# Quantitative Study of Predictive Relationships Between English Language Proficiency, Academic Growth, and Academic Achievement Assessments in North Georgia

A Dissertation submitted
to the Graduate School
Valdosta State University

in partial fulfillment of requirements
for the degree of

DOCTOR OF EDUCATION

in Educational Leadership

in the Department of Curriculum, Leadership, and Technology
of the Dewar College of Education and Human Services

February 2022

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## ABSTRACT

This study examined the predictive relationship between ELs' proficiency levels on the Assessing Comprehension and Communication in English State-to-State for ELs 2.0, students' performance on English language arts Georgia Milestones Assessment System, and academic growth on the Measures of Academic Progress. It was comprised of third through fifth grade English Language Learners. The study compared the percentage of English language learner students at each proficiency level, gender, and grade level and their achievement of English language arts on the Georgia Milestones Assessment System and growth from the beginning of the year to the end of the year on Measure of Academic Progress. The study was evaluated by conducting Pearson correlation coefficients, one-way ANOVA, and mediation analysis.

Results for this research question indicated a significant positive relationship between academic achievement and academic growth. There was a significant positive relationship between academic achievement and all eight domains of English proficiency. The results indicated as grade level increased, English proficiency increased, and academic growth and achievement decreased. Results for this research question indicated a significant effect on all eight domains of English proficiency. The results indicated academic achievement is not obtained for almost 77% of ELs scoring in the 4.3 – 4.9 English proficiency level. There were significant results for all eight domains of English proficiency and academic achievement. The three domains of speaking, oral, and composite were mediated by academic growth.

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ACKNOWLEDGMENT

I would like to acknowledge my chair, Dr. Michael Bochenko, my researcher, Dr. Sakhavat Mammadov, and my committee members, including Dr. Denise Hill and Dr. E-Ling Hsiao. Thank you for encouraging, inspiring, and pushing me to do the absolute best I can. Thank you for your continued love and support. We did it!

# DEDICATION

This journey is dedicated to all that helped make my dreams possible. When I started back in 2017, my boys were three and four years old. I remember thinking to myself my kids would be eight and nine years old when I finished. It seemed impossible and unreachable, but I told myself the time will pass anyway, so I pressed on. Without my husband, John Loughridge, and my children, Judson Loughridge and Jackson Loughridge, this accomplishment would not have been possible. They spent many days at games without me and other days entertaining and feeding themselves to allow me the time I needed. Of course, there were many people have poured into me before my husband and children; the teachers, church members, coworkers, friends, and family members who led me to the paths that led directly to this journey. This dedication goes to, first and foremost, my God, then my parents, and family. It truly takes a village to accomplish a goal like this. I could not have gotten here without my parents, DeAun Bailey and John Taylor, my siblings, Tristan Sturgill, Daniel Jernagin, and Dylan Jernagin, my grandparents, Peggy and the late Lane Bailey, Don and the late Nellie McConkey, my in-laws, Linda and the late Larry Loughridge, the Tough Runners, my friends, the 2017 VSU Doctoral Cohort, my compadre throughout the journey, Dr. Jennifer Reed, my sons, and my husband. They are my team, and I want to thank them for helping me make the needed sacrifices and supporting me through this entire journey.

# Chapter I

# INTRODUCTION

## Overview

The National Center for Education Statistics (NCES) (2019) stated Georgia had a steady increase in English language learners (ELs) in public schools from 2017 to 2018. NCES reported school-level ELs in Georgia increased from 5.7% in 2017 to 6.4% in 2018. The number of third through fifth grade ELs who were administered the state English Language Proficiency assessment increased by 8,160 students from 2017 to 2018 (GaDOE, 2019c). With a continual rise in the ELs' population, the need for valid and comprehensible assessments for ELs is growing.

According to the Georgia Department of Education (GaDOE) English as a Second Language (2018b), a student is identified as an EL if a language other than English is specified on the Home Language Survey (HLS) during enrollment into a school system. An eligibility assessment is used to determine if ESOL services are required. ESOL identification practices like Georgia's practices are conducted across the nation. While there is uniformity in how an English language learner is identified, there is no uniformity in how an English language learner exits ESOL services (Okhretchouk et al., 2018).

The federal government regulates assessment and accountability for students identified as ELs. The Every Student Succeeds Act (ESSA) required ELs to have a valid state-academic assessment (GaDOE, 2017c). The Georgia Milestones Assessment

System (Georgia Milestones) met ESSA's requirements. ESSA mandated ELs be measured annually for English Language Proficiency (GaDOE, 2017c). Assessing Comprehension and Communication in English State-to-State for ELs 2.0 (ACCESS for ELLs 2.0) was the assessment Georgia used to measure English Language Proficiency.

States had two options outlined in ESSA for testing students that were new to the country defined as a newcomer. They could either administer the assessment or defer testing for the first year. Georgia opted to test the newcomers in the 2018-2019 school year. Georgia newcomers' scores counted as a baseline for their first year in the country. Their second-year test results count as a growth measure. The years following counted as accountability as usual.

ELs usually reach ELP within 4 – 6 years. When they are exited from ESOL services, the English language learner should perform at a similar academic success rate as native English speakers on academic assessments (GaDOE, 2017a). ELs have a difficult time reading for comprehension until English proficiency is achieved. Several studies found ELs are not as proficient in reading comprehension as their native English-speaking peers (Francis et al., 2006; Grasparil & Hernandez, 2015; Koo et al., 2014). As a result of poor reading comprehension, Parker et al. (2016) found students were failing to meet state proficiency standards after exiting ESOL services.

ESSA allows students within three years of starting school in the United States to be evaluated in their native language. However, due to resource limitations, Georgia elects to administer all assessments in English. The assessment constructs' validity is questionable because the evaluations are normed for native English speakers (Burns et al., 2017; Wolf et al., 2008).

The lack of academic vocabulary In ELs is one of the factors impacting the achievement gap between ELs and native English speakers (Cummins, 1979, 1999; Francis et al., 2006; Grasparil & Hernandez, 2015; Jiménez, 2002; Scarcella, 2003). An EL reading with limited proficiency creates a strain on his or her short-term and working memory. The pressure on the memory reduces comprehension and the ability to recall background knowledge, all of which are necessary to achieving comprehension (Grasparil & Hernandez, 2015; Just & Carpenter, 1992).

The level of cognition of the EL impacts English Language Proficiency. A student with a high level of cognition will achieve English proficiency faster (Cummins, 1979). Cognition positively affects language proficiency (Daller & Ongun, 2018). In addition to cognition positively impacting the achievement of English proficiency, the ability to transfer specific skills from the English language learner's native language to English is attainable if the English language learner has a high level of cognitive academic language proficiency. ELs with a high level of cognitive abilities can attain prior knowledge and achieve high levels of academic language proficiency. Cummins (1979) found the amount of time it takes ELs to achieve a high level of cognitive academic language proficiency will affect their academic growth. ELs can attain cognitive academic language proficiency more quickly if the skill they are learning has already been achieved in their native language. Accessing knowledge in both languages requires an elevated level of language capacity and cognition and academic understanding of the new knowledge.

Georgia requirements state Kindergarten ELs meet English Language Proficiency when they achieve a reading, listening, speaking, and an overall composite score of $\geq 5.0$

and a writing score of ≥ 4.5 on the ACCESS for ELLs 2.0. First grade through twelfth grade ELs meet proficiency when achieving an overall composite score of ≥ 5.0 on the ACCESS for ELLs 2.0 (GaDOE, 2018a). When a first through twelfth-grade student reaches an overall composite score of 4.3–- 4.9, he or she has the possibility of being exited from ESOL services. Educators follow local procedures for the English Learner Reclassification Review Committee (ELRRC) and take into consideration classroom performance, literacy level, and assessment performance. Educator'' judgment of the student'' performance in content and academic achievement in the classroom is considered (GaDOE, 2018a).

This study aimed to provide information to educators, leaders, parents, and policymakers needed to make informed educational decisions for ELs. Educators are tasked with reviewing student data and performance markers to determine student learning trajectories, grade placement, or retention and decide on their continued placement or exit from English language development services known as ESOL. Georgia State Board of Education Rule 160-4-2-.11 requires third-grade students to score at a proficiency level on the state academic reading assessment to be promoted to fourth grade. Students in fifth grade must achieve at a proficient level in reading and math to be promoted to sixth grade. Promotion, placement, and retention rulings such as Georgia State Board of Education Rule 160-4-2-.11 have the power to impact the grade placement of ELs negatively and inaccurately.

Data from ELs with scores for the ACCESS for ELLS 2.0, Georgia Milestones Assessment System, and Northwest Evaluation Association (NWEA) Measures of Academic Progress (MAP) assessments were used to determine proficiency. ELs who

are considered English proficient on ACCESS for ELLs 2.0 were studied to determine whether they are proficient on Georgia Milestones in academic achievement. An investigation of the predictive nature between Title I and Title III assessments provided information to guide sound decisions regarding placement, accommodations, and EL'' interventions.

**Statement of the Problem**

The measures to reclassify an English language learner are subjective and discretionary (Okhretchouk et al., 2018). Not only are measures to exit an English language learner subjective nationwide, but such measures differ from district to district in Georgia. Each district may use its discretion and protocols to classify an EL as proficient in English (GaDOE, 2018a). As one of the most transient populations, this creates a problem (Maysonet, 2010).

In first through twelfth grade, an EL has two ways to exit English language development services in Georgia. A clear exit is achieved by scoring an overall 5.0 on the ACCESS for ELLs 2.0. The other way to exit English language development services is to score between 4.3–- 4.9. A reclassification committee is formed. The ELRRC committee reviews classroom performance, literacy level, and assessment performance to determine if the EL should continue to receive ESOL services or be exited from English language development services. Students are not uniformly classified as proficient in English if they have been exited from ESOL services based on the reclassification procedures allowed in twenty-three states across America (Okhretchouk et al., 2018).

Based on ESSA and Georgi''s ESOL exit criteria, reclassification procedures are considered when a student earns an overall score of 4.3 on the ACCESS for ELLs 2.0.

All ELs receiving an overall score of 5.0 on the ACCESS for ELLs 2.0 are considered English proficient and receive an automatic clear exit from ESOL services (GaDOE, 2018a). The GaDOE noted ELs should be performing the same as native English speakers on academic assessments once English Language Proficiency has been obtained. In the past, ELs have not performed at the same level as their native English-speaking peers (Alvarez, 1983; Brice, 2019; Estrada & Wang, 2018). The problem with exiting ELs from ESOL services happens when members of the ELRRC have subjective, discretionary power to exit ELs before English Language Proficiency is achieved.

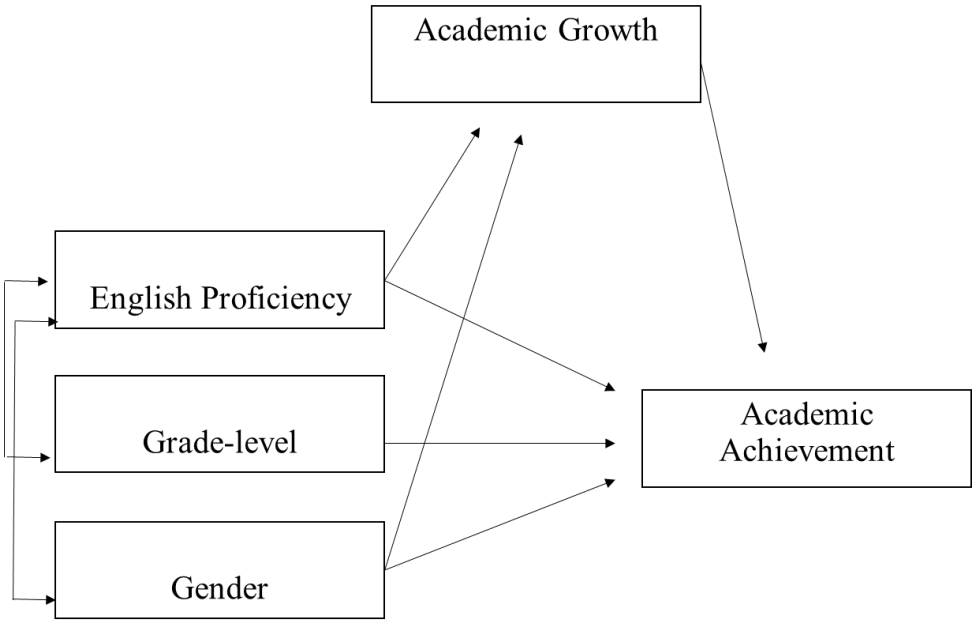
This study provided insights to educators who are members of the ELRRC and make placement decisions for ELs. Additional information to the members of the ELRRC helped committee members obtain more detailed data regarding grade level placement of ELs in critical pass/fail years. By providing more informed decisions, making based on data, members may confidently make future placement decisions for ELs. In addition to the predictive factors, the study provided more information to educators, leaders, parents, and policymakers to determine learning trajectories, grade placement, or retention and determine the student's continued placement or exit from English language development services.

**Purpose**

The purpose of this study was to examine the relationship between EL students' English Language Proficiency levels, academic achievement, and academic growth. The role of gender and grade level were examined. This was determined by the relationship between the ACCESS for ELLs 2.0, Georgia Milestones, and NWEA MAP. ELs' performance on the Georgia Milestones was examined. Academic growth measured by

NWEA MAP was examined to determine if it was a predictive factor for academic achievement measured by Georgia Milestones. The correlation between English proficiency and academic achievement was examined to determine if the correlation wasgreater when academic growth was considered. It identified and examined if the subgroups of gender and grade level were significant predictors of academic achievement.

By potentially identifying the performance level at which an English language learner was proficient in English, the threshold proficiency level at which ELs yielded proficiency on academic achievement was able to be identified. These insights can be useful for nationwide policy makers to develop more objective, uniform criteria for the educators making an exit and pass/fail decisions for ELs.




The concept map includes key factors addressed in this research study. English proficiency and academic achievement are the two main factors of the concept. Academic growth is the measure of an increase in knowledge from the beginning of an

academic year to the end of the academic year. Academic achievement is the measure of mastery for grade-level standards. English proficiency is the measure of mastery of English. The mediating variable is Academic growth. The outcome is academic achievement. English proficiency impacts academic growth and academic achievement. Academic achievement is impacted by academic growth and English proficiency. The relationship between English proficiency, academic growth, and academic achievement are the key factors of the study.

**Research Questions**

The research questions were answered using quantitative measures. The data needed to complete the study are the ACCESS for ELLs 2.0 ® reading, writing, speaking, listening, oral, comprehension, literacy, and overall composite score, Georgia Mileston''s overall proficiency score, and NWEA MAP Language Usage RIT scores in specified North Georgia districts. The research questions were used as predictive measures to provide insight into the problem of subjective, discretionary ELRRC decisions to exit ELs before English Language Proficiency was achieved.

RQ 1–- How are English Language Proficiency, academic achievement, and academic growth in English language learners related to one another?

RQ 2–- Do proficiency levels of exiting ESOL students differ in relationship with academic achievement?

RQ 3–- To what extent is the relationship between English Language Proficiency levels and academic achievement mediated by academic growth?

## Significance of the Study

This study provides insights by determining the level at which English Language Proficiency predicts successful performance on academic achievement and academic growth measures. These insights are useful to educators who are members of the ELRRC concerning the placement for ELs requiring an ELRRC. Educators are held to accountability and assessment mandates by the federal government. The members of the ELRRC need to understand the outcomes high-stakes assessments have on ELs' Kindergarten through twelfth grade (K-12) experiences. Reclassification can shape and alter an EL's trajectory (Okhretchouk et al., 2018). Members of the ELRRC have the power to either exit an English language learner before English Language Proficiency is attained or keep the student in ESOL after English proficiency is achieved. Both outcomes can affect the student'' K-12 academic trajectories and their post K-12 opportunities and experiences (Kanno & Harkalau, 2012; Nunez et al., 2016; Okhretchouk et al., 2018). Educators need a thorough understanding of the predictive relationships between the assessments to improve academic achievement by purposeful intervention and academic planning (Okhretchouk et al., 2018). A deeper understanding of the relationships between Title I and Title III mandated assessments and the relationships between language proficiency, academic knowledge, and academic growth strengthens educators' knowledge and provide a more enriched academic experience for ELs (Okhretchouk et al., 2018). Identifying underperforming ELs presents educators with the opportunity to provide research-based, effective interventions specifically for ELs (Cirino et al., 2009).

## Conceptual Framework

The conceptual framework was derived from the threshold hypothesis (Cummins, 1979). Cummins (1979) studied language and literacy, and his findings were widely known and accepted by educators studying second language development. He developed the threshold hypothesis stating the relationship between Basic Interpersonal Communication Skills (BICS) and Cognitive Academic Language Proficiency (CALP) and how the two interact while learning a language.

The threshold hypothesis is a leading theory to study academic achievement differences in bilingual students (MacSwan et al., 2017). Cummin'' threshold hypothesis is one of the most influential theoretical frameworks examining language and academic proficiency (Daller & Ongun, 2018). The hypothesis is vital in understanding how language development and academic achievement are linked. The threshold hypothesis has two thresholds, initial and higher. In the initial threshold, ELs with low levels of cognition have low proficiency levels. A high level of cognition has a high level of English Language Proficiency in the higher threshold and is achieved faster. ELs scoring above the higher threshold level allow both the first language and the learned language to positively affect cognition (Daller & Ongun, 2018).

ELs with a high level of CALP in their native language can transfer specific skills across languages. The interdependence hypothesis states that skill transfer is highly dependent on the motivation, emotional status, and prior experiences of the English language learner (Cummin, 1979). BICS only requires a limited level of cognition and is represented in the initial threshold. Cummins found when the language learner is in the second threshold, ELs must have a higher level of CALP, which requires prior

knowledge and a high level of academic language proficiency. Cummins' (1979) Common Underlying Proficiency (CUP) hypothesis assumes support in either language will support the other language. It stated knowledge learned in one language would transfer to the second language. Cummins (1979, 1999) claimed to effectively learn a new language, development in the first language is crucial. Daller and Ongun (2018) found it was essential to continue developing the minority language and the majority language.

The threshold hypothesis has two embedded thresholds, initial and higher. It is built on the concept that BICS is acquired more quickly than CALP. BICS takes two to three years to develop. BICS is a second language learner's ability to speak in conversation in informal and social settings proficiently. The initial threshold requires basic grammar structures, vocabulary, and pronunciation skills. The impact the initial threshold has is in the form of common non-academic language. The English language learner's language proficiency is defined by the student's language control, comprised of syntax and grammar, vocabulary, linguistic complexity, and the style of the language. In this stage, the student is only able to complete standard non-academic tasks and conversations.

The higher threshold requires CALP skills which are higher-order thinking skills needed in academic settings. CALP development is achieved within a minimum of five to seven years. The amount of time it takes to develop CALP will affect the student's academic growth. Until a proficient level of CALP is reached, the English language learner may have difficulty performing well in academic assignments and state assessments. Cummins' conceptualization stated ELs could attain CALP more quickly if

the skill they are learning has already been achieved in their native language. ELs must be able to access knowledge in both languages. Accessing knowledge in both languages requires an elevated level of language capacity, cognition, and academic understanding of the knowledge. To achieve this level, students must be able to decontextualize and have an elevated level of prior knowledge (Cummins, 1979). If a student is in the higher threshold of language proficiency, they should be at a high cognitive threshold level (Takakuwa, 2005).

Based on Cummins' (1979, 1999) theoretical framework, an EL's language proficiency level will match the student's ability to demonstrate knowledge on academic achievement assessments. For example, if the English language learner has a high level of academic achievement in language (L1), then the knowledge can be transferred to the second language (L2), and likewise, the academic performance will be proficient. If the student has a low level of academic achievement in their first language, the English language learner will perform at a low level on literacy tasks such as academic assessments.

Cognitive academic language proficiency is known as the interdependence hypothesis. The skill of transferring knowledge from one language to another is causally related to this hypothesis. If an English language learner has a low level of English Language Proficiency but a high level of cognitive academic language proficiency in L1, the skill can transfer to L2. The transfer allows ELs with a high cognitive academic language level to transfer to familiar academic concepts in L2.

Based on its language performance foundation, the threshold hypothesis serves as the main conceptual framework. The interdependence hypothesis was included to

support the academic growth components of the study. English Language Proficiency, academic achievement, and academic growth were examined and compared. Language proficiency, academic achievement, and academic growth assessments for ELs were conducted to understand the relationship between language proficiency and student'' academic achievement and academic growth performance. This third through fifth-grade timeline supports Cummins' (1979) suggested five to seven-year English proficiency range.

Few students can attain English Language Proficiency within the three to five years range. Many variables such as the age of the student when schooling began in the United States, the quality of the education before starting school in the United States, cognitive abilities, and the family's socioeconomic status influence the amount of time English proficiency (Hakuta et al., 2000). Combined with newly integrated rigorous standards, these factors are considered when calculating the amount of time it takes to attain English Language Proficiency. According to Cummins (1979, 1999), ELs need more time to develop academic language proficiency. The extra time is essential to developing the complex academic vocabulary necessary to achieve proficiency on standardized academic assessments.

The research questions were designed to determine whether English Language Proficiency performance predicts academic achievement performance. All the background factors involved in answering the research questions are relevant to the threshold hypothesis components. EL's performance on language proficiency, academic achievement, and academic growth assessments are rooted in the threshold hypothesis knowledge.

**Summary of Methodology**

The participants were the accessible population of students who took the ACCESS for ELLs 2.0, Georgia Milestones, and NWEA MAP in grades three through five in the 2018-2019 school year in North Georgia elementary schools. District one administered the ACCESS for ELLS 2.0 to 1,932 ESOL students. District two administered the ACCESS for ELLS 2.0 to 5,976 ESOL students (NCES, 2019). For the purpose of this study, the population did not include total populations of kindergarten through fifth-grade students in the districts, as only third through fifth-grade students take Georgia Milestones.

Institutional Review Board (IRB) approval was obtained (see Appendix A), and a request was being made to respective districts to acquire data reports with student identification removed. Per the Family Educational Rights and Privacy Act (FERPA), no student names or identifiers were provided. The report contained a unique identifier with a matched data set for score, gender, and grade level. The appropriate data were gathered to answer the research questions. The data were stored in a two-factor authentication password-protected personal computer.

The study evaluated the relationship between academic achievement, academic growth, and English proficiency by conducting Pearson correlation coefficient. A series of independent samples t-tests were conducted to determine the difference between females and males and English proficiency and academic achievement. A Chi-Square of independence test was used to determine the relationship between gender and academic achievement. A Pearson coefficient was computed to determine the relationship between grade level and English proficiency, academic achievement, and academic growth.

The effect of academic achievement (Levels 1, 2, 3, 4) on listening, reading, speaking, writing, comprehension, oral, literacy, and composite overall English proficiency levels was studied by conducting one-way ANOVA. A Chi-Square test of independence was conducted to determine whether academic achievement was related to English proficiency when scoring 4.3 – 4.9 on the ACCESS for ELLs 2.0. Mediation analysis between listening, reading, speaking, writing, comprehension, oral, literacy, and composite overall English proficiency levels and academic achievement scores were evaluated to determine whether they were mediated by academic growth.

**Limitations**

The key limitation was the data were confined to students in two north Georgia districts that administered ACCESS, Georgia Milestones, and NWEA MAP. The participants were restricted to grades three, four, and five. Another limitation was the research data were from one academic school year. The data were restricted to participants present for all the assessments. To combat the limitations, NWEA MAP to was added to the required assessments as an additional measure of academic growth. The specificity of this addition was essential to the success of the study.

**Summary**

ELs are steadily increasing in the United States. Educators and policymakers are obligated to continue working together to meet the needs of this growing population. By analyzing all domains and combinations of English proficiency and academic achievement coupled with academic growth, a more informational detailed picture of the correlations between the variables was revealed. Educators are better able to meet the

educational needs of their students in a more efficient method by knowing exactly when and how ELs reach English and academic proficiency.

**Definitions of Terms**

*Academic Achievement*. Academic proficiency in necessary skills and content knowledge (McCoy et al., 2005).

*Academic Growth*. Academic knowledge gained over the course of an academic school year (McCoy et al., 2005).

*Assessing Comprehension and Communication in English State-to-State for ELs 2.0 (ACCESS* for *ELLs® 2.0).* An assessment given annually to monitor students' progress in learning academic English (WIDA, 2019a).

*Basic Interpersonal Communication Skills (BICS).* The social language developed by peer conversations and usually develops in 2-3 years (Cummins, 1999).

*Cognitive Academic Language Proficiency (CALP).* The academic language developed in the classroom and academic setting and usually develops in 5-7 years (Cummins, 1999).

*English as a Second Language (ESOL).* State-funded language program for ELs in grades Kindergarten through twelfth (GaDOE, 2019b).

*English Language Learner*. A student in the process of learning English and needs support in English to be successful in school (WIDA, 2019b)

*English Proficiency*. Language skills used in listening, speaking, reading, and writing to learn academic content. (WIDA, 2019b)

*English Learner Reclassification Review Committee (ELRRC).* A committee composed of school staff knowledgeable about the student determine whether they are deemed English proficient and can be exited from English language assistance services (GaDOE, 2018a). The committee analyzes student documentation and observations of ELs scoring an overall score of 4.3 – 4.9 on ACCESS for ELLs 2.0.

*Georgia Milestones Assessment System (Georgia Milestones).* A comprehensive summative assessment program spanning grades 3 through high school that measures knowledge and skills required in language arts, Mathematics, Science, and Social Studies (GaDOE, 2017c).

# Chapter II

# REVIEW OF LITERATURE

## Overview

The purpose of this study was to provide information on the predictive relationships between language proficiency, academic achievement, and academic growth assessments. Chapter two outlined fundamental research, requirements, assessments, and protocols for ELs. This literature review intended to explore the requirements for ELs in Georgia, federal and state-mandated standards and assessments, and the processes and expectations of reaching language and academic achievement. The chapter concluded with an overview of assessments for ELs.

## ELs

The GaDOE ESOL Resource Guide described the process for identifying students speaking a language other than English. The United States federal government requires all schools to identify these students. Georgia's process for identifying students who have a primary or home language other than English (PHLOTE) is during the student enrollment process. The enrollment package contains a Home Language Survey (HLS) asking these four questions.

1. Which language does your child best understand and speak?
2. Which language does your child most frequently speak at home?
3. Which language do adults in your home most frequently use when speaking to the child?

4. Which language do you prefer for school communication?

(GaDOE, 2018a, p.5).

The GaDOE ESOL Resource guide required the ESOL staff to administer a screening within 30 days. Because Georgia was a member of the WIDA Consortium in 2018, GaDOE elected to use WIDA eligibility assessments to screen students who answered any of the four questions on the HLS with a language other than English. The WIDA screeners to determine eligibility for English language assistance were the Kindergarten WIDA- ACCESS for ELLs 2.0 Placement Test (K-WAPT), the Kindergarten Measure of Developing English Language (K MODEL), and the Online WIDA Screener, or the Paper WIDA Screener (GaDOE, 2018a, p.6).

Every district in Georgia was required to address English Language Proficiency services and provide effective EL participation in academic and special programs. ELs were required to be placed in age-appropriate grade levels and courses. The ESOL Resource Guide stated, "Schools should compare ELs' achievement to that of their academically successful native English-speaking peers as well as mainstreamed language-minority students" (GaDOE, 2018a, p. 16). Educators were allowed to use achievement test scores and classroom performance to revise their services using approved instructional delivery models, including pull-out, push-in, cluster center, resource center, class periods, dual language immersion, and innovative deliver model (GaDOE, 2018a).

**Accommodations**

The GaDOE ESOL Resource Guide provided specific guidelines regarding an EL's classroom and testing accommodations as well as home notifications. ELs receive

language development and other support in the mainstream class but were considered the same as any other student in the classroom. As the ELs attained more English Language Proficiency, fewer accommodations were needed in the mainstream classroom. However, ELs with low proficiency levels who required additional support received sheltered classes so proper accommodations could be provided (GaDOE, 2018a).

Both federal and state law required all students to participate in the state academic assessment, including ELs. All accommodations considered for an English language learner are established in the EL's Testing Participation Committee (TPC). The committee must be comprised of a minimum of 3 members and must include a certified Professional Standards Commission (PSC) teacher and the ESOL teacher. Other members can consist of the student's parents, the student (if 18 years or older), and a school administrator (GaDOE, 2018a). The requirements for creating accommodations were outlined in the GaDOE ESOL Resource Guide. The accommodations included in a TPC must be state-approved accommodations and must be made by the committee for each English language learner. The TPC is required to be reviewed annually (GaDOE, 2019b). All notifications of school activities such as report cards, services, schedules, activities, and meetings must be provided to the parent in their native language and English (GaDOE, 2018a).

**Exit Criteria**

The GaDOE, ESOL Resource Guide, stated, "As ELs reach proficiency and become ready to exit language assistance services, it is imperative to ensure ELs have attained a degree of English language skill that will enable them to achieve academic success at levels similar to those of their native English-speaking" (GaDOE, 2018a, p.

18). The GaDOE ESOL Unit made the exit requirements for ELs in Georgia. The unit determined Kindergarten ELs were proficient in English when the student scored "a Composite Proficiency Level (CPL) Overall score of ≥ 5.0 with at least a 4.5 in the Writing domain and at least a 5.0 in each of the remaining domains (Listening, Speaking and Writing)" (GaDOE, 2018a, p.18). ELs in grades first through twelfth grades are considered proficient in English when they receive an overall score of 5.0 or greater. ELs scoring an overall score between 4.3-4.9 may be considered proficient in English at the discretion of the district. The district must form an English Learner Reclassification Review Committee (ELRRC) and document the Reclassification Review Form (RRF) decision. Once an English language learner has been considered proficient in English, they are exited from the ESOL program, and the monitoring process begins (GaDOE, 2018a).

**Post Exit Monitoring**

Once an English language learner has been declared proficient in English, each school district in the United States is required to monitor the English language learner's performance for two years by documenting evidence to support the monitoring of the student (USDOE, 2016).

The student is then coded on achievement assessments as English language learner-1 (1st Year Post-Exit), English language learner-2 (2nd Year Post-Exit), English language learner-3 (3rd-year Post-Exit), English language learner-4 (4th Year Post-Exit), and English language learner-F (former English Language Learner). ELs in their first and 2nd year of post monitoring may still receive accommodations on their TPC (GaDOE, 2018a).

## ELs in the Classroom: Best Practices

WIDA's Can - Do Philosophies are guiding principles for language development. An English language learner's culture, background knowledge, intellectual capacity, and language proficiency are components taken into consideration when ELs are developing English Language Proficiency (Arellano et al., 2018; Soltero-González et al., 2016; WIDA, 2019c). All aspects of the English language learner's life are essential parts of learning the language. In addition to metacognitive awareness, other factors must be present to achieve proficiency. ELs use a combination of metacognitive, metalinguistic, and metacultural to develop English Language Proficiency (Barac & Bialystok , 2012; Casey, 2011; Gottlieb & Castro, 2017; WIDA, 2019c). A significant component of learning a language lies heavily in the emotional status of the student. While developing English in a classroom setting, the student's social-emotional and cognitive developments contribute to learning the language (Barac & Bialystock, 2012; Gandara, 2015; Sanchez-Lopez & Young, 2018; WIDA, 2019c).

## Challenges in the Classroom

Educators are aware of students coming to their classrooms at various levels with different experiences. One of the challenges of including ELs into the mix of differences in the classroom is teachers sometimes do not know how to teach a student who has not achieved language proficiency. Teachers do not know what expectations to set for their students (Lucas & Villegas, 2010; Russell, 2016). Russell (2016) spent over a year studying teachers and ELs. He found four areas of instructional challenges. The first challenge was meeting each EL's needs, followed by the educator not being prepared to teach them. The third challenge was not having enough information about the students.

The fourth challenge is related to assessing and accountability requirements. School-level leadership can support students and educators by raising awareness of their needs and providing professional learning related to ELs' needs.

Hoover et al. (2015), all of which were researchers and university faculty with experiences in educator preparation work with ELs, conducted a rural county school district study. The Hoover et al. study was conducted in an elementary school with 300 students, half of whom were ELs. The school had a staff of 20 educators.

The Hoover et al. (2015) study examined instructional practices for ELs. For the purpose of the study, teachers in the school received four workshop sessions, four actions, four observations, and four interview sessions. The Hoover et al. researchers observed did not observe any professional development sessions for the teachers. They observed classroom interactions. Calderon et al. (2011) found ELs' achievement gaps require increased teacher and staff preparation. Educators need to teach culturally relevant instruction for diverse environments such as ELs, but the limited resources in providing educators with quality professional development in rural areas create even more challenges (Hoover et al., 2015).

Educators need to provide instructional practices specific to ELs and provide contemporary research-based practices specific to ELs. These instructional practices are problematic for rural school educators to obtain because of 3 main challenges. The first challenge is providing new skills development in rural schools. Because of rural schools' remote locations, there are limited professional development resources and fewer highly qualified teachers, resulting in fewer options for ESOL teachers and intervention specialists (Hoover et al., 2015). The second challenge is in modifying educational

practices for ELs. Teachers should be able to modify their students' instruction to meet the carrying needs of students' English language proficiency levels and cultural differences (August & Shanahan, 2006; Goldenberg, 2008; Hoover et al., 2015). If those modifications cannot be made, the ELs' progress may be deficient (Garcia & Ortiz, 2006; Hoover et al., 2015). The challenge for rural schools is having limited resources, lack of knowledge, and lack of safeguards. Researchers, school administrators, and policymakers have ignored the correlation between significant professional development and student achievement for too long (Calderon et al., 2011). These challenges are supported by training and support for the classroom teacher (Hoover et al., 2015). The third and final challenge outlined by Hoover et al. (2015) is self-assessing and creating instructional improvements based on the outcomes. Lupinski et al.(2012) supported self-assessment research having a direct correlation to improving student achievement. Teacher self-assessment, combined with the correct supporting tools, provides the educator's best feedback to change the instructor's instructional practices.

The Hoover et al. (2015) study yielded qualitative data derived from teacher self-assessment data, action items, observations, and interviews. The staff created their reflections of their teaching practices, best practices were generated through workshop sessions, perspectives of EL instruction were obtained through observations, and feedback was gathered through the interviews. Educators were able to add language objectives and visuals to increase awareness of vocabulary and classroom strategies. The study found a literature gap in other rural county schools and recommended learners should receive additional studies to document further ELs' instructional practices (Hoover et al., 2015).

## The Role of Leadership

The leaders of schools, districts, and states are responsible for providing appropriate staff development and opportunities to meet the fastest growing populations (Calderon et al., 2011; Grasparil & Hernandez, 2015; Ingraham & Nuttall, 2016). Calderon et al. (2011) identified four structural elements of effective leadership. The first is the constant collection of formative assessment. Interventions must be provided for students failing to meet language and academic standards. Calderon et al. (2011) noted it is just as essential to monitor the student's progress to ensure the interventions have the expected effects. Providing and placing importance on professional development for all staff members and administrators is the second element for success (Calderon et al., 2011). Professional development must be significant and widespread. For professional development to be effective, teachers need opportunities for planning, collaboration, observing other teachers, offering feedback, and receiving coaching support from peers and experts (Calderon et al., 2011).

Calderon et al. (2011) stated the third element for leadership is to have standards of expectations and effective strategies. Leadership should inspire and motivate educators. Specific programs to professionally train and identify guidance for an entire school can increase inspiration and motivation (Calderon et al., 2011). The final element to leading effective professional development is creating a high dependability leadership system. Leaders must effectively share all available information with the staff and hold everyone accountable toward improving their goals (Calderon et al., 2011).

While there are many elements to successfully leading schools and systems, there is another vital aspect to the leadership side. Providing support and resources for parents

and ELs is crucial. Creating relationships with the families of ELs creates an open line of communication. This open line of communication helps to create a balance between home and school. Calderon et al. (2011) suggested creating a school advisory team to build parent and community involvement, establishing volunteering opportunities, having incentives for learning and attendance, and providing access to services families may need.

**State and Federal Mandates**

ELs in America are rising in number each year. The numbers continue to increase and are not expected to decrease (Calderon et al., 2011; Grasparil & Hernandez, 2015; Ingraham & Nuttall, 2016). "EL students comprise a large and growing segment of the U.S. student population" (Lakin & Young, 2013, p.11). This growth has caused the legislature to increase the mandates for assessment and accountability for ELs in education.

While federal mandates require the ELs to be served, it does not mandate how students are identified, assessed, and placed. The mandates do not give guidelines on instructing ELs (Calderon et al., 2011). Each state is left to provide policies to identify, serve, assess, and exit students, which creates a wide variety of how ELs are instructed and assessed across the country. State of Georgia Law O. C. G. A. § 20-2-156 stated the State Board of Education must have an ESOL program to develop ELs' English Language Proficiency to perform listening successfully, reading, writing, and speaking in the classroom (GaDOE, 2018a). There are two outlined mandates for ELs in the ESOL Program. Each district in Georgia must administer an English Language Proficiency assessment every year to all ELs. Georgia uses WIDA's ACCESS FOR ELLS 2.0 to

provide data for meeting federal and state requirements concerning student assessment (GaDOE, 2018a). In addition to an annual assessment, the ESOL program must consist of lessons adapted to the EL's proficiency level. The GaDOE, ESOL Resource Guide declared the ELs' curricula must consist of "listening, speaking, reading, writing and American cultural concepts and the language of academic instruction used in language arts, Mathematics, Science and Social Studies" (GaDOE, 2018a, Page 48).

**Standards**

Educational standards begin at a national level, and every state has educational standards. There are specific standards for each sub-group of students. The national educational standards are Every Student Succeed Act (ESSA). In the 2018-2019 academic school year, Georgia's state standards were called Georgia Standards of Excellence (GSE). ELs have additional English Language Proficiency standards from WIDA.

**Every Student Succeed Act.** ESSA was signed in 2015. It replaced the No Child Left Behind (NCLB) Act enacted in 2002. NCLB addressed ELs and provided recommendations on how they were identified, but ESSA required states to use a uniformed identification process. ESSA changed the way ELs were measured on mandated standardized testing. Instead of only measuring their achievement, ESSA added growth as a form of measurement. ESSA included EL's accountability into the Title I framework. The final change from NCLB to ESSA included adding subgroup accountability for each school (GaDOE, 2017b).

**Georgia Standards of Excellence.** The Georgia Standards of Excellence (GSE) are the expectations for instruction outlined by the state. Georgia's State Board of

Education approved the GSE be implemented in Mathematics and English Language Arts in the 2015-2016 academic school year. Social Studies and Science GSE began in the 2017-2018 school year (GaDOE, 2020b).

**World-Class Instructional Design Assessment Consortium**

World-Class Instructional Design Assessment Consortium (WIDA) is a consortium of 39 member states, including Georgia. WIDA developed the EL proficiency standards. They are defined as English Language Development (ELD) Standards. The five standards are:

1. ELs communicate for Social and Instructional purposes within the school setting.
2. ELs communicate information, ideas, and concepts necessary for academic success in the content area of Language Arts
3. ELs communicate information, ideas, and concepts necessary for academic success in the content area of Mathematics
4. ELs communicate information, ideas, and concepts necessary for academic success in the content area of Science
5. ELs communicate information, ideas, and concepts necessary for academic success in the content area of Social Studies

(WIDA, 2019a).

**English Language Proficiency: Years to Proficiency**

Creagh et al. (2019) conducted a study in 2019 comparing trajectories of ELs and native English speakers to determine how long it takes to become proficient in English. The study was performed in Australia and led by the Queensland University of

Technology in cooperation with the Department of Education. The researchers used a two-way analysis of variance (ANOVA) to compare ELs' performance and native English speakers' performance on a standardized mainstream test of academic reading. The study had three groups of ELs consisting of students born in Australia or students having started school in 1st, 2nd, or 3rd grade, students starting school mid-year in 3rd, 4th, or 5th grade, and a final group of students starting school in the middle of 5th, 6th, or 7th grade (Creagh et al., 2019). The first analysis compared four consecutive years of assessments from three through nine years for ELs and non-ELs. The results indicated the ELs rendered the same results as native English speakers in the 7th year of schooling for students having started school in Australia (Creagh et al., 2019). The second analysis compared three consecutive years of assessments from schooling years five through nine for ELs and non-ELs. The results indicated the ELs rendered the same results as native English speakers in the 7th year of schooling for students having started school in Australia after second grade (Creagh et al., 2019). The third analysis compared the performance of two consecutive years of assessments from schooling years seven through nine for ELs and non-ELs. The results indicated the ELs had not yet reached the same results as native English speakers in the 9th year of schooling for students having started school in Australia after fifth grade (Creagh et al., 2019). The group with four years of assessments reached similar scores as the native English speakers by their 7th year in school. With three years of assessments, the second group reached parity by their seventh year in school. With two years of assessments, the final group had not yet reached parity with their English-speaking peers. The findings were ELs starting school in the early years reached a similar level of academic achievement as their English-

speaking peers by the 7th year of school. The ELs starting school later had challenges in developing academic English (Creagh et al., 2019).

Hakuta et al. (2000) performed a similar study to determine how long it takes ELs to attain proficiency. The research was conducted to establish how long ELs needed ESOL services until they reached academic proficiency. The study included two school districts in California and two school districts in Canada. Students had to meet two sets of criteria to be included in the study. The students had to be in the district since kindergarten and had to be identified for ESOL services in kindergarten. The ELs across the districts were individually administered assessments, including Woodcock Language Proficiency Battery, IDEA Oral Language Proficiency Test, Picture Vocabulary Test, English Grammar Test, an extensive battery of English Language Proficiency, and Nonverbal Ability Test (Hakuta et al., 2000). Hakuta et al. (2000) study described language proficiency as a conversational and formal language. The two are developed differently, but both language development forms require fundamental properties of phonology, morphology, syntax, semantics, and pragmatics. Analysis of the Hakuta et al. (2000) study showed it takes 3 to 5 years to reach oral English Language Proficiency and 4 to 7 years to reach academic proficiency. The Hakuta et al. (2000) identified the gap between ELs and native-English speakers is widening, and extra instructional time should be allotted to ELs. These findings reveal the additional challenge of acquiring oral and academic English while developing their language skills (Hakuta et al., 2000).

**Gender**

Clinton et al. (2014) conducted a study to determine if gender differences occur when generating inferences during reading. Participants in the study included 130 female

and 126 male fourth-grade students. During the study, the students completed think-aloud tasks during the reading activity. The students completed the Gates-MacGinite Reading Test (GMRT) Comprehension subtest as the screening measures. The GMRT Comprehension is a norm-referenced Level 4 assessment. The participants completed a think-aloud activity independently with a researcher. The Clinton et al. (2014) first modeled, and the student completed the assignment. Each student read each of the 21 sentences aloud to them. The student then reflected on each sentence. At the end of the activity, the student was asked two comprehension questions. The think-aloud responses were recorded and then transcribed. A one-way ANOVA was conducted for each of the processes.

Clinton et al. (2014) implicated previous research has shown females outperform males on reading assessments and retrieving information from memory, which is a critical reading comprehension element. The analysis of Cohen's d showed the females produced a larger number and an immense amount of reinstatement inferences than the males. The Clinton et al. (2014) recommended inferencing reading interventions for males based on these results.

**Reclassifying ELs**

Haas et al. (2016) conducted a study examining the relationship between ELs' proficiency levels and their performance on content assessments in Arizona and Nevada. The study determined higher ELs' proficiency levels were linked with higher passing levels on content assessments. The study's goal was to provide policymakers, administrators, and teachers with a better understanding of when ELs should be reclassified to the mainstream classroom. The students included in the study were ELs

receiving ESOL services either in a pull-out or push-in model (Haas et al., 2016). Haas et al. (2016) found the literature was limited in determining when ELs are considered fluent in academic English. Haas et al. (2016) found the literature increasingly reflected when ELs are proficient in English, they are proficient in academic assessments. When educators can determine when an English language learner is fluent in academic English, they can better determine when to exit ELs from the ESOL program and adjust their accommodations and interventions in the classroom.

Burns et al. (2017) examined the relationship between English Language Proficiency and growth. The study consisted of second and third-grade ELs. The purpose of the study was to examine proficiency and reading growth based on reading interventions. Introductory reading skills are difficult for ELs because of shared language proficiencies. The literature review in the Burns et al. (2017) study found ELs scored 40 scale scores lower than non-ELs. Two critical factors for the Burns et al. (2017) study were ELs typically score lower on National assessments than non-ELs, and the number of ELs in the United States' public schools continues to rise. As a result of those two factors and federal guidelines on assessment, the Burns et al. (2017) study focused on assessing and instructing ELs.

While federal guidelines require Georgia to assess English Language Proficiency, the validity of assessing language proficiency is uncertain (Burns et al., 2017; Wolf et al., 2008). Interventions were administered to the students below grade level on the fall NWEA Measures of Academic Progress (MAP) assessment. Two hundred one students identified as needing targeted intervention due to their below benchmark criterion scores received four times a week. Burns et al. (2017) stated an explicit, systematic literacy plan

should be in place for ELs. Early screening and targeting interventions should be included as a part of a successful literacy plan for ELs.

ACCESS for ELLs 2.0 was used to measure the students' language proficiency. Measures of Academic Progress for Reading (MAP-R) was used to screen the students' reading levels. Curriculum-Based Measurement, RTI, and Reading Assessment (CBM-R) assessed reading growth in the study. Interventions in phonics, fluency, and vocabulary were given to the students in the Burns et al. (2017) study. Researchers have found ELs' interventions should include vocabulary, nonverbal stimuli, the meaning of essential words, and phonics skills. The methods included a universal screening of ELs, monitoring student progress, and promoting instruction and professional development are key components to the EL's successfully attaining English proficiency (Burns et al., 2017).

The students who made the most gains on the NWEA MAP in the spring had the lowest proficiency level on the ACCESS for ELLs 2.0. The results emphasize the value of beginning interventions early for ELs. Three main results are 1) English Language Proficiency scores did not compare with reading growth from intervention, 2) the stages of proficiency significantly predicted progress from intervention and English Language Proficiency, and 3) the lowest English Language Proficiency groups increased more than ELs in higher English Language Proficiency groups. This research supported Cummins Threshold Hypothesis suggesting interventions should begin before English Language Proficiency is attained (Burns et al., 2017).

Ostayan's (2016) quantitative research study to further the understanding of how No Child Left Behind (NCLB) affected limited English Language Proficiency (LEP)

student learning and assessment retrieved three years of kindergarten Dynamic Indicators of Basic Early Literacy Skills (DIBELS) and Assessing Comprehension and Communication in English State-to-State for English language learners (ACCESS for ELLs 2.0) data. The study performed a simple linear regression and analyzed two variances using variance (ANOVA) and a Welch ANOVA comparing the level of English Language Proficiency to a criterion-referenced assessment to predict early literacy skills in native English speakers' English. The first comparison was between the proficiency level and composite ACCESS for ELLs 2.0 scores. Ostayan (2016) reported the students' English Language Proficiency level positively predicted the student's reading DIBELS scores. If a high level of English Language Proficiency was obtained, a higher DIBELS score was obtained. ELs with a low level of English Language Proficiency had lower DIBELS scores than those with high levels of English proficiency. Reading achievement or lack thereof can help teachers predict reading success. The second comparison matched ACCESS for ELLs 2.0 composite scores to DIBELS scores acquired academic progress three times throughout the academic school year. Native English speakers scored significantly higher than ELs on DIBELS composite scores at the beginning of the year. ELs identified as at-risk received interventions. Ostayan (2016) implicated the teachers in creating grouping based on assessment scores to differentiate instruction for ELs. Ostayan (2016) found a significant difference between the scores of ELs and native English speakers. The heavyweight put on literacy assessments from federal and state mandates should be considered when deciding for future placements, services, and interventions, especially in the early childhood stages.

Ostayan (2016) stated more recent changes in legislation and an increase in ELs create a need for further research for ELs' assessments.

Wolf et al. (2008) from the Center for Research on Evaluation, Standards, and Student Testing at the University of California conducted a study to validate the use of English Language Proficiency (ELP) assessments. Wolf et al. (2008) reviewed validity frameworks, key issues to consider invalidating the ELP assessments system, and practices relative to validating assessments. This research was vital because inadequate assessment data can create undeserved decisions for ELs. "For example, if a state assessment does not accurately reveal individual students' English Language Proficiency level, the ELs may be placed in inappropriate academic environments and inappropriately transitioned to Fluent English proficient status, which in turn may impede their subsequent academic progress" (Wolf et al., 2008, p. 81). In addition to impeding ELs' academic progress, students not proficient in English, but are no longer classified LEP, can have a challenging time reading (Calderon et al., 2011). Wolf et al. (2008) reviewed a validity framework and discussed how to apply it to ELP assessments, and then they reported the review for 49 states and Washington DC. They studied three types of evidence to support the validity of ELP assessments. The first form evident to support validity was established when the assessment matched the ELP standards. The structure of the examination was the second factor validating an assessment. The Wolf et al. (2008) study used a structural equation modeling approach to determine ELP assessments' constructs. The final type of evidence is an observation of the students' response process. Think-aloud is a method used for this type of validity. The validity theories reviewed in the Wolf et al. (2008) study found the need for more studies to

validate EL assessments because of the difficulties in distinguishing between content and language knowledge in the EL population.

A similar study by Snyder et al.(2017) conducted a systematic review of EL reading intervention literature. The research compared interventions, including phonemic awareness, phonics, fluency, comprehension, and vocabulary for intervention components and outcomes. The study identified 144 documents. However, only 10 of the studies met the specifications of the study. The results were broken down into the nature of the data-collection activities. The review showed ELs face a more difficult challenge than their ative English speakers (Calderon et al., 2011; Snyder et al., 2017). ELs are conversationally proficient but may not have proficiently developed an academic vocabulary necessary to perform successfully on standardized comprehension assessments (Francis et al., 2006; Grasparil & Hernandez, 2015; Schefelbine, 2003).

**Assessment**

**Language Proficiency Assessment.** Georgia administers ACCESS for ELLs 2.0 annually to every English language learner in grades Kindergarten through twelfth grade. "It is a standards-based, criterion-referenced English Language Proficiency test designed to measure ELs social and academic proficiency and progress towards English Language Proficiency" (GaDOE, 2018a, p.17). ACCESS for ELLs 2.0 assesses social and instructional English correlated with language arts, Mathematics, Science, and Social Studies. WIDA's four language domains of speaking, listening, reading, and writing were assessed (GaDOE, 2018a).

**Academic Achievement Assessment.** The state of Georgia used the Georgia Milestones as a comprehensive summative assessment covering grades three through

high school for the 2018-2019 academic school year. Georgia Milestones measures knowledge gained in the content standards in English Language Arts, Mathematics, Science, and Social Studies (GaDOE, 2020a). In grades third through eighth, all Georgia students including ELs took English Language Arts and Mathematics sections of Georgia Milestones through an online platform. Students in fifth and eighth grades took Georgia Milestones Science and Social Studies (GaDOE, 2020a).

**Adaptive Academic Assessment.** Schools can elect to administer the NWEA Measures of Academic Progress (MAP) as an adaptive measure of academic achievement growth. The assessment is aligned to the Common Core standards and is a computerized test administered three times in an academic school year. The assessment has a low level of measurement error because it is adaptive and measures students at all levels. The purpose of the assessment is to provide educators with data regardless of the student's academic achievement level. The score report contains a norm group average, district average, percentile range, and rank. The scale in which NWEA reports is Rasch unIT (RIT) (NWEA, 2011).

## Summary

Georgia educators follow guidelines outlined in the GaDOE ESOL Resource Guide for identifying ELs. The GaDOE ESOL Resource Guide provides expectations and requirements provided by state and federal mandates for how ELs receive services and accommodations. It lays the framework for how educators in Georgia exit an EL from ESOL services and monitor their academic achievement after exiting.

WIDA's Standards and Can-Do descriptors provide the expectation and guiding principles for supporting ELs' language development. Educators face many challenges in

supporting English development, including overcoming the student's emotional status, accommodating the student's many levels and experiences, and accelerating the student academically while providing language proficiency support. Leaders and educators need to pursue constant professional development to continue to meet the needs of language learners to provide the best academic and English support for ELs.

The increasing number of ELs creates increasing state and federal mandates. Legislators are continuing to monitor and change the requirements to meet the increasing number of ELs being served. Academic standards (GSE) and English Proficiency standards (WIDA) are Georgia's expectations for classroom instruction.

ACCESS for ELLs 2.0 is administered yearly to ELs to measure social and academic proficiency towards English Language Proficiency. Georgia Milestones is a comprehensive summative assessment measuring the knowledge gained in the content standards. NWEA MAP is an adaptive measure of growth in cognitive and academic abilities. These three assessments can be used to analyze the scores and provide educators with a better way to place ELs, provide more differentiated instruction, and create plans to achieve an overall increase in academic achievement. As a rising population of ELs continues, so does the extensive list of state and federal mandates. The research to support identifying, teaching, intervening, assessing, and exiting ELs from the ESOL program must equally rise.

The literature supports the need for policymakers and educators to review language and academic proficiency assessments to ensure ELs remain in ESOL services and receive English support until they have fully reached ELP. In a study conducted in 2016 - 2017 on the performance of ELs, Webb (2018) compared the performance on

standardized content assessments and the English Language Proficiency assessment, ACCESS for ELLs 2.0. Webb (2018) found proficiency level scores could predict Georgia Milestones scores at the developing level but were unable to predict at the proficient level. The study demonstrates an issue with ACCESS for ELLs 2.0 struggling to keep up with the standards. Webb (2018) recommended further research to determine whether the relationship between English Language Proficiency and achievement continues to remain constant in the future. Webb (2018) stated, "Analysis of additional years of data could help provide policymakers with additional information to support decisions to support measures to improve EL academic achievement, such as mandating or at least incentivizing better preparation of content teachers of ELs" (p.134).

# Chapter III

# METHODOLOGY

## Overview

The purpose of this study was to examine the performance of ELs on academic achievement assessments. The results provided the stakeholders of ELs including, educators, leaders, parents, and policymakers, with insights to determine the level at which English Language Proficiency predicts the successful performance on academic achievement measures. The results provided stakeholders with information to make sound educational decisions regarding learning trajectories, grade placement or retention, and guide the decision for continued placement or exit from English language development services.

A study conducted in 2011 by Margaret Baker examined the relationship between student performance on English proficiency and academic assessments. The study measured academic achievement with the Criterion Referenced Competency Test (CRCT). CRCT was replaced with Georgia Milestones in 2014. In Baker's (2011) study, English proficiency was measured by Accessing Communication and Comprehension in English State-to-State for ELs® (ACCESS for ELLs®). In 2016 ACCESS for ELLs 2.0 replaced ACCESS for ELLS administered in 2011. In 2011, both assessments were administered with paper and pencil. Many changes in the assessments, standards, laws, and regulations have occurred since 2011. If the knowledge that was gained from the 2011 study could be replicated and updated to meet the changing needs

of education, educators and policymakers would be able to better meet ELs' educational needs.

**Research Questions**

This quantitative research study was conducted to examine English Language Proficiency, academic achievement, and academic growth predictability and answer the following research questions:

RQ 1 – How are English Language Proficiency, academic achievement, and academic growth in English Language Learner related to one another?

RQ 2 – Do proficiency levels of exiting ESOL students differ in relationship with academic achievement?

RQ 3 – To what extent is the relationship between English Language Proficiency levels and academic achievement mediated by academic growth?

English Language Proficiency was measured by the ACCESS for ELLs 2.0. ACCESS for ELLs 2.0 results were reported as scale scores and proficiency level scores. Academic achievement was measured by the Georgia Milestones. Georgia Milestones results were reported as achievement levels from one through four. Academic growth was measured by the Language Usage NWEA MAP growth. NWEA MAP results were reported as RIT scores.

**Research Design**

This quantitative study design explored correlations to determine the relationship between academic achievement, academic growth, and English proficiency. Pearson correlation coefficients were computed to determine the relationship between academic achievement, academic growth, and English proficiency. A series of independent

samples t-tests were conducted to determine the difference between females and males and English proficiency and academic growth. A Chi-Square of independence test was used to determine the relationship between gender and academic achievement. A Pearson coefficient was computed to determine the relationship between grade level and English proficiency, academic achievement, and academic growth.

A one-way ANOVA was used to determine the effect. Mediation analysis was used to determine relationships mediated by academic growth. Correlational relationships were determined by a Pearson correlation coefficient. Sig (2-tailed) *p* value tested the significance of the correlation. The effect of academic achievement on English proficiency was tested using a one-way ANOVA. Homogeneity of variance was tested using Brown-Forsythe and Welch. Post hoc comparisons were performed using a Games-Howell test. A Chi-Square test of independence was conducted to determine whether academic achievement was related to English proficiency when ELs scored in the 4.3 – 4.9 on the ACCESS for ELLs 2.0.

Mediation analysis was conducted to determine whether the relationship between English proficiency and academic achievement was mediated by academic growth by running matrices of procedures. The variables included academic achievement, each domain of English proficiency, and academic growth.

All variables within this study came from 2018-2019 archival data from two school districts. The data collection was retrieved during the 2021-2022 academic school year. Data collection from the districts provided with ACCESS for ELLs 2.0 proficiency scores for the eight domains of English proficiency, GMAS overall ELA achievement

scores, and the beginning of the year and end of the NWEA MAP RIT scores. Additional information included in the data retrieval included gender and grade level.

**Sample**

The population consisted of elementary students ranging from third through fifth grades, having scores on the ACCESS for ELLs 2.0, Georgia Milestones, and NWEA MAP during the 2018-2019 school year. This research study used the 2018-2019 data to examine the scores. The accessible population was the available number of students who were administered the ACCESS for ELLS 2.0, Georgia Milestones, and NWEA MAP in third through fifth grades in the 2018-2019 school year in two North Georgia counties. This research used a sample population from the North Georgia region having a variety of demographics, ensuring the research results are generalizable to most of Georgia's population of ELs in grades third through fifth. The findings of the study were generalizable to similar districts in Georgia.

District one administered the ACCESS for ELLS 2.0 to 1,932 EL students, and District two administered the ACCESS for ELLS 2.0 to 5,976 EL students (NCES, 2019). An estimated 874 students were given the ACCESS for ELLS 2.0 in grades three through five in the 2018-2019 school year in the two districts combined. In addition to the ACCESS for ELLS 2.0 data, the accessible population was defined by the number of students taking the state-mandated Georgia Milestones Assessment and then again for the number of students administered the NWEA MAP in the two districts. The ACCESS for ELLs 2.0 and Georgia Milestones are mandated by federal and state requirements. Both counties require all students in grades three through five to take MAP at the beginning, middle, and end of the year.

All third through fifth-grade students are required to take the Georgia Milestones Assessment. The Georgia Milestones Coordinators Manual stated all students who are enrolled in grades 3 through 8, including students with disabilities and ELs, must participate in the EOG assessment (GaDOE, 2017b). Exceptions are made for students who qualify for the Georgia Alternate Assessment (GAA). In addition to this assessment, all ELs in Georgia are administered the ACCESS for ELLs 2.0 (GaDOE, 2017b). The exclusions from the data were transient students and students absent for a prolonged amount of time.

The Raosoft Sample size calculator recommended a sample size of 200 per grade level with a total of at least 600. The calculation was computed using a 5% margin of error, a 95% confidence level, a population size of 2,000, and a response distribution of 50%. A ratio measurement scale was used for the effect size. The power of the study was substantial due to the sample size.

**Description of the Population**

The population was composed of 3rd through 5th grade students in two public school districts in Georgia during the 2018-2019 school year. The population contained a total of 874 EL students. Of those 874 students, there were 861 students that completed GMAS and ACCESS for ELLs 2.0, and 824 students that completed NWEA MAP, GMAS, and ACCESS for ELLs 2.0. By grade level, 317 students were in third grade, 323 students were in fourth grade, and 234 students were in fifth grade. By gender, there were 414 females and 460 males included in the study.

Required approval and permission were attained (see Appendix B and C), from the involved parties and a request for data from the districts was made. A data report was

obtained (see Appendix D), removing student and school identification. The report contained unique identifiers with matched data sets for score, gender, and grade level. The reports contained a matched data set for ACCESS for ELLs 2.0, Georgia Milestones, and MAP.

**Data Collection**

Testing instrumentation used in the study was Georgia Milestones, ACCESS for ELLs 2.0 , and NWEA MAP. The Georgia Milestones is a computerized assessment given annually to third through eighth-grade students. It is a comprehensive summative assessment measuring knowledge and skills addressed in the state standards. Georgia Milestones assesses English Language Arts, Mathematics, Science, and Social Studies. The assessment is comprised of open-ended questions, a writing component, and norm-referenced multiple-choice questions (GaDOE, 2019a).

The validity of the Georgia Milestones was established through the inception and development of the assessment by aligning it directly to the state's standards. Legislatures first established validity by identifying the purpose of the assessment. Georgia Law (O.C.G.A. § 20-2-281) stated the assessment should measure how well students master state standards. Another factor in establishing validity requires student performance to match the score report. Distributing the results was considered in achieving validity. The scores are released in a scale score and leveled format.

Multiple reviews of educators and psychometricians measured the alignment of the standards matching the assessment. Reliability for the assessment was established using Cronbach's alpha reliability coefficient. Cronbach's alpha ranges from 0.89 to 0.91 in grades three, four, and five. Strong reliability supports the assessment's reliability

(GaDOE, 2018b). The English Language Arts (ELA) Georgia Milestones report included achievement levels, scale scores, Lexile, and domains of reading, vocabulary, writing, language.

In Georgia, the ACCESS for ELLs 2.0 is given either online or paper-based in grades Kindergarten through twelfth grade. Each district can determine which assessment method meets the needs of its students. The ACCESS for ELLs 2.0 assessed students in eight domains. They include listening, speaking, reading, writing, oral language (50% listening + 50% speaking), literacy (50% reading + 50% writing), comprehension (70% reading + 30% listening), and overall composite score (35% reading + 35% writing +15% listening + 15% speaking) (WIDA, 2013).

The assessments aligned with WIDA ELD standards, which were Social and Instructional Language, Language of Language Arts, Language of Mathematics, Language of Science, and Language of Social Studies (WIDA, 2019a). The assessment was further broken into grade clusters of kindergarten, grades first and second, and grades second through fifth. The kindergarten assessment was adaptive and is given individually. Once grades first through fifth grade were administered the listening and writing domain, an additional tier was given for the writing and speaking domains. The tiers were Tier A (proficiency levels 1.0 to 4.0), Tier B (proficiency levels 2.0 to 5.0), and Tier C (proficiency levels 3.0 to 6.0).

The validity of the ACCESS for ELLs 2.0 was established using a framework based on claims, and then results from the analysis of test data validated the assumptions. Reliability was measured with Cronbach's alpha, and it was between .929 - .951 across all grade levels (WIDA, 2017).

Northwest Evaluation Association (NWEA) created Measures of Academic Progress (MAP) as an adaptive measure of cognitive and academic achievement growth. The score report contains a norm group average, district average, percentile range, and rank. The scale on which NWEA reports is Rasch unIT (RIT). The validity and reliability of MAP were established by matching a blueprint to the content standards to the test's difficulty level. Proprietary software and experts consider matching crucial words and phrases to the standards. Concurrent validity was established by a Pearson correlation coefficient between the total domain area RIT score and the total scale score (NWEA, 2011). NWEA's Language Usage MAP was administered at the beginning, middle, and end of the year. Reports included student RIT score and usage goals in Writing, Language mechanics, and Language grammar.

Each of the districts had the scores and demographics needed to complete the study. The data collection methods associated with the research had a minimal threat to internal threats. The data were not manipulated in any way; therefore, the data were retrieved directly from the district's testing portal.

The appropriate data were gathered to answer the researchquestions by gathering data that can be analyzed to compare the predictiveness of the ACCESS for ELLs 2.0 to the Georgia Milestones and MAP. Demographic data were gathered from the ACCESS for ELLs 2.0, Georgia Milestones, and NWEA MAP reports to examine the subgroups. ACCESS for ELLs 2.0, Georgia Milestones, and NWEA MAP were valid and reliable assessments. Georgia Milestones Alternative Assessment (GAA) and Alternative ACCESS for ELLs 2.0 measured a subgroup of students with an Individualized Education Plan (IEP) and therefore were not included in the study.

ACCESS for ELLs, Georgia Milestones, and NWEA MAP contained reports which included the score and subgroups needed to perform the study. Missing or incomplete data were identified and removed before the initial round of analysis.

**Procedures**

The impact of English Language Proficiency on academic achievement assessments through three research questions was examined. The Statistical Package for the Social Sciences (SPSS) software program was used to conduct the analysis of the data. The relationship between academic achievement, academic growth, and English proficiency was evaluated by conducting Pearson correlation coefficient. The effect of academic achievement (Levels 1, 2, 3, 4) on listening, reading, speaking, writing, comprehension, oral, literacy, and composite overall English proficiency level was studied by conducting one-way ANOVA. Mediation analysis between listening, reading, speaking, writing, comprehension, oral, literacy, and composite overall English proficiency level and academic achievement were evaluated to determine whether it was mediated by academic growth.

English Language Proficiency was measured by the ACCESS for ELLs 2.0. (WIDA, 2013). English Language Proficiency was reported on a scale of 1.0 to 6.0 and a range of scale scores differing according to the domain and grade level for each proficiency level. The English proficiency level of 1-Entering, 2-Emerging, 3-Developing, 4-Explaining, 5-Expanding, and 6-Bridging were used for evaluating the data between English Language Proficiency and academic achievement. The whole number in the English proficiency level represents the English proficiency level outlined

by WIDA (2013) and the decimal represents the percentage of the EL's score within the range.

Academic achievement was measured by Georgia Milestones. The data analyzed for the Georgia Milestones was by proficiency level to correlate with the ACCESS. The Georgia Milestones proficiency levels are 1-Beginning, 2-Developing, 3-Proficient, and 4-Distinguished (GaDOE, 2018b).

Academic growth was measured by NWEA MAP data. Academic growth as a mediator was measured by growth from the beginning of the 2018-2019 academic year to the end of the 2018-2019 academic school year. NWEA MAP growth is normative data reported in achievement status by measuring a growth to students' performance in the same grade. Growth norms were reported on individual students and are based on grade level samples. NWEA (2011) reported the samples are from 3.6 and 5.5 million test scores from 500,000 to 700,000 students in over 24,000 schools. NWEA MAP scores were reported three times a year. Each report provided achievement norms, mean scores, and a standard deviation to provide a range from assessment to assessment. The norms were based on the bell curve to determine the percentage of students expected to fall within the range. Performance norms were reported at the school level, same grade level of students in other schools in the district, and the same grade level of students in public schools are the United States.

The following research questions guided this study:

RQ 1 – How are English Language Proficiency and academic achievement in ELs related to one another?

A Pearson correlation coefficient was computed to determine the relationship between academic achievement, academic growth, and English proficiency (listening, reading, speaking, writing, comprehension, oral, literacy, and composite). English Language Proficiency was measured by the ACCESS for ELLs 2.0 in all eight domains (listening, reading, speaking, writing, comprehension, oral, literacy, and composite). Academic achievement was measured by Georgia Milestones overall ELA achievement scores of Level 1, Level 2, Level 3, and Level 4. Academic growth was measured by the increase or decrease in the Language Usage NWEA RIT score from the beginning of the 2018-2019 school year to the end of the 2018-2019 year. T-tests and Chi-Square were computed to determine whether the subgroups of gender and grade level were significant predictors of English proficiency, academic achievement, and academic growth.

RQ 2 – Do proficiency levels of exiting ESOL students differ in relationship with academic achievement?

A one-way ANOVA was conducted to determine the effect of academic achievement (Levels 1, 2, 3, 4) on listening, reading, speaking, writing, comprehension, oral, literacy, and composite overall English proficiency level. English Language Proficiency was measured by the ACCESS for ELLs 2.0 in all eight domains (listening, reading, speaking, writing, comprehension, oral, literacy, and composite). Academic achievement was measured by Georgia Milestones overall ELA achievement scores of Level 1, Level 2, Level 3, and Level 4. Homogeneity of variance was tested using a Brown-Forsythe and Welch test. Post hoc comparisons were performed using a Games-Howell test. A chi-square test of independence was conducted to determine whether English proficiency was related to academic achievement.

RQ 3 – To what extent is the relationship between English Language Proficiency level and academic achievement of English language learners mediated by academic growth?

Mediation analysis was conducted to determine whether the relationship between listening English proficiency and academic achievement is mediated by academic growth. English Language Proficiency was measured by the ACCESS for ELLs 2.0 in all eight domains (listening, reading, speaking, writing, comprehension, oral, literacy, and composite). Academic achievement was measured by Georgia Milestones overall ELA achievement scores of Level 1, Level 2, Level 3, and Level 4. Academic growth was measured by the increase or decrease in the Language Usage NWEA RIT score from the beginning of the 2018-2019 school year to the end of the 2018-2019 year.

**Threats to Validity**

An external threat that could have undermined the quality of this research was the sample size. At least 200 students in each grade level of third through fifth grades taking all assessments were needed to conduct a credible study. According to FTE enrollment from 2018, districts in the North Georgia area have similar demographics, and the study's findings were generalizable. If 600 participants were not reached, it would have threatened the quality of the research. The needed sample size was reached, and an attempt was not made to include more districts until the sample size was adequately met.

**Summary**

A quantitative, correlation analysis of 874 students in two north Georgia school districts was conducted. The first question was analyzed to determine how academic

achievement and English proficiency were related to one another. A second question was analyzed to determine if English proficiency levels compare to academic proficiency. Mediation Analysis was used for the final question. Academic growth was analyzed to determine if the relationship between academic achievement and English proficiency was affected by the mediator of academic growth.

# Chapter IV

## RESULTS

The main purpose of this quantitative study was to examine the relationship between an EL's English Language Proficiency levels, academic achievement, and academic growth. The prediction of ELs' performance on academic achievement was examined. The relationship between English proficiency and academic achievement was mediated by academic growth. Academic growth measured by NWEA MAP was examined to determine where a mediator factor for academic achievement was measured by Georgia Milestones. The predictive role of English proficiency between academic achievement was examined to determine if the correlation is greater when academic growth is considered. The findings were determined by the relationship between the English proficiency measured by ACCESS for ELLs 2.0, academic achievement, and academic growth in two districts during the 2018-2019 school year.

The following research questions guided this study:

RQ 1 - How are English Language Proficiency, academic achievement, and academic growth in English language learner related to one another?

RQ 2 - Do proficiency levels of exiting ESOL students differ in relationship with academic achievement?

RQ 3 - To what extent is the relationship between English Language Proficiency levels and academic achievement mediated by academic growth?

This chapter presents the findings for the three research questions that guided the study. For Research Question 1, a Pearson correlation coefficient was computed to determine the relationship between academic achievement and English proficiency (ACCESS Listening proficiency level, ACCESS Reading proficiency level, ACCESS Speaking proficiency level, ACCESS Writing proficiency level, ACCESS Comprehension proficiency level, ACCESS Oral proficiency level, ACCESS Literacy proficiency level, ACCESS Reading proficiency level, and ACCESS Composite (Overall) Reading proficiency level). For Research Question 2, a one-way ANOVA was conducted to determine the effect of English proficiency measured by the eight domains of ACCESS for ELLs 2.0 on academic achievement (Level 1, Level 2, Level 3, Level 4). For Research Question 3, mediation analysis was conducted to determine whether the relationship between each English Language Proficiency measured by the eight domains in ACCESS for ELLs 2.0 and academic achievement was mediated by academic growth.

**Data Analysis**

Archival data were used in this study for English proficiency, academic achievement, and academic growth. Pearson correlation coefficient, one-way ANOVA, and mediation analysis were used to analyze the data. SPSS software was used to conduct the Pearson correlation coefficient, one-way ANOVA, and mediation analysis. All the data were labeled, and variables were coded in SPSS. The variables labeled in SPSS for Research Questions 1 and 2 were ListeningProficiencyLevels (Listening Proficiency), ReadingProficiencyLevels (Reading English Proficiency), SpeakingProficiencyLevels (Speaking English Proficiency), WritingProficiencyLevels (Writing English Proficiency), ComprehensionProficiencyLevels (Comprehension

English Proficiency), OralProficiencyLevels (Oral English Proficiency), LiteracyProficiencyLevels (Literacy English Proficiency), CompositeProficiencyLevels (Composite English Proficiency), GMAS (GMAS), and AG (Academic Growth). The variables for Research Question 3 were coded as Listenin (Listening English Proficiency), ReadingP (Reading English Proficiency), Speaking (Speaking English Proficiency), WritingP (Writing English Proficiency), Comprehe (Comprehension English Proficiency), OralProf (Oral English Proficiency), Literacy (Literacy English Proficiency), Composit (Composite English Proficiency), GMAS (GMAS), and AG (Academic Growth).

**Descriptive Statistics**

Descriptive statistics for the research questions included gender and grade level. Table 1 included descriptive statistics for the number of participants, and percentage of females and males. There were 874 participants; 414 were females (47.40%), and 460 (52.60%) were males. Table 2 includes descriptive statistics for the variables of academic achievement and academic growth, mean, and standard deviation. The mean for academic achievement measured by GMAS is 1.77 ($M$ = 1.77; $SD$ = .76). The mean for academic growth measured by MAP is 9.40 ($M$ = 9.40; $SD$ = 8.57). Table 3 includes descriptive statistics for each of the eight domains of English proficiency as measured by ACCESS for ELLs 2.0, mean and standard deviation. The mean for listening English proficiency was 5.43 ($M$ = 5.43; $SD$ = 1.09). The mean for reading English proficiency was 4.32 ($M$ = 4.32; $SD$ = 1.38). The mean for speaking English proficiency was 3.09 ($M$ = 3.09; $SD$ = .78). The mean for writing English proficiency was 3.87 ($M$ = 3.87; $SD$ = .69). The mean for comprehension English proficiency was

4.95 (*M* = 4.95; *SD* = 1.21). The mean for oral English proficiency was 4.19 (*M* = 4.19; *SD* = .99). The mean for literacy English proficiency was 3.99 (*M* = 3.99; *SD* = .86). The mean for composite (overall) English proficiency was 4.05 (*M* = 4.05; *SD* = .82).

**Table 1**

*Descriptive Statistics, Gender*

| Variable | ***N*** | **%** |
|---|---|---|
| Gender | | |
| Female | 414 | 47.40 |
| Male | 460 | 52.50 |

**Table 2**

*Descriptive Statistics, Academic Achievement and Academic Growth*

| Variable | ***N*** | ***M*; *SD*** |
|---|---|---|
| Academic achievement – GMAS | 861 | 1.77; 0.76 |
| Academic growth - MAP | 824 | 9.40; 8.57 |

**Table 3**

*Descriptive Statistics; English Proficiency*

| Variable | ***N*** | ***M*; *SD*** |
|---|---|---|
| Listening Proficiency Level | 874 | 5.43; 1.09 |
| Reading Proficiency Level | 874 | 4.32; 1.38 |
| Speaking Proficiency Level | 874 | 3.09; .78 |
| Writing Proficiency Level | 874 | 3.87; .69 |
| Comprehension Proficiency Level | 874 | 4.94 ; 1.21 |
| Oral Proficiency Level | 874 | 4.19; .99 |
| Literacy Proficiency Level | 874 | 3.99; .86 |
| Composite (Overall) Proficiency Level | 874 | 4.05; .82 |

## Results by Questions

**Research Question 1.** A Pearson correlation coefficient was computed to determine the relationship between English Language Proficiency, academic achievement, and academic growth. The results indicated a non-significant positive relationship between English proficiency and academic growth, $r(824) = .035$, $p < .05$.

The results indicated a significant positive relationship between English proficiency and academic achievement, $r(861) = .56$, $p < .01$. As English proficiency increased, academic achievement increased. The results indicated a significant positive relationship between academic growth and academic achievement, $r(824) = .071$, $p < .05$. As academic growth increased, academic achievement increased.

**Table 4**

*Correlations*

| | | English Proficiency | Academic Growth | Academic Achievement |
|---|---|---|---|---|
| English Proficiency | r | 1 | | |
| | p | | | |
| | N | 874 | | |
| Academic Growth | r | .035 | 1 | |
| | p | .32 | | |
| | N | 824 | 824 | |
| Academic Achievement | r | .56** | .071* | 1 |
| | p | .000 | .041 | |
| | N | 861 | 824 | 861 |

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation was significant at the 0.01 level (2-tailed).

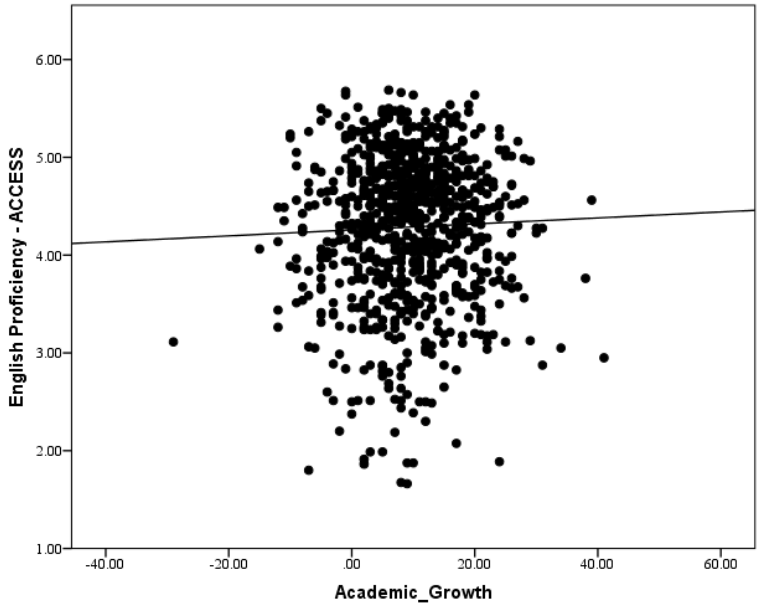



**Figure 1**
*Scatterplot for English Proficiency and Academic Growth*

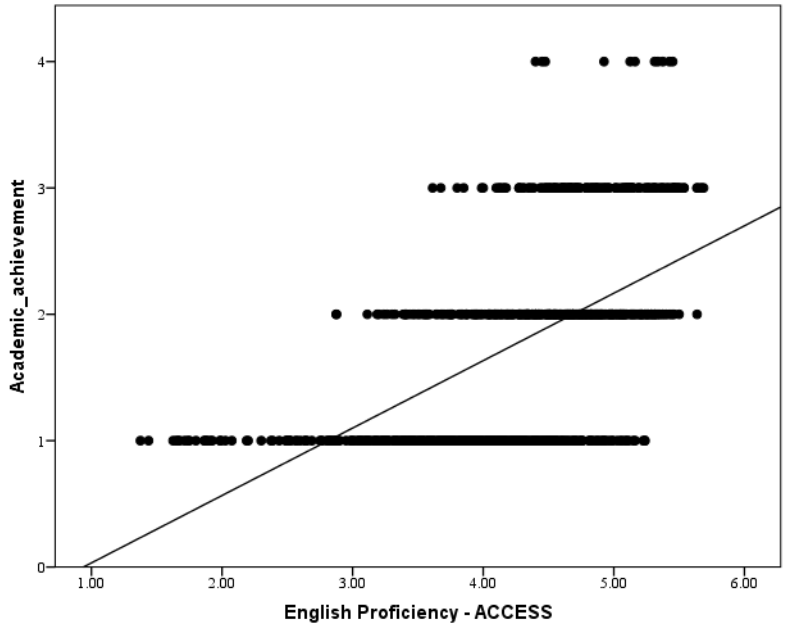



**Figure 2**
*Scatterplot for Academic Growth and Academic Achievement*

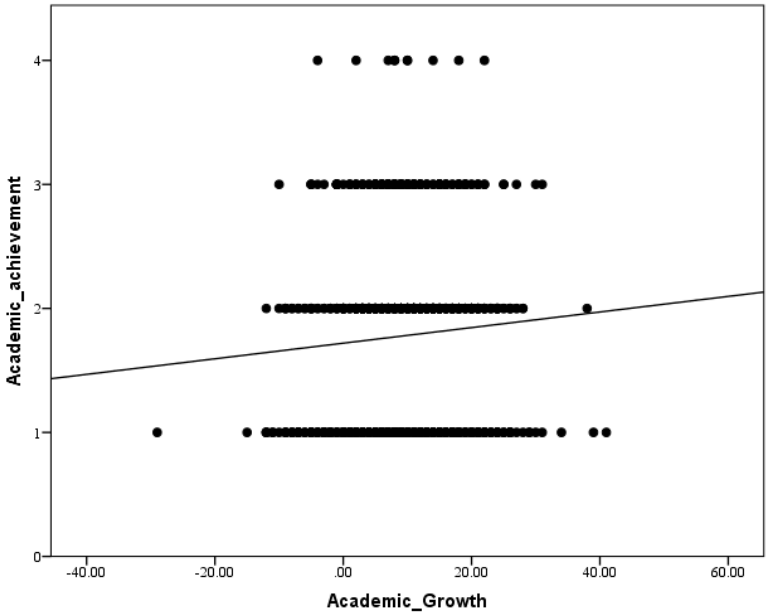



**Figure 3**
*Scatterplot for Academic Growth and Academic Achievement*

A Pearson correlation coefficient was computed to determine the relationship between academic achievement, academic growth, and English proficiency (listening, reading, speaking, writing, comprehension, oral, literacy, and composite). The results indicated a significant positive relationship between academic achievement and academic growth, $r(824) = .0071$, $p < .05$. As academic growth increased, academic achievement increased in each domain. The results indicated a significant positive relationship between academic achievement and listening English proficiency, $r(861) = .306$, $p < .01$. As listening English proficiency increased, academic achievement increased. The results indicated a significant positive relationship between academic achievement and reading English proficiency, $r(861) = .618$, $p < .01$. As reading English proficiency increased, academic achievement increased. The results indicated a significant positive relationship between academic achievement and speaking English proficiency, $r(861) = .245$, $p < .01$. As speaking English proficiency increased, academic achievement increased. The results

indicated a significant positive relationship between academic achievement and writing English proficiency, $r(861) = .439$, $p < .01$. As writing English proficiency increased, academic achievement increased. The results indicated a significant positive relationship between academic achievement and comprehension English proficiency, $r(861) = .546$, $p < .01$. As comprehension English proficiency increased, academic achievement increased. The results indicated a significant positive relationship between academic achievement and oral English proficiency, $r(861) = .343$, $p < .01$. As oral English proficiency increased, academic achievement increased. The results indicated a significant positive relationship between academic achievement and literacy English proficiency, $r(861) = .600$, $p < .01$. As literacy English proficiency increased, academic achievement increased. The results indicated a significant positive relationship between academic achievement and composite overall English proficiency, $r(861) = .567$, $p < .01$. As composite overall English proficiency increased, academic achievement increased. There was no significant relationship between academic growth and listening, reading, speaking, writing, comprehension, oral, literacy, and composite overall English proficiency level.

**Table 5**

*Correlation Results*

| | | Academic achievement | Academic growth | Listening Proficiency Level | Reading Proficiency Level | Speaking Proficiency Level | Writing Proficiency Level | Comprehension Proficiency Level | Oral Proficiency Level | Literacy Proficiency Level | Composite (Overall) Proficiency Level |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Academic achievement** | r | 1 | | | | | | | | | |
| | p | | | | | | | | | | |
| | N | 861 | | | | | | | | | |
| **Academic growth** | r | .071* | 1 | | | | | | | | |
| | p | 0.41 | | | | | | | | | |
| | N | 824 | 824 | | | | | | | | |
| **Listening Proficiency Level** | r | .306** | .027 | 1 | | | | | | | |
| | p | .000 | .433 | | | | | | | | |
| | N | 861 | 824 | 874 | | | | | | | |
| **Reading Proficiency Level** | r | .618** | .055 | .439** | 1 | | | | | | |
| | p | .000 | .113 | .000 | | | | | | | |
| | N | 861 | 824 | 874 | 874 | | | | | | |
| **Speaking Proficiency Level** | r | .245** | -.004 | .455** | .370** | 1 | | | | | |
| | p | .000 | .918 | .000 | .000 | | | | | | |
| | N | 861 | 824 | 874 | 874 | 874 | | | | | |

**Table 5** (continued)

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Writing Proficiency Level** | r | .439** | .025 | .565** | .579** | .459** | 1 | | | | |
| | p | .000 | .482 | .000 | .000 | .000 | | | | | |
| | N | 861 | 824 | 874 | 874 | 874 | 874 | | | | |
| **Comprehension Proficiency Level** | r | .546** | .050 | .763** | .862** | .473** | .665** | 1 | | | |
| | p | .000 | .148 | .000 | .000 | .000 | .000 | | | | |
| | N | 861 | 824 | 874 | 874 | 874 | 874 | 874 | | | |
| **Oral Proficiency Level** | r | .343** | -.006 | .751** | .495** | .849** | .566** | .724** | 1 | | |
| | p | .000 | .857 | .000 | .000 | .000 | .000 | | | | |
| | N | 861 | 824 | 874 | 874 | 874 | 874 | .000 | 874 | | |
| | | | | | | | | 874 | | | |
| **Literacy Proficiency Level** | r | .600** | .036 | .543** | .831** | .466** | .906** | .810** | .596 | 1 | |
| | p | .000 | .308 | .000 | .000 | .000 | .000 | .000 | .000 | | |
| | N | 861 | 824 | 874 | 874 | 874 | 874 | 874 | 874 | 874 | |
| **Composite (Overall) Proficiency Level** | r | .567** | .019 | .679** | .788** | .673** | .864** | .858** | .823** | .943** | 1 |
| | p | .000 | .581 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | |
| | N | 861 | 824 | 874 | 874 | 874 | 874 | 874 | 874 | 874 | 874 |

*Correlation is significant at the 0.05 level (2-tailed).** Correlation is significant at the 0.01 level (2-tailed).

An independent samples t-test was conducted to determine whether there was a difference in English proficiency between females and males. The results indicated a non-significant relationship in English proficiency between females ($M$ = 4.29; $SD$ = .79) and males ($M$ = 4.18; $SD$ = .85); $t(872) = 1.96$, $p = .05$. The 95% confidence interval of the difference ranged from .00003 to 0.22 and did not indicate a significant difference between the sample means. There was not a difference in English proficiency between females and males.

**Table 6**
*Independent samples t-test results*

| | **Gender** | | | | | |
|---|---|---|---|---|---|---|
| | Female (n = 414) | | Male (n = 460) | | | |
| Variable | M | SD | M | SD | t | *p* |
| English Proficiency | 4.29 | .79 | 4.18 | .85 | 1.96 | .05 |

An independent samples t-test was conducted to determine whether there was a difference in academic growth between females and males. The results indicated a non-significant relationship in academic growth between females ($M$ = 9.55; $SD$ = 8.34) and males ($M$ = 9.25; $SD$ = .8.70); $t(822) = .59$, $p > .05$. The 95% confidence interval of the difference ranged from -.87 to 1.47 and did not indicate a significant difference between the sample means. There was not a difference in academic growth between females and males.

**Table 7**
*Independent Samples T-test Results*

| | Gender | | | | | |
|---|---|---|---|---|---|---|
| | Female (n = 395) | | Male (n = 429) | | | |
| Variable | M | SD | M | SD | t | *p* |
| Academic Growth | 9.55 | 8.34 | 9.25 | 8.79 | .50 | .616 |

A Chi-Square of independence was conducted to determine whether academic achievement was related to gender. The results were not significant, $\chi^2(1) = 3.30$, $p = .072 > .05$, Crammer's $V = .062$. Academic achievement was not related to gender, with 80.1% of females and 84.8% of males not proficient in academic achievement. 19.9% of females and 15.2% of males were proficient in academic achievement.

**Table 8**
*Crosstabulations*

| | | | Gender | | |
|---|---|---|---|---|---|
| | | | Female | Male | Total |
| Academic Achievement | Not Proficient | N | 326 | 385 | 711 |
| | | % within Gender | 80.1% | 84.8% | 82.6% |
| | Proficient | N | 81 | 69 | 150 |
| | | % within Gender | 19.9% | 15.2% | 17.4% |
| Total | | N | 407 | 454 | 861 |
| | | % within Gender | 100.0% | 100.0% | 100.0% |

A Pearson coefficient was computed to determine the relationship between grade level, English proficiency, academic achievement, and academic growth. The results showed a positive significant relationship between grade level and English proficiency, $r(874) = .284$, $p < .01$. As grade level increased, English proficiency increased. The results showed a negative significant relationship between grade level and academic growth, $r(874) = -.098$, $p < .01$. As grade level increased, academic growth decreased.

The results showed a negative significant relationship between grade level and academic achievement, $r(861) = -.110$, $p < .01$. As grade level increased, academic achievement decreased.

**Table 9**
*Correlation Results*

| | | Grade Level | English Proficiency | Academic Growth | Academic Achievement |
|---|---|---|---|---|---|
| Grade Level | r | 1 | .284** | -.98** | -.110** |
| | *p* | | .000 | .005 | .001 |
| | N | 874 | 874 | 824 | 861 |
| English Proficiency | r | .284** | 1 | .035 | .561** |
| | *p* | .000 | | .322 | .000 |
| | N | 874 | 874 | 824 | 861 |
| Academic Growth | r | -.098** | .035 | 1 | .071* |
| | *p* | .005 | .322 | | 0.41 |
| | N | 824 | 824 | 824 | 824 |
| Academic Achievement | r | -.110** | .561** | .071* | 1 |
| | *p* | .001 | .000 | .041 | |
| | N | 861 | 861 | 824 | 861 |

*Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

**Research Question 2.** A one-way ANOVA was conducted to determine the effect of academic achievement (Level 1, Level 2, Level 3, Level 4) on listening, reading, speaking, writing, comprehension, oral, literacy, and composite overall English proficiency levels. The results indicated a significant effect on listening English proficiency, $F(3, 857) = 36.94$, $p < .001$; reading English proficiency, $F(3, 857) =$

188.76, $p < .001$; speaking English proficiency, $F(3, 857) = 19.87$, $p < .001$; writing English proficiency, $F(3, 857) = 80.97$, $p < .001$; comprehension English proficiency, $F(3, 857) = 142.83$, $p < .001$; oral English proficiency, $F(3, 857) = 43.30$, $p < .001$; literacy English proficiency, $F(3, 857) = 170.60$, $p < .001$; composite overall English proficiency, $F(3, 857) = 146.63$, $p < .001$. One-way ANOVA was conducted to determine the effect of academic achievement (Level 1, Level 2, Level 3, Level 4) on English proficiency. The results indicate significance $F(3, 857) = 147.41$, $p < .001$. It was concluded English proficiency affected academic achievement. There was a direct effect of academic achievement on the eight domains of English proficiency, meaning academic achievement levels did determine English proficiency. Academic achievement differed for each domain. There was a significant difference and Post hoc tests were conducted to determine the differences.

Post hoc comparisons were conducted to determine how academic achievement differed with English proficiency. Games- Howell comparisons were performed because equivalence of variance assumptions were not met. Homogeneous variances were not met in the ANOVA reults. This post hoc method controls the type I errors for the entire comparison by maintaining the preset significance level set by academic proficiency levels that created different samples sizes.

Comparisons revealed a significant difference between Level 1 ($M = 3.73$; $SD = .81$) and Level 2 ($M = 4.53$; $SD = .53$), $p < .001$, indicating ELs who scored a Level 2 on the academic achievement assessment, scored significantly higher on their English proficiency assessment than ELs who scored a Level 1 on the academic achievement assessment. Comparisons revealed a significant difference between Level 1

($M$ = 3.73; $SD$ = .81) and Level 3 ($M$ = 4.86; $SD$ = .45), $p < .001$ indicating ELs who scored a Level 3 on the academic achievement assessment, scored significantly higher on their English proficiency assessment than ELs who scored a Level 1 on the academic achievement assessment. Comparisons revealed a significant difference between Level 1 ($M$ = 3.73; $SD$ = .81) and Level 4 ($M$ = 5.04; $SD$ = .41, $p < .001$, indicating ELs who scored a Level 4 on the academic achievement assessment, scored significantly higher on their English proficiency assessment than ELs who scored a Level 1 on the academic achievement assessment. Comparisons revealed a significant difference between Level 2 ($M$ = 4.53; $SD$ = .53) and Level 3 ($M$ = 4.86; $SD$ = .45), $p < .001$, indicating ELs who scored a Level 3 on the academic achievement assessment, scored significantly higher on their English proficiency assessment than ELs who scored a Level 2 on the academic achievement assessment. Comparisons revealed a significant difference between Level 2 ($M$ = 4.53; $SD$ = .53) and Level 4 ($M$ = 5.04; $SD$ = .41, $p < .001$ indicating ELs who scored a Level 4 on the academic achievement assessment, scored significantly higher on their English proficiency assessment than ELs who scored a Level 2 on the academic achievement assessment.

**Table 10**

*One-Way ANOVA Results*

| | Academic achievement | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Level 1 ($n$ = 358) | | Level 2 ($n$ = 353) | | Level 3 ($n$ = 139) | | Level 4 ($n$ = 11) | | | |
| Variable | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* | *F* | *p* |
| Listening Proficiency Level | 5.05 | 1.31 | 5.7 | 0.69 | 5.83 | 0.53 | 5.84 | 0.36 | 36.94 | < .001 |
| Reading Proficiency Level | 3.38 | 1.16 | 4.78 | 1.10 | 5.58 | 0.68 | 5.99 | 0.03 | 188.75 | < .001 |
| Speaking Proficiency Level | 2.89 | 0.77 | 3.23 | 0.73 | 3.38 | 0.69 | 3.40 | 0.75 | 19.87 | < .001 |
| Writing Proficiency Level | 3.52 | 0.72 | 4.09 | 0.47 | 4.25 | 0.48 | 4.32 | 0.44 | 80.97 | < .001 |
| Comprehension Proficiency Level | 4.18 | 1.25 | 5.41 | 0.78 | 5.80 | 0.45 | 5.96 | 0.12 | 142.83 | < .001 |
| Oral Proficiency Level | 3.81 | 0.99 | 4.44 | 0.86 | 4.65 | 0.82 | 4.75 | 0.95 | 43.30 | < .001 |
| Literacy Proficiency Level | 3.44 | 0.75 | 4.28 | 0.58 | 4.73 | 0.63 | 5.09 | 0.58 | 170.60 | < .001 |
| Composite (Overall) Proficiency Level | 3.55 | 0.74 | 4.32 | 0.56 | 4.70 | 0.62 | 4.97 | 0.66 | 146.63 | <.001 |

**Table 11**

*One-way ANOVA Results*

| | Academic Achievement | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Level 1 (n = 358) | | Level 2 (n = 353) | | Level 3 (n = 139) | | Level 4 (n = 11) | | | |
| Variable | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* | *F* | *p* |
| English Proficiency | 3.73 | 0.81 | 4.53 | 0.53 | 4.86 | 0.45 | 5.04 | 0.41 | 147.41 | < .001 |

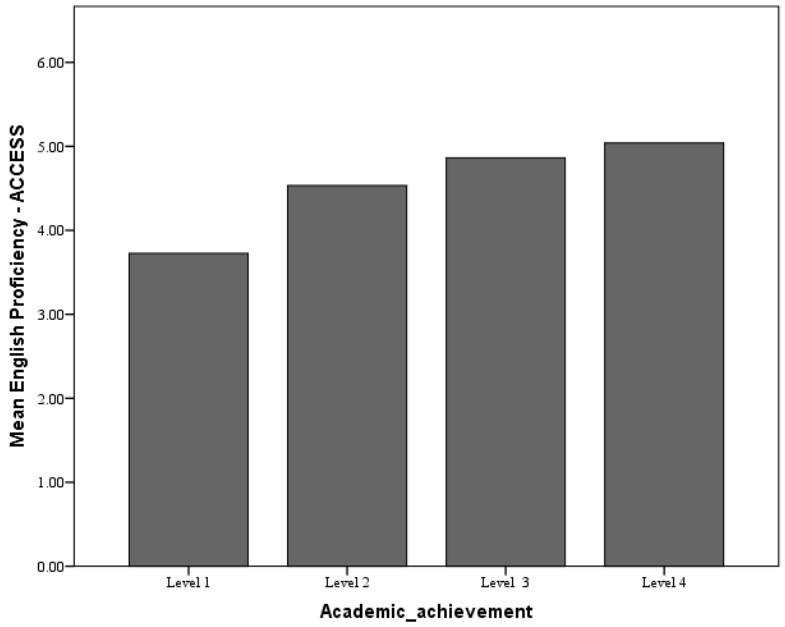



**Figure 4**

*Bar Chart English Proficiency by Academic Achievement*

A Chi-Square test of independence was conducted to determine whether academic achievement was related to English proficiency when scoring 4.3 – 4.9 on the ACCESS for ELLs 2.0. The results were significant, $\chi^2(1) = 11.66$, $p = .001$, Cramer's $V = .220$. It was concluded academic achievement was related to English proficiency. About 77% of ELs scoring 4.3 - 4.9 on the ACCESS for ELLs 2.0 English proficiency assessment were not proficient in academic achievement. About 23% of ELs scoring 4.3 - 4.9 on the ACCESS for ELLs 2.0 English proficiency assessment were proficient in academic

achievement. About 55% of ELs scoring 5.0 or more on the ACCESS for ELLs 2.0 English proficiency assessment were not proficient in academic achievement. About 44% of ELs scoring 5.0 or more on the ACCESS for ELLs 2.0 English proficiency assessment were proficient in academic achievement, compared to their native English-speaking peers with about 43% academic achievement.

**Table 12**
*Crosstabulations*

| | | | English Proficiency | | |
|---|---|---|---|---|---|
| | | | 4.3 – 4.9 | 5+ | Total |
| Academic Achievement | Not proficient | N | 73 | 80 | 153 |
| | | % within English Proficiency | 76.8% | 55.2% | 63.8% |
| | Proficient | N | 22 | 65 | 87 |
| | | % within English Proficiency | 23.2% | 44.8% | 36.3% |
| Total | | N | 95 | 145 | 240 |
| | | % within English Proficiency | 100.0% | 100.0% | 100.0% |

**Research Question 3.** Mediation analysis was conducted to determine whether the relationship between English proficiency and academic achievement was mediated by academic growth. About 56% of the variance in academic achievement was explained by English proficiency and academic growth, $R^2 = .5630$. The results of the ANOVA were significant, $F(2, 821) = 190.53$, $p < .001$. English proficiency was a positive and significant predictor of academic achievement ($B = .60$, $p < .001$). Academic growth was not a significant positive predictor of academic achievement ($B = .005$, $p > .05$ . An indirect effect of English proficiency on academic achievement was not significant (95% confidence interval ranged from -0.002 to 0.007). It was concluded that the relationship

between English Language Proficiency levels and academic achievement was not mediated by academic growth.

**Table 13**
*Mediation Analysis Results*

| Variable | ***B*** | ***SE*** | ***t*** | *p* | LLCI | ULCI |
|---|---|---|---|---|---|---|
| Constant | -0.66 | 0.13 | -5.18 | < .001 | -0.91 | -0.41 |
| English proficiency | 0.56 | 0.029 | 19.37 | < .001 | 0.50 | 0.62 |
| Academic growth | 0.005 | 0.003 | 1.79 | <.05 | -0.0004 | 0.009 |

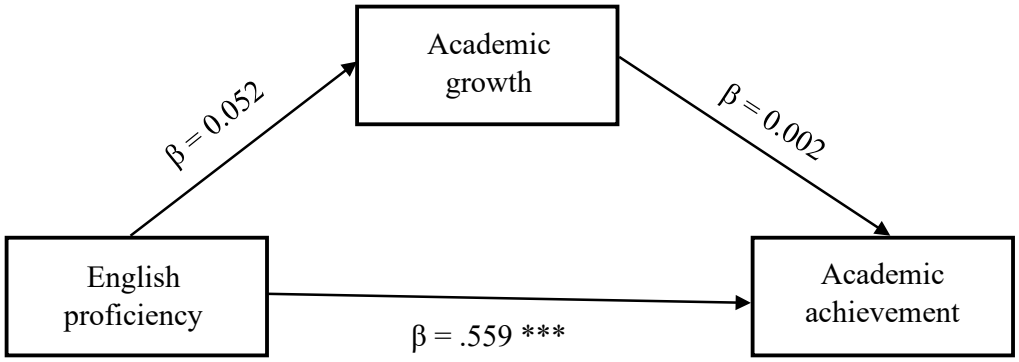



**Figure 5**
*Mediation Analysis Standardized Coefficients*

| | Listening | Reading | Speaking | Writing | Comprehension | Oral | Literacy | Composite |
|---|---|---|---|---|---|---|---|---|
| Variance | 9% | 38 % | 6 % | 20 % | 30 % | 11 % | 36 % | 32 % |
| ANOVA | Significant | Significant | Significant | Significant | Significant | Significant | Significant | Significant |
| Effect | Non-significant positive predictor | Non-significant positive predictor | Positive Significant Predictor | Non-significant positive predictor | Non-significant positive predictor | Positive Significant Predictor | Non-significant positive predictor | Positive Significant Predictor |
| Relationship | Not Mediated | Not Mediated | Mediated | Not Mediated | Not Mediated | Mediated | Not Mediated | Mediated |

**Figure 6**
*Mediation Analysis Results*

Subtests for each of the eight domains were performed. Mediation analysis was conducted to determine whether the relationship between listening English proficiency and academic achievement was mediated by academic growth. About 9% of the variance in academic achievement was explained by listening English proficiency and academic growth, $R^2 = .0863$. The results of the ANOVA were significant $F(2, 821) = 38.76$, $p < .001$. Listening English proficiency was a positive and significant predictor of academic achievement ($B = .22$, $p < .001$). Academic growth was a non-significant positive predictor of academic achievement ($B = .006$, $p = .058 > .05$). An indirect effect of listening English proficiency on academic proficiency was not significant (95% confidence interval ranged from -0.022 to 0.057). It was concluded the relationship between listening English proficiency, and academic achievement was not mediated by academic growth.

**Table 14**
*Mediation Analysis Results, Listeninh*

| Variable | ***B*** | ***SE*** | ***t*** | ***p*** | LLCI | ULCI |
|---|---|---|---|---|---|---|
| Constant | 0.51 | 0.15 | 3.48 | .001 | 0.22 | 0.80 |
| Listening proficiency level | 0.22 | 0.025 | 8.54 | < .001 | 0.17 | 0.27 |
| Academic growth | 0.006 | 0.003 | 1.90 | .058 | -0.0002 | 0.011 |

Mediation analysis was conducted to determine whether the relationship between reading English proficiency and academic achievement was mediated by academic growth. About 38% of the variance in academic achievement was explained by reading English proficiency and academic growth, $R^2 = .3812$. The results of the ANOVA were significant, significant $F(2, 821) = 252.86$, $p < .001$. Reading English proficiency was a positive and significant predictor of academic achievement ($B = .34$, $p < .001$). Academic growth was a non-significant positive predictor of academic achievement ($B = .003$, $p = .177 > .05$). An indirect effect of reading English proficiency on academic achievement was not significant (95% confidence interval ranged from -0.008 to 0.039). It was concluded the relationship between reading English proficiency and academic achievement was not mediated by academic growth.

**Table 15**
*Mediation Analysis Results, Reading*

| Variable | ***B*** | ***SE*** | ***t*** | ***p*** | LLCI | ULCI |
|---|---|---|---|---|---|---|
| Constant | 0.25 | 0.072 | 3.50 | .001 | 0.11 | 0.37 |
| Reading proficiency level | 0.34 | 0.015 | 22.34 | < .001 | 0.31 | 0.37 |
| Academic growth | 0.003 | 0.002 | 1.35 | .177 | -0.002 | 0.008 |

Mediation analysis was conducted to determine whether the relationship between speaking English proficiency and academic achievement was mediated by academic growth. About 6% of the variance in academic achievement was explained by speaking English proficiency and academic growth, $R^2 = .0574$. The results of the ANOVA were significant, significant $F(2, 821) = 24.99$, $p < .001$. Speaking English proficiency was a positive and significant predictor of academic achievement ($B = .23$, $p < .001$). Academic growth was a significant positive predictor of academic achievement ($B = .006$, $p = .034 < .05$). An indirect effect of speaking English proficiency on academic achievement was not significant (95% confidence interval ranged from -0.006 to 0.005). It was concluded the relationship between speaking English proficiency and academic achievement was mediated by academic growth.

**Table 16**
*Mediation Analysis Results, Speaking*

| Variable | ***B*** | ***SE*** | ***t*** | ***p*** | LLCI | ULCI |
|---|---|---|---|---|---|---|
| Constant | 0.99 | 0.11 | 8.71 | < .001 | 0.77 | 1.22 |
| Speaking proficiency level | 0.23 | 0.03 | 6.75 | < .001 | 0.16 | 0.30 |
| Academic growth | 0.006 | 0.003 | 2.12 | .034 | 0.001 | 0.0012 |

Mediation analysis was conducted to determine whether the relationship between writing English proficiency and academic achievement was mediated by academic growth. About 20% of the variance in academic achievement was explained by writing English proficiency and academic growth, $R^2 = .1949$. The results of the ANOVA were significant, significant $F(2, 821) = 99.34$, $p < .001$. Writing English proficiency was a positive and significant predictor of academic achievement ($B = .54$, $p < .001$). Academic growth was non-significant positive predictor of academic achievement ($B = .005$, $p = .054 > .05$). An indirect effect of writing English proficiency on academic achievement was not significant (95% confidence interval ranged from -0.003 to 0.009). It was concluded the relationship between English proficiency and academic achievement was not mediated by academic growth for the domains of listening, reading, writing, comprehension, and literacy. The relationship between English proficiency and academic achievement was mediated by academic growth for the domains of speaking, oral, and composite.

**Table 17**
*Mediation Analysis Results, Writing*

| Variable | ***B*** | ***SE*** | ***t*** | ***p*** | LLCI | ULCI |
|---|---|---|---|---|---|---|
| Constant | -0.37 | 0.16 | -2.41 | .016 | -0.68 | -0.069 |
| Writing proficiency level | 0.54 | 0.038 | 13.91 | < .001 | 0.46 | 0.61 |
| Academic growth | 0.005 | 0.003 | 1.93 | .054 | -0.0001 | 0.011 |

Mediation analysis was conducted to determine whether the relationship between comprehension English proficiency and academic achievement was mediated by academic growth. About 30% of the variance in academic achievement was explained by comprehension English proficiency and academic growth, $R^2 = .2949$. The results of the ANOVA were significant $F(2, 821) = 171.72$, $p < 0.001$. Comprehension English proficiency was a positive and significant predictor of academic achievement ($B = .36$, $p < .001$). Academic growth was a non-significant positive predictor of academic achievement ($B = .004$, $p = .14 > .05$). An indirect effect of writing English proficiency on academic achievement was not significant (95% confidence interval ranged from -0.001 to 0.005). It was concluded the relationship between comprehension English proficiency and academic achievement was not mediated by academic growth.

**Table 18**

*Mediation Analysis Results, Comprehension*

| Variable | ***B*** | ***SE*** | ***t*** | ***p*** | LLCI | ULCI |
|---|---|---|---|---|---|---|
| Constant | -0.036 | 0.101 | -0.36 | .7192 | -0.23 | -0.16 |
| Comprehension proficiency level | 0.36 | 0.019 | 18.37 | < .001 | 0.32 | 0.39 |
| Academic growth | 0.004 | 0.003 | 1.50 | .14 | -0.001 | 0.009 |

Mediation analysis was conducted to determine whether the relationship between oral English proficiency and academic achievement was mediated by academic growth. About 11% of the variance in academic achievement was explained by oral English proficiency and academic growth, $R^2 = .1123$. The results of the ANOVA were significant, significant $F(2, 821) = 51.92$, $p < .001$. Oral English proficiency was a positive and significant predictor of academic achievement ($B = .27$, $p < .001$). Academic growth was a significant positive predictor of academic achievement ($B = .007$, $p = .026 < .05$). An indirect effect of oral English proficiency on academic achievement was not significant (95% confidence interval ranged from 0.007 to 0.026). It was concluded the relationship between oral English proficiency and academic achievement was mediated by academic growth.

**Table 19**
*Mediation Analysis Results, Oral*

| Variable | ***B*** | ***SE*** | ***t*** | ***p*** | LLCI | ULCI |
|---|---|---|---|---|---|---|
| Constant | 0.59 | 0.12 | 5.00 | < .001 | 0.36 | 0.82 |
| Oral proficiency level | 0.27 | 0.027 | 9.96 | < .001 | 0.21 | 0.32 |
| Academic growth | 0.007 | 0.003 | 2.22 | .026 | 0.001 | 0.0012 |

Mediation analysis was conducted to determine whether the relationship between literacy English proficiency and academic achievement was mediated by academic growth. About 36% of the variance in academic achievement was explained by literacy English proficiency and academic growth, $R^2 = .3607$. The results of the ANOVA were significant, significant $F(2, 821) = 231.65$, $p < 0001$. Literacy English proficiency was a positive and significant predictor of academic achievement ($B = .56$, $p < .001$). Academic growth was a non-significant positive predictor of academic achievement ($B = .004$, $p = .075 > .05$). An indirect effect of literacy English proficiency on academic achievement was not significant (95% confidence interval ranged from -0.002 to 0.007). It was concluded the relationship between literacy English proficiency and academic achievement was not mediated by academic growth.

**Table 20**

*Mediation Analysis Results, Literacy*

| Variable | ***B*** | ***SE*** | ***t*** | ***p*** | LLCI | ULCI |
|---|---|---|---|---|---|---|
| Constant | -0.52 | 0.11 | -4.72 | < .001 | -0.73 | -0.30 |
| Literacy proficiency level | 0.56 | 0.026 | 21.37 | < .001 | 0.51 | 0.61 |
| Academic growth | 0.004 | 0.003 | 1.79 | .075 | -0.0004 | 0.009 |

Mediation analysis was conducted to determine whether the relationship between composite overall English proficiency and academic achievement was mediated by academic growth. About 32% of the variance in academic achievement is explained by literacy English proficiency and academic growth, $R^2 = .3232$. The results of the ANOVA were significant, significant $F(2, 821) = 195.99$, $p < .001$. Composite overall English proficiency was a positive and significant predictor of academic achievement ($B = .56$, $p < .001$). Academic growth was a significant positive predictor of academic achievement ($B = .005$, $p = .036 < .05$. An indirect effect of composite overall English proficiency on academic achievement was not significant (95% confidence interval ranged from -0.003 to 0.007). It was concluded the relationship between composite overall English proficiency and academic achievement was mediated by academic growth.

**Table 21**
*Mediation Analysis Results, Composite Overall*

| Variable | ***B*** | ***SE*** | ***t*** | ***p*** | LLCI | ULCI |
|---|---|---|---|---|---|---|
| Constant | -0.57 | 0.12 | -4.72 | < .001 | -0.81 | -0.33 |
| Composite (Overall) proficiency level | 0.56 | 0.29 | 19.64 | < .001 | 0.51 | 0.62 |
| Academic growth | 0.005 | 0.003 | 2.096 | .036 | 0.0003 | 0.0010 |

**Summary**

When considering Research Question 1, it was hypothesized a significant relationship between academic achievement, academic growth, and English proficiency. When the Pearson correlation coefficient was computed, the results indicated a significant positive relationship. The ACCESS for ELLs 2.0 assessed students in eight domains. They include listening, speaking, reading, writing, oral language (50% listening + 50% speaking), literacy (50% reading + 50% writing), comprehension (70% reading + 30% listening), and overall composite score (35% reading + 35% writing +15% listening + 15% speaking) (WIDA, 2013). Reading, writing, and literacy had the highest linear relationship aligning with the Cummins (1979) research which stated once ELs are proficient in literacy, they will also be proficient in academic achievement. A series of independent samples t-tests were conducted to determine the difference between females and males and English proficiency and academic growth. A Chi-Square of independence test was used to determine the relationship between gender and academic achievement. There was no significant difference or relationship between females and males for

English proficiency, academic growth or academic achievement, indicating gender has no impact on English proficiency, academic achievement, or academic growth. A Pearson coefficient was computed to determine the relationship between grade level and English proficiency, academic achievement, and academic growth, indicating as grade level increased, English proficiency increased, and academic growth and achievement decreased.

When considering Research Question 2, it was hypothesized students who were academically proficient would be at a level 5 or more on the composite overall state English proficiency assessment. A one-way ANOVA determined the effect of academic achievement levels on each of the eight domains of the English proficiency assessment. The results indicated the F value was highest in reading, followed by the domains of comprehension, literacy, and composite overall. A percentage of the reading domain score was included in the domains of comprehension (70% reading + 30% listening), literacy (50% reading + 50% writing), and composite overall (35% reading + 35% writing + 15% listening + 15% speaking) indicating a strong correlation to the academic achievement and the reading domain of English proficiency. A Chi-Square test of independence was conducted to determine whether academic achievement was related to English proficiency when scoring 4.3 – 4.9 on the ACCESS for ELLs 2.0. The results indicated academic achievement was not obtained for almost 77% of ELs scoring in the 4.3 – 4.9 English proficiency range. Academic achievement increased by almost 22% when the English proficiency level was at least 5.0 or more and was a similar percentage as their native English-speaking peers.

When considering Research Question 3, it was hypothesized English proficiency and academic achievement would be mediated by academic growth. For the overall test, the relationship between English Language Proficiency levels and academic achievement was not mediated by academic growth. However, the subtest results for each domain showed that the domains of listening, reading, writing, literacy, and comprehension were not mediated by academic growth; the domains of speaking, oral, and composite were mediated by academic growth.

# Chapter V

# SUMMARY AND DISCUSSION

## Overview

ELs are steadily increasing in the United States (The National Center for Education Statistics, (2019). "EL students comprise a large and growing segment of the U.S. student population" (Lakin & Young, 2013, p.11). Educators and policymakers are obligated to continue working together to meet the needs of this growing population (Soltero-González et al., 2016). The leaders of schools, districts, and states are responsible for providing appropriate staff development and opportunities to meet the fastest growing populations (Calderon et al., 2011; Grasparil & Hernandez, 2015; Ingraham & Nuttall, 2016). By analyzing all domains and combinations of English proficiency and academic achievement coupled with academic growth, more information will provide educators, stakeholders and policymakers with knowledge allowing them to meet the education needs of EL students more efficiently. Knowing exactly when and how ELs reach English proficiency and academic proficiency is key to the continued learning and success of ELs (Webb, 2018).

The measures to reclassify an English language learner are subjective and discretionary (Okhretchouk et al., 2018). Not only are measures to exit an EL subjective nationwide, such measures differ from district to district in Georgia. Each district can use its discretion and protocols to classify an EL as proficient in English (GaDOE, 2018a). As one of the most transient populations, this creates a problem (Maysonet, 2010).

Assessing Comprehension and Communication in English State-to-State for ELs 2.0 (ACCESS for ELLs 2.0) was the assessment Georgia used to measure English Language Proficiency. ACCESS for ELLs 2.0 results were used to reclassify ELs. Based on Every Student Succeeds Act (ESSA) and Georgia's English as a Second Language (ESOL) exit criteria, reclassification procedures are considered when a student earns an overall score between 4.3 and 4.9 on the ACCESS for ELLs 2.0. All ELs receiving an overall score of 5.0 or above on the ACCESS for ELLs 2.0 are considered English proficient and receive an automatic clear exit from ESOL services (GaDOE, 2018a). An English Learner Reclassification Review Committee (ELRRC) is formed for students with a composition overall ACCESS for ELLs 2.0 score between 4.3 and 4.9. The committee reviews classroom performance, literacy level, and assessment performance to determine if the English language learner should continue to receive or be exited from English language development services. The problem with exiting ELs from ESOL services happens when members of the ELRRC have subjective, discretionary power to exit ELs before English Language Proficiency is achieved (GaDOE, 2018a).

The purpose of the research study was to examine the relationship between EL students' English Language Proficiency levels, academic achievement, and academic growth. English proficiency was determined by the ACCESS for ELLs 2.0 scores. Academic achievement was determined by Georgia Milestones Assessment System (Georgia Milestones) scores. Academic growth was determined by the NWEA Measures of Academic Progress (MAP). The prediction of ELs' performance on the Georgia Milestones was examined. Academic growth measured by NWEA MAP was examined to determine the predictive factor for academic achievement measured by Georgia

Milestones. The correlation between English proficiency and academic achievement was examined to determine if the correlation is greater when academic growth is considered.

The conceptual framework for this study was derived from the threshold hypothesis (Cummins, 1979). Cummins' threshold hypothesis considers the relationship between Basic Interpersonal Communication Skills (BICS) and Cognitive Academic Language Proficiency (CALP) and how the two interact while learning a language. The threshold hypothesis has two embedded thresholds, initial and higher. The threshold hypothesis was built on the concept that BICS is acquired more quickly than CALP. BICS takes two to three years to develop. CALP development is achieved within a minimum of five to seven years. The amount of time it takes to develop CALP will affect the EL's academic growth. Until a proficient level of CALP is reached, the EL may have difficulty performing well in academic assignments and state assessments. Based on Cummins' (1979, 1999) theoretical framework, an EL's language proficiency level will match the student's ability to demonstrate knowledge on academic achievement assessments.

Cummins' (1979) hypothesis and ideas were further confirmed by a significant difference between the scores of ELs and native English speakers (Ostayan, 2016). Ostayan's knowledge implied the heavyweight put on literacy assessments from federal and state mandates should be considered when deciding for future placements, services, and interventions, especially in the early childhood stages. In addition to the concerns with placing a high focus on literacy from Ostayan's study, Hakuta et al. (2000) found few students can attain English Language Proficiency within the three to five years range. These concepts should be considered when calculating the amount of time it takes to

attain English Language Proficiency. According to Cummins (1979, 1999), ELs need more time to develop cognitive academic language proficiency than needed for interpersonal communication skills.

Burns et al. (2017) found ELs typically score lower on National assessments than non-ELs. They stated the number of ELs in the United States' public schools continues to rise and will continue to be an area of concern in public education. The Burns et al. (2017) research further supported Cummins' (1979) Threshold Hypothesis of additional time being essential to English Language Proficiency attainment.

Wolf et al. (2008) from the Center for Research on Evaluation, Standards, and Student Testing at the University of California found inadequate assessment data can create undeserved decisions for ELs. ELs who are no longer classified limited English Language Proficiency (LEP) but still have not reached a clear English proficiency level on the proficiency assessment, can have a challenging time reading and impede academic progress (Calderon et al., 2011).

Members of the ELRRC have the power to either exit an English language learner before English Language Proficiency is attained or retain the student in ESOL (GaDOE, 2018a). Both outcomes can affect the students' Kindergarten through twelfth grade (K-12) academic trajectories and their post K-12 opportunities and experiences (Kanno & Harkalau, 2012; Nunezm et al., 2014; Okhretchouk et al., 2018). Educators need a thorough understanding of the predictive relationships between the assessments to improve academic achievement by purposeful intervention and academic planning (Okhretchouk et al., 2018).

**Overview of the Sample and Data Collection**

Both districts involved in the study participated in the assessments needed to complete the study. The population consisted of 874 elementary students in two public school districts ranging from third through fifth grades, having scores on the ACCESS for ELLs 2.0, Georgia Milestones Assessment System (GMAS), and Measures of Academic Progress (MAP) during the 2018-2019 school year. The findings from this study used the 2018-2019 data to examine the scores. The accessible population was the available number of students who were administered the ACCESS for ELLS 2.0, Georgia Milestones, and MAP (fall and spring) in third through fifth grades in the 2018-2019 school year in two North Georgia counties. The participants were given an alternative numbered identification to protect student identification. Once required approval and permission were attained from the districts and the Institutional Review Board (IRB), a request for data from the districts was made. Data reports were obtained with student and school identification removed. The data were collected in person, and the data reports were retrieved on password-protected files uploaded to a universal serial bus (USB) drive. The data report contained a unique identifier with a matched data set for score, gender, and grade level. The report contained a matched data set for ACCESS for ELLs 2.0, Georgia Milestones, and MAP. The data were imported from the USB drive to a two-factor authentication password-protected computer. The data were destroyed from the USB drive by deleting and clearing the history from the USB drive.

Each district provided individual Excel files for ACCESS for ELLs 2.0, Georgia Milestones, and fall and spring NWEA MAP scores for each school. The vlookup function in Excel was conducted to combine the files. The data were imported into SPSS

and examined. All data were found to be consistent. Following completion of the study, the data files will be retained on the hard drive of the computer for three years and then permanently deleted from the hard drive.

**Quantitative Findings**

**RQ 1 - How are English Language Proficiency, academic achievement, and academic growth in ELs related to one another?** The relationship between academic achievement, academic growth, and English proficiency was tested. A Pearson correlation coefficient was conducted to answer this research question. Results for this research question indicated a significant positive relationship between academic achievement and academic growth. As academic growth increased, academic achievement increased. There was no significant relationship between academic growth and the eight domains of English proficiency. There was a significant positive relationship between academic achievement and all eight domains of English proficiency. A series of independent samples t-tests were conducted to determine the difference between females and males and English proficiency and academic growth. A Chi-Square of independence test was used to determine the relationship between gender and academic achievement. There was no significant difference or relationship between females and males for English proficiency, academic growth, or academic achievement. A Pearson coefficient was computed to determine the relationship between grade level, English proficiency, academic achievement, and academic growth, indicating as grade level increased, English proficiency increased, and academic growth and achievement decreased.

**RQ 2 - Do proficiency levels of exiting ESOL students differ in relationship with academic achievement?** The effect of academic achievement (Level 1, Level 2, Level 3, Level 4) on listening, reading, speaking, writing, comprehension, oral, literacy, and composite overall English proficiency level was tested. To answer this research question, a one-way ANOVA was conducted. Results for this research question indicated a significant effect on all eight domains of English proficiency. Post hoc comparisons were performed using a Games-Howell test. Comparisons revealed a significant difference between Level 1 and Level 2; between Level 1 and Level 3; between Level 1 and Level 4; between Level 2 and Level 3; between Level 2 and Level 4. It was concluded English proficiency affects ELs' ability to achieve academic proficiency. A Chi-Square test of independence was conducted to determine whether academic achievement was related to English proficiency when scoring 4.3 – 4.9 on the ACCESS for ELLs 2.0. The results indicated academic achievement is not obtained for almost 77% of ELs scoring in the 4.3 – 4.9 English proficiency level. Academic achievement increased by almost 22% when the English proficiency level is at least 5.0 or more.

**RQ 3 – To what extent is the relationship between English Language Proficiency levels and academic achievement mediated by academic growth?** To determine whether the relationship between English proficiency and academic achievement was mediated by academic growth, mediation analysis was conducted. The results of the ANOVA were significant for all eight domains of English proficiency and academic achievement. For the overall test, the relationship between English Language Proficiency levels and academic achievement was not mediated by academic growth. However, the subtest results for each domain showed that the five domains of listening,

reading, writing, literacy, and comprehension were not mediated by academic growth; the three domains of speaking, oral, and composite were mediated by academic growth.

**Implications of Findings**

The findings of Research Question 1 contributed to the research by confirming a previous research study that stated when academic growth increased, so did academic achievement (Cummins, 1979, 1999). Findings indicated a significant positive relationship between academic achievement and academic growth.

The results indicated a significant positive relationship between academic achievement and listening, reading, speaking, writing, oral, comprehension, literacy, and composite overall English proficiency. As the eight domains of English proficiency increased, academic achievement increased. There was no significant relationship between academic growth and listening, reading, speaking, writing, comprehension, oral, literacy, and composite overall English proficiency level. Findings indicated a significant effect on all eight domains of English proficiency. There was no significant difference or relationship between females and males for English proficiency, academic growth, or academic achievement, indicating males and females achieve English proficiency, academic achievement, and academic growth at the same percentages. The relationship between grade level and English proficiency, academic achievement, and academic growth indicated as grade level increased, English proficiency increased, and academic growth and achievement decreased.

The findings derived from this study provide policymakers and educational leaders with the knowledge to make necessary changes for ELs. There is a need for policymakers to revise the ESOL program to better meet the needs of EL learners by

mandating more professional development for educators. This practice will help ensure ESOL services and models meet the needs of the EL. Education leaders should provide training, support, and opportunities for collaboration between EL teachers and general education teachers.

The results of Research Question 2 contributed to the research in a new way by confirming students should not be released from ESOL services until full English proficiency is achieved. Overall, 83% of ELs did not perform at academic achievement proficiency levels. Eighty-seven percent of ELs who did not achieve a level 5.0 or higher on English proficiency overall composite did not achieve academic proficiency. Twenty-eight percent of ELs had an English proficiency level of 4.3 - 4.9 on overall composite English proficiency and could therefore be exited from ESOL services based on the decision of the ELRRC.

The results indicated a significant effect on listening, reading, speaking, writing, comprehension oral, literacy, and composite overall English proficiency. Post hoc comparisons were performed using a Games-Howell test. Comparisons revealed a significant difference between Level 1 and Level 2; between Level 1 and Level 3; between Level 1 and Level 4; between Level 2 and Level 3; between Level 2 and Level 4. Comparisons revealed a significant difference between Level 1 and Level 2, indicating ELs who scored a Level 2 on the academic achievement assessment, scored significantly higher on their English proficiency assessment than ELs who scored a Level 1. Comparisons revealed a significant difference between Level 1 and Level 3, indicating ELs who scored a Level 3 on the academic achievement assessment, scored significantly higher on their English proficiency assessment than ELs who scored a level.

Comparisons revealed a significant difference between Level 1 and Level 4, indicating ELs who scored a Level 4 on the academic achievement assessment, scored significantly higher on their English proficiency assessment than ELs who scored a Level 1. Comparisons revealed a significant difference between Level 2 and Level 3, indicating ELs who scored a Level 3 on the academic achievement assessment, scored significantly higher on their English proficiency assessment than ELs who scored a level. Comparisons revealed a significant difference between Level 2 and Level 4, indicating ELs who scored a Level 4 on the academic achievement assessment, scored significantly higher on their English proficiency assessment than ELs who scored a Level 2. It was concluded English proficiency affects ELs' ability to achieve academic proficiency.

The study provided educators, educational leaders, stakeholders, and policymakers with the knowledge to make the following necessary changes to the state and federal mandates by:

- Mandate consistent statewide practices for exiting ELs and changing the exit criteria to clear exit with a 5.0 ACCESS for ELLs 2.0 English proficiency score.
- Reconsider the critical pass/retention grade placement policy to include placement consideration be made by the Testing Participation Committee (TPC) for ELs who have not reached English proficiency.
- Administer high-stakes assessment in the EL's native language until English proficiency is achieved.

- Reduce the impact of district academic scores used to determine College and Career Ready Performance Index (CCRPI) from the scores of ELs that are not proficient in English.

The results of Research Question 3 contributed to the research in a new way by confirming once English proficiency is obtained, academic achievement is also obtained. Academic growth was mediated for the three English proficiency domains of speaking, oral, and composite. These findings provide evidence ELs who made significant academic growth are more likely to achieve English proficiency in the domains of speaking, oral, and composite. There was a significant positive relationship between academic achievement and academic growth. As academic growth increased, academic achievement increased.

Mediation analysis was conducted to determine whether the relationship between English proficiency and academic achievement was mediated by academic growth. About 56% of the variance in academic achievement was explained by English proficiency and academic growth. The ANOVA results were significant. English proficiency was a positive and significant predictor of academic achievement. Academic growth was a non-significant positive predictor of academic achievement. An indirect effect of English proficiency on academic achievement was not significant, indicating the greater focus for the instruction of ELs should therefore be placed on achieving English proficiency.

Subtests were performed for each of the eight domains using mediation analysis to determine whether the relationship between the individual domains and academic achievement was mediated by academic growth. About 9% listening, 38% reading, 6%

speaking, 20% writing, 30% comprehension, 11% oral, 36% literacy, and 32% composite overall English proficiency and academic growth was explained by the percentage of variance in academic achievement. The eight domains of listening, reading, speaking, writing, comprehension, oral, literacy, and composite overall English proficiency were significant positive predictors of academic achievement. The ANOVA results were significant. Academic growth was a non-significant positive predictor of academic achievement. It was concluded the relationship between listening, reading, writing, comprehension, and literacy domains of English proficiency and academic achievement were not mediated by academic growth. The three English proficiency domains of speaking, oral, and composite were mediated by academic growth. The relationship between speaking, oral, and composite domains of English proficiency and academic achievement were mediated by academic growth. These findings provide evidence ELs who made significant academic growth are more likely to achieve English proficiency in the domains of speaking, oral, and composite.

There is a significant relationship between academic achievement and English proficiency. The results of reading, writing, and literacy having the highest linear relationship aligned with Cummins (1979) research stating once EL students are proficient in literacy, students will be proficient in academic achievement. The results of the combined scores for comprehension, literacy, and composite English proficiency scores were the most significant, all of which were included in the reading domain score.

The findings derived from this study provide educators and educational leaders with the knowledge to make the following necessary changes:

- Reconsider teaching models to better meet the needs of ELs' limitations.

- Authorize early literacy screening.
- Ensure lesson planning includes literacy-based interventions and support for ELs.
- Require a literacy plan with targeted reading interventions be put into place for EL students identified as struggling in literacy.

**Limitations to the Study**

The intent of this research was to provide more knowledge about ELs and mandated assessments as there is little research for a large and growing population of ELs. Limitations threatened this study by including academic growth and diminishing the sample size. Finding districts with similar demographics and a valid and reliable academic growth assessment created a small sample of only two districts. The focus was on the subject of ELA for academic growth and academic achievement. This limited any conclusions for mathematics academic achievement assessment for all grades and science and social studies academic achievement assessments for 5$^{th}$ grade. Data collected for this study from the elementary grade level and one academic school year made the results generalizable to this population of students.

**Recommendations for Future Research**

Based on the results of the study, there are opportunities for future research. Future research should involve replications since revisions to state ELD standards were made in 2021. State academic standards have an anticipated implementation of new mathematics standards in the 2022 – 2023 academic school year. A replication of the study to include students receiving virtual learning due to the pandemic in 2020 would provide greater insight into continuing to meet the changing needs of education for this

population of students. A study with additional factors such as literacy interventions, the type of ESOL services, more contents and grade levels, monitoring of two or more school years, or tracking students to include academic achievement scores over four years after exiting ESOL services would be recommended for future studies to increase the knowledge base for educating ELs. A mixed-methods study should be conducted on ELs exiting within the 4.3 – 4.9 range under the ELRRC during their monitoring years to determine whether academic achievement was obtained or whether the student continued to perform unsuccessfully on academic achievement assessments. This study aimed to determine if academic growth mediated English proficiency and academic proficiency. The overall results were non-significant. However, the subtest results for each domain showed the three domains of speaking, oral, and composite were mediated by academic growth. Thus, if districts provide a cognitive abilities assessment in other areas, a study comparing cognitive abilities, academic achievement, and English proficiency could be conducted to gain a deeper understanding of when ELs achieve English proficiency based on their cognitive abilities and academic achievement. Information gained from cognitive abilities research could lead to a more individualized plan for EL students.

**Summary**

Cummins (1979) research strongly supports ELs must be proficient in English before they can perform on grade level on an academic achievement assessment in English. His research stated a student achieves proficiency in English in about five to seven years on average. The knowledge gained from this study can best be explained by an example. If a 5$^{th}$ grade EL is performing on a 1$^{st}$ grade academic achievement level (NWEA MAP) and makes significant growth through the academic school year but is

still not on a 5th grade academic achievement level (NWEA MAP) and/or is not proficient in English (ACCESS for ELLs 2.0) by the end of the year, academic proficiency (GMAS) will not be achieved. As current Georgia requirements stand, this hypothetical student would be retained because 5th grade is a critical pass/fail year determined by GMAS. All of Georgia's academic achievement assessments are in English. EL students who are not achieving academic proficiency can be retained based on their end-of-grade assessment in grades three and five. This places students, who are not proficient in English, in jeopardy of impacting their entire K-12 trajectories by unnecessarily retaining EL students who are not proficient in English and unable to show proficiency through academic achievement. EL students scoring in the 4.3 - 4.9 English proficiency can be exited from ESOL services before English proficiency is achieved. ESOL services support the EL in becoming proficient in English so academic achievement can be achieved. Both situations are detrimental to the EL.

More research should be conducted to determine the effects of exiting a student from ESOL services before English proficiency is achieved. Cognitive ability in relationship to English proficiency should be studied to determine an individualized plan and trajectory for the student. This study provided new knowledge and insights however, there are many more factors that can be studied to streamline the educational experience and provide more comprehensive plans to meet the needs of the EL population.

The results contributed new knowledge to the EL field. The new knowledge is related to the academic achievement of ELs as it is related to their English proficiency. Educators need to use data to improve academic achievement. This can be achieved by training educators, school leaders, and state policymakers about recent research and the

importance of understanding the order of the domains in which English proficiency is obtained. The direct relationship between English proficiency and academic achievement should be considered.

In conclusion, the outcomes of this study contribute to the literature for ELs and further define when academic achievement is attained during English development. The overarching finding of this study is ELs are proficient in academic achievement once English proficiency is achieved regardless of academic growth. It is evident that policymakers, educational leaders, educators, and parents of ELs should consider the results and adopt policies to better support the needs of the growing EL population. The study supported the need for policymakers and educators to review language and academic proficiency assessment mandates to ensure ELs remain in ESOL services and receive English support until they have fully reached English Language Proficiency.

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# Appendix A

## Institutional Review Board Protocol Exemption Report

*Institutional Review Board (IRB)*
*For the Protection of Human Research Participants*

**PROTOCOL EXEMPTION REPORT**

**Protocol Number:** 04230-2021 **Responsible Researcher(s):** Crystal Loughridge

**Supervising Faculty:** Dr. Michael Bochenko

**Project Title:** *Qualitative Study of Predictive Relationships Between English Language Proficiency and Academic Achievement Assessments in North Georgia.*

**INSTITUTIONAL REVIEW BOARD DETERMINATION:**

This research protocol is **exempt** from Institutional Review Board (IRB) oversight under 45 CFR 46.101(b) of the federal regulations **category 4**. If the nature of the research changes such that exemption criteria no longer apply, please consult with the IRB Administrator (irb@valdosta.edu) before continuing your research study.

**ADDITIONAL COMMENTS:**

- *Upon completion of the research study collected data must be securely maintained (locked file cabinet, password protected computer, etc.) and accessible only by the researcher for a minimum of 3 years. At the end of the required time, collected data must be permanently destroyed.*

☒ ***If this box is checked, please submit any documents you revise to the IRB Administrator at irb@valdosta.edu to ensure an updated record of your exemption.***

*Elizabeth Ann Olphie* *10.13.2021*
Elizabeth Ann Olphie, IRB Administrator

*Thank you for submitting an IRB application.*
*Please direct questions to irb@valdosta.edu or 229-253-2947.*

*Revised: 06.02.16*

Appendix B

Letter of Cooperation 1

*Dr. Rachelle Terry, Director of Enrollment Center and Federal Programs*
*1004 Green Road*
*Chatsworth, Georgia 30705*
*706-517-5699 Phone / 706-517-5678 FAX*

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*TO:* *Ms. Crystal Amber Loughridge, Valdosta State University*

*FROM:* *Rachelle Terry, Ed.D., Director of Federal Programs/ESOL*

*RE:* *Quantitative Study of Predictive Relationships Between English Language Proficiency and Academic Achievement Assessments in North Georgia*

*DATE:* *October 4, 2021*

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***Murray County Schools is granting permission for Crystal Loughridge, a Valdosta State University graduate student, to measure the predictability between student achievement on the language proficiency assessment and the academic proficiency assessment via a predictive study. The researcher is chiefly concerned with forecasting (predicting) the outcomes, consequences, or effects of the relationship between 3rd, 4th, and 5th grade students that participated in the following 2018-2019 summative and formative assessments:***

- ***ACCESS FOR ELLs® 2.0***
- ***Georgia Milestones End-of-Grade***
- ***Measures of Academic Progress (MAP)***

***Ms. Loughridge will begin by comparing English Language Learners performing at a proficient English level on the ACCESS for ELLs 2.0 assessment. The requested data has been prepared and placed on a CD for the researcher excluding any student or teacher identifiable information. At the conclusion of this study, the researcher will return the information on the CD to Murray County Schools. Please remember the Family Educational Rights Privacy Act (FERPA) and the Protection of Pupil Rights Amendment (PPRA) agreements previously signed as you begin.***

***If I can be of any further assistance let me know. I can be reached at 706.517.5699 or emailed at rachelle.terry@murray.k12.ga.us***

Rachelle Terry

*Rachelle Terry, Ed.D.,*
*Director of Federal Programs/ESOL*
*Murray County Schools*
*Chatsworth, GA 30705*

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*Committed to student success…no exceptions, no excuses!*

Appendix C

Letter of Cooperation 2

ONE WHITFIELD

**Whitfield County Schools**
1306 South Thornton Avenue, Dalton, Georgia 30721
wcsga.net • (706) 217-6780

*tradition • purpose • excellence*

TO: Ms. Crystal Amber Loughridge, Valdosta State University

FROM: Michelle C. Caldwell, Ed.S., Director of Assessment & Accountability

RE: Quantitative Study of Predictive Relationships Between English Language Proficiency and Academic Achievement Assessments in North Georgia

DATE: October 13, 2021

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Whitfield County Schools is granting permission for Crystal Loughridge, a Valdosta State University graduate student, to measure the predictability between student achievement on the language proficiency assessment and the academic proficiency assessment via a predictive study. The researcher is chiefly concerned with forecasting (predicting) the outcomes, consequences, or effects of the relationship between 3rd, 4th, and 5th grade students that participated in the following 2018-2019 summative and formative assessments:

- ACCESS for ELLs® 2.0
- Georgia Milestones End-of-Grade
- Measures of Academic Progress (MAP)

Ms. Loughridge will begin by comparing English Language Learners performing at a proficient English level on the ACCESS for ELLs 2.0 assessment. The requested data has been prepared and placed on a CD for the researcher excluding any student or teacher identifiable information. At the conclusion of this study, the researcher will use destroy the information on the CD and not share any of the contents for anything other than the statistical descriptives within the scope of this research project. Please remember the Family Educational Rights Privacy Act (FERPA) and the Protection of Pupil Rights Amendment (PPRA) agreements previously signed as you begin.

If I can be of any further assistance let me know. I can be reached at 706.217.6732 or emailed at michelle.caldwell@wcsga.net.

Michelle C. Caldwell

Michelle C. Caldwell, Ed.S.
Director of Assessment and Accountability
Whitfield County Schools
Dalton, Georgia 30720

Appendix D

Data Collection

| ID | District | Gender | Grade | Reading Scale Score | Speaking Scale Score | Writing Scale Score | Comprehension Scale Score | Oral Scale Score | Literacy Scale Score | Composite (Overall) Scale Score | Listening Proficiency Level | Reading Proficiency Level | Speaking Proficiency Level | Writing Proficiency Level | Comprehension Proficiency Level |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | District 1 | F | 3 | 345 | 294 | 338 | 350 | 328 | 342 | 337 | 5.4 | 4.3 | 3.2 | 3.8 | 4.9 |
| 2 | District 1 | F | 3 | 341 | 294 | 373 | 337 | 311 | 357 | 343 | 3.9 | 3.9 | 3.2 | 4.5 | 3.9 |
| 3 | District 1 | F | 3 | 335 | 305 | 333 | 352 | 348 | 334 | 338 | 6 | 3.6 | 3.4 | 3.7 | 5 |
| 4 | District 1 | M | 3 | 400 | 315 | 356 | 406 | 368 | 378 | 375 | 6 | 6 | 3.6 | 4.2 | 6 |
| 5 | District 1 | M | 3 | 320 | 282 | 367 | 337 | 329 | 344 | 339 | 6 | 2.8 | 2.9 | 4.4 | 3.9 |
| 6 | District 1 | M | 3 | 358 | 245 | 350 | 368 | 318 | 354 | 343 | 6 | 5.3 | 2.2 | 4 | 5.8 |
| 7 | District 1 | M | 3 | 333 | 294 | 350 | 338 | 323 | 342 | 336 | 5 | 3.5 | 3.2 | 4 | 3.9 |
| 8 | District 1 | F | 3 | 329 | 361 | 344 | 348 | 376 | 337 | 348 | 6 | 3.3 | 4.5 | 3.9 | 4.7 |
| 9 | District 1 | M | 4 | 290 | 320 | 278 | 317 | 350 | 284 | 304 | 5.6 | 1.8 | 3.5 | 2.5 | 2.6 |
| 10 | District 1 | F | 4 | 386 | 306 | 357 | 389 | 351 | 372 | 365 | 6 | 6 | 3.2 | 4.1 | 6 |
| 11 | District 1 | F | 4 | 367 | 263 | 345 | 369 | 319 | 356 | 345 | 5.4 | 5.1 | 2.3 | 3.9 | 5.2 |
| 12 | District 1 | F | 4 | 377 | 282 | 369 | 386 | 344 | 373 | 364 | 6 | 5.7 | 2.7 | 4.3 | 6 |
| 13 | District 1 | F | 4 | 407 | 332 | 363 | 421 | 394 | 385 | 388 | 6 | 6 | 3.7 | 4.2 | 6 |
| 14 | District 1 | F | 3 | 313 | 282 | 299 | 336 | 337 | 306 | 315 | 6 | 2.6 | 2.9 | 3.2 | 3.8 |
| 15 | District 1 | M | 3 | 274 | 155 | 250 | 263 | 196 | 262 | 242 | 1.8 | 1.8 | 1.3 | 2 | 1.8 |
| 16 | District 1 | M | 3 | 340 | 305 | 333 | 336 | 315 | 337 | 330 | 3.8 | 3.8 | 3.4 | 3.7 | 3.8 |
| 17 | District 1 | M | 3 | 312 | 320 | 338 | 308 | 309 | 325 | 320 | 2.9 | 2.5 | 3.7 | 3.8 | 2.7 |
| 18 | District 1 | F | 3 | 349 | 326 | 321 | 339 | 321 | 335 | 331 | 3.5 | 4.7 | 3.8 | 3.6 | 4 |
| 19 | District 1 | M | 3 | 315 | 233 | 333 | 326 | 293 | 324 | 315 | 5.1 | 2.6 | 1.9 | 3.7 | 3.4 |
| 20 | District 1 | M | 3 | 341 | 245 | 338 | 351 | 310 | 340 | 331 | 6 | 3.9 | 2.2 | 3.8 | 5 |
| 21 | District 1 | M | 3 | 349 | 213 | 344 | 362 | 302 | 347 | 333 | 6 | 4.7 | 1.8 | 3.9 | 5.5 |
| 22 | District 1 | F | 3 | 358 | 337 | 356 | 363 | 357 | 357 | 357 | 6 | 5.3 | 4 | 4.2 | 5.6 |
| 23 | District 1 | F | 3 | 375 | 223 | 315 | 367 | 285 | 345 | 327 | 4.8 | 6 | 1.9 | 3.5 | 5.8 |
| 24 | District 1 | F | 3 | 317 | 337 | 333 | 319 | 330 | 325 | 326 | 3.7 | 2.7 | 4 | 3.7 | 3.1 |
| 25 | District 1 | F | 3 | 316 | 257 | 338 | 327 | 305 | 327 | 320 | 5.1 | 2.7 | 2.4 | 3.8 | 3.4 |
| 26 | District 1 | F | 3 | 337 | 257 | 315 | 331 | 288 | 326 | 314 | 3.5 | 3.7 | 2.4 | 3.5 | 3.6 |
| 27 | District 1 | M | 3 | 317 | 270 | 299 | 328 | 311 | 308 | 309 | 5.1 | 2.7 | 2.7 | 3.2 | 3.5 |
| 28 | District 1 | M | 3 | 268 | 155 | 223 | 264 | 206 | 246 | 234 | 1.9 | 1.7 | 1.3 | 1.7 | 1.8 |
| 29 | District 1 | F | 3 | 321 | 257 | 321 | 320 | 287 | 321 | 311 | 3.5 | 2.9 | 2.4 | 3.6 | 3.1 |
| 30 | District 1 | F | 3 | 354 | 257 | 350 | 341 | 285 | 352 | 332 | 3.3 | 5.1 | 2.4 | 4 | 4.1 |
| 31 | District 1 | M | 3 | 375 | 245 | 338 | 380 | 318 | 357 | 345 | 6 | 6 | 2.2 | 3.8 | 6 |
| 32 | District 1 | M | 3 | 375 | 315 | 338 | 376 | 347 | 357 | 354 | 6 | 6 | 3.6 | 3.8 | 6 |
| 33 | District 1 | F | 3 | 341 | 305 | 350 | 327 | 300 | 346 | 332 | 2.8 | 3.9 | 3.4 | 4 | 3.4 |
| 34 | District 1 | F | 3 | 304 | 208 | 214 | 291 | 234 | 259 | 252 | 1.9 | 2.2 | 1.7 | 1.7 | 2.1 |
| 35 | District 1 | M | 3 | 346 | 257 | 333 | 360 | 324 | 340 | 335 | 6 | 4.4 | 2.4 | 3.7 | 5.4 |
| 36 | District 1 | F | 4 | 346 | 282 | 357 | 356 | 331 | 352 | 345 | 5.6 | 3.5 | 2.7 | 4.1 | 4.3 |
| 37 | District 1 | M | 4 | 316 | 306 | 313 | 334 | 341 | 315 | 322 | 5.4 | 2.3 | 3.2 | 3.3 | 3.2 |
| 38 | District 1 | F | 4 | 377 | 282 | 369 | 396 | 362 | 373 | 370 | 6 | 5.7 | 2.7 | 4.3 | 6 |
| 39 | District 1 | M | 4 | 360 | 254 | 381 | 377 | 336 | 371 | 360 | 6 | 4.6 | 2.1 | 4.6 | 5.6 |
| 40 | District 1 | M | 4 | 401 | 282 | 386 | 417 | 369 | 394 | 386 | 6 | 6 | 2.7 | 4.7 | 6 |
| 41 | District 1 | M | 4 | 316 | 202 | 251 | 303 | 237 | 284 | 270 | 1.9 | 2.3 | 1.6 | 1.8 | 2.1 |
| 42 | District 1 | F | 4 | 332 | 332 | 313 | 358 | 375 | 323 | 338 | 6 | 2.8 | 3.7 | 3.3 | 4.5 |
| 43 | District 1 | F | 4 | 377 | 282 | 340 | 400 | 369 | 359 | 362 | 6 | 5.7 | 2.7 | 3.8 | 6 |
| 44 | District 1 | M | 4 | 332 | 294 | 335 | 358 | 356 | 334 | 340 | 6 | 2.8 | 3 | 3.7 | 4.5 |
| 45 | District 1 | M | 4 | 325 | 294 | 320 | 356 | 362 | 323 | 334 | 6 | 2.6 | 3 | 3.5 | 4.3 |
| 46 | District 1 | M | 4 | 374 | 294 | 345 | 387 | 356 | 360 | 358 | 6 | 5.5 | 3 | 3.9 | 6 |
| 47 | District 1 | F | 4 | 334 | 294 | 330 | 353 | 345 | 332 | 336 | 6 | 2.9 | 3 | 3.6 | 4.1 |
| 48 | District 1 | F | 4 | 279 | 138 | 242 | 297 | 238 | 261 | 254 | 3.8 | 1.8 | 1.1 | 1.8 | 2 |
| 49 | District 1 | F | 4 | 377 | 272 | 369 | 405 | 372 | 373 | 373 | 6 | 5.7 | 2.5 | 4.3 | 6 |
| 50 | District 1 | F | 4 | 369 | 332 | 369 | 368 | 348 | 369 | 363 | 5 | 5.2 | 3.7 | 4.3 | 5.2 |

| Literacy Proficiency Leve | Composite (Overall) Proficiency Leve | GMAS | ACHLevel | ReadingS | MAP | Fall RIT | Fall Standard Error | Fall Percentile | Fall Quintile | Winter RIT | Winter Standard Error | Winter Percentile | Winter Quintile | Spring RIT | Spring Standard Error | Spring Percentile | Spring Quintile |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3.9 | 3.9 | 3 | 2 | | 193 | 3.5 | 66 | HiAvg | | 189 | 3.3 | 38 | LoAvg | 200 | 3.4 | 57 | Avg |
| 4.4 | 4 | 1 | 1 | | 175 | 3.3 | 25 | LoAvg | | 174 | 3.3 | 11 | Low | 186 | 3.5 | 25 | LoAvg |
| 3.7 | 3.9 | 1 | 1 | | 180 | 3.3 | 36 | LoAvg | | 184 | 3.4 | 27 | LoAvg | 183 | 3.3 | 19 | Low |
| 5.2 | 5.1 | 3 | 2 | | 196 | 3.4 | 72 | HiAvg | | 191 | 3.4 | 43 | Avg | 207 | 3.3 | 73 | HiAvg |
| 4 | 3.9 | 2 | 2 | | 169 | 3.3 | 15 | Low | | 179 | 3.4 | 18 | Low | 191 | 3.4 | 35 | LoAvg |
| 4.3 | 4 | 2 | 2 | | 183 | 3.3 | 43 | Avg | | 188 | 3.4 | 36 | LoAvg | 192 | 3.4 | 38 | LoAvg |
| 3.9 | 3.9 | 1 | 2 | | 170 | 3.4 | 17 | Low | | 179 | 3.2 | 18 | Low | 183 | 3.4 | 19 | Low |
| 3.8 | 4.2 | 2 | 2 | | 181 | 3.2 | 38 | LoAvg | | 191 | 3.5 | 43 | Avg | 194 | 3.3 | 42 | Avg |
| 1.9 | 2.8 | 1 | 1 | | 157 | 3.3 | 1 | Low | | 158 | 3.5 | 1 | Low | 175 | 3.4 | 1 | Low |
| 4.6 | 4.4 | 3 | 2 | | 202 | 3.2 | 63 | HiAvg | | 211 | 3.2 | 70 | HiAvg | 221 | 3.3 | 84 | High |
| 4.1 | 3.8 | 3 | 2 | | 199 | 3.3 | 57 | Avg | | 197 | 3.4 | 37 | LoAvg | 211 | 3.2 | 65 | HiAvg |
| 4.6 | 4.4 | 3 | 2 | | 193 | 3.3 | 42 | Avg | | 201 | 3.3 | 46 | Avg | 208 | 3.3 | 58 | Avg |
| 5 | 5.2 | 3 | 2 | | 207 | 3.3 | 74 | HiAvg | | 207 | 3.4 | 61 | HiAvg | 206 | 3.3 | 53 | Avg |
| 3 | 3.3 | 1 | 1 | | 176 | 3.2 | 27 | LoAvg | | 175 | 3.3 | 12 | Low | 183 | 3.5 | 19 | Low |
| 1.9 | 1.8 | 1 | 1 | | No Score | | | | | 185 | 3.4 | 29 | LoAvg | 159 | 3.3 | 1 | Low |
| 3.8 | 3.7 | 1 | 1 | | 185 | 3.2 | 47 | Avg | | 185 | 3.2 | 29 | LoAvg | 193 | 3.5 | 40 | LoAvg |
| 3.5 | 3.5 | 1 | 1 | | 168 | 3.4 | 14 | Low | | 182 | 3.3 | 23 | LoAvg | 175 | 3.4 | 9 | Low |
| 3.7 | 3.7 | 2 | 2 | | 182 | 3.3 | 40 | LoAvg | | 182 | 3.3 | 23 | LoAvg | 195 | 3.3 | 45 | Avg |
| 4.1 | 3.8 | 3 | 2 | | 183 | 3.4 | 43 | Avg | | 189 | 3.2 | 38 | LoAvg | 195 | 3.2 | 45 | Avg |
| 4.4 | 4.5 | 2 | 2 | | 193 | 3.2 | 66 | HiAvg | | 196 | 3.4 | 55 | Avg | 199 | 3.3 | 55 | Avg |
| 4 | 3.6 | 1 | 2 | | 186 | 3.2 | 50 | Avg | | 189 | 3.3 | 38 | LoAvg | 194 | 3.3 | 42 | Avg |
| 3.5 | 3.6 | 1 | 1 | | 163 | 3.4 | 8 | Low | | 185 | 3.4 | 29 | LoAvg | 173 | 3.3 | 7 | Low |
| 3.5 | 3.5 | 1 | 2 | | 180 | 3.3 | 36 | LoAvg | | 181 | 3.2 | 21 | LoAvg | 193 | 3.4 | 40 | LoAvg |
| 3.5 | 3.3 | 2 | 2 | | 191 | 3.5 | 62 | HiAvg | | 188 | 3.2 | 36 | LoAvg | 198 | 3.2 | 52 | Avg |
| 3.1 | 3.2 | 1 | 1 | | 165 | 3.3 | 10 | Low | | 185 | 3.3 | 29 | LoAvg | 184 | 3.2 | 21 | LoAvg |
| 1.7 | 1.7 | 1 | 1 | | 152 | 3.5 | 2 | Low | | 175 | 3.3 | 12 | Low | 160 | 3.4 | 1 | Low |
| 3.4 | 3.2 | 1 | 1 | | 179 | 3.3 | 34 | LoAvg | | 177 | 3.5 | 15 | Low | 191 | 3.3 | 35 | LoAvg |
| 4.2 | 3.8 | 1 | 1 | | 181 | 3.3 | 38 | LoAvg | | 179 | 3.3 | 18 | Low | 179 | 3.3 | 13 | Low |
| 4.4 | 4.1 | 3 | 2 | | 194 | 3.3 | 68 | HiAvg | | 200 | 3.4 | 65 | HiAvg | 193 | 3.5 | 40 | LoAvg |
| 4.4 | 4.4 | 2 | 2 | | 188 | 3.3 | 55 | Avg | | 194 | 3.3 | 50 | Avg | 195 | 3.2 | 45 | Avg |
| 4 | 3.8 | 2 | 2 | | 181 | 3.4 | 38 | LoAvg | | 183 | 3.3 | 25 | LoAvg | 181 | 3.3 | 16 | Low |
| 1.8 | 1.8 | 1 | 1 | | 148 | 3.7 | 1 | Low | | 161 | 3.2 | 2 | Low | 157 | 3.5 | 1 | Low |
| 3.9 | 3.8 | 1 | 1 | | 186 | 3.3 | 50 | Avg | | 187 | 3.3 | 33 | LoAvg | 196 | 3.3 | 47 | Avg |
| 3.9 | 3.8 | 2 | 1 | | 180 | 3.4 | 17 | Low | | 187 | 3.3 | 17 | Low | 197 | 3.2 | 32 | LoAvg |
| 3 | 3.3 | 1 | 1 | | 163 | 3.3 | 2 | Low | | 179 | 3.4 | 7 | Low | 176 | 3.4 | 4 | Low |
| 4.6 | 4.6 | 2 | 2 | | 198 | 3.3 | 54 | Avg | | 204 | 3.3 | 54 | Avg | 212 | 3.5 | 67 | HiAvg |
| 4.6 | 4.3 | 1 | 1 | | 188 | 3.2 | 31 | LoAvg | | 191 | 3.3 | 24 | LoAvg | 194 | 3.3 | 25 | LoAvg |
| 5.5 | 5.1 | 2 | 1 | | 203 | 3.3 | 66 | HiAvg | | 205 | 3.3 | 56 | Avg | 204 | 3.2 | 48 | Avg |
| 1.9 | 1.9 | 1 | 1 | | 151 | 3.4 | 1 | Low | | 150 | 3.8 | 1 | Low | 153 | 3.7 | 1 | Low |
| 3.2 | 3.7 | 1 | 1 | | 186 | 3.4 | 27 | LoAvg | | 171 | 3.5 | 9 | Low | 182 | 3.2 | 8 | Low |
| 4.2 | 4.3 | 2 | 2 | | 191 | 3.5 | 38 | LoAvg | | 196 | 3.3 | 34 | LoAvg | 196 | 3.2 | 29 | LoAvg |
| 3.5 | 3.7 | 2 | 2 | | 172 | 3.3 | 8 | Low | | 174 | 3.4 | 4 | Low | 197 | 3.3 | 32 | LoAvg |
| 3.2 | 3.6 | 1 | 1 | | 175 | 3.5 | 10 | Low | | 160 | 3.4 | 1 | Low | 168 | 3.3 | 1 | Low |
| 4.2 | 4.2 | 2 | 2 | | 208 | 3.3 | 76 | HiAvg | | 197 | 3.3 | 37 | LoAvg | 203 | 3.2 | 46 | Avg |
| 3.4 | 3.6 | 1 | 1 | | 185 | 3.5 | 25 | LoAvg | | 185 | 3.2 | 14 | Low | 195 | 3.3 | 27 | LoAvg |
| 1.8 | 1.8 | 1 | 1 | | 152 | 3.4 | 1 | Low | | 153 | 3.5 | 1 | Low | 157 | 3.5 | 1 | Low |
| 4.6 | 4.7 | 3 | 2 | | 200 | 3.4 | 59 | Avg | | 206 | 3.3 | 59 | Avg | 204 | 3.3 | 48 | Avg |
| 4.5 | 4.4 | 3 | 2 | | 198 | 3.5 | 54 | Avg | | 192 | 3.3 | 26 | LoAvg | 194 | 3.3 | 25 | LoAvg |
| 3.9 | 4.2 | 2 | 2 | | 188 | 3.3 | 31 | LoAvg | | 181 | 3.4 | 9 | Low | 192 | 3.2 | 22 | LoAvg |
| 4 | 4.1 | 1 | 1 | | 195 | 3.3 | 47 | Avg | | 212 | 3.4 | 72 | HiAvg | 212 | 3.2 | 67 | HiAvg |