: interlingual transfer and intralingual transfer or intralingual interference.

Interlingual transfer occurs when learners, at early stages of language development, use the native language as the starting point to produce speech in the target language with confusing results (Brown, 1980). An example of this phenomenon is observed when ELLs’ speech in the TL is influenced by the phonology of the native language (Brown, 1980; Gass & Selinker, 2001), in which phonemic changes from one language to another are present. Moats and Tolman (2009) noted the English language has 44 phonemes represented by 26 letters, 19 of which are vowel sounds; contrary to Roman or Latin languages such as Spanish that has 27 letters and the corresponding sounds including 5 vowel sounds. Other languages, such as Mandarin Chinese has thousands of graphic characters, called logographic, which means the Mandarin Chinese is a meaning-based language system. Researchers agree that these differences account for ELLs’ problems when learning the target language, especially at the syntactical and phonological level (Brown, 1980; Dulay et al., 1982; Gass & Selinker, 2001; Moats & Tolman, 2009; Selinker, 1972, 1992).
Intralingual transfer or intralingual interference refers to the overgeneralization or simplification of the rules of the target language; a phenomenon widely observed when learners have learned/acquired some linguistic knowledge in the target language (Brown, 1980; Gass & Selinker, 2001). Overgeneralization occurs when language learners incorrectly apply a new set of grammar rules. Therefore, utterances such as “Do Jane can draw?” or “They thoughted” are expected utterances from language learners (Brown, 1980; Dulay et al., 1982). Simplification is observed in the omission of forms such as “are tall” instead of “They are tall” (Dulay et al., 1982). The error analysis of such utterances provides valuable information about the target language process learners experience and allows educators to help learners correct the issues identified and develop target language accuracy and proficiency (Brown, 1980; Selinker, 1992).

Fossilization, widely researched in the field of second language acquisition (Nemser, 1971a, 1971b; Selinker, 1972, 1992; Weinreich, 1953), has to do with the suspension of learning/acquisition of the target language linguistic system despite permanent exposure and ample opportunities to practice the language (Selinker, 1972, 1992). Some researchers have linked fossilization to lack of acculturation (Preston, 1989; Schumann, 1978), lack of adequate input (Krashen, 1982, 1988; Schumann, 1978), native language interference (Andersen, 1983; Brown, 1980; Dulay et al., 1982; Ellis, 1994), age (Bley-Vroman, 1988; Gass & Selinker, 2001; Lenneberg, 1967; Nunan, 1999; Schmidt, 1983), dearth of attention (Schmidt, 1983), inappropriate learning strategies (Cook, 2001; Nunan, 1999; Schmidt, 1983), and avoidance (Gass & Selinker, 2001; Nakuma, 1998). Although there are varied reasons that attempt to explicate the phenomenon, researchers agreed that fossilization influences the learners’ interlanguage
affecting the quality of the language produced in spoken form (Gass & Selinker, 2001; Scovel, 1988) and thus in written form (Selinker, 1972, 1992).

In an effort to group the possible reasons behind fossilization, Dulay et al. (1982) identified four taxonomies of the phenomenon as follows: linguistic category, surface strategy, comparative analysis, and communicative effect. Linguistic category, the most common researched type of fossilization, refers to the problems language learners experience with the linguistic system of the target language. Surface strategy deals with the omission of forms such as “is big” instead of “it is big” or the addition of forms as in “I didn’t went to the park” instead of “I didn’t go to the park”. Comparative analysis is present when learners’ language errors are compared to those produced by children learning to speak the target language as the first language and to sentences produced in the learners’ native language. Finally, communicative effect deals with the impact language learners’ errors have on the listener or reader; some of which are known to be the source of miscommunication (Dulay et al., 1982).

From the seventies on, error analysis (Corder, 1967) and interlanguage (Selinker, 1972, 1992) have offered comprehensive information about learners’ developmental process in the target language. No other approach to the treatment of language learners’ errors has challenged the tenets offered by error analysis and interlanguage (Gass & Selinker, 2001). The information educators and researchers obtain from the analysis of learners’ errors and interlanguage is related to Canale and Swain’ (1980, 1981) notion of communicative competence. Being able to uncover issues in the learners’ linguistic or grammatical competence helps to understand the impact errors have on the learners’
sociolinguistic competence (Selinker, 1992). After all, the ultimate goal in the field of SLA is target language proficiency (Chaika, 1994; Krashen, 1982, Nunan, 1999).

Attaining communicative competence in the target language is an intricate process, in which error analysis and interlanguage are crucial components (Gass & Selinker, 2001; Selinker, 1972, 1992). English language learners’ (ELLs) target language development involves many aspects, as identified in Canale and Swain’s (1980, 1981) definition of communicative competence, often overlooked by measures of accountability, in which the standardized test is the sole measure implemented to determine ELLs’ academic achievement (Abedi & Gándara, 2006; Sireci et al., 2008; Solórzano, 2008). The following section introduces Krashen’s (1977, 1982, 1985) Monitor Model with the five hypotheses proposed to second language acquisition. The hypotheses offer insights into the psychological aspects included in the learning/acquisition process of the target language that in the scope of the present research is the English language.

Krashen’s Monitor Model and the five hypotheses to SLA. Learning/acquiring a target language requires learners’ psychological investment (Gass & Selinker, 2001; Preston, 1989) in order to develop target language proficiency (Chaika, 1994; Cook, 2001; Cummins, 1980; Krashen, 1982) due to the time required to achieve communicative competence (Cummins, 1979, 1999; Ellis, 2003; Gass & Selinker, 2001; Krashen, 1982; Nunan, 1999; Pinker, 1995). Researchers agreed that developing communicative competence in the target language often means that the learners are expected to understand, accept, and apply linguistic, social, and discourse rules that differ from the ones used in the students’ native language and culture (Chaika, 1994; Dulay et
al., 1982; Krashen, 1982). English language learners (ELLs) comprise the largest number of learners of a second/foreign language (Nunan, 2003), each learner with different grammatical and sociocultural aspects that have an impact on the pace and the rate of language acquisition/learning (Brown, 1980; Chaika, 1994; Nunan, 1999).

Krashen’ (1977, 1982, 1985) study contributed to the field of SLA with the Monitor Model and the five hypotheses to explicate the psychological and cognitive processes language learners experience when learning/acquiring a target language. The hypotheses are: The Learning/Acquisition Hypothesis, the Natural Order Hypothesis, the Monitor Hypothesis, the Comprehensible Input ($i+1$) Hypothesis, and the Affective Filter Hypothesis (Krashen, 1982). An explanation of each one of the hypotheses will follow in the subsequent paragraphs.

In regard to the Learning/Acquisition Hypothesis, Krashen (1982) stated the need to differentiate between both terms. Learning, considered a conscious process, takes place in a setting where explicit instruction of the linguistic aspect of the target language is provided. In such setting, error correction, which is based on error analysis, is a valuable tool when it comes to understanding the way learners internalize grammar rules (Krashen, 1982). Acquisition, on the other hand, has been associated with the process children employ when acquiring a native language or a target language. Communication, at this level, is focused on the meaning of the message and not on the form of the utterances that convey the meaning (Krashen, 1982). Krashen (1982, 1985) noted that the overt explication of grammar rules and error correction are not relevant in regard to the acquisition of a language. Namely, that learning and acquisition were independent
processes, in which the language learned would not become the language acquired (Krashen, 1982).

Critics of Krashen’s (1977, 1982, 1985) distinction between learning and acquisition reported that there was not enough empirical evidence to claim that learners have two separate storing systems in the brain; one for the language learned and the other for the language acquired (Gass & Selinker, 2001). In Gass and Selinker’s (2001) words, there was no indication that learning and acquisition were two independent systems because the learner makes use of the linguistic system known thus far to convey meaning regardless of how the language has been internalized.

The learning/acquisition difference has been discussed to compare children’s language acquisition patterns, especially phonology patterns, to that of adult learners (Gass & Selinker, 2001). Some theorists believed that children acquire a second language in immersion contexts better than adults do when the critical period (Lenneberg, 1967; Penfield & Roberts, 1959) to language acquisition has not closed (Johnson & Newport, 1989; Patkowski, 1980, 1994); typically between five and ten years of age (Collier, 1987; Gass & Selinker, 2001). Krashen (1982) stated that adult learners also have the potential to acquire the target language; although, the possibility for the subjects to always achieve native-like proficiency is slim. Adults possess the inner ability to acquire the language, which supports Chomsky’s (1968) idea of Universal Grammar. Moreover, conscious learning has shown to be beneficial for adult learners when it comes to error analysis, error correction, and the explicit explanation of the target language linguistic rules (Krashen, 1982, 1985).
The second hypothesis is the Natural Order Hypothesis that deals with the progression in students’ learning/acquisition of the grammatical rules of the target language (Krashen, 1982). Research has shown that learners experience similar acquisition/learning paths when learning English as a second language regardless of the presence or absence of direct instruction (Brown, 1980; Cook, 2001; Gass & Selinker, 2001). Krashen (1982) reported that the English language is the language that has been analyzed the most in regard to the natural order hypothesis. Out of the four components of the linguistic competence (syntax, semantics, morphology, and phonology), identified by Canale and Swain (1980, 1981), syntactical and morphological features are the most studied aspects of the language (Krashen, 1982).

As such, learners from diverse sociocultural backgrounds showed similarities in the acquisition/learning of grammatical rules as noted in Krashen’ (1977, 1982) study. Krashen (1977, 1982) reported, based on studies on the acquisition process of morphemes, that language learners learn/acquire progressive forms (-ing), plural forms, and the copula (to be) first, followed by articles (a, the) and the progressive auxiliary (is). Then irregular past is learned/acquired and finally possessive (-s), regular past, and third person singular (-s). The order suggests an increase in the difficulty of the grammatical rules learned/acquired (Cook, 2001; Krashen, 1982). In spite of the implications the natural order hypothesis may have in the learning/acquisition of a TL, Krashen (1982) pointed out the identified order was not to be used to develop sequential TL curricula; but, as information to have in mind when determining language learners’ linguistic competence.
Gass and Selinker (2001) argued there were learners’ individual variations that affected the results obtained when studying the natural order of the acquisition/learning of English morphemes. The scholars noted that the tests implemented to determine the order of acquisition/learning did not yield the same results every time the instruments were used. Despite the criticism, the natural order hypothesis has provided information in regard to the sequence language learners follow in the acquisition/learning of the morphological features of the TL (Krashen, 1982, 1985).

The third hypothesis, the Monitor Hypothesis, refers to students’ conscious attention to the way the target language is used for communication purposes (Krashen, 1982). In Krashen’s (1982) words, acquisition initiates utterances, and it is responsible for learners’ target language fluency, whereas the goal of learning is to monitor or edit the language being produced. Therefore, learning is responsible for accuracy. Krashen (1982, 1985) assumed that once learners have learned/acquired sufficient knowledge of the target language, learners’ self-correction will take place when errors are made.

According to Krashen (1982), the Monitor helps ELLs transform the interlanguage (Selinker, 1972, 1992) utilized in the classroom to better reflect the patterns of language usage implemented by native speakers of a language. The scholar also claimed the use of the Monitor can only be applied when enough time is granted to the language learner to analyze the language produced so that the learner can concentrate on the form needed to communicate ideas accurately. For learners to be able to select the appropriate grammatical rule to use to express ideas, sufficient knowledge of the target language linguistic system is required. Only when the three requirements are satisfied (time, focus on form, and knowledge of the grammar system), can the monitor be
activated (Krashen, 1982) to link the acquired/learned system to produce meaningful communicative exchanges (Gass & Selinker, 2001).

Krashen (1982) identified three types of Monitors: Monitor over-users, Monitor under-users, and the optimal Monitor user. Monitor over-users rely on the monitor so much that spoken communication is hampered due to constant hesitations and self-corrections. Learners who are Monitor over-users lack fluency (Krashen, 1982). Monitor under-users choose not to monitor their language output either because of lack of knowledge of the grammatical system of the target language or because of personal preference. Finally, the optimal Monitor user, the ideal TL learner, utilizes the Monitor in situations that calls for it without interfering with communication (Krashen, 1982).

The Monitor Hypothesis (Krashen, 1982, 1985) has been attacked by different scholars because the tenet the hypothesis relies on, language learners’ conscious attention to the way the TL is used for communication purposes, is untestable (Gass & Selinker, 2001; Larsen-Freeman & Long, 1991). Gass and Selinker (2001) noted the Monitor was analyzed in language production and not language comprehension. Some field studies found that language learners employed the language learned, not the language acquired to make sense of the content being heard or read (Gass & Selinker, 2001). Critics disagree with Krashen’s (1982) association of the Monitor to the learned system; not with the concept of the Monitor that helps learners check and adjust the language required to express the intended ideas in the TL (Gass & Selinker, 2001).

The fourth hypothesis, the Comprehensible Input Hypothesis, also called \((i+1)\), refers to students’ participation in a linguistically-rich environment that is one step above language students’ current proficiency level (Krashen, 1982). Namely, the input
hypothesis is related to acquisition and not learning since in Krashen’s (1982) words learners “go for meaning” (p. 21) first and then learn the structure. When doing so, some language learners experience a silent period that is characterized by the learners’ unwillingness or inability to use the TL for communicative purposes (Krashen, 1988). Krashen (1985) noted that moving learners from the current level of language proficiency, called \( i \), to the next level \( (i+1) \) was beneficial for learners because of the need to feel challenged when learning/acquiring a TL. According to Krashen (1982, 1985), being challenged helps learners improve proficiency in the target language. The Comprehensible Input Hypothesis is based on the premise of a language acquisition device that facilitates learning and that Chomsky (1968) called Universal Grammar (UG). Thus, Krashen’s (1982, 1985) premise that language learners are capable of acquiring a TL.

Opponents of the Comprehensible Input Hypothesis claimed it is not feasible to validate a specific language level over another in order to determine whether appropriate \( i+1 \) has been provided (Gass & Selinker, 2001; White, 1987). Gass and Selinker (2001) noted that another source of criticism to the hypothesis deals with issues in regard to the quantification of language learners’ appropriate exposure to the comprehensible input necessary for language production. Nonetheless, as Cook (2001) stated, different stakeholders in the teaching/learning of a target language have used \( i+1 \) to move language learners forward in their language learning/acquisition process.

Finally, the Affective Filter Hypothesis (Krashen, 1982, 1985) states that language learners perform better in a non-threatening environment. Therefore, it is expected that the English language acquisition/learning process take place in a stress-free
setting conducive to learning where students’ affective filter is low so that English language proficiency can be developed at a faster pace (Krashen, 1982, 1985). Different scholars agree that there are psychological aspects like motivation, anxiety, and self-confidence that impact the way language learners perform in the target language (Cook, 2001; Gass & Selinker, 2001; Krashen, 1982, 1985; Nunan, 1999).

In regard to motivation, Dulay et al. (1982) reported that in the field of SLA, three types of motivation have been identified: integrative, instrumental (Gardner & Lambert, 1959), and social group identification (Dulay et al., 1982). Gardner and Lambert (1959) were the first academics differentiating between integrative and instrumental motivation. The former has to do with the learners’ impulse to achieve communicative competence in the target language to fully integrate and participate in the target language community. The latter refers to the learners’ desire to reach TL proficiency for specific reasons such as obtaining a job promotion or a scholarship. The social group identification motivation refers to learners that want to speak a specific language or dialect to be associated with that particular group. Therefore, social group identification is related to integrative motivation (Dulay et al., 1982). In relation to anxiety and self-confidence (Dulay et al., 1982), researchers agreed that the higher levels of anxiety learners experience, the less likely it is for communicative competence to be developed. Likewise the higher self-confidence learners possess the more likely it is to achieve target language proficiency (Dulay et al., 1982; Krashen, 1982, 1985).

Opponents of Krashen’s (1982, 1985) views to the Monitor Model and the five hypotheses admitted that Krashen’s contributions to the field of SLA are valid; although, in some cases unlikely to be verified, such as the case of the Comprehensible Input
Hypothesis, $i+1$, (Gass & Selinker, 2001; White, 1987). Gass and Selinker (2001) acknowledged that each one of the hypotheses has been the basis of a substantial amount of research that has contributed to the field of SLA.

Another contribution to the field of SLA is Cummins’ (1979, 1980, 1999) distinction of language into BICS and CALP. The distinction provided answers for the differences in English language learners’ (ELLs) communicative competence when measures of accountability, such as standardized tests, were implemented to determine academic achievement. The following section will explicate Cummins’ (1979, 1980, 1999) notion of BICS and CALP that is the last component that comprises the second language acquisition theories that provided the theoretical foundation for the present research.

**BICS and CALP.** Substantial work has been conducted on the cognitive and psychological processes dealing with the learning/acquisition process of a target language (Canale, 1983; Canale & Swain, 1980, 1981; Ellis, 2003; Gass & Selinker, 2001; Krashen, 1982, 1985; Nunan, 1999). Minimal work, however, has been implemented on the different types of language proficiency learners achieved. Cummins’ (1979) study provided information about the difference between learners’ social and academic skills in the target language in an effort to provide an explanation to learners’ varied TL proficiencies (Cummins, 1984). Cummins (1979) coined the terms Basic Interpersonal Communicative Skills (BICS) and Cognitive Academic Language Proficiency (CALP) to refer to the two types of language proficiency learners of a TL achieve.

In Cummins’ (2008) words, BICS referred to conversational fluency whereas CALP referred to language learners’ ability to comprehend and articulate in written and
oral forms topics considered relevant to school success, also referred to as academic language. Research has shown that English Language Learners (ELLs) developed BICS faster than CALP (Chaika, 1994; Cummins, 1984, 1999; Gass & Selinker, 2001; Nunan, 1999) because of the constant need to use the target language in everyday situations. Cummins (1999) observed that learners often achieved proficiency in conversational English within two years of being in the country. The fact that ELLs achieve English conversational fluency at a faster pace when compared to academic language is the source of confusion among educators (Cummins, 1999). Some educators do not understand that conversational English differs from academic English in terms of complexity and that academic English is the construct to measure on standardized tests in order to determine academic achievement (Cummins, 1999; Solórzano, 2008; Tsang et al., 2008).

Educators are unaware of the fact that research has shown the development of academic vocabulary takes time (Cummins, 1979, 1999; Krashen 1982, 1985; Nunan, 1999), usually between five and ten years (Collier, 1987; Cummins, 1984, 1999). Hence, the difficulties English Language Learners (ELLs) experience when faced with standardized tests at early stages of English language acquisition and development (Abedi & Gándara, 2006; Cummins, 1999; Sireci et al., 2008). Solórzano (2008) claimed, however, that it is uncertain what level of English language proficiency ELLs need to demonstrate academic achievement (Ardasheva, Tretter, & Kinny, 2012; Mahon, 2006; Tsang et al., 2008) as measured by standardized test scores. The claim emphasized the notion that time is one of the factors ELLs necessitate to achieve target language
proficiency at the social and especially at the academic level (Cummins, 1984, 1999; Ellis, 2003).

Cummins (1979, 2008) stated that another difference between BICS and CALP was related to the context dependency and the learners’ cognitive ability required for language development to take place. BICS, being context-embedded, was not demanding cognitively, whereas CALP, on the other hand, was context-reduced and demanding cognitively. Different dimensions of context, either internal (context-embedded) or external (context-reduced), were distinguished to stress that context referred to the strategies implemented to convey meaning. Examples of such are the utilization of visuals and the learners’ use of prior knowledge and motivations (Cummins, 2008) to make sense of the language input received. Cummins (2008) noted, however, that educators needed to be wary of such distinction because for a student a piece of language may be context-reduced and not cognitively demanding; but, the situation may not be the same for another due to individuals’ differences (Cook, 2001).

The concept of BICS and CALP is not recent in the literature of SLA (Cummins, 1980) because different terminology has been used to address the difference in language proficiency (Wells, 1979). Hernandez-Chavez, Burt, and Dulay (1978), for instance, talked about natural communication tasks, what Cummins (1979) referred to as BICS, and linguistic manipulation tasks, referred to as CALP, that also reported different results when language development in both areas was measured. Although Cummins (2008) noted that the notion of BICS and CALP stated only a distinction between the levels of language proficiency learners would achieve, the terms have been widely used in the literature of SLA. Both concepts provide educators with the information needed to
explicate the discrepancies in ELLs’ language proficiency when it comes to analyzing the
results ELLs obtained on the standardized tests implemented to determine academic
achievement.

Critics of the BICS and CALP difference had noted that the concepts were
approached in a simplistic way (Scarcella, 2003) and that the theory was deficient
because language learners’ academic problems were attributed to not having developed
sufficient CALP (Edelsky, 1991; MacSwan, 2000). Despite the critiques, Cummins’
(1979, 1981, 1984, 1999, 2008) contribution to the field of SLA has helped clarify the
questions surrounding the varied proficiency levels language learners display (Ellis,
1994) in contexts such as the classroom and on standardized tests where CALP is
dominant (Solórzano, 2008; Tsang et al., 2008)

Being unable to fully understand the difference between BICS and CALP would
be detrimental to ELL’s target language acquisition and development; especially
nowadays that the educational system is dealing with stringent accountability
requirements (Cummins, 1999; Solórzano, 2008; Tsang et al., 2008) in which ELLs’
insufficient progress has been evident on standardized tests (Geisinger, 1992; Mahon,
2006; Olmedo, 1981). Different stakeholders’ lack of knowledge of SLA theories place
language learners at risk of being overidentified for special education services due to the
linguistic difficulties ELLs experienced on standardized test that have the potential of
being misinterpreted as cognitive issues (Cummins, 2008).

Cummins (1999) believed educators played a significant role in ELLs’ teaching.
The scholar asserted that a program whose goal was to promote learners’ CALP, either in
a ESL or mainstream class, should address cognitive, academic, and language
components. Cognitively, the tasks assigned should be challenging enough to require ELLs to use higher-order thinking skills. Academically, subject area content needs to be part of the ESL language instruction. In regard to language components, language acquisition and development should be encouraged by prompting students to compare and contrast the target and native language. Such comparison would help learners make sense of the new linguistic system being learned/acquired and thus ease the transition from one language to the other (Cummins, 1999).

Research in the field of SLA has reiterated that language learners need time to achieve target language proficiency (Collier, 1987; Cummins, 1984, 1999, 2008; Ellis, 2003; Gass & Selinker, 2001; Nunan, 1999; Selinker, 1992) with Cummins (1999) suggesting that the development of CALP is a long term endeavor that continues throughout the language learners’ lives. Hence, the idea of measuring ELLs’ academic achievement by means of a sole measure of accountability, the state standardized test, may be a practice to reevaluate.

The second language acquisition theories that provided the theoretical foundation for the present research showed the degree of complexity involved in the analysis of English language learners’ (ELLs) academic achievement. Different researchers have stated that achieving communicative competence in the target language includes cognitive aspects (Chomsky, 1965, 1968; Canale, 1983; Canale & Swain, 1980; Cummins, 1979, 1981; Gass & Selinker, 2001; Krashen, 1982, 1985; Selinker, 1972, 1992) and psychological aspects (Chaika, 1994; Dulay et al., 1982; Gardner & Lambert, 1959; Gass & Selinker, 2001; Preston, 1989; Schumann, 1978) that have an impact on ELLs’ language acquisition and development and on the scores ELLs obtain on
standardized tests (Solórzano, 2008; Tsang et al., 2008). Geisinger (1992, 2003), Mahon (2006), and Olmedo (1981), are some of the many researchers that have questioned the validity and reliability of standardized tests to appropriately measure ELLs’ progress. A discussion of the implications that Accountability and Testing have on ELLs’ academic achievement completed the theoretical framework of the present study.

Accountability

In 1981, the Supreme Court decision in *Castaneda v. Pickard* (1981) set into motion a national accountability movement in which Limited English proficient students (LEPs), as described by legislators, or English language learners (ELLs), as referred to by educators (Garcia, 2009) and adopted by the state in which the present research took place (MDE, 2011c), were evaluated in the school setting to determine academic achievement. The decision also stated that such assessment measures would be effective after sufficient time had been provided for learners to overcome linguistic barriers at the social and academic level (*Castaneda v. Pickard*, 1981). As such, ELLs achieved recognition as a subgroup under the provisions of the 2002 Law of *No Child Left Behind* (Gottlieb, 2012). ELLs’ standardized test scores are included in the accountability system used in the states to assess the academic achievement of the students in the nation (Porter, 2000).

Marin and Filce (2013) stated that the beginning of accountability is traced back to 1965 with the implementation of *The Elementary and Secondary Education Act* – *ESEA*- (Public Law 89-10). According to Iron and Harris (2007), *ESEA* allocated federal funds for the education of disadvantaged children at the educational and socioeconomic levels. The measure aimed at promoting academic achievement and closing the gap
reported at the time (Iron & Harris, 2007). Title I regulations to education under ESEA allow the federal government to expect an increase of academic results (NCLB, 2002). Such increase is quantified by means of the accountability measures placed upon local educational agencies when it comes to determining students’ academic achievement (Manzo, 2000).

Accountability, defined as the collective responsibility primary stakeholders at local educational agencies -LEAs- share (Dee & Jacob, 2011), is closely intertwined with students’ academic success as determined by the state standardized test (Irons & Harris, 2007). As such, the No Child Left Behind (NCLB, P.L. 107-110) Law of 2001 (2002) was responsible for the institution of higher accountability measures tied to students’ standardized test scores (NCLB, 2002), to determine LEAs’ effectiveness in advancing students academically. Although states employ different instruments for such purpose, in the end the goal is the same; to quantify students’ academic achievement and to provide a standard scale of measurement for school districts and schools in the state (Dee & Jacob, 2011; NCLB, 2002).

The 2009 model of accountability devised by the Mississippi Department of Education (2010) enacted seven levels to assess schools or school districts, from top down, as follows: Star, High Performing, Successful, Academic Watch, Low Performing, At-Risk of Failing and Failing (MDE, 2010). Academic Watch, Low Performing, At-Risk of Failing, and Failing levels were implemented to point out that a LEA or school had not achieved the Quality of Distribution Index (QDI) points required to show successful academic performance throughout the year. Therefore, in 2009 LEAs and schools needed between 200-300 QDI points to be deemed a Star and/or High Performing institution,
between 166-199 to be considered a High Performing and/or Successful institution, between 133-165 to be considered Successful and/or Academic Watch, 100-132 to be deemed Academic Watch, Low Performing, and/or At-Risk of Failing, and below 100 QDI points to be rated as a Failing institution (MDE, 2010). Local educational agencies that did not improve students academically, as measured by standardized test scores, for two consecutive years were placed on probation and faced being controlled and run by the Mississippi Department of Education (MDE, 2010).

During the 2011-2012 academic year the performance levels assigned to LEAs and schools changed to A, B, C, D and F (MDE, 2012a). The academic achievement of the 152 LEAs in the state where the study was conducted was calculated by using the Adequate Yearly Progress (AYP) that showed Growth and the Quality of Distribution Index (QDI) that indicated the points needed for the assignment of the letter grades to LEAs and schools (MDE, 2012a). As such, the assignment of letter grades, based on QDI cut scores, varied depending on whether schools had achieved Growth. According to Marin and Filce (2013), schools without a 12th grade that met Growth were measured using the following letter grades and QDI scores: A (200-300), B (166-199), C (133-165), D (100-132), and F (0-99). For schools that did not meet Growth, the assignment of letters grades, based on QDI cut scores, were as follows: B (200-300), C (166-199), D (133-165), F (100-132), and F (0-99) (Marin & Filce, 2013; MDE, 2012b).

According to MDE (2013a), QDI scores were calculated using the results students obtained on the Mathematics and Language Arts tests on the Mississippi Curriculum Test Second Edition (MCT2) from grades 3rd - 8th, the Subject Area Testing Program (SATP) from the Algebra I, Biology I, English II, and U.S History tests, and the Language Arts
and the Mathematics sections of the Mississippi Alternate Assessment of Extended Curriculum Frameworks –MAAECF– (Marin & Filce, 2013). Therefore, based on the standardized test scores obtained, students were assigned Performance Classifications as follows: Minimum, Basic, Proficient, and Advanced. Minimum earned the school and LEA 0 points, Basic was 1 point, Proficient represented 2 points, and advanced represented 3 points (MDE, 2013c).

The implementation of the new letter grades accounted for an improvement in LEAs’ and schools’ accountability levels. According to the Mississippi Department of Education (2013a), in the 2012-2013 academic year the HSCI (High School Completion Index) was part of the QDI calculations. At the state level the five-year graduation rate was incorporated in the QDI calculations, at the federal level the four-year graduation rate was included as mandated by NCLB of 2002 (MDE, 2013a). Marin and Filce (2013) stated that in regard to the five year graduation rate, the QDI cut scores and letter grades for LEAs/schools with a 12th grade and a 5-year graduation rate/HSCI (Model A) that met Growth were as follows: 200-300 (A), 166-199 (B), 133-165 (C), 100-132 (D), and 0-99 (F). The QDI cut scores and letter grades for LEAs/schools with a 12th and a 5-year graduation rate/HSCI that did not meet Growth were: 200-300 (B), 166-199 (C), 133-165 (D), 100-132 (F), and 0-99 (F). The former F letter grade corresponded to Low Performing and At-Risk of Failing LEAs/schools while the latter F letter grade corresponded to Failing LEAs/schools (Marin & Filce, 2013); the old classification model employed in the state prior to 2012.

In regard to the four-year graduation rate (Model B), Marin and Filce (2013) asserted the calculation for LEAs/schools with a 12th grade included not only the
LEAs/schools’ QDI but also the graduation rate. Therefore, the QDI cut scores and letter grades for LEAs/schools that met Growth were: 280-400 (A), 241-279 (B), 203-240 (C), 170-202 (D), and 0-169 (F) whereas the QDI cut scores and letter grades for LEAs/schools that did not meet Growth were: 280-400 (B), 241-279 (C), 203-240 (D), 170-202 (F), and 0-169 (F). After both models were calculated, districts and schools would receive the higher performance classification obtained out of the two models (MDE, 2013a).

During the 2012-2013 school year, out of 151 school districts in the state, down from 152 school districts the year before because of consolidation of two school districts, nineteen LEAs obtained an “A”, forty-three obtained a “B”, thirty-seven a “C”, thirty-seven a “D”, and fifteen LEAs obtained an “F” (MDE, 2014a). For the 2013-2014 school year, nineteen LEAs obtained an “A”, forty-three secured a “B” grade, forty-eight secured a “C” grade, thirty-nine secured a “D” grade, one LEA secured an “F” grade, and one was pending an internal investigation before the letter grade could be released (MDE, 2014a). According to MDE (2014a), the implementation of the new letter grades resulted in more districts/schools securing higher letter grades (A and B) and fewer districts/schools obtaining lower letter grades (D and F).

Schools’ and districts’ satisfactory results in advancing students’ academic achievement were determined by the higher letter grades obtained after calculating QDI scores (MDE, 2013a). In Marin and Filce’s (2013) words, higher letter grades assured the constant flow of government funds into the public school system (Manzo, 2000). As such, LEAs seek ways to advance students’ academic achievement to be in accordance with the regulations imposed by the federal government for the allocation of Title I funds (Dee & Jacob, 2011). In order to improve students’ academic achievement as mandated
by NCLB act of 2001 (2002), schools and schools districts have implemented changes deemed appropriate to increase not only students’ standardized test scores but also school districts’ and schools’ rankings (Dee & Jacob, 2011).

Among the changes deemed appropriate in the state where the study took place was the alignment of classroom instruction to effectively deliver the curriculum fully implemented in the state, CCSS, with the new standardized test (MDE, 2014e). The alignment of curriculum, instruction, and assessment has been deemed of paramount importance inside the classroom to help boost students’ academically as determined by the state standardized test (English & Steffy, 2001; Irons & Harris, 2007).

The accountability movement in the nation has brought about various educational changes and has sparked an intense debate since the implementation of the NCLB law of 2001 (2002), with some in favor (U.S. Department of Education, 2008, 2010a) and others opposing the measure (Neal & Schanzenbach, 2010; Rodriguez, 2010). Among the opponents to the mandates of the NCLB act (2002) are some researchers that have disputed the validity and reliability of standardized tests to accurately assess English language learners’ (ELLs) academic achievement (Olmedo, 1981; Sireci et al., 2008; Solórzano, 2008) due to the language acquisition and development processes involved in the pursuit of English language proficiency (Canale, 1983; Canale & Swain, 1980, 1981; Gass & Selinker, 2001; Nunan, 1999).

The current accountability measures apply to all students in the state where the study was conducted, regardless of the English language proficiency ELLs have developed and where in the language development process ELLs are. Research, in regard to the time needed for ELLs to achieve English language proficiency (Cummins, 1979,
1999; Dulay et al., 1982; Nunan, 1999), is not fully considered when implementing standardized tests to measure ELLs’ academic achievement. A measure used to try to offset the linguistic complexity of the test is observable by means of the testing accommodations provided for ELLs (MDE, 2013b; PARCC, 2014b) that have varied with each standardized test implemented in the state.

The use of testing accommodations does not modify the fact that research in SLA has reiterated that language learners necessitate between five and ten years to develop CALP (Collier, 1987; Cummins, 1984; 1999); so that ELLs are better equipped to take standardized tests that determine academic achievement. The impact that Accountability has on ELLs goes hand in hand with that of Testing. The next section, Testing, provided some insights in regard to English language learners’ (ELLs) academic achievement.

Testing

Assessing the curricula used in the K-12 schools around the country became the norm in the nation with the implementation of No Child Left Behind Act of 2001 (2002) (Gottlieb, 2012). In the state where the present research took place, ELLs’ academic achievement is measured in English regardless of English language proficiency level. Tsang, Katz, and Stack (2008) argued that measuring ELLs’ academic achievement in the target language would not provide accurate results because of insufficient English language proficiency. The researchers also pointed out that ELLs may experience difficulties understanding questions and test items not due to dearth of subject area knowledge, but due to dearth of English language proficiency.

Research has shown that ELLs experience difficulties at the syntactical, lexical, and discourse levels when taking standardized tests (Abedi & Gándara, 2006; Bailey,
2000, 2006; Cummins, 2008; Nunan, 1999; Solórzano, 2008). The assessment of ELLs is more intricate than that of the general population due to the aspects involved in ELLs’ development of target language communicative competence (Bachman, 1998; Bachman, 2002; Canale & Swain, 1980, 1981; Cummins, 1979, 1999; Gass & Selinker, 2001; Krashen, 1982, 1988). Among those aspects are the SLA theories addressed in this research that explicate the cognitive and psychological processes ELLs experience when learning/acquiring the TL, referred to as internal aspects in this study. Analyzing the native and the target language similarities and differences (Gass, 2013; Krashen, 1988) and the role that motivation has in the process (Dulay et al., 1982; Selinker, 1972) are examples of such internal aspects. Accountability and Testing, referred to as external aspects in this study, also have an impact in determining ELLs’ academic achievement (Abedi & Gándara, 2006; Cummins, 2008; Mahon, 2006; Solórzano, 2008; Tsang et al., 2008).

Chapelle (1998) noted that basing the analysis of ELL’s academic achievement on a single measure of accountability would not yield as accurate results as were multiple measures employed for the same purpose. In other words, the researcher suggested that to accurately determine ELLs’ growth may require the use of more than one single measure, the state standardized test, as it is currently done across the country to determine ELLs’ academic achievement. In Chapelle’s (1998) words, when learners consistently perform across different instruments it is possible to arrive at conclusions in regard to the construct being measured. Thus, determining ELLs’ academic achievement by using a sole instrument may bias the results of the construct to measure, that is subject area
knowledge (Abedi & Gándara, 2006; Sireci et al., 2008; Solórzano, 2008) and not English language proficiency

The continued underperformance of Mississippi’s K-12 students on the National Assessment of Educational Progress (NAEP) test and the American College Test (ACT) motivated the Mississippi Board of Education to adopt the Common Core State Standards (CCSS) in 2010 (CCSS, 2014) in an effort to boost students’ academic performance at the state and national level (Joint Committee on PEER, 2014). The new curriculum resulted in a new generation of standardized tests used to determine students’ academic achievement as stated by the U.S. Department of Education (2010b). Although research concerning the validity and reliability of standardized tests when used with the ELL population has shown unsatisfactory results (Bachman, 2002; Geisinger, 1992, 2003; Mahon, 2006; Olmedo, 1981; Solórzano, 2008), it is unclear whether or not the new standardized tests will address the testing issues pertaining to ELLs.

Some researchers asserted that it is not possible to determine what level of language proficiency ELLs need before achievement tests are able to accurately measure academic development (Ardasheva et al., 2012; Mahon, 2006; Solórzano, 2008; Tsang et al., 2008) with some even claiming that ELLs necessitate between five and ten years for the development of academic language (Collier, 1987; Cummins, 1984, 1999). Therefore, the validity of the new standardized test to determine the efficacy of the new curriculum in advancing the academic achievement of all the students in the state, and especially of the ELL population, may be subject to future discussion in the field of education.

The fact that the new curriculum, CCSS, requires students to use higher order thinking skills on English Language Arts and Mathematics at higher percentages (Porter,
McMaken, Hwang, & Yang, 2011) when compared to states’ specific standards (Gottlieb, 2012) is cause of concern for stakeholders dealing with ELLs. Higher order thinking skills call for students to be proficient in the English language not only at the interpersonal level (BICS) but also at the academic level (CALP) (Cummins, 1979, 1981, 2008). Therefore, it is assumed that the adoption of CCSS and the new standardized test in the state may have an impact on ELL’s academic achievement because test scores are expected to drop (MDE, 2014b).

The literature on testing, a topic related to accountability, has reiterated that the linguistic complexity on standardized tests is a major source of difficulty for ELLs (Abedi & Gándara, 2006; Menken, 2010) who risked being labeled at risk of failing academically. The implications for ELLs to be regarded as not academically talented are not simple; especially when the U.S. Census Bureau (2013) pointed out that immigration patterns will be the main cause of population growth in the future and that the number of ELLs is increasing at a steady pace in the country.
CHAPTER III

METHODOLOGY

Overview

Analyzing ELLs’ academic achievement provides information on the ways to better satisfy the linguistic and academic needs of ELLs in a time when accountability measures in the state are higher than in the past (Gottlieb, 2012). A new set of standards, CCSS, has brought about a new generation of standardized tests that match the rigor of the curriculum in use (U.S. Department of Education, 2010b). For the 2014-2015 school year, the educational testing group called the Partnership for Assessment of Readiness for College and Careers (PARCC, 2014a) created a new standardized test for the state where the study was implemented (MDE, 2014e). According to the Mississippi Department of Education (2015a), there is the possibility of the implementation of a new standardized test for the 2015-2016 school year upon selection of an instrument aligned to the state’s curricula.

The implementation of two different assessments in two consecutive years may result in stringent measures of academic achievement for all the students in the state; but in particular for English Language Learners (ELLs) who are developing English language proficiency and subject area content at the same time. Test scores are expected to drop in the state where the study took place due to the implementation of the new standardized test in the spring of 2015 (MDE, 2014b). Analyzing the academic achievement of the ELL population in the local school district where the study was conducted may help stakeholders consider the importance of using additional instruments, besides the standardized test, to determine ELLs’ academic achievement. Research on SLA has
shown that ELLs are not ready to be tested in the English language at early stages of language acquisition and development (Brown, 1980; Gasss & Selinker, 2001; Nunan, 1999); especially when the construct to measure is academic language, which takes between five and ten years to develop (Collier, 1987; Cummins, 1979, 1981, 1999).

In an effort to determine ELLs’ academic achievement in the school district where the study was conducted, the researcher analyzed the scores ELLs obtained on the English language proficiency test as measured by the WIDA test (World-Class Instructional Design and Assessment, 2014a), specifically the ACCESS for ELLs test (Assessing Comprehension and Communication in English State-to-State for English Language Learners) implemented to determine ELLs’ annual progress (WIDA, 2014a). The ACCESS for ELLs test measures students’ English language skills: listening, speaking, reading, and writing providing scores for each individual skill and a combined scale score that was utilized for this analysis.

The goal of the present study was to determine during the 2012-2013 and the 2013-2014 school years 1. how much growth ELLs experienced on the English language proficiency test as determined by the scale scores obtained on the ACCESS for ELLs from 2012-2013 to 2013-2014 school year. 2. the extent to which ELLs’ growth on the English language proficiency test (ACCESS for ELs) predicted the academic achievement of ELLs in regard to Reading and Mathematics end of the year grades. 3a. how much growth in regard to MAP test scores for Reading and Mathematics ELLs experienced from the fall to the spring in the 2012-2013 and the 2013-2014 school year. 3b. The relationship between MAP test scores for Reading and Mathematics and the Reading and Mathematics end of the year grades for the 2012-2013 and the 2013-2014
school years. 4. The correlation between the English language proficiency test scores, the MAP test scores, and the MCT2 test scores for the 2012-2013 and the 2013-2014 school years.

Participants

The sample drawn for this analysis came from the 8 schools in the district that serve approximately 220 English language learners (ELLs). Six elementary schools grades K-6, one middle school grades 7-8, and one high school grades 9-12 comprise the sample for the analysis. Non-probability sampling, especially purposive sampling, was utilized for the analysis, which limited the possibility of representing the population and of generalizing results. The ELL population in the place where the study was conducted is transient, with some individuals changing schools once or twice during the same school year.

Research Design

Quantitative data was gathered for the 2012-2013 and 2013-2014 school years. The data gathered helped obtain descriptive and inferential information about the sample. Purposive sampling was used throughout the study. Quantitative measures were utilized to analyze English language learners’ (ELLs) academic achievement, in which English language proficiency was determined by the ACCESS for ELLs test devised by the WIDA consortium (WIDA, 2014a). Academic achievement was determined by the end of the year grades on Reading and Mathematics, the MAP fall and spring test scores for Reading and Mathematics, and the MCT2 test scores for English Language Arts (ELA) and Mathematics for the 2012-2013 and the 2013-2014 school years. The data collected
helped analyze ELLs’ academic achievement by using additional instruments besides the state standardized test.

Instruments

To determine ELLs’ academic achievement, the researcher employed the results of two standardized tests used across the state. One instrument is used to measure English language proficiency (ACCESS for ELLs) and the other was implemented to measure students’ academic achievement (The Mississippi Curriculum Test, Second Edition; MCT2). Both tests along with Reading and Mathematics end of the year grades and a computerized formative academic assessment (MAP test) were analyzed to determine ELLs’ academic achievement for the 2012-2013 and the 2013-2014 school years.

The four instruments used in the study to determine ELLs’ academic achievement are discussed in the subsequent paragraphs, starting with the English language proficiency test, ACCESS for ELLs, followed by the state standardized test, MCT2, the subject area end of the year grades, Reading and Mathematics, and the formative academic assessment test, MAP test. In regard to English language proficiency, the ACCESS for ELLs test, created by the WIDA group, has been implemented in the state since the 2008-2009 school year in order to measure ELLs’ English language proficiency. The test is administered during a specific time determined by each state (WIDA, 2014a, 2014c). The state where the research took place administers the English language proficiency test in the spring, specifically in April, to all ELLs who receive ESL instruction incorporated in their academic day. The ACCESS for ELLs test is utilized to meet state and federal accountability provisions dealing with the evaluation of ELLs’ English language proficiency (WIDA, 2014a).
At the elementary level, ESL instruction is provided mainly as a pull-out service across the state. The school district where the study was conducted also implements “push in” as a way to provide classroom support to ELLs determined to have low levels of English language proficiency. Identification of potential ELLs is conducted by using the information parents provide in the Home Language Survey –HLS– whose goal is to identify the presence of a language other than English in the student’s household (MDE, 2011a). Placement of ELLs into the ELL program is contingent upon the results students obtain on the screener test called W-APT, the WIDA ACCESS Placement Test (MDE, 2011a; WIDA, 2014e). Test items for the W-APT and the ACCESS for ELLs tests assess ELLs’ English language proficiency in five academic areas: Social and Instructional Language (SIL), Language of Language Arts (LoLA), the Language of Mathematics (LoMA), Language of Science (LoSC), and Language of Social Studies –LoSS– (WIDA, 2014e).

The WIDA test has three overlapping forms: Tier A (Beginning), Tier B (Intermediate), and Tier C (Advanced) that ELL coordinators, specialists, and/or teachers are able to select from depending on students’ English language proficiency level (WIDA, 2014a). Each form of the test assesses listening, speaking, reading, and writing. According to WIDA (2014a,c), test forms are divided into five grade-level clusters: Kindergarten, Grades 1-2, Grades 3-5, Grades 6-8, and Grades 9-12. ELLs’ English proficiency test scores are reported for each language skill and are provided as raw scores, scale scores, and English language proficiency (ELP) levels (WIDA, 2014b).

Raw scores provide the number of questions for which a student correctly responded out of the total number of test questions (WIDA, 2014d). Therefore, raw
scores are not an indicator of ELLs’ English proficiency growth. Scale scores, on the other hand, helped in determining students’ growth because comparisons are possible within language skills and between overall scale scores (WIDA, 2014b). Although the WIDA ACCESS for ELLS Interpretive Guide for Score Reports (2014d), on page 5, states that scale scores are validated and have psychometric properties, the researcher was unable to locate the psychometric values mentioned on the guide on the WIDA consortium website. Attempts to contact the Director of Assessment for WIDA were unsuccessful.

Finally, English language proficiency (ELP) levels describe student performance using the six WIDA language proficiency levels in which Level 1 corresponds to Entering, Level 2 corresponds to Emerging, Level 3 corresponds to Developing, Level 4 corresponds to Expanding, Level 5 corresponds to Bridging, and Level 6 corresponds to Reaching (WIDA, 2014a, 2014d). As such levels 1-3 are targeted in the Tier A form, levels 2-4 are targeted in the Tier B form, and levels 3-6 are targeted in the Tier C form (WIDA, 2014a). English language proficiency (ELP) level scores are categorical in nature making data analysis not as precise as it would be were interval data implemented. Therefore, the researcher used overall scale scores, interval data, for the proposed study due to the possibility of determining ELLs’ English language proficiency growth from the 2012-2013 to the 2013-2014 school year.

Academic achievement, for the 2012-2013 and the 2013-2014 school year was measured in the state by the Mississippi Curriculum Test, Second Edition (MCT2) that went into effect starting in the spring of 2008. The new test sought to assess content of the Mississippi Curriculum Frameworks for Language Arts that were revised in 2006 and
the Mississippi Curriculum Frameworks for Mathematics that were revised in 2007 (MDE, 2014c). The MCT2, designed and validated by the Pearson testing group, was an annual test that used a multiple-choice format to assess English Language Arts (ELA) and Mathematics for grades 3-8 (MDE, 2014d). According to MDE (2014d) Pearson developed the material that was approved by the Mississippi Department of Education to be used in the training of hired item writers. The test items developed assessed content specified in the Mississippi Curriculum Frameworks and were then reviewed and approved by the Mississippi Department of Education to ensure the test items met the needs of the state in regard to student assessment (MDE, 2014d).

The test was administered during a four-day period as follows: English Language Arts (ELA) – Reading on day one, ELA – Writing on day two, Mathematics on day three, and make-up test day for students who missed one or more sections of the test on day four. The multiple-choice items addressed the four performance level descriptors (Minimal, Basic, Proficient, and Advanced) and the Depth of Knowledge (DOK) levels (MDE, 2014d). For the 2012-2013 MCT2 administration the number of test items for ELA went from 49 in third grade (Cronbach’s $\alpha = .88$) to 70 for seventh grade (Cronbach’s $\alpha = .88$) and eighth grade (Cronbach’s $\alpha = .90$). In Mathematics, the number of test items also increased progressively going from 45 in third grade (Cronbach’s $\alpha = .90$) to 50 for fifth grade (Cronbach’s $\alpha = .92$), sixth grade (Cronbach’s $\alpha = .91$), seventh grade (Cronbach’s $\alpha = .89$), and eighth grade (Cronbach’s $\alpha = .90$; MDE, 2014d). The MCT2 2012-2013 technical manual (MDE, 2014d) details the measures performed to ensure the reliability and validity of the state standardized test. In regard to reliability, the manual stated that Cronbach’s alpha, which is the internal consistent-type
reliability, was the measure employed to assess the test score reliability for the 2013 test administration. Cronbach’s alpha was calculated for each grade level (3-8), per subject area (ELA and Mathematics), for all students and for the student subgroups the Pearson testing consortium identified, (Female, Male, African American, White, English Language Learners, Economic Disadvantage, Title I, and Disability). Cronbach’s alpha values for the different groups above mentioned ranged from 0.78 to 0.92. The literature on research states that 0.70 is the minimum value targeted for reliability coefficients (Field, 2009; Meyer, Gamst, & Guarino, 2013).

In regard to the validity of the MCT2 test, the 2012-2013 technical manual (2014d) stated that the Item Response Theory models utilized for the MCT2 test assumed the construct to measure was unidimensional. Principal component analysis and a confirmatory factor analysis were implemented to test the assumption. For the principal component analysis, the first three Eigenvalues were reported as well as the first ten scree plots by subject area and by grade level. Eigenvalues ranged from 7.76 to 9.58 for ELA (first value reported) and from 8.33 to 8.82 for Mathematics (first value reported). The 10 scree plots reported for all 10 eigenvalues showed that the first dimension explains the most item variance in the model.

For the confirmatory factor analysis Adjusted Goodness of Fit (AGFI) and the Root Mean Square Residual (RMR), were reported. In regard to AGFI, values range between 0 and 1, where values of 0.90 or greater indicate a good model fit (Field, 2009). In regard to RMR, in the absence of a maximum value, the minimum value of 0 is used, in which a good model fit has smaller RMRs. The AGFI values for each subject area of the MCT2 test ranged from 0.9968 (3rd grade) to 0.9470 (8th grade) for ELA and from
0.9976 (3rd grade) to 0.9992 (8th grade) for Mathematics. The RMRs values for each subject area of the MCT2 test ranged from 0.0046 (3rd grade) to 0.0173 (8th grade) for ELA and from 0.0049 (3rd grade) to 0.0027 (8th grade) for Mathematics. Thus, based on the model fit indices it was stated the assumption of unidimensionality was satisfied (MDE, 2014d).

To further corroborate findings, correlations were performed in which the results showed the content strands of the MCT2 test have moderate correlation with each other with values fluctuating from 0.44 to 0.69 for ELA and from 0.50 to 0.73 for Mathematics. Other measures implemented to verify validity were the analysis of the number of items that showed low misfit, or DIF (Differential Item Functioning) issues, and point-biserial correlations that were positive and high indicating internal consistency.

For the 2013-2014 MCT2 (MDE, 2015b) administration the number of test items for ELA went from 50 in third grade (Cronbach’s $\alpha = .85$), and grade fourth (Cronbach’s $\alpha = .84$) to 70 for seventh grade (Cronbach’s $\alpha = .87$) and eighth grade (Cronbach’s $\alpha = .89$). In Mathematics, the number of test items also increased progressively going from 45 in third grade (Cronbach’s $\alpha = .88$) and fourth grade (Cronbach’s $\alpha = .88$) to 50 for grades fifth (Cronbach’s $\alpha = .90$), sixth (Cronbach’s $\alpha = .90$), seventh (Cronbach’s $\alpha = .88$), and eighth (Cronbach’s $\alpha = .88$).

The MCT2 2013-2014 technical manual (MDE, 2015b) details the measures performed to ensure the reliability and validity of the state standardized test. In regard to reliability and as was the case for the 2012-2013 MCT2 test administration (MDE, 2014d), the 2013-2014 technical manual stated that Cronbach’s alpha, which is the internal consistent-type reliability, was the measure employed to assess the test score
reliability for the 2014 test administration. Cronbach’s alpha was calculated for grades 3-8, per subject area (ELA and Mathematics), for all the student population, and for the student subgroups the Pearson testing consortium identified, (Female, Male, African American, White, English Language Learners, Economic Disadvantage, Title I, and Disability). Cronbach’s alpha values for the different groups above mentioned ranged from 0.76 to 0.90. Although a slight decline is observed between the Cronbach’s alpha values from the 2013 to the 2014 MCT2 administration, the literature on research states that 0.70 is the minimum value targeted for reliability coefficients (Field, 2009; Meyer, Gamst, & Guarino, 2013).

In regard to the validity of the MCT2 test, the 2013-2014 technical manual (MDE, 2015b) stated that the Item Response Theory models utilized for the MCT2 test assumed the construct to measure was unidimensional. Principal component analysis and a confirmatory factor analysis were implemented to test the assumption. For the principal component analysis, the first three Eigenvalues were reported as well as the first ten scree plots by subject area and by grade level. Eigenvalues ranged from 12.51 to 12.85 for ELA (first value reported) and from 16.46 to 15.76 for Mathematics (first value reported). The 10 scree plots reported for all 10 eigenvalues showed that the first dimension explains the most item variance in the model.

For the confirmatory factor analysis Adjusted Goodness of Fit (AGFI) and the Root Mean Square Residual (RMR), were reported. In regard to AGFI, values range between 0 and 1, where values of 0.90 or greater indicate a good model fit (Field, 2009). In regard to RMR, in the absence of a maximum value, the minimum value of 0 is used, in which a good model fit has smaller RMRs. The AGFI values for each subject area of
the MCT2 test ranged from 0.9872 (3rd grade) to 0.9827 (8th grade) for ELA and from 0.9968 (3rd grade) to 0.9598 (8th grade) for Mathematics. The RMRs values for each subject area of the MCT2 test ranged from 0.0101 (3rd grade) to 0.0102 (8th grade) for ELA and from 0.0134 (3rd grade) to 0.0180 (8th grade) for Mathematics. Thus, based on the model fit indices it was stated the assumption of unidimensionality was satisfied (MDE, 2015b).

To further corroborate findings, correlations were performed in which the results showed the content strands of the MCT2 test have moderate correlation with each other with values fluctuating from 0.43 to 0.75 for ELA and from 0.44 to 0.72 for Mathematics. Other measures implemented to verify validity were the analysis of the number of items that showed low misfit, or DIF (Differential Item Functioning) issues, and point-biserial correlations that indicated internal consistency (MDE, 2015b).

Reading and Mathematics end of the year grades for the 2012-2013 and 2013-2014 academic years were calculated by averaging the results students obtained on the district wide assessments (DWA) created by the office of Curriculum and Instruction in the district and by the criterion-referenced tests and assignments devised by educators. Although the instruments utilized at the district level lack reliability and validity coefficients, the researcher believes the inclusion of the results of the assessments in the analysis of English Language Learners’ (ELLs) academic achievement helped attain a broader perspective of growth.

Measure of Academic Progress, MAP, is a computerized formative academic assessment that adapts to individual students’ learning level (NWEA, 2014). According to the Northwest Evaluation Association (2014), the test is computer adaptive and is
available for grades 2-12 providing information on students’ performance regardless of ability level (on, above, or below grade level). In the district where the research was implemented, the MAP test assesses English Language Arts, divided into reading and language usage, and Mathematics and is used three times a year: fall, winter, and spring. Although the test is untimed, it is expected that a student finish the assessment in no more than sixty minutes per subject area (NWEA, 2014).

In regard to the psychometric properties for the MAP test, the report on the State of State Standards: Research Investigating Proficiency levels in Fourteen States (NWEA, 2003) noted that content validity for the NWEA assessment was achieved by cross-referencing the NWEA test bank that had more than 12,000 questions for Reading and Mathematics with the state’s content curriculum standards. Pearson’s correlation coefficient (Pearson’s $r$) was implemented to validate content alignment, concurrent, and discriminant validity. Pearson’s $r$ for Reading ranged from 0.66 to 0.91 whereas in Mathematics Pearson’s $r$ ranged from 0.69 to 0.92 to determine concurrent validity. Pearson’s correlation coefficients to determine discriminant validity were high with Pearson’s $r$ above 0.75 for Reading and above 0.80 for Mathematics. There was no information provided in the report in regard to reliability coefficients for content alignment.

According to the Mississippi Linking Study (NWEA, 2011), the correlation coefficients (Pearson’s $r$) between the MAP test and the MCT2 test for each grade and subject area ranged from 0.71 for Mathematics in grade 3 to 0.82 for Mathematics in grades 5 and 6 and from 0.73 in Reading in grade 7 to 0.78 in Reading in grade 3. Field (2009) stated that correlations range from 0 (no correlation) to 1 (perfect correlation).
Procedures

Upon securing permission from the school district where the research was conducted (see Appendix A) and after obtaining IRB approval from The University of Southern Mississippi (see Appendix B), data was collected by checking the written documents provided by the district testing office in regard to ELLs’ English language proficiency test scores, ACCESS for ELLs, Reading and Mathematics end of the year grades, and MCT2 test scores for the 2012-2013 and the 2013-2014 school years. The researcher was granted electronic access to ELLs’ MAP test scores for the fall and the spring terms to finish the data collection process. Multiple attempts were made in an effort to have as many cases as possible without missing data by obtaining verbal clarification from the district testing coordinator and/or the administrative assistant to the district testing coordinator when deemed appropriate.

Then, the researcher created an initial Excel file using codes in place of ELLs’ names in order to ensure confidentiality. The status (Not Served, Served, or Monitored), the name of the school the students attended (8 schools in total), and the grade level (K-12) were included. After that, the researcher recorded ACCESS for ELLs’ scale scores, Reading end of the year grades, Mathematics end of the year grades, MAP test scores for Reading and Mathematics for the fall and for the spring terms, and MCT2 test scores for English Language Arts (ELA), in which Reading was included, and Mathematics for the 2012-2013 and the 2013-2014 school years. Status, school name, and grade level were categorical variables whereas ACCESS for ELLs’ scale scores, Reading and Mathematics end of the year grades, MAP test scores for Reading and Mathematics, and MCT2 test scores for ELA and Mathematics were interval variables. After the recording of the data
ended, the researcher did not pursue other attempts to try to reduce the presence of missing data in the Excel dataset.

The scale scores of the ACCESS for ELLs test ranged from 100 to 600 (WIDA, 2014a). Reading and Mathematics end of the year grades ranged from 10-100. MAP test scores are reported using the RIT values, ranging from 142.5 at the beginning of the year in Kindergarten to 223.7 at the end of the year in 11th grade for Reading and from 143.7 at the beginning of the year in Kindergarten to 238.3 at the end of the year in 11th grade (NWEA, 2014) and MCT2 test scores are reported by using scale scores. MCT2 cut off scale scores vary by subject area and grade level as follows (MDE, 2014d; MDE 2015b):

Table 1

*MCT2 Cut off Scale Scores for English Language Arts*

<table>
<thead>
<tr>
<th>Grade</th>
<th>Minimal</th>
<th>Basic</th>
<th>Proficient</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>108</td>
<td>138</td>
<td>150</td>
<td>162</td>
</tr>
<tr>
<td>4</td>
<td>110</td>
<td>138</td>
<td>150</td>
<td>162</td>
</tr>
<tr>
<td>5</td>
<td>109</td>
<td>138</td>
<td>150</td>
<td>164</td>
</tr>
<tr>
<td>6</td>
<td>111</td>
<td>137</td>
<td>150</td>
<td>166</td>
</tr>
<tr>
<td>7</td>
<td>110</td>
<td>138</td>
<td>150</td>
<td>168</td>
</tr>
<tr>
<td>8</td>
<td>110</td>
<td>138</td>
<td>150</td>
<td>167</td>
</tr>
</tbody>
</table>

Table 2

*MCT2 Cut off Scale Scores for Mathematics*

<table>
<thead>
<tr>
<th>Grade</th>
<th>Minimal</th>
<th>Basic</th>
<th>Proficient</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>111</td>
<td>138</td>
<td>150</td>
<td>165</td>
</tr>
<tr>
<td>4</td>
<td>117</td>
<td>141</td>
<td>150</td>
<td>165</td>
</tr>
<tr>
<td>5</td>
<td>106</td>
<td>141</td>
<td>150</td>
<td>164</td>
</tr>
<tr>
<td>6</td>
<td>116</td>
<td>142</td>
<td>150</td>
<td>164</td>
</tr>
<tr>
<td>7</td>
<td>116</td>
<td>142</td>
<td>150</td>
<td>164</td>
</tr>
<tr>
<td>8</td>
<td>114</td>
<td>142</td>
<td>150</td>
<td>164</td>
</tr>
</tbody>
</table>


Data Analysis

A detailed description of the data analysis per research question is provided below.

1. How much growth in regard to English proficiency scale scores did English Language Learners (ELLs) experience from the 2012-2013 to the 2013-2014 school year?

   This research question sought to provide descriptive and inferential information about ELLs’ English language proficiency development. The researcher implemented a repeated measures analysis of variance (ANOVA) to determine ELLs’ growth. Partial eta squared was conducted to report effect sizes.
Expected Outcome: It was expected to observe ELLs’ growth on the English language proficiency test (ACCESS for ELLs) from the 2012-2013 to the 2013-2014 school year (Cummins, 1979; Krashen, 1982; MDE, 2011b; NCLB, 2002).

2. How did growth in the English language proficiency test (ACCESS for ELLs) predict the academic achievement of the ELLs in regard to Reading and Mathematics end of the year grades during the 2012-2013 and the 2013-2014 school years?

This research question sought to provide descriptive and inferential information about ELLs’ academic performance at the classroom level. The researcher conducted Pearson’s $r$ correlation coefficient to determine if there was any relationship between students’ ACCESS for ELLs’ scale scores and the Reading and Mathematics end of the year grades for the 2012-2013 and the 2013-2014 school years. Then, the researcher implemented Pearson’s $r$ correlations using ACCESS growth to determine whether there was any relationship between ELLs’ ACCESS growth and Reading and Writing end of the year grades for 2013-2014

Expected Outcome: It was expected that ELLs’ higher scale scores obtained on the ACCESS for ELLs test may result in higher Reading and Mathematics end of the year grades at the classroom level for the 2012-2013 and the 2013-2014 school year (NCLB, 2002).

3a. How much growth in regard to MAP test scores for Reading and Mathematics did ELLs experience from the fall to the spring in the 2012-2013 school year and from the fall to the spring in the 2013-2014 school year?

This research question sought to provide descriptive and inferential information about ELLs’ academic performance at the school level. The researcher conducted a
repeated measures analysis of variance (ANOVA) to determine whether there was any change in the scores obtained on the MAP test in Reading and Mathematics from the fall to the spring terms for the 2012-2013 and the 2013-2014 school years. Partial eta squared was reported.

*Expected Outcome:* It was expected to observe ELLs’ growth on the MAP test scores for Reading and Mathematics for the 2012-2013 and the 2013-2014 school years (Krashen, 1982; NCLB, 2002).

3b. What is the relationship between growth on the MAP (Measure of Academic Progress) test for Reading and Mathematics and the Reading and Mathematics end of the year grades for the 2012-2013 and the 2013-2014 school years?

This research question sought to provide descriptive and inferential information about ELLs’ academic performance at the classroom and school level. The researcher implemented Pearson’s $r$ correlations to determine whether there was any relationship between ELLs’ growth on the MAP test for Reading and the end of the year grades for Reading and Mathematics and between ELLs’ growth on the MAP test for Mathematics and the end of the year grades for Reading and Mathematics for the 2012-2013 and the 2013-2014 school years.

*Expected Outcome:* It was expected that ELLs’ MAP test scores for Reading and Mathematics were correlated to the Reading and Mathematics end of the year grades for the 2012-2013 and the 2013-2014 school years (NCLB, 2002).

4. What is the correlation between growth on the English language proficiency test scale scores, the MAP test scores, and the MCT2 test scores from the 2012-2013 to the 2013-2014 school years?
The researcher implemented a repeated measures ANOVA to determine ELLs’ growth on the MCT2, ELA and Mathematics, from the 2012-2013 to the 2013-2014 school year. Partial eta squared was reported. Then, the researcher conducted Pearson’s $r$ correlations to determine relationships between MCT2 ELA growth, access growth, and MAP Reading growth for 2013-2014. The same procedure was implemented to determine whether there was any relationship between MCT2 Mathematics growth, access growth, and MAP Mathematics growth for 2013-2014.

**Expected Outcome:** It was expected that ELLs’ higher scale scores obtained on the English language proficiency test (ACCESS for ELLs) resulted in higher test scores on the MAP test and on the MCT2 test (MDE, 2011b; NCLB, 2002).

**Summary**

Although educators exercise no control over the accountability measures implemented to determine ELLs’ academic achievement, the constant label of the ELL population as being prone to fail academically because of the inability to perform at higher levels on standardized tests at early stages of language learning/acquisition, motivated the present study. Using a sole measure of accountability to determine growth does not provide accurate depiction of ELLs’ academic achievement were additional measures employed for the same purpose (Chapelle, 1998). Therefore, a sample size of 211 ELLs’ scores, enrolled in grades K-12, on the English language proficiency test, ACCESS for ELLs, a computerized formative academic assessment, MAP test, for Reading and Mathematics, and the standardized test, MCT2 test, along with Reading and Mathematics end of the year grades were collected and analyzed. After securing the school district (see Appendix A) and IRB (see Appendix B) permission, data collection
was carried out by retrieving data either electronically or on hard copy to build the dataset for the 2012-2013 and the 2013-2014 school year. Data was analyzed by conducting repeated measures analysis of variance (ANOVA) and Pearson’s $r$ correlation coefficients.
CHAPTER IV
ANALYSIS OF DATA

Research in SLA has shown the complexity involved in the learning/acquisition of a target language (Brown, 1980; Canale, 1983; Canale & Swain, 1980, 1981; Chaïka, 1994; Cummins, 1979, 1984, 1999; Dulay et al., 1982; Gass & Selinker, 2001; Krashen, 1982, 1988; Lenneberg, 1967; Nunan, 1999; Oyama, 1976, 1978; Penfield & Roberts, 1959; Pinker, 1995), in which assessment measures implemented to determine the academic achievement of ELLs have provided unsatisfactory results because of questions relating the validity of the instrument used (Abedi & Gándara, 2006; Bachman, 1990, 1998; Bachman, 2002; Bachman & Cohen, 1998; Bachman & Palmer, 1996; Bailey, 2000, 2006; Cummins, 2008; Geisinger, 1992; 2003; Mahon, 2006; Nunan, 1999; Olmedo, 1981; Solórzano, 2008; Tsang et al., 2008). Therefore, the academic achievement of English language learners (ELLs) was analyzed by using additional measures, besides the state standardized test, in an effort to provide a more complete depiction of ELLs’ growth.

As such, the English language proficiency test, ACCESS for ELLs, end of the year grades for Reading and Mathematics, and a computerized formative academic test, MAP test, for Reading and Mathematics for the fall and spring terms were analyzed along with the state standardized test, MCT2 test, ELA and Mathematics for the 2012-2013 and the 2013-2014 school year. There were a total of 18 interval variables included in the analyses; nine per each academic year as follows: ACCESS for ELLs scale scores, Reading final grade, Mathematics final grade, Fall Reading MAP score, Fall Mathematics MAP score, Spring Reading MAP score, Spring Mathematics MAP score, MCT2 ELA
scale score, and MCT2 Mathematics scale score. The sample size for this analysis consisted of 211 cases.

First, using IBM’s SPSS version 20, the dataset was inspected to check for the assumptions of normality, linearity, homogeneity of variance (h.o.v), univariate outliers, multivariate outliers, and missing data. To check for the assumption of normality, histograms were visually inspected. The visual inspection showed there were deviations from normality for ACCESS SS 2013, Reading final grade 2013, Mathematics final grade 2013, Reading MAP score spring 2013, ACCESS SS 2014, Reading final grade 2014, and Mathematics final grade 2014. To confirm findings the Kolmogorov-Smirnov test was conducted in which statistically significant values indicate the scores differ from a normal distribution (Field, 2009). The results of the K-S test, Table 3, show deviations from normality for the variables mentioned.

Table 3

<table>
<thead>
<tr>
<th>Variable</th>
<th>Statistic</th>
<th>df</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCESS SS 2013</td>
<td>.106</td>
<td>136</td>
<td>.001</td>
</tr>
<tr>
<td>Reading final grade 2013</td>
<td>.091</td>
<td>151</td>
<td>.004</td>
</tr>
<tr>
<td>Mathematics final grade 2013</td>
<td>.140</td>
<td>151</td>
<td>□.001</td>
</tr>
<tr>
<td>Reading MAP score spring 2013</td>
<td>.093</td>
<td>115</td>
<td>.016</td>
</tr>
<tr>
<td>ACCESS SS 2014</td>
<td>.085</td>
<td>142</td>
<td>.013</td>
</tr>
</tbody>
</table>
Therefore, a final measure to assess normality was implemented. Pseudo-$z$ scores were calculated for Skewness and Kurtosis. The pseudo-$z$ scores obtained for skewness and kurtosis, Table 4, for ACCESS SS 2013, Reading final grade 2013, and Mathematics final grade 2013 show the data is not normally distributed. The results of the test for Reading MAP score spring 2013 shows no issues with normality. However, there is a slight deviation in normality for Math MAP score fall 2012.

Table 4

$Pseudo-z$ scores for the variables in the 2012-2013 school year

<table>
<thead>
<tr>
<th>Variable</th>
<th>Descriptives</th>
<th>Statistics</th>
<th>Std. Error</th>
<th>Pseudo-$z$ score</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCESS SS 2013</td>
<td>Skewness</td>
<td>-1.161</td>
<td>.208</td>
<td>-5.581*</td>
</tr>
<tr>
<td></td>
<td>Kurtosis</td>
<td>1.017</td>
<td>.413</td>
<td>4.641*</td>
</tr>
</tbody>
</table>

Note. SS = scale score; MAP = Measure of Academic Progress; df = degrees of freedom; sig. = level of significance $\leq .05$. 
Table 4 (continued).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Skewness</th>
<th>Statistics</th>
<th>Std. Error</th>
<th>Pseudo-z score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading final grade 2013</td>
<td>-1.680</td>
<td>.197</td>
<td>-8.527*</td>
<td></td>
</tr>
<tr>
<td>Mathematics final grade 2013</td>
<td>-1.481</td>
<td>.197</td>
<td>-7.517*</td>
<td></td>
</tr>
<tr>
<td>Reading MAP score fall 2012</td>
<td>-.186</td>
<td>.264</td>
<td>-.0007</td>
<td></td>
</tr>
<tr>
<td>Math MAP score fall 2012</td>
<td>.90</td>
<td>.261</td>
<td>3.448*</td>
<td></td>
</tr>
<tr>
<td>Reading MAP score spring 2013</td>
<td>-.280</td>
<td>.226</td>
<td>-1.238</td>
<td></td>
</tr>
<tr>
<td>Math MAP score spring 2013</td>
<td>-.237</td>
<td>.227</td>
<td>-1.044</td>
<td></td>
</tr>
<tr>
<td>MCT2 ELA SS 2013</td>
<td>-.467</td>
<td>.311</td>
<td>-1.501</td>
<td></td>
</tr>
<tr>
<td>MCT2 Math SS 2013</td>
<td>-.804</td>
<td>.309</td>
<td>-2.601</td>
<td></td>
</tr>
</tbody>
</table>

Note: SS = scale score; MAP = Measure of Academic Progress; MCT2 = Mississippi Curriculum Test, Second Edition; ELA = English Language Arts; Std = standard; * = Indicate scores above or below 3, which is the threshold used to determine normality (Field, 2009).
Table 5 displays that the pseudo-$z$ scores obtained for skewness and kurtosis for ACCESS SS 2014, Reading final grade 2014 and the pseudo-$z$ score for skewness for Mathematics final grade 2014 ranged above and below 3, the threshold used to determine normality (Field, 2009), which indicated the data for these variables were not normally distributed.

Table 5

*Pseudo-*$z$ scores for the variables in the 2013-2014 school year*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Descriptives</th>
<th>Statistics</th>
<th>Std. Error</th>
<th>Pseudo-$z$ score</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCESS SS 2014</td>
<td>Skewness</td>
<td>-1.487</td>
<td>.203</td>
<td>-7.325*</td>
</tr>
<tr>
<td></td>
<td>Kurtosis</td>
<td>3.340</td>
<td>.404</td>
<td>8.267*</td>
</tr>
<tr>
<td>Reading final grade 2014</td>
<td>Skewness</td>
<td>-1.372</td>
<td>.190</td>
<td>-7.221*</td>
</tr>
<tr>
<td></td>
<td>Kurtosis</td>
<td>4.981</td>
<td>.377</td>
<td>13.212*</td>
</tr>
<tr>
<td>Mathematics final grade 2014</td>
<td>Skewness</td>
<td>-.682</td>
<td>.190</td>
<td>-3.589*</td>
</tr>
<tr>
<td></td>
<td>Kurtosis</td>
<td>-.356</td>
<td>.378</td>
<td>-.9417</td>
</tr>
<tr>
<td>Reading MAP score fall 2013</td>
<td>Skewness</td>
<td>-.309</td>
<td>.209</td>
<td>-1.478</td>
</tr>
<tr>
<td></td>
<td>Kurtosis</td>
<td>-.720</td>
<td>.414</td>
<td>-1.739</td>
</tr>
<tr>
<td>Math MAP score fall 2013</td>
<td>Skewness</td>
<td>-.259</td>
<td>.210</td>
<td>-1.233</td>
</tr>
<tr>
<td></td>
<td>Kurtosis</td>
<td>-.398</td>
<td>.417</td>
<td>-.9544</td>
</tr>
<tr>
<td>Reading MAP score spring 2014</td>
<td>Skewness</td>
<td>-.156</td>
<td>.217</td>
<td>-.7188</td>
</tr>
<tr>
<td></td>
<td>Kurtosis</td>
<td>-.789</td>
<td>.430</td>
<td>-1.834</td>
</tr>
</tbody>
</table>
Table 5 (continued).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Descriptives</th>
<th>Statistics</th>
<th>Std. Error</th>
<th>Pseudo-$z$ score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math MAP score spring 2014</td>
<td>Skewness</td>
<td>-.116</td>
<td>.218</td>
<td>-.5321</td>
</tr>
<tr>
<td></td>
<td>Kurtosis</td>
<td>-.276</td>
<td>.433</td>
<td>-.6374</td>
</tr>
<tr>
<td>MCT2 ELA SS 2014</td>
<td>Skewness</td>
<td>-.589</td>
<td>.269</td>
<td>-2.223</td>
</tr>
<tr>
<td></td>
<td>Kurtosis</td>
<td>.483</td>
<td>.532</td>
<td>.9078</td>
</tr>
<tr>
<td>MCT2 Math SS 2014</td>
<td>Skewness</td>
<td>-.453</td>
<td>.269</td>
<td>-1.684</td>
</tr>
<tr>
<td></td>
<td>Kurtosis</td>
<td>.052</td>
<td>.532</td>
<td>.0977</td>
</tr>
</tbody>
</table>

Note: SS = scale score; MAP = Measure of Academic Progress; MCT2 = Mississippi Curriculum Test, Second Edition; ELA = English Language Arts; Std = standard; * = Indicate scores above or below 3, which is the threshold used to determine normality (Field, 2009).

Although the MAP test scores for Reading and Mathematics for fall and spring and the MCT2 SS for ELA and Mathematics for the 2012-2013 and the 2013-2014 school year showed that the assumption of normality had been met, the issues present in the variables: ACCESS SS 2013, Reading final grade 2013, Mathematics final grade 2013, Math MAP score fall 2012, ACCESS SS 2014, Reading final grade 2014, and Mathematics final grade 2014 showed otherwise. Therefore, it can be concluded that the assumption of normality was partially satisfied in the data for the analysis. The researcher did not attempt any transformation on the variables shown to be not normally distributed because of the robustness of the statistical tests to perform to address the research.
questions of the study, and because there is a risk that the transformation of data may change the expected outcomes being tested (Field, 2009).

To check for the assumption of linearity, the visual inspection of the P-P plots determined that the assumption of linearity had not been met. Different efforts attempted to check for the assumption of homogeneity of variance (h.o.v) were unsuccessful, which made the researcher believe the assumption had not been met either. In regard to univariate outliers, the Extreme Value table and the Box Plots produced by the Explore procedure showed there was a presence of univariate outliers for ACCESS SS 2013, Reading final grade 2013, Mathematics final grade 2013, MCT2 Math SS 2013, ACCESS SS 2014, Reading final grade 2014, MCT2 ELA SS 2014, and MCT2 Math SS 2014. To confirm findings - z scores were calculated for all the variables in the dataset. Results showed that there were not univariate outliers in the 2012-2013 or 2013-2014 variables. Therefore, it can be concluded there are not univariate outliers in the dataset.

To check for multivariate outliers, Studentized residuals, Leverage values, and Standardized Dffits were calculated. In regard to Studentized residuals, a visual inspection of the first 15 cases in the dataset showed there was not a change greater than .5 in the values of the cases inspected either in ascending or descending order. With respect to Leverage values, the inspection of the first 15 cases showed there were not jumps in the values inspected. Namely, there was not a value twice as large as the value before it. Finally the inspection of cases in regard to Standardized Dffits showed that there were not jumps in the first 15 values in the data, which indicated that there was not a value twice as large as the value before it either in ascending or descending order. Hence, it was concluded there are not multivariate outliers in the dataset.
In regard to missing data Table 6 and Table 7 show the valid cases per variable per school year.

Table 6

*Missing Data for the variables in the 2012-2013 school year*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Valid</th>
<th>Percent</th>
<th>Missing</th>
<th>Percent</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCESS SS 2013</td>
<td>136</td>
<td>64.5%</td>
<td>75</td>
<td>35.5%</td>
<td>211</td>
</tr>
<tr>
<td>Reading final grade 2013</td>
<td>151</td>
<td>71.6%</td>
<td>60</td>
<td>28.4%</td>
<td>211</td>
</tr>
<tr>
<td>Mathematics final grade 2013</td>
<td>151</td>
<td>71.6%</td>
<td>60</td>
<td>28.4%</td>
<td>211</td>
</tr>
<tr>
<td>Reading MAP score fall 2012</td>
<td>83</td>
<td>39.3%</td>
<td>128</td>
<td>60.7%</td>
<td>211</td>
</tr>
<tr>
<td>Math MAP score fall 2012</td>
<td>85</td>
<td>40.3%</td>
<td>126</td>
<td>59.7%</td>
<td>211</td>
</tr>
<tr>
<td>Reading MAP score spring 2013</td>
<td>115</td>
<td>54.5%</td>
<td>96</td>
<td>45.5%</td>
<td>211</td>
</tr>
<tr>
<td>Math MAP score spring 2013</td>
<td>113</td>
<td>53.6%</td>
<td>98</td>
<td>46.4%</td>
<td>211</td>
</tr>
<tr>
<td>MCT2 ELA SS 2013</td>
<td>59</td>
<td>28.0%</td>
<td>152</td>
<td>72.0%</td>
<td>211</td>
</tr>
<tr>
<td>MCT2 Math SS 2013</td>
<td>60</td>
<td>28.4%</td>
<td>151</td>
<td>71.6%</td>
<td>211</td>
</tr>
</tbody>
</table>

Note. SS = scale score; MAP = Measure of Academic Progress; MCT2 = Mississippi Curriculum Test, Second Edition; ELA = English Language Arts; N = Total sample size.
Table 7

*Missing Data for the variables in the 2013-2014 school year*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Valid</th>
<th>Percent</th>
<th>Missing</th>
<th>Percent</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCESS SS 2014</td>
<td>142</td>
<td>67.3%</td>
<td>69</td>
<td>32.7%</td>
<td>211</td>
</tr>
<tr>
<td>Reading final grade 2014</td>
<td>164</td>
<td>77.7%</td>
<td>47</td>
<td>22.3%</td>
<td>211</td>
</tr>
<tr>
<td>Mathematics final grade 2014</td>
<td>163</td>
<td>77.3%</td>
<td>48</td>
<td>22.7%</td>
<td>211</td>
</tr>
<tr>
<td>Reading MAP score fall 2013</td>
<td>135</td>
<td>64.0%</td>
<td>76</td>
<td>36.0%</td>
<td>211</td>
</tr>
<tr>
<td>Math MAP score fall 2013</td>
<td>133</td>
<td>63.0%</td>
<td>78</td>
<td>37.9%</td>
<td>211</td>
</tr>
<tr>
<td>Reading MAP score spring 2014</td>
<td>125</td>
<td>52.9%</td>
<td>86</td>
<td>40.8%</td>
<td>211</td>
</tr>
<tr>
<td>Math MAP score spring 2014</td>
<td>123</td>
<td>58.3%</td>
<td>88</td>
<td>41.7%</td>
<td>211</td>
</tr>
<tr>
<td>MCT2 ELA SS 2014</td>
<td>80</td>
<td>37.9%</td>
<td>131</td>
<td>62.1%</td>
<td>211</td>
</tr>
<tr>
<td>MCT2 Math SS 2014</td>
<td>80</td>
<td>37.9%</td>
<td>131</td>
<td>62.1%</td>
<td>211</td>
</tr>
</tbody>
</table>

Note. SS = scale score; MAP = Measure of Academic Progress; MCT2 = Mississippi Curriculum Test, Second Edition; ELA = English Language Arts; N = Total sample size.

There were two reasons for the missing values present in the dataset. First, the transient characteristic of the ELL population in the place where the study took place accounts for the disparities in the number of cases valid for the analyses. In regard to ACCESS SS, only students who are active ELL students are been administered the English language proficiency test. ELLs who have reached the status of monitored, that is that have attained a scale score on the English language proficiency test of 355 or higher
and have scored proficient or advanced on the MCT2 test on both ELA and Math (MDE, 2011b), are exempt from taking the ACCESS for ELLs test, which accounted for a reduction of cases with reported ACCESS scale scores. Reading and Mathematics end of the year grades are calculated by the system in the district based on the grades students obtained in the 4 nine-week periods. However, when students are withdrawn from the schools, even if it is a week before the school year officially finishes, end of the year grades are not calculated.

MAP scores for Reading and Mathematics for fall and spring terms for the 2012-2013 and the 2013-2014 school years showed a discrepancy in the number of cases reported with test scores. Students are required to take the MAP test during a specific window; thus if the student was absent from school during the administration of the test there was not a score to report for the subject area being assessed during that specific term. In regard to MCT2 test scores for ELA and Mathematics, it is imperative to consider that only students in grades 3-8 are required to take the test. Lower grades, K-2, are assessed using other computerized instruments selected by the district while grades 9-12 are required to take the subject area tests mandated by the state. Since sample size is small by the time ELLs enter the high school, the researcher decided not to include the scores in the analyses.

The second reason for the presence of missing data had to do with issues collecting the information needed to complete the dataset. For reasons unknown the researcher was unable to retrieve some data in regard to test scores and end of the year grades from the system. Different attempts were made to have access to the data such as communicating with the testing coordinator in the school district to ask for help in
completing the information required and/or seeking clarification from the testing coordinator’s administrative assistant. The measures implemented to try to reduce the presence of missing data were not as successful as expected. The researcher gathered some of the information needed; other was not possible to obtain. Pair wise deletion was the missing data technique employed. Although there is more than 5% of missing data per variable (Field, 2009), the researcher concluded the data collected would help determine ELLs’ academic achievement by using additional measures of growth in a small scale study.

After the data was screened to check for the assumptions of normality, linearity, homogeneity of variance (h.o.v), univariate outliers, multivariate outliers, and missing data, the researcher proceeded to analyze the data to determine ELLs’ academic achievement by using additional measures of growth. Table 8 displays the valid number of cases per variable, out of 211 cases that comprised the sample size of the study, with the corresponding mean and standard deviation for the 2012-2013 school year. Table 9 displays the same information for the 2013-2014 school year.

Table 8

*Main Variables Descriptive Statistics for the 2012-2013 school year*

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCESS SS 2013</td>
<td>136</td>
<td>312.97</td>
<td>62.51</td>
</tr>
</tbody>
</table>
Table 8 (continued).

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading final grade 2013</td>
<td>151</td>
<td>84.62</td>
<td>10.77</td>
</tr>
<tr>
<td>Mathematics final grade 2013</td>
<td>151</td>
<td>85.34</td>
<td>11.61</td>
</tr>
<tr>
<td>Reading MAP score fall 2012</td>
<td>83</td>
<td>181.31</td>
<td>26.22</td>
</tr>
<tr>
<td>Math MAP score fall 2012</td>
<td>85</td>
<td>183.38</td>
<td>28.13</td>
</tr>
<tr>
<td>Reading MAP score spring 2013</td>
<td>115</td>
<td>183.30</td>
<td>26.49</td>
</tr>
<tr>
<td>Math MAP score spring 2013</td>
<td>113</td>
<td>190.43</td>
<td>30.05</td>
</tr>
<tr>
<td>MCT2 ELA SS 2013</td>
<td>59</td>
<td>146.36</td>
<td>15.19</td>
</tr>
<tr>
<td>MCT2 Math SS 2013</td>
<td>60</td>
<td>151.72</td>
<td>15.42</td>
</tr>
</tbody>
</table>

Note. SS = scale score; MAP = Measure of Academic Progress; MCT2 = Mississippi Curriculum Test, Second Edition; ELA = English Language Arts; N = valid number of cases; M = mean; SD = standard deviation.

Table 9

Main Variables Descriptive Information for the 2013-2014 school year

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCESS SS 2014</td>
<td>142</td>
<td>321.15</td>
<td>54.94</td>
</tr>
<tr>
<td>Reading final grade 2014</td>
<td>164</td>
<td>84.63</td>
<td>9.12</td>
</tr>
</tbody>
</table>
Table 9 (continued).

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics final grade 2014</td>
<td>163</td>
<td>86.10</td>
<td>8.85</td>
</tr>
<tr>
<td>Reading MAP score fall 2013</td>
<td>135</td>
<td>180.19</td>
<td>27.54</td>
</tr>
<tr>
<td>Math MAP score fall 2013</td>
<td>133</td>
<td>186.10</td>
<td>29.11</td>
</tr>
<tr>
<td>Reading MAP score spring 2014</td>
<td>125</td>
<td>185.97</td>
<td>25.66</td>
</tr>
<tr>
<td>Math MAP score spring 2014</td>
<td>123</td>
<td>192.58</td>
<td>28.99</td>
</tr>
<tr>
<td>MCT2 ELA SS 2014</td>
<td>80</td>
<td>146.47</td>
<td>14.85</td>
</tr>
<tr>
<td>MCT2 Math SS 2014</td>
<td>80</td>
<td>146.47</td>
<td>14.85</td>
</tr>
</tbody>
</table>

Note. SS = scale score; MAP = Measure of Academic Progress; MCT2 = Mississippi Curriculum Test, Second Edition; ELA = English Language Arts; N = valid number of cases; M = mean; SD = standard deviation.

Different analyses were implemented to answer the four research questions addressed in the study employing alpha at $\alpha = .05$. First, repeated measures analysis of variance (ANOVA) was conducted to determine ELLs’ growth on the English language proficiency test, ACCESS for ELLs. Partial eta squared was reported. Second, Pearson’s $r$ correlation coefficient was conducted to establish any relationship between the English language proficiency test scores and the Reading and Mathematics end of the year grades the 2012-2013 and the 2013-2014 school years. Then, a second repeated measures analysis of variance (ANOVA) was implemented to determine whether there was any change, growth, on the MAP scores obtained for Reading and Mathematics from the fall
terms to the spring terms for the 2012-2013 and the 2013-2014 school years. Partial eta squared was reported.

Additionally, Pearson’s $r$ correlations were implemented to determine whether there was any relationship between ELLs’ growth on the MAP test for Reading and the end of the year grades for Reading and Mathematics and between ELLs’ growth on the MAP test for Mathematics and Reading and Mathematics end of the year grades for the 2012-2013 and the 2013-2014 school year. Finally, a repeated measures analysis of variance (ANOVA) was performed to determine MCT2 growth per subject area. Partial eta squared was reported. Then, Pearson’s $r$ correlations were implemented to determine whether there was any relationship between MCT2 English Language Arts growth, ACCESS growth, and MAP Reading growth for 2013-2014. The same procedure was implemented to determine whether there was any relationship between MCT2 Mathematics growth, ACCESS growth, and MAP Mathematics growth for 2013-2014.

The subsequent paragraphs addressed each research question, the statistical analysis conducted, the expected outcome, and whether or not the expected outcome was achieved.

**Research Question 1:** How much growth in regard to English language proficiency scale scores did English Language Learners (ELLs) experience from the 2012-2013 to the 2013-2014 school year? The results of the repeated measures analysis of variance (ANOVA) conducted indicated that Mauchly’s test showed the assumption of sphericity had been met and that there was a statistically significant change in English language proficiency scale scores as measured by the ACCESS for ELLs test, $V = .487$, $F(1, 93) = 88.203$, $p < .001$, $\eta^2_p = .487$ from the 2012-2013 to the 2013-2014 school
year. The 2012-2013 ACCESS for ELLs scale scores had a mean of 309.20 (SD = 55.52) compared to the 2013-2014 ACCESS for ELLs scale scores with a mean of 333.90 (SD = 38.67), \( n = 94 \) for both school years.

**Expected Outcome:** It was expected to observe ELLs’ growth on the English language proficiency test (ACCESS for ELLs) from the 2012-2013 to the 2013-2014 school year (Cummins, 1979; Krashen, 1982; MDE, 2011; NCLB, 2002). Using the results of the analysis conducted to address research question 1, it can be inferred that ELLs’ proficiency scale scores improved from the 2012-2013 to the 2013-2014 school year. Therefore, the expected outcome for research question 1 was achieved.

**Research Question 2:** How did growth in the English language proficiency test (ACCESS for ELLs) predict the academic achievement of ELLs in regard to Reading and Mathematics end of the year grades during the 2012-2013 and the 2013-2014 school year? The results of the Pearson’s \( r \) correlation coefficients conducted indicated that ACCESS for ELLs scale scores for the 2012-2013 school year did not predict Reading end of the year grades, \( r(131) = -.103, \ p = .242 \) or Mathematics end of the year grades, \( r(131) = -.063, \ p = .473 \). The ACCESS for ELLs scale scores for the 2013-2014 school year did not predict Reading end of the year grades, \( r(134) = -.047, \ p = .589 \) or Mathematics end of the year grades, \( r(133) = -.079, \ p = .363 \). The results of the second Pearson’s \( r \) correlation coefficients implemented indicated that ACCESS growth predicted Mathematics end of the year grades for the 2013-2014 school year, \( r(90) = .208, \ p = .049 \) but not Reading end of the year grades for the same year, \( r(91) = .142, \ p = .178 \).
Expected Outcome: It was expected that ELLs’ higher scale scores obtained on the ACCESS for ELLs test may result in higher Reading and Mathematics end of the year grades at the classroom level for the 2012-2013 and the 2013-2014 school year (NCLB, 2002). Using the results of the analysis conducted to address research question 2, it can be inferred that ELLs’ ACCESS for ELLs scale scores did not predict Reading and Mathematics end of the year grades for each corresponding year. However, when the same statistical analysis was implemented using ELLs’ growth on the ACCESS for ELLs test from the 2012-2013 to the 2013-2014 school year, the results obtained indicated the presence of a statistically significant difference in regard to Mathematics end of the year grades but not Reading end of the year grades. Therefore, the expected outcome for research question 2 was not achieved.

Research Question 3a: How much growth in regard to MAP test scores for Reading and Mathematics did ELLs experience from the fall to the spring in the 2012-2013 and from the fall to the spring in the 2013-2014 school year? The results of the repeated measures analysis of variance (ANOVA) conducted indicated that Mauchly’s test showed the assumption of sphericity had been met and that there was a statistically significant change in MAP test scores for Reading from the fall, \( n = 80, \text{mean} = 181.69 \) (SD = 26.63), to the spring, \( n = 80, \text{mean} = 190.05 \) (SD = 23.41), for the 2012-2013 school year, \( V = .509, F(1, 79) = 81.899, p < .001, \eta^2_p = .509 \). In regard to MAP test scores for Mathematics from the fall, \( n = 80, \text{mean} = 184.61 \) (SD = 28.01), to the spring, \( n = 80, \text{mean} = 196.96 \) (SD = 24.97), for the 2012-2013 school year, the repeated measures analysis of variance (ANOVA) showed there was a statistically significant difference \( V = .673, F(1, 79) = 162.713, p < .001, \eta^2_p = .673 \) from one term to the other.
For the 2013-2014 school year, the results of the repeated measures analysis of variance (ANOVA) indicated that Mauchly’s test showed the assumption of sphericity had been met and that there was a statistically significant change in MAP test scores for Reading from the fall, $n = 111$, mean $= 179.95$ (SD $= 28.44$), to the spring, $n = 111$, mean $= 188.94$ (SD $= 25.24$), $V = .460$, $F(1, 110) = 93.815$, $p < .001$, $\eta^2_p = .460$. In regard to MAP test scores for Mathematics from the fall, $n = 107$, mean $= 185$ (SD $= 29.72$), to the spring, $n = 107$, mean $= 197.14$ (SD $= 27.42$), the results of the repeated measures analysis of variance (ANOVA) indicated there was a statistically significant difference $V = .624$, $F(1, 106) = 176.056$, $p < .001$, $\eta^2_p = .624$ from one term to the other.

**Expected Outcome:** It was expected to observe ELLs’ growth on the MAP test scores for Reading and Mathematics for the 2012-2013 and the 2013-2014 school year (Krashen, 1982; NCLB, 2002). Using the results of the analyses conducted to address research question 3a, it can be inferred that ELLs improved MAP test scores for Reading and Mathematics from the fall to the spring for the 2012-2013 and the 2013-2014 school years. Therefore, the expected outcome for research question 3a was achieved.

**Research Question 3b:** What is the relationship between growth on the MAP (Measure of Academic Progress) test for Reading and Mathematics and the Reading and Mathematics end of the year grades for the 2012-2013 and the 2013-2014 school year? For the 2012-2013 school year, the results of the Pearson’s $r$ correlation coefficients conducted indicated the MAP growth on Reading did not have any relationship with Reading end of the year grades, $r(80) = .155$, $p = .170$, or with Mathematics end of the year grades, $r(80) = .200$, $p = .076$. The MAP growth on Mathematics had a statistically
significant relationship with Reading end of the grades, \( r(80) = .247, p = .027 \), and with Mathematics end of the year grades, \( r(80) = .305, p = .006 \).

For the 2013-2014 school year, the results of the Pearson’s \( r \) correlation coefficients conducted indicated the MAP growth on Reading had a statistically significant relationship with Reading end of the year grades, \( r(108) = .213, p = .027 \), and with Mathematics end of the year grades, \( r(108) = .231, p = .016 \) as well as the MAP growth on Mathematics had a statistically significant relationship with Reading end of the year grades, \( r(104) = .228, p = .020 \) and with Mathematics end of the year grades, \( r(104) = .314, p = .001 \).

**Expected Outcome:** It was expected that ELLs’ MAP test scores for Reading and Mathematics were correlated to the Reading and Mathematics end of the year grades for the 2012-2013 and the 2013-2014 school year (*NCLB*, 2002). Using the results of the analyses conducted to address research question 3b, it can be inferred that MAP growth on Mathematics had a statistically significant relationship with Reading end of the year grades and Mathematics end of the year grades for the 2012-2013 and the 2013-2014 school years. The MAP growth on Reading did not have a statistically significant relationship with Reading or Mathematics end of the year grades for the 2012-2013 school year but did have a statistically significant relationship with Reading and Mathematics end of the year grades for the 2013-2014 school year. Therefore, the expected outcome for research question 3b was partially achieved.

**Research Question 4:** What is the correlation between growth on the English language proficiency test scale scores, the MAP test scores, and the MCT2 test scores from the 2012-2013 to the 2013-2014 school years? First growth for the MCT2 test
scores for ELA and for Mathematics was determined. In regard to MCT2 test scores for ELA, the results of the repeated measures analysis of variance (ANOVA) indicated that Mauchly’s test showed the assumption of sphericity had been met and that there was not a statistically significant difference in MCT2 test scores from 2012-2013 school year, \(n = 45\), mean = 147 (SD = 14.48), to the 2013-2014 school year, \(n = 45\), mean = 146.87 (SD = 15.41), \(V = \sqrt{.001}\), \(F(1, 44) = .006\), \(p = .936\), \(\eta_p^2 = .001\). In regard to MCT2 test scores for Mathematics, the results of the repeated measures analysis of variance (ANOVA) indicated that Mauchly’s test showed the assumption of sphericity had been met and that there was not a statistically significant difference in MCT2 test scores from 2012-2013 school year, \(n = 45\), mean = 152.44 (SD = 15.34), to the 2013-2014 school year, \(n = 45\), mean = 153.09 (SD = 12.79), \(V = .008\), \(F(1, 44) = .339\), \(p = .563\), \(\eta_p^2 = .008\).

Then, Pearson’s \(r\) correlation coefficients were conducted to determine the correlation between growth on the English language proficiency test scale scores, growth on the MAP test scores for Reading and Mathematics, and growth on the MCT2 test scores for ELA and Mathematics from the 2012-2013 to the 2013-2014 school years. The results of the Pearson’s \(r\) correlation coefficients conducted indicated that growth on the English language proficiency test scale scores did not have any relationship with growth on the MAP test scores for Reading, \(r(72) = .208\), \(p = .080\), growth on the MCT2 test scores for ELA, \(r(26) = -.021\), \(p = .919\), or growth on the MCT2 test scores for Mathematics, \(r(26) = .090\), \(p = .662\). However, growth on the English language proficiency test scale scores had a statistically significant relationship with growth on the MAP test scores for Mathematics, \(r(71) = .390\), \(p = .001\).

\textbf{Expected Outcome:} It was expected that ELLs’ higher scale scores obtained on the
English language proficiency test (ACCESS for ELLs) resulted in higher test scores on the MAP test and on the MCT2 test (MDE, 2011; NCLB, 2002). Using the results of the analyses conducted to address research question 4, it can be inferred that growth on the English language proficiency test did not correlate with growth on the MCT2 test scores for ELA and Mathematics or the MAP test scores for Reading. Growth on the English language proficiency test correlated with growth on the MAP test scores for Mathematics, however. Therefore, the expected outcome for research question 4 was not achieved.

After the main analyses to answer the research questions of the study were implemented, the researcher examined a multilevel linear model to determine whether cases nested within schools had any impact on the results of the analyses. Students were treated as cases and cases were considered a level 1 variable whereas the school attended was considered a level 2 variable as shown in Figure 1.

![Two-level hierarchical data structure](image)

Figure 1. Two-level hierarchical data structure.

Sample size at the Level 2 prevented the analysis of data at the multilevel linear model due to a small sample size. The sample size that comprised this study came from 8 schools in a school district with six elementary schools, one middle school, and one high school. The literature on multilevel linear models states that at least thirty groups, that in the scope of this study is equivalent to schools (Level 2), are needed for the model to
converge (Maas & Hox, 2005) with other scholars suggesting even larger number of
groups (Snijders, 2005; Snijders & Bosker, 1993) for a multilevel linear model.

Summary

Different statistical analyses were implemented to answer the four research
questions guiding the quantitative research conducted in order to determine English
language learners’ (ELLs) academic achievement by using additional measures of growth
besides the state standardized test. An attempt to account for the effect the schools had on
the scores obtained was unsuccessful. A summary of the study and a discussion of the
findings, conclusions, implications, future research, and a general summary are presented
in Chapter V.
CHAPTER V
DISCUSSION

The final chapter of this research was divided into sections as follows: Summary of the Study, Findings, Conclusions, Implications, Future Research, and Summary.

Summary of the Study

The objective of the present research was to determine ELLs’ academic achievement by using additional measures of growth, besides the state standardized test, in an effort to shed light on the academic improvement ELLs experience in a school year despite the fact that the sole measure of accountability employed for that matter may show otherwise. Determining the academic achievement of ELLs is a complex process due to the different internal and external aspects that may have an impact on ELLs’ growth. In regard to internal aspects, the second language acquisition (SLA) theories that explicate the cognitive and psychological processes ELLs experience when learning/acquiring a target language were addressed. Such internal aspects were Communicative Competence (Canale, 1983; Canale & Swain, 1980, 1981), Error Analysis (Corder, 1967) and Interlanguage (Selinker, 1972), Krashen’s Monitor Model and the Five Hypotheses to SLA (Krashen, 1982, 1988), and Cummins’ (1979, 1981) difference of language into BICS and CALP.

Research on SLA has shown that ELLs necessitate time to develop communicative competence in the target language (Brown, 1980; Canale, 1983; Canale & Swain, 1980, 1981) with some scholars stating that achieving proficiency in academic language in the target language takes longer, between five and ten years, (Collier, 1987;

External aspects were examined by analyzing the role Accountability and Testing have in the measures implemented to determine the academic achievement of the ELL population. Accountability measures have long used the state standardized test as a way to assess students’ academics; even the academics of ELLs whose English language proficiency is yet to be developed. Researchers on the field of testing have stated that there are validity issues when it comes to the use of standardized test to determine the academic achievement of ELLs (Sireci et al., 2008; Solórzano, 2008; Tsang et al., 2008) due to the linguistic complexity the test poses for the ELL population (Abedi & Gándara, 2006; Cummins, 1999; Menken, 2010) and the fact that the development of academic vocabulary takes time (Collier, 1987; Cummins, 1979).

ELLs are required to take the standardized tests (NCLB, 2002) in spite of the language proficiency level achieved by the time of the administration of the test. Even though the test scores ELLs obtain during the first year of residence in the country are not factored in for schools’ or school districts’ accountability purposes, the scores portray the ELL population at risk of failing academically. Hence, in an effort to show the growth ELLs experience in a school year, the researcher used additional measures of growth to determine the academic achievement of ELLs.

The objective of the study was to determine during the 2012-2013 and the 2013-2014 school years 1. how much growth ELLs experienced on the English language proficiency test as determined by the scale scores obtained on the ACCESS for ELLs from 2012-2013 to 2013-2014 school year. 2. the extent to which ELLs’ growth on the
English language proficiency test (ACCESS for ELs) predicted the academic achievement of ELLs in regard to Reading and Mathematics end of the year grades. 3a. how much growth in regard to MAP test scores for Reading and Mathematics ELLs experienced from the fall to the spring in the 2012-2013 and the 2013-2014 school year. 3b. The relationship between MAP test scores for Reading and Mathematics and the Reading and Mathematics end of the year grades for the 2012-2013 and the 2013-2014 school years. 4. The correlation between the English language proficiency test scores, the MAP test scores, and the MCT2 test scores for the 2012-2013 and the 2013-2014 school years.

The sample drawn for this analysis came from the 8 schools that are part of a school district that serves approximately 220 English language learners (ELLs). Six elementary schools grades K-6, one middle school grades 7-8, and one high school grades 9-12 comprised the total sample size \( (n = 211) \) for the analysis. The transient characteristic of the ELL population in the region accounted for the missing data present in the dataset, which led to a loss of statistical power while conducting the analysis. Small sample size in the study also prevented the generalization of results to the population.

Seeking to determine ELLs’ academic achievement using additional measures of growth, the researcher utilized the scores available in regard to the English language proficiency test, ACCESS for ELLs, end of the year grades for Reading and Mathematics, and a computerized formative academic test, MAP test, for Reading and Mathematics for the fall and spring terms along with the state standardized test, MCT2 test, for ELA and Mathematics for the 2012-2013 and the 2013-2014 school year. A
longitudinal analysis was deemed appropriate to shed light on the growth ELLs experience during a school year.

Findings

Different statistical analyses were conducted to address each one of the research questions presented in the research. In regard to research question 1 that analyzed the growth ELLs experienced on the English language proficiency scale scores from the 2012-2013 to the 2013-2014 school year, the results of the repeated measures analysis of variance (ANOVA) conducted showed there was a statistically significant difference in English language proficiency scale scores as measured by the ACCESS for ELLs test, $V = .487, F(1, 93) = 88.203, p \leq .001, \eta^2_p = .487$ from the 2012-2013 to the 2013-2014 school year. The 2012-2013 ACCESS for ELLs scale scores had a mean of 309.20 (SD = 55.52) compared to the 2013-2014 ACCESS for ELLs scale scores with a mean of 333.90 (SD = 38.67), $n = 94$ for both school years.

Research question 2 analyzed how growth in the English language proficiency test (ACCESS for ELLs) predicted the academic achievement of ELLs in regard to Reading and Mathematics end of the year grades during the 2012-2013 and the 2013-2014 school year. The results of the Pearson’s $r$ correlation coefficients conducted indicated that ACCESS for ELLs scale scores for the 2012-2013 school year did not predict Reading end of the year grades, $r(131) = -.103, p = .242$ or Mathematics end of the year grades, $r(131) = -.063, p = .473$. The ACCESS for ELLs scale scores for the 2013-2014 school year did not predict Reading end of the year grades, $r(134) = -.047, p = .589$ or Mathematics end of the year grades, $r(133) = -.079, p = .363$. The results of the second Pearson’s $r$ correlation coefficients implemented showed that ACCESS
growth predicted Mathematics end of the year grades for the 2013-2014 school year,\[ r(90) = .208, p = .049 \] but not Reading end of the year grades for the same year, \[ r(91) = .142, p = .178. \]

Research question 3a analyzed how much growth in regard to MAP (Measure of Academic Progress) test scores for Reading and Mathematics English language learners experienced from the fall to the spring in the 2012-2013 school year and from the fall to the spring in the 2013-2014 school year. The results of the repeated measures analysis of variance (ANOVA) conducted showed a statistically significant difference in MAP test scores for Reading from the fall, \( n = 80, \text{mean} = 181.69 \text{ (SD = 26.63)} \), to the spring, \( n = 80, \text{mean} = 190.05 \text{ (SD = 23.41)} \), for the 2012-2013 school year, \[ V = .509, F(1, 79) = 81.899, p \leq .001, \eta^2 = .509. \] In regard to MAP test scores for Mathematics from the fall, \( n = 80, \text{mean} = 184.61 \text{ (SD = 28.01)} \), to the spring, \( n = 80, \text{mean} = 196.96 \text{ (SD = 24.97)} \), for the 2012-2013 school year, the repeated measures analysis of variance (ANOVA) showed a statistically significant difference \[ V = .673, F(1, 79) = 162.713, p \leq .001, \eta^2 = .673 \] from one term to the other.

For the 2013-2014 school year, the results of the repeated measures analysis of variance (ANOVA) indicated there was a statistically significant difference in MAP test scores for Reading from the fall, \( n = 111, \text{mean} = 179.95 \text{ (SD = 28.44)} \), to the spring, \( n = 111, \text{mean} = 188.94 \text{ (SD = 25.24)} \), \[ V = .460, F(1, 110) = 93.815, p \leq .001, \eta^2 = .460. \] In regard to MAP test scores for Mathematics from the fall, \( n = 107, \text{mean} = 185 \text{ (SD = 29.72)} \), to the spring, \( n = 107, \text{mean} = 197.14 \text{ (SD = 27.42)} \), the results of the repeated measures analysis of variance (ANOVA) showed a statistically significant difference \[ V = .624, F(1, 106) = 176.056, p \leq .001, \eta^2 = .624 \] from one term to the other as well.
Research question 3b analyzed the relationship between growth on the MAP test for Reading and Mathematics and the Reading and Mathematics end of the year grades for the 2012-2013 and the 2013-2014 school year. For the 2012-2013 school year, the results of the Pearson’s $r$ correlation coefficients conducted indicated that the MAP growth on Reading did not have any relationship with Reading end of the year grades, $r(80) = .155, p = .170$, or with Mathematics end of the year grades, $r(80) = .200, p = .076$. The MAP growth on Mathematics had a statistically significant relationship with Reading end of the year grades, $r(80) = .247, p = .027$, and with Mathematics end of the year grades, $r(80) = .305, p = .006$.

For the 2013-2014 school year, the results of the Pearson’s $r$ correlation coefficients conducted indicated that the MAP growth on Reading had a statistically significant relationship with Reading end of the year grades, $r(108) = .213, p = .027$, and with Mathematics end of the year grades, $r(108) = .231, p = .016$ as well as the MAP growth on Mathematics had a statistically significant relationship with Reading end of the year grades, $r(104) = .228, p = .020$ and with Mathematics end of the year grades, $r(104) = .314, p = .001$.

Research Question 4 analyzed the correlation between growth on the English language proficiency test scale scores, the MAP test scores, and the MCT2 test scores from the 2012-2013 to the 2013-2014 school years. First growth for the MCT2 test scores for ELA and for Mathematics was determined. In regard to MCT2 test scores for ELA, the results of the repeated measures analysis of variance (ANOVA) indicated there was not a statistically significant difference in MCT2 test scores from 2012-2013 school year, $n = 45$, mean = 147 (SD = 14.48), to the 2013-2014 school year, $n = 45$, mean = 146.87
(SD = 15.41), $V = □ .001$, $F(1, 44) = .006$, $p = .936$, $\eta_p^2 = □ .001$. In regard to MCT2 test scores for Mathematics, the results of the repeated measures analysis of variance (ANOVA) showed there was not a statistically significant difference in MCT2 test scores from 2012-2013 school year, $n = 45$, mean = 152.44 (SD = 15.34), to the 2013-2014 school year, $n = 45$, mean = 153.09 (SD = 12.79), $V = .008$, $F(1, 44) = .339$, $p = .563$, $\eta_p^2 = .008$.

Then, Pearson’s $r$ correlation coefficients were conducted to determine the correlation between growth on the English language proficiency test scale scores, growth on the MAP test scores for Reading and Mathematics, and growth on the MCT2 test scores for ELA and Mathematics from the 2012-2013 to the 2013-2014 school years. The results of the Pearson’s $r$ correlation coefficients conducted indicated that growth on the English language proficiency test scale scores did not have any relationship with growth on the MAP test scores for Reading, $r(72) = .208$, $p = .080$, growth on the MCT2 test scores for ELA, $r(26) = -.021$, $p = .919$, or growth on the MCT2 test scores for Mathematics, $r(26) = .090$, $p = .662$. However, growth on the English language proficiency test scale scores had a statistically significant relationship with growth on the MAP test scores for Mathematics, $r(71) = .390$, $p = .001$.

Conclusions

Determining ELLs’ academic achievement is a complex process due to the internal aspects that influence the learning/acquisition process of the target language such as communicative competence (Canale, 1983; Canale & Swain, 1980, 1981), error analysis (Corder, 1967) and interlanguage (Selinker, 1972), the Monitor model with the five hypotheses to second language acquisition (Krashen, 1982, 1988), and the difference
in the type of language ELLs learned/acquired into Basic Interpersonal Communicative Skills, BICS, and Cognitive Academic Language Proficiency, CALP, (Cummins, 1979, 1999). Being able to communicate ideas is among the first skills ELLs acquire due to the need to socialize (Canale & Swain, 1980, 1981). Cummins (1979) noted that students learning/acquiring a target language develop BICS faster than CALP, usually between two and three years of residence in the target culture.

Accountability measures, however, expect the ELL population to show gains in English language proficiency socially and especially academically after two years of residence in the country (MDE, 2011b; NCLB, 2002). ELLs test scores on standardized tests do not count, for accountability purposes, the first year of residence; but, are factored in thereafter despite the fact that research on second language acquisition has shown that for ELLs to perform at higher levels on standardized tests the population needs to be provided between five and ten years (Collier, 1987; Cummins, 1979, 1999) to develop academic language. Issues with the validity of standardized tests have also been documented when it comes to the ELL population in which the linguistic complexity of the tests have shown to be the major source of difficulty for ELLs (Bachman, 2002; Chapelle, 1998; Mahon, 2006; Olmedo, 1981; Solórzano, 2008; Tsang et al., 2008).

Research question 1 of the present study analyzed the growth ELLs experienced on the English language proficiency scale scores from the 2012-2013 to the 2013-2014 school year. The results of the analysis conducted indicated an improvement in ELLs’ scale scores on the English language proficiency test from one school year to the other. This finding is in line with what research on SLA states in regard to the development of BICS (Cummins, 1979, 1999). ACCESS for ELLs, the instrument employed to measure
English language proficiency in the state, assesses the development of listening, speaking, reading, and writing (WIDA, 2014a), in which communicative and academic language are included; although the latter is not as rigorously measured as it is on the standardized test. After all, the English language proficiency test is intended to measure ELLs’ language proficiency (Olmedo, 1981; Solórzano, 2008) and not subject matter knowledge.

It was expected that ELLs improve scores on the English language proficiency test from one school year to the other as stated by research on SLA and by state and federal accountability measures. The more time ELLs spend in the target culture, being included in the educational system in the country, the more proficient English language learners will become. In other words, exposure, practice, and conscious learning will aid in the development of communicative competence at the linguistic/grammatical, sociolinguistic, strategic, and discourse level (Canale, 1983; Canale & Swain, 1980, 1981; Krashen, 1982). After two years of residence in the target culture, ELLs’ language skills, listening, speaking, reading, and writing, showed improvement. In the present study, the 2012-2013 ACCESS for ELLs scale scores had a mean of 309.20 (SD = 55.52) compared to the 2013-2014 ACCESS for ELLs scale scores with a mean of 333.90 (SD = 38.67), n = 94 for both school years. This path of improvement on the English language proficiency test is expected to persist with ELLs’ incremental amount of time residing in the target culture, which supports the premise that ELLs need time to develop language proficiency; a topic that has been widely studied in the area of SLA (Canale & Swain, 1980; Cummins, 1979, 1999; Krashen, 1982). It is necessary to reiterate, however, that SLA research states that ELLs develop social language, what Cummins
(1979, 1999) referred to as BICS, faster than academic language, CALP, in Cummins’ words.

Research question 2 analyzed how growth in the English language proficiency test (ACCESS for ELLs) predicted ELLs’ academic achievement in regard to Reading and Mathematics end of the year grades during the 2012-2013 and the 2013-2014 school year. The results of the analyses conducted revealed that the scale scores ELLs obtained on the English language proficiency test did not impact students’ end of the year grades for Reading or Mathematics for the 2012-2013 and the 2013-2014 school year in spite of the fact that accountability measures expect so. The researcher believes that the analysis of cross-sectional data fails to acknowledge the gains the ELL population has achieved not only in the English language proficiency but also in the academic level. Those gains are only observed when longitudinal data is analyzed, as in the present study, in which once growth on the English language proficiency test was used the results of the analysis showed that the more proficient ELLs become in the English language the better they perform on Mathematics, \( r(90) = .208, p = .049 \), but not on Reading \( r(91) = .142, p = .178 \).

This fascinating finding supports what research on SLA and Testing have stated in regard to linguistic complexity. Both aspects have noted that ELLs experience difficulties at the syntactical, lexical, and discourse levels when faced with standardized tests (Bailey, 2000, 2006; Bachman, 2002; Cummins, 2008); a factor that is present in the Reading or English Language Arts component of the tests. The fact that after two years of stay in the country, ELLs have improved English language skills and that such improvement had impacted Mathematics end of the year grades for the 2013-2014 school
year illustrated that when the linguistic complexity on the subject matter to assess is not as demanding, as it is the case with Mathematics, the ELL population is able to show satisfactory results on the accountability measures implemented to determine academic achievement.

Federal accountability measures as the *No Child Left Behind Act* of 2001 (2002) mandates the assessment of all the student population as well as expects to see growth in each subgroup, ELL included (*Castaneda v. Pickard*, 1981; MDE, 2011b), despite the fact that there are internal aspects, addressed in the review of the literature for the present study, that prevent English language learners’ rapid evidence of being academically successful as determined by either grades or standardized test scores. Growth, measured in terms of higher grades achieved during a particular school year, poses a limitation frequently observed when data is analyzed cross-sectionally.

Research question 3a analyzed how much growth in regard to MAP (Measure of Academic Progress) test scores, for Reading and Mathematics, English language learners experienced from the fall to the spring in the 2012-2013 school year and from the fall to the spring in the 2013-2014 school year. The results of the analyses showed ELLs improved MAP test scores for Reading and Mathematics from the fall to the spring for the 2012-2013 and the 2013-2014 school years. These findings are aligned with what different scholars in the area of SLA have noted in regard to the progressive development of academics once English language proficiency development has started (*Canale & Swain*, 1980, 1981; *Collier*, 1987; *Cummins*, 1979, 1999; *Dulay et al.*, 1982; *Krashen*, 1982). However a closer look at the means ELLs obtained on the MAP test scores for Reading from the spring 2013 (m = 190.05, SD = 23.41, n = 80), to the spring 2014 (m =
188.94, SD = 25.24, n = 111), indicate there was no gain from one year to the other. This finding may be explained by the linguistic complexity involved in the Reading and/or English Language Arts assessments that call for language learners to possess a good command of the English language at all levels, that is to possess linguistic/grammatical competence, sociolinguistic competence, strategic competence, and discourse competence, what Canale (1983) and Canale and Swain (1980, 1981) referred to as communicative competence, including societal norms and cultural aspects (Cummins, 2008).

English language learners’ (ELLs) quest to develop communicative competence is not a short term endeavor that can be satisfactorily measured after two years of residence in the target culture, as mandated by the accountability measures used in the state and in the country. Developing communicative competence is a long term endeavor that involves ELLs’ making sense of a novel linguistic system, societal patterns, and cultural aspects that may differ from the ones employed in the students’ native language and culture. Understanding these differences takes some time before acceptance and adaptation can take place (Canale & Swain, 1980, 1981; Chaika, 1994; Krashen, 1982). Therefore, the premise that states that ELLs’ need time to develop target language proficiency (Collier, 1987; Cummins, 1979, 1999).

In regard to MAP test scores for Mathematics, the spring 2013 (m = 196.96, SD = 24.97, n = 80) remained almost the same when compared to the spring (m = 197.14, SD = 27.42, n = 107). This finding reiterates the fact that when the linguistic complexity in the subject matter to assess does not involve being fully proficient in the target language at all levels, ELLs are more prone to show improvement. Assessments that measure
Mathematics subject area knowledge are more inclined to contain number sentence than word problems. When word problems are present, the language demand is not as rigorous as it is on the Reading and/or English Language Arts counterpart. The researcher has been able to observe this pattern first hand in her own English language learners (ELLs), even in the newcomers, who tend to perform better in the Mathematics class than in the Reading class and/or English Language Arts class.

This may be the result of ELLs’ exhibiting lower affective filter (Krashen, 1982) in the Mathematics class than in the Reading and English Language Arts classes due in part to the universal nature in the use of numbers. ELLs from all around the world are able to provide the correct response for 2 + 2 if the number sentence is provided. They may not be that lucky, though, if the number sentence is laid out in a word problem. In the latter scenario vocabulary may be the culprit for ELLs’ lack of accuracy when faced with a Mathematics word problem. Research has shown that when the construct to measure is not appropriately addressed the validity of the assessment instrument may be at risk (Solórzano, 2008). For the researcher the disparity in ELLs’ scores on Reading and Mathematics may be explained by the discussion different scholars have sustained about ELLs’ being tested in the language of instruction at early stages of language development (Tsang et al. 2008), which may bias the result of the test, especially when the construct to measure is students’ subject area knowledge and skills (Abedi & Gándara, 2006; Sireci et al., 2008; Solórzano, 2008) and not English language proficiency.

Research question 3b analyzed the relationship between growth on the MAP test for Reading and Mathematics and the Reading and Mathematics end of the year grades for the 2012-2013 and the 2013-2014 school years. The results of the analyses indicated
the MAP growth on Reading 2013 did not have an impact on the end of the year grades for Reading or Mathematics for the 2012-2013 school year. However, the MAP growth on Mathematics had an impact on the end of the year grades for Reading and Mathematics for the same year. Interestingly, the MAP growth on Reading 2014 and the MAP growth on Mathematics 2014 had an impact on the end of the year grades for Reading and Mathematics for the same year.

The fact that ELLs obtained better results on the Mathematics assessment than on the Reading one, supports the findings obtained in research question 3a. Once again, the lower linguistic complexity ELLs faced on the Mathematics assessment allowed the population to demonstrate their abilities on the subject area to assess without confounding results once the reading component was included. ELLs, in the place where the study was conducted, performed at higher levels when number sentences were used. The more time and exposure to the culture and the teaching inside the classroom led to better performance on Mathematics when compared to Reading. Growth on the MAP test for Reading during the 2012-2013 school year influenced neither Reading nor Mathematics end of the year grades but growth on the MAP test for Mathematics did and so did growth on the MAP test for Reading and Mathematics for the 2013-2014 school year.

Scores obtained during the second year of the longitudinal data showed progressive improvement on Reading and continued improvement on Mathematics. This finding reiterates what researchers have found about the linguistic complexity posing issues for ELLs to perform well on standardized tests (Bachman, 2002; Chapelle, 1998; Mahon, 2006; Olmedo, 1981; Solórzano, 2008; Tsang et al., 2008).
Research Question 4 analyzed the correlation between growth on the English language proficiency test scale scores, the MAP test scores, and the MCT2 test scores from the 2012-2013 to the 2013-2014 school years. First, the analysis of growth on the MCT2 test for ELA and Mathematics did not yield the expected results. ELLs’ scores on the MCT2, the state standardized test, did not improve in any of the subject areas assessed from the 2012-2013 to the 2013-2014 school year. A plausible explanation for this finding may lie in the fact that the sample size available for the analysis ($n = 45$) was not representative of the cases used for the study. Another reason may be the linguistic complexity ELLs face when taking standardized tests (Bachman, 2002; Chapelle, 1998; Tsang et al., 2008).

The results obtained after having analyzed the correlation between growth on the English language proficiency test scale scores, growth on the MAP test scores for Reading and Mathematics, and growth on the MCT2 test scores for ELA and Mathematics from the 2012-2013 to the 2013-2014 school years indicated that growth on the English language proficiency test scores did not have an impact on growth on the MAP test scores for Reading, $r(72) = .208$, $p = .080$, or growth on the MCT2 test for ELA, $r(26) = -.021$, $p = .919$, or Mathematics, $r(26) = .090$, $p = .662$. Statistical power may have once again been affected by a reduction on sample size for the MCT2 test for ELA and Mathematics, $n = 26$.

Growth on the English language proficiency test scale scores, however, had an impact on growth on the MAP test scores for Mathematics, $r(71) = .390$, $p = .001$, which reiterates previous findings discussed in the present study about the role linguistic complexity may have on ELLs’ standardized test scores when Reading and/or ELA is
assessed. To summarize, ELLs in the sample employed for the research improved English language proficiency scale scores and performed better on Mathematics at the classroom level, as determined by the end of the year grades, and on the computerized formative academic assessment, as measured by the MAP test, than on the Reading counterpart. These findings uphold the literature on SLA that states that developing language proficiency is a gradual process. They also contest the results sought by state (MDE, 2011b) and federal accountability measures (NCLB, 2002) that expect ELLs to improve academic achievement at the same rate monolingual students do.

Implications

Despite the fact that the sole measure of accountability employed in the state to determine academic achievement portrays the ELL population at risk of failing, the present study showed that ELLs do improve English language proficiency and subject area content, Reading and Mathematics, the longer they stay in the country being part of the educational system. The researcher believes a potential implication of the study is the consideration that should be given to the need to implement additional measures of accountability to determine ELLs’ academic achievement. None of the sources consulted for the present study identified research on this aspect.

Extensive work in the area of SLA has revealed the complexity included in the learning/acquisition process of a target language, in which internal aspects may have an impact on the rate and pace of such process, to permit the results on a single measure to constantly label ELLs as below grade level. Ultimately, the number of ELLs is deemed to be growing steadily in the country (U.S. Census Bureau, 2013). Therefore, measures that
accurately determine ELLs’ growth may be needed to provide ELLs with the opportunity to exhibit academic improvement (U.S Department of Education, 2015).

Developing communicative competence is, in itself, a complex process that requires language learners to develop proficiency at the linguistic/grammatical level, in which the gradual progression of syntax, semantics, morphology, and phonology is closely intertwined. English language learners (ELLs) then need to learn when such knowledge is used in communicative exchanges either in written or spoken form to function appropriately in sociolinguistic scenarios to convey their intended meaning (Canale & Swain, 1980, 1981). To accomplish this task, it is needed that ELLs employ the language of instruction to communicate so that understanding and internalization of the target language can take place.

Krashen (1982) notes that this is possible when ELLs perform in a non-threatening environment conducive to learning. Such environments encourage ELLs’ to use the target language without being afraid of making errors (Corder, 1967), which in turn, benefits their own interlanguage (Selinker, 1972). ELLs’ low affective filter is a fundamental part in language learners’ learning/acquisition process. The researcher has seen ELLs thrive in such settings; although the opposite is also feasible, unfortunately. In other words, when ELLs feel comfortable in their classrooms, it is feasible for them to transition from their native language to the target language (Selinker, 1972) at a faster pace.

Being able to transform their interlanguage may help ELLs thrive socially and especially academically in the English language. Developing academic language is necessary to function at subject area grade level content as stated by the U.S. Department
However the development of academic vocabulary or CALP, (Cummins, 1979, 1999),
takes between five and ten years. Namely, ELLs necessitate more than the one-year grace
period federal and state law provides them when they have been in the country less than a
year. ELLs standardized test scores do not count for the first year but are factored in
thereafter.

Research on SLA has indicated that two years is little time for ELLs to develop
the language proficiency needed to perform at satisfactory levels on standardized tests
(Cummins, 1979, 1999; Dulay et al., 1982; Krashen, 1982; Nunan, 1999); a finding that
has also been upheld by research on testing (Bachman, 2002; Mahon, 2006; Solórzano,
2008; Tsang et al., 2008). So, if this has been a reiterative finding in SLA and testing,
why do accountability measures expect ELLs to perform at the same level monolingual
students do after just two years of instruction in the U.S. educational system? This
dilemma may very well be resolved were additional measures of growth implemented to
determine the academic achievement of ELLs. Such measures of growth could be the use
of English language proficiency test scores, end of the year grades for Reading/English
language Arts and Mathematics, any other computerized assessment currently used in the
educational system to track students’ performance either in Reading, Mathematics, or
both, and the state standardized test.

Accountability measures and testing, part of the external aspects described in the
review of literature of the present study, may have their take when it comes to
determining the academic achievement of ELLs. On one hand, accountability practices
seemed to have stifled ELLs from the opportunity to develop the language proficiency
needed to accurately manifest what they know on standardized tests, in regard to subject area content, using the language proficiency they have achieved thus far. Statewide, for instance, the Mississippi Department of Education has in place Title III accountability measures (MDE, 2011b), in which English language learners’ (ELLs) academic achievement is analyzed from two perspectives. The first one has to do with the improvement of ELLs’ language proficiency skills as determined by the ACCESS for ELLs test scores. The second one deals with ELLs’ academic achievement as determined by the standardized test, MCT2 test, used in the state.

The first perspective that deals with the development of English language skills is assessed by using annual measurable achievement objectives (AMAOS) that school districts serving ELLs and receiving federal funds to provide such services are required to meet (MDE, 2011b). AMAOS in regard to language proficiency are divided into the percent of ELLs making progress in learning the target language and the percent of ELLs being classified as being proficient on the English language proficiency test. The second perspective that deals with ELLs’ performance on the standardized test, is assessed by using an AMAO related to satisfying Adequate Yearly Progress (AYP) for the ELL population at the district level (MDE, 2011b). In this scenario, ELLs need to achieve proficiency in the English language proficiency test and be proficient or above on the standardized test for the goal to have been met. The ELL subgroup is required to meet the three AMAOs each school year. However, taking into consideration ELLs’ struggles on standardized tests due to linguistic complexity because of dearth of language proficiency, it is not surprising that the ELL population keeps being labeled at risk of failing.
On the other hand, research in the area of testing has asserted that the linguistic complexity ELLs face on standardized test compromises the validity of the assessment instruments (Bachman, 2002; Mahon, 2006; Olmedo, 1981; Solórzano, 2008); linguistic complexity that is closely related to lack of English language proficiency. Although some may think that an approach like this may lower academic standards, the researcher strongly believes that a comprehensive way to determine the academic achievement of ELLs by using additional measures of growth besides the standardized test may actually help the subgroup thrive academically. Motivation (Gardner & Lambert, 1959) and sense of achievement (Krashen, 1982) are powerful characteristics that some ELLs the researcher has had the privilege to teach do not experience because of their academic performance been labeled as unsatisfactory.

An implication of the present study for practice has to do with the possibility of providing professional development, in regard to SLA, to educators who work with ELLs. Teachers’ perceptions towards the ELL population should start changing inside the educational system to empower students to use the target language to express their ideas (Chaika, 1994; Gass & Selinker, 2001; Krashen, 1982). Educators are also a vital component of the classroom environment needed to encourage ELLs’ target language development. The more English ELLs speak inside the classroom, the more fluent they will become and this will promote ELLs’ growth academically.

Acknowledging and reporting the actual academic gains ELLs undergo in a school year may aid the population and the teachers who serve them to modify the perception of failure they may have towards the subgroup. As Rosenthal and Jacobson’s (1968) research found, perceptions on students’ academic achievement have an impact on
the actual performance of the population in question; what has been referred to as the Pygmalion effect. As such, empowering ELLs inside the classroom by means of using additional measures of growth to determine academic achievement is an alternative worth considering in our ever changing educational system.

Limitations

To start, a small sample size posed a threat to the internal validity of the study. Second, the use of purposive sampling in which only one local educational agency’s data was used compromised the ability to generalize results. Third, the LEA is located in the Southeastern region of the United States that has traditionally underperformed on standardized test. Fourth, missing data accounted for a reduction of statistical power on some statistical analysis conducted for the present study. Fifth, the impact that continuous testing may have on ELLs.

Future Research

The present study analyzed English language learners’ (ELLs) academic achievement by using additional measures of growth, besides the state standardized test. Although the findings upheld what the literature on SLA states and contested what accountability measures expect, replicating the research with a bigger sample size may help generalize findings. A larger sample size not only in the number of cases but also in the number of schools included in the analysis, aiming to have at least 30 groups (schools), may facilitate the implementation of a multilevel linear model to determine whether cases nested within schools had any impact on the results of the analyses. Data analysis should be done longitudinally, as approached in the present research, using
repeated measures analysis of variance (ANOVA) to determine growth so that comparisons between studies are enabled.

Other follow-up studies should be conducted at the K-2, 3-8, and 9-12 grade levels to determine the academic achievement of ELLs. At the K-2 level other computerized assessments should be included in order to control for missing data. The data collection of MAP test scores was not as efficient as expected. Data on Renaissance assessment instruments for Reading and Mathematics were more readily accessible at the location where the research took place. Standardized test scores are not applicable at this level. At the 3-8 grade levels, the additional measures of growth implemented in the present study could be used. At the 9-12 level, MAP test scores could be implemented, when applicable, along with the English language proficiency test scores, end of the year grades for English and Mathematics, and the Subject Area Test (SAT). All these analyses should aim to have appropriate sample sizes so that statistical power is maintained throughout the analyses. Additionally, differences by schools could be analyzed and reported to isolate patterns worth considering.

Summary

The discrepancies observed between what research on second language acquisition (SLA) states in regard to ELLs’ learning/acquisition process and what accountability measures report in relation to ELLs’ academic achievement motivated the researcher to conduct the study. Despite the fact that accountability measures portray the ELL population at risk of academic failure, the findings and conclusions of the present study showed that ELLs’ performance on standardized tests, the sole measure of academic achievement implemented in the state, is in accordance with SLA research
findings. However when additional measures of growth such as the English language proficiency test scores, ACCESS for ELLs, a computerized formative academic assessment test scores, MAP test, and the Reading and Mathematics end of the year grades, were included, besides the state standardized test, ELLs’ improvement materialized.

The development of communicative competence, (Canale, 1983; Canale & Swain, 1980, 1981) in which social skills are developed at a faster pace than academic language (Collier, 1987; Cummins, 1979, 1999), is not an easy feat. Moreover, issues with the validity of standardized tests challenges the efficacy of such instruments to assess the construct to measure, subject area knowledge, and not English language proficiency (Mahon, 2006; Solórzano, 2008; Tsang et al., 2008). Only when findings in the area of SLA are included in the accountability measures implemented to determine the academic achievement of ELLs, will the ELL population rise from the shadows of failure as currently determined by a single measure of growth, the state standardized test.
October 16, 2014

Adriana M. Marin

Dear Ms. Marin,

Your request for permission chart "ELLs' academic growth while learning English as a second language" for your doctoral dissertation project is approved as submitted and may be coordinated directly with the principals on the attached list.

Participation of this activity will be at the individual principals' discretion and is subject to their prioritization of learning activities.

We appreciate the opportunity to work with you and trust that this will be a mutually beneficial endeavor.

Sincerely,

[Signature]

Executive Director of Student Support

cc:
APPENDIX B

INSTITUTIONAL REVIEW BOARD NOTICE OF COMMITTEE ACTION

THE UNIVERSITY OF
SOUTHERN MISSISSIPPI

INSTITUTIONAL REVIEW BOARD
118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 21, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 15010704
PROJECT TITLE: Academic Achievement of English Language Learners (ELLs)
PROJECT TYPE: New Project
RESEARCHER(S): Adriana M. Marin
COLLEGE/DIVISION: College of Education and Psychology
DEPARTMENT: Curriculum, Instruction and Special Education
FUNDING AGENCY/SPONSOR: N/A
IRB COMMITTEE ACTION: Exempt Review Approval
PERIOD OF APPROVAL: 01/12/2015 to 01/11/2016
Lawrence A. Hosman, Ph.D.
Institutional Review Board
APPENDIX C

PERMISSION TO USE THE INFORMATION ABOUT MCT2 SCALE SCORE CUT

EAGLE APPS

Adriana Marin <adriana.marin@eagles.usm.edu>

Permission to use MCT2 scale score cut table for dissertation
3 messages

Adriana Marin <adriana.marin@eagles.usm.edu>       Wed, Mar 18, 2015 at 8:19 PM
To: wdrene@mde.k12.ms.us

Dear Mr. Drake,

I am planning to use Table 6.1- Summary of Scale Score Cut for MCT2 Tests- on pages 41 and 42 on the MCT2 2012-2013 Technical Manual for my dissertation and would like your written permission to do so. Table 6.1 comprises MCT2 scale score cuts for 2012-2013 and 2013-2014 as found on pg. 30 Table 5.1- MCT2 Cuts- on the MCT2 2013-2014 Technical Manual. Looking forward to receiving your response. Thank you!

Adriana Marin, M.A., NBCT
Doctoral Student
Department of Curriculum, Instruction, and Special Education
The University of Southern Mississippi

Adriana Marin <adriana.marin@eagles.usm.edu>       Sat, Mar 21, 2015 at 9:39 AM
To: "wdrene@mde.k12.ms.us" <wdrene@mde.k12.ms.us>

Begin forwarded message:

From: Adriana Marin <adriana.marin@eagles.usm.edu>
Date: March 18, 2015 at 8:19:54 PM CDT
To: wdrene@mde.k12.ms.us
Subject: Permission to use MCT2 scale score cut table for dissertation

[Quoted text hidden]

Walt Drane <WDrane@mde.k12.ms.us>       Sat, Mar 21, 2015 at 9:44 AM
To: "adriana.marin@eagles.usm.edu" <adriana.marin@eagles.usm.edu>

Good morning Adriana! I apologize for not getting back to your request. I approve of you using the summaries pertaining to cut scores as you mentioned in your email below, which are located in the technical manual. Please let me know if you need any more information or how I can assist you in the future. Take care!

Sent from my LG G3, an AT&T 4G LTE smartphone

Walt Drane, Ed.S. Interim State Assessment Director
Office of Student Assessment
Original message—
From: Adriana Martin
Date: Sat, Mar 21, 2015 09:40
To: Walt Drane;
Subject: Fwd: Permission to use MCT2 scale score cut table for dissertation

1417731194790.png
8K
REFERENCES


