

AN ABSTRACT OF THE DISSERTATION OF

Jennifer J. Dixon for the degree of Doctor of Philosophy in Education presented on June 15, 2011.

Title: Timelines for English Language Acquisition: A Study of the Rates of Second Language Acquisition Among Hispanic English Language Learners Including Exceptionalities

Abstract approved:

LeoNora M. Cohen

This study explores No Child Left Behind 's required timetable for English language learners (ELLs) to reach English language proficiency within five years, as outlined in the Annual Measurable Achievement Outcomes (AMAOs), despite the lack of research evidence to support this as a reasonable expectation. Analysis was conducted on the archived data from 1311 current and former Spanish-speaking ELLs, including students who qualify for Special Education (SpEd) and Talented and Gifted (TAG) programs. One-way chi-square analysis, contingency table analysis, relative frequency histograms, z-tests and t-tests were used to test hypotheses regarding statistically significant differences in TAG and SpEd identification rates and differences in acquisition timelines based on TAG or SpED classification, as well as instructional program model (bilingual versus English immersion). Results determined that Spanish-speaking ELLs were underidentified for TAG programs, despite extensive bilingual resources and staffing. Results further determine that ELLs as a whole require a mean 7.13 years to reach proficiency. Average ELLs without exceptionalities require 7.354 compared with 8.933 years for ELLs with disabilities (ELL-Ds), while TAG ELLs

require 5.423 years, all longer than allowed by NCLB (five years) to reach proficiency.

Significant differences were found in acquisition rates among TAG ELLs, ELL-Ds and average ELLs without exceptionalities. Analysis of timelines for ELLs in bilingual versus English immersion programs for ELLs as a whole, average ELLs and ELL-Ds with specific learning disabilities also found statistically significant differences, favoring bilingual programs. Overall, the results speak to the effectiveness of bilingual education program models for helping students to reach English proficiency and also to the need for consideration of additional factors in assessing schools based on AMAOs with five-year targets for language acquisition.

© Copyright by Jennifer J. Dixon
June 15, 2011
All Rights Reserved

Timelines for English Language Acquisition: A Study of the Rates of Second Language
Acquisition Among Hispanic English Language Learners Including Exceptionalities

by

Jennifer J. Dixon

A DISSERTATION

Submitted to

Oregon State University

in partial fulfillment of
the requirements for the
degree of

Doctor of Philosophy

Presented June 15, 2011

Commencement June 2012

Doctor of Philosophy dissertation of Jennifer J. Dixon presented on June 15, 2011.

APPROVED:

Major Professor, representing Education

Dean of the College of Education

Dean of the Graduate School

I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my dissertation to any reader upon request.

Jennifer J. Dixon, Author

ACKNOWLEDGEMENTS

I owe many debts of gratitude, but I would like to acknowledge specifically the following individuals with my deepest appreciation:

To my Major Professor, Dr. LeoNora Cohen – for your guidance, support and love throughout this process; for warm bread, dinners in your kitchen, hugs and laughter; and for words of encouragement at every step. Thank you for making me your personal project.

To committee member, Dr. Mark Girod – for your continuous support and interest in my academic trajectory since the first days of my Master's program.

To committee members Drs. Rick Orozco, Patricia Rounds and Bruce McGough – for serving on my committee, with a special thanks to Rick and Pat who stepped in later in the place of others who could not serve.

To my unofficial advisor, Dr. Edwin Landauer – for continuing to teach me about statistical methods and for allowing the big questions coming from the data to keep you thinking about the study.

To my mother, Beverly Marsh – for always supporting our education and for sacrificing to give us the best you could, even when times were difficult. You have always made me feel as if I can do and accomplish anything.

To my father, Russell Marsh – for good math genes and for encouraging me to pursue big things before I even knew I'd need encouragement. I still have the letter you sent me from Nigeria in 1983 at the age of 6: "Your mother also tells me that you are really good at math. I hope you will never think that girls can't be good at math and science. You can be a doctor, lawyer, scientist or anything else you want to be."

To my son Travis – you waited six long years for a mom and dad and sweetly accepted that writing dissertations is what forever moms do. I am looking forward to having our summer together.

And, finally, to my husband, Robert Dixon – for supporting me throughout this journey, always being willing to talk statistics and research with me, and thinking that being a math nerd is cool.

TABLE OF CONTENTS

	<u>Page</u>
Chapter I: Introduction and Rationale.....	1
Research Problem	4
Purpose Statement.....	6
Research Questions.....	6
Conceptual Framework	7
Epistemology.....	7
The Conceptual Framework-Research Study Relationship	8
Significance of the Study	9
School District Perspective.....	10
State and National Perspective.....	11
Chapter II: Review of the Literature	13
Organization of the Review of Literature	14
Part One: Second Language Acquisition (SLA)	14
Historical Perspectives on Language Acquisition.....	15
SLA Research	18
Social and Cultural Factors Influencing SLA	20
Defining English Language Proficiency.....	24
Academic English and Its Importance.....	27

TABLE OF CONTENTS (Continued)

	<u>Page</u>
Part Two: English Language Learners.....	31
Historical and Political Context for Shifting Demographics	31
Demographic Trends.....	35
Second Language Instruction in Schools: Programs and Philosophies.....	39
The Political Climate Surrounding English Language Learners	45
Part 3: Assessment.....	47
No Child Left Behind and High-Stakes Testing.....	48
Appropriate Assessments for Measuring Language Proficiency	53
Part Four: Rates of Second Language Acquisition.....	54
Acquisition Timelines	54
Measurement and Assessment.....	60
Part Five: Special Education and English Language Learners.....	62
Demographic Trends and Issues of Identification and Service	62
Research on English Language Learners with Disabilities.....	63
Part Six: Giftedness and English Language Learners.....	64
Part Seven: Summary	65
Chapter III: Design of Study	66
Methodological Considerations	66

TABLE OF CONTENTS (Continued)

	<u>Page</u>
Data Collection	70
Research Questions and Variables	72
Variables.....	73
Null Hypotheses for Research Questions.....	74
Descriptive Statistics	74
Statistical Analyses	75
Threats to Internal and External Validity	79
Internal Validity.....	79
External Validity	82
Protection of Human Subjects	82
Chapter IV: Results.....	83
Demographics of Student Population	83
Research Question 1	84
Research Question 2	86
Research Question 3	91
Research Question 4	96
Research Question 5	100
Emerging Question.....	111
Chapter V: Findings and Discussion.....	114

TABLE OF CONTENTS (Continued)

	<u>Page</u>
Specific Findings and Discussion	114
Summative Findings	121
Chapter VI: Conclusions and Recommendations	125
Conclusions	125
Recommendations	127

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
3.1 Chi-Square Test Calculation.....	76
3.2 Expected Value Calculation for Contingency Table Cells.....	77
3.3 Total Chi-Square Value Calculation for Contingency Tables.....	77
3.4 z-test calculation.....	77
3.5 t-test calculation.....	77
3.6 Calculation of the Pooled Standard Deviation.....	78
4.1 Determination of Eligible ELLs for Inclusion and Group Information.....	84
4.2 Distribution of Reclassified Students by Years in ESOL Program.....	85
4.3 Relative Frequency Histogram - Years to English Proficiency for Average ELLs.....	94
4.4 Relative Frequency Histogram - Years to English Proficiency for TAG ELLs.....	94
4.5 Relative Frequency Histogram - Years to English Proficiency for ELL-Ds.....	95
4.6 Relative Frequency Histogram - Years to English Proficiency for ELLs in Bilingual Education Programs.....	99
4.7 Relative Frequency Histogram - Years to English Proficiency for ELLs in English Immersion Programs.....	99
4.8 Relative Frequency Histogram - Years to English Proficiency for Average ELLs in Bilingual Education Programs.....	102
4.9 Relative Frequency Histogram - Years to English Proficiency for Average ELLs in English Immersion Programs.....	103
4.10 Relative Frequency Histogram - Years to English Proficiency for TAG ELLs in Bilingual Programs.....	105
4.11 Relative Frequency Histogram - Years to English Proficiency for TAG ELLs in English Immersion Programs.....	105

LIST OF FIGURES (Continued)

<u>Figure</u>		<u>Page</u>
4.12	Relative Frequency Histogram - Years to English Proficiency for ELL-Bilingual Programs (All Disability Types).....	107
4.13	Relative Frequency Histogram - Years to English Proficiency for ELL-Ds in English Immersion Programs (All Disability Types).....	107
4.14	Relative Frequency Histogram - Years to English Proficiency for ELL-Ds with Specific Learning Disabilities in Bilingual Programs	110
4.15	Relative Frequency Histogram - Years to English Proficiency for ELL-Ds with Specific Learning Disabilities in English Immersion Programs	110
4.16	Relative Frequency Histogram – English Language Acquisition Rates for All ELLs in Bilingual Programs – No Gaps.....	112
4.17	Relative Frequency Histogram – English Language Acquisition Rates for All ELLs in Bilingual Programs with Gap in Program.....	113

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1.1 ODE Targets for Adequate Yearly Progress on Content Area Tests.....	2
1.2 ODE Annual Targets for Adequate Yearly Progress on AMAOs.....	4
1.3 Oregon Schools Results for AMAOs 2009-2010.....	4
2.1 Organization of the Review of Literature.....	14
2.2 Krashen’s Five Hypotheses for Second Language Acquisition.....	16
3.1 Research Questions and Corresponding Null Hypotheses.....	74
3.2 One-way Chi-square Analysis of Special Education Identification Rates by Program Selection.....	81
3.3 One-way Chi-square Analysis of Talented and Gifted Identification Rates by Program Selection.....	81
4.1 Identification Rates for Special Education and Talented and Gifted Programs by Language Proficiency Classification.....	87
4.2 One-way Chi-Square Analysis of Special Education Identification Rates by Language Proficiency Classification (Spanish/English).....	87
4.3 One-way Chi-Square Analysis of Special Education Identification Rates by Language Proficiency Classification (Spanish/English/Other).....	88
4.4 One-way Chi-Square Analysis of TAG Identification Rates by Language Proficiency Classification (Spanish/English).....	89
4.5 One-way Chi-Square Analysis of TAG Identification Rates by Language Proficiency Classification (Spanish/English/Other).....	90
4.6 One-way Chi-Square Analysis of English Language Acquisition Rates for TAG ELLs, ELL-Ds and Average ELLs.....	91

LIST OF TABLES (continued)

<u>Table</u>		<u>Page</u>
4.7	Two-way Contingency Table Analysis of English Language Acquisition Rates for TAG ELLs and Average ELLs.....	93
4.8	z-test Comparing English Language Acquisition Rates of Average ELLs and ELL-Ds.....	95
4.9	z-test Comparing English Language Acquisition Rates of Average ELLs and TAG ELLs.....	96
4.10	One-way Chi-Square Analysis of English Language Acquisition Rates for ELLs in English Immersion and Bilingual Program.....	97
4.11	Two-way Contingency Table Analysis of English Language Acquisition Rates for ELLs in English Immersion and Bilingual Programs.....	98
4.12	z-test Comparing English Language Acquisition Rates of ELLs in Bilingual and English Immersion Programs.....	100
4.13	Two-way Contingency Table Analysis of English Language Acquisition Rates for Average ELLs in Bilingual and English Immersion Programs.....	101
4.14	Two-way Contingency Table Analysis of English Language Acquisition Rates for Average ELLs in Bilingual and English Immersion Programs.....	102
4.15	z-test Comparing English Language Acquisition Rates of Average ELLs in Bilingual and English Immersion Programs.....	103
4.16	Two-way Contingency Table Analysis of English Language Acquisition Rates for TAG ELLs in English Immersion and Bilingual Program.....	104
4.17	z-test Comparing English Language Acquisition Rates of TAG ELLs in Bilingual and English Immersion Programs	106
4.18	Two-way Contingency Table Analysis of English Language Acquisition Rates for ELL-Ds with All Disability Types in English Immersion and Bilingual Programs.....	106
4.19	z-test Comparing English Language Acquisition Rates of ELL-Ds in Bilingual and English Immersion Programs.....	108

LIST OF TABLES (continued)

<u>Table</u>	<u>Page</u>
4.20 z-test Comparing English Language Acquisition Rates of ELL-Ds in Bilingual and English Immersion Programs.....	109
4.21 <i>t</i> -test Comparing English Language Acquisition Rates of ELL-Ds with Specific Learning Disabilities in Bilingual and English Immersion Programs.....	109
4.22 Two-way Contingency Table Analysis of English Language Acquisition Rates For All Students in Bilingual Programs With and Without Gaps in Program.....	111
4.23 z-test Comparing English Language Acquisition Rates Bilingual Program ELLs With and Without a Gap in Program Model.....	112
5.1 Summary Results for Research Questions.....	122

Timelines for English Language Acquisition: A Study of the Rates of Second Language Acquisition Among Hispanic English Language Learners Including Exceptionalities

Chapter I: Introduction and Rationale

The No Child Left Behind Act of 2001 has fundamentally altered the way in which schools and school districts across the United States carry out their mission to educate students. Its focus on sub-populations that have typically been under-served or which have been shown to have an achievement gap, whether based on ethnicity, learning disabilities, English language proficiency levels, or socioeconomic status, has been beneficial shedding light on these achievement gaps and mandating action plans to meet the needs of all students. However, it is considered by many an underfunded mandate, with punitive measures for schools not making adequate progress but inadequate support to aid them in making progress. Despite a long history of accountability measures pre-dating No Child Left Behind, Oregon is feeling the effects of the policy and its specific focus. The Woodburn School District, which has the state's highest percentages of Hispanic students, English language learners (ELLs) and low income students, is particularly affected by this policy.

NCLB's measures of school quality and performance are centered primarily on the areas of English/Language Arts and Mathematics, although science and writing assessments are also mandated. Schools are considered to be "meeting" or "not meeting" goals toward Adequate Yearly Progress based on either achieving at the required target level (percentage of students passing) or making progress toward meeting that target. Progress is measured based on growth and progress from year to year within each subgroup, yet the results not

represent the growth of the same group of students working toward the same target. There has been great concern over the fact that the system measures against a single target without taking into consideration individual differences in the rate at which students learn or student growth from the achievement level at which they entered the school. At the secondary level, this has meant assessing high schools based on the performance of 10th grade students whose education they have guided for roughly one and a half years of each student's eleven years of schooling. A growth model has been proposed by State Superintendent Susan Castillo and will influence state school report cards, but its potential future implementation related to NCLB is unclear (Castillo, 2006).

Table 1.1

Oregon Department of Education [ODE] Targets for Adequate Yearly Progress on Content Area Tests

School Year	AYP Requirement for the Percentage of Students Meeting	
	English/Language Arts	Mathematics
2008-2009	60%	59%
2009-2010	60%	59%
2010-2011	70%	70%
2011-2012	80%	80%
2012-2013	90%	90%
2013-2014	100%	100%

NCLB also instituted major changes in the expectations for serving students with limited English proficiency – English language learners (ELLs) NCLB, Title III, section 3122(b). Schools serving ELLs must enroll them in specialized programs with one or more classes focused on English language acquisition. These programs are often referred to as ELD (English Language Development) or ESOL (English for Speakers of Other Languages). The latter term is used in Woodburn. In addition to accountability for this subgroup in content

area measures through standardized testing, individual student progress toward achieving proficiency in English is assessed. These standards are known as AMAOs – Annual Measurable Achievement Objectives.

AMAO 1 assesses schools based on the percentage of English Languages Learners who progress at least one level in English Language Proficiency (e.g. Beginner to Early Intermediate or Early Advanced to Advanced). AMAO 2 focuses on a particular sub-population of English Language Learners – those who have been in the US education system for five or more years. These students are often referred to as “long-term” ELLs. AMAO 2 assesses schools based on the percentage of these long-term ELLs who become proficient in English and are reclassified as English proficient. Finally, AMAO 3 assesses schools based on whether the school has made Adequate Yearly Progress in Math and Reading/ Language Arts for the Limited English Proficient subgroup.

Like the required passing rates to meet AYP for Mathematics and English/Language Arts tests, which gradually increase to an expectation of 100% in 2014 under NCLB, the AMAOs for English Language Learners specify that by 2014, 100% of English Language Learners will progress by one proficiency level each year and become fully proficient in English within five years (Oregon Department of Education [ODE], 2008). The results for the 2009-2010 school year fell far short of the requirements outlined by the Oregon Department of Education in 2009, with only 11.6% of Oregon public schools meeting all three AMAO requirements (ODE, 2010a). For assessment of schools for the 2009-2010 school year, the state retroactively made changes based on federal guidelines to AMAO targets #1 and #2 from the previously announced 2009-2010 targets for assessing schools (ODE, 2010b).

Table 1.2

ODE Annual Targets for Adequate Yearly Progress on AMAOs

School Year	NCLB Annual Measurable Achievement Objectives for ELLs			
	AMAO 1	AMAO 2	AMAO 3	
	Percentage of ELLs Increasing at Least One English Proficiency level	Percentage of Long-term ELLs Reclassified as English Proficient	Percentage of ELLs Meeting or Exceeding on State Tests	
			ELA/Reading	Mathematics
2008-2009	35%	50%	60%	59%
2009-2010	65%	70%	60%	59%
2010-2011	75%	70%	70%	70%
2011-2012	85%	70%	80%	80%
2012-2013	95%	90%	90%	90%
2013-2014	100%	100%	100%	100%

Table 1.3

Oregon Schools Results for AMAOs 2009-2010

	Original Target for 2009-2010	Actual 2009-2010 Statewide Results	New Target Set (Retroactively) for 2009-2010	Original Target for 2010-2011	New Target for 2010-2011
AMAO 1	65%	49.5%	50%	75%	53%
AMAO 2	70%	26.7%	22%	70%	24%
AMAO 3	60% (ELA) 59% (Math)	42.1% ELA 49.0% Math	No Change	70% ELA 70% Math	No Change

Research Problem

As increasing percentages of students enter schools without English language proficiency, modern American schools are becoming the battleground for the conflict between the needs of an increasing percentage of English language learners and the mandates of No Child Left Behind. The expectations of the AMAOs require school districts to work simultaneously toward two targets for ELLs – grade level proficiency in academic core

areas and the development of English language proficiency within five years. Ironically, scholarly research on the time required for a student to acquire English is extremely rare, focused on a handful of studies conducted primarily in the 1990s and early 2000s, all of which indicate that five years is the minimum time required for a student to reach proficiency. Results from schools in Oregon seem to corroborate that a five year window to attain English language proficiency is realistic for some, but not all students. In 2008-2009, only 11% of rated school districts with English Language Learners met the target of a 50% exit rate from ESL programs within five years (ODE, 2010a).

Of particular interest in this study are two specific subsets of students with limited English proficiency – Hispanic students with disabilities and those who qualify for Talented and Gifted (TAG) programs– and AMAO 2. AMAO 2 sets expectations for the percentage of English Language Learners (ELLs) being reclassified as proficient in English and exiting English language development programs. While research has addressed academic performance measures for TAG students, students with disabilities and ELLs, research on students who belong to two subgroups is minimal by comparison. In the review of literature, for example, no studies were found that addressed the time required for an English language learner with disabilities (ELL-D) to acquire proficiency.

The deadline requiring all schools to have all students on grade level and acquiring English proficiency within five years of entering school is fast approaching. Expectations have been set without sufficient research to determine if this timeline is achievable for students in general and with no research-based findings whatsoever on impact of disabilities on English language learners' language acquisition rates. The response seems to be to lower

the percentage of students required to meet the AMAO expectations without looking at whether or not the expectations themselves are reasonable.

Purpose Statement

The purpose of this study is to determine empirically the length of time it takes Spanish-speaking English language learners to reach native-like proficiency in English, as defined by the Oregon State English Language Proficiency Standards, with analysis of disaggregated special populations.

Research Questions

As a high school principal in one of the most diverse school districts in the state of Oregon, the theoretical and philosophical questions of educating English Language Learners meets the harsh reality of unending challenges and ever-changing expectations from both state and federal agencies. Roughly 75% of students district-wide are of Hispanic origin and more than 60% of students have limited English proficiency. The percentage of ELLs is much higher at the elementary level, with more than 75% entering school as English language learners.

While these demographics create a challenging environment in which to meet NCLB requirements, they also offer a unique context in which to study second language acquisition. The Woodburn School District is large enough, with just over 5000 students, to provide a large population for study, but is still small and centralized enough to offer relative consistency of variables of teacher professional development and curriculum. This should add to the generalizability of findings.

The following research questions will be addressed in this study:

1. What is the rate at which Spanish-speaking, Hispanic English Language Learners acquire English and reach English language proficiency?
2. Are Spanish-speaking, Hispanic English Language Learners over- or under-identified for Special Education and/or Talented and Gifted programs?
3. What effect, if any, does a disability or giftedness have on the rate of English language acquisition and the attainment of English language proficiency for Spanish-speaking, Hispanic English Language Learners?
4. What effect, if any, does native language instruction through bilingual programs have on the rate of English language acquisition for Spanish-speaking, Hispanic English Language Learners?
5. If there is an effect due to program type (bilingual or English Immersion), does it differ for gifted or disabled English language learners versus non-special needs students?

Conceptual Framework

Epistemology.

Born to a teacher and an engineer, I was destined for some epistemological confusion. In my heart, I have always been a scientist. In my work as a science major and in science research during and after college, I had a clear sense of purpose. Following a clearly defined set of rules for seeking out new knowledge and the undiscovered truths behind natural phenomena – observe, predict, control, test, refine. I excelled at quantitative research. At the same time, my family's time living abroad and my father's work overseas, primarily in "developing" countries, gave my siblings and me a perspective on the world that

few of my peers experienced. Raising us with a strong Christian faith and an engaged world perspective, my parents helped to cultivate our sense of fairness, justice and to see the value of the individual. I now see that this epistemological tension had a purpose.

My goal as an educator is to encourage understanding that will bring about social change. It is clear to me that the desired detached objectivity of my science career is out of step with the research I ultimately desire to conduct as an educational researcher. My epistemological leanings are aligned with the assumption of the influence of values on knowledge associated with critical theory and the recognition of the investigator-respondent interaction as a central piece to the creation of knowledge as central to constructivism (Guba & Lincoln, 1998, 203 & 208). Despite these leanings, I am also keenly aware of the culture of educational policy and the power of numbers.

Hofer's (2000) study of the epistemological beliefs of college students revealed a more nuanced view of knowledge and truth that varied according to the field of knowledge being considered. In my role as an educator and researcher, both elements of my belief system are engaged in my work. As a teacher and now as a principal, I recognize that within the field of education, there are many ways of knowing and many truths. As Wheatley states, "There is no objective reality; the environment we experience does not exist 'out there.' It is co-created through our acts of observation, what we choose to notice and worry about" (1999, p. 37).

The conceptual framework-research study relationship.

I hope that the course of my career and research will strive for understanding rather than explanation and prediction (Hamilton, 1998). I believe that there is a place for both quantitative and qualitative research in improving the way we educate and serve students. I

believe that quantitative research captures data that, when explored together, can identify trends that may need or deserve explanation. The results of quantitative research do not tell a story which is truth, but rather capture individual “snapshots” from a story that can be interpreted in a variety of ways. I believe that the power to explain the phenomena seen in quantitative research “snapshots” belongs in qualitative research.

As I am deeply engaged in the work that my research involves and wary of positivist/postpositivist truth-finding, my role as a modern educator puts me into a difficult position in the era of No Child Left Behind. My conceptual framework is generally associated with qualitative research, but this study will be grounded in quantitative methodologies. While the work of education may be educating individuals, and the work of educators to engage students in their unique life stories, the world of educational policy is grounded firmly in quantitative measures. Numbers trump stories. Michelle Fine (1998) writes that “Domination and distance get sanitized inside science” (p. 149), an assertion I had previously identified as primarily a weakness of quantitative research methodologies in the social sciences.

The methodology does, however, have power to analyze the data from hundreds of students to gain insight into an element of their shared experience as English language learners. I hope that it can start dialogue and open the door for further study into the experience of the individual student, which can, in turn, capture and share authentic voice and personal truth.

Significance of the Study

Research on English language learners in the field of special education has been limited in general and has focused on issues of correct identification - appropriate

assessments for use in the referral process and differentiating between language disorders and language differences that are a natural part of the second language acquisition process. These will be discussed in more detail in Chapter 2. This study will be the first of its kind to examine the influence of disabilities and giftedness on the rates of English language acquisition among Spanish-speaking ELLs. Research has emerged in the area of interventions, instructional practice and service models for dual language students, but, without a clear understanding of the rates of language acquisition for these subpopulations, conclusions about their effectiveness are difficult to draw.

School district perspective.

From a district-level perspective, the data analysis conducted through this study will provide key insights into trends which may reflect on elements of our practice. I hope that it will provide an opportunity for analysis through a different lens than that of NCLB or the US Department of Education [USDOE]. Ideally, what we see and learn through this work will allow us to better serve students who face the challenges of both disabilities and limited English proficiency.

The NCLB rating system results for our schools are influenced strongly by the students of interest in this study, as the population is considered a part of four key NCLB subgroups – Hispanic, Limited English Proficient, Students with Disabilities and Economically Disadvantaged. In Woodburn, 100% of students participate in a free breakfast and lunch program and are considered in the Economically Disadvantaged subgroup for NCLB because of the extremely high poverty rate. Schools at all levels in Woodburn have made tremendous growth in demonstrating student proficiency and persevere in making improvements. The Limited English Proficient and Students with Disabilities subgroups score

above state averages, but there are persistent achievement gaps. Continued failure to meet the requirements of NCLB could result in restructuring of schools or economic sanctions.

State and national perspective.

While Woodburn's demographics are currently unique in the state of Oregon, these challenges are more commonplace in other states with high immigrant populations and diverse communities in which English is not the dominant home language among its students. Moreover, if population change predictions hold true, schools in other communities will experience shifting demographics, and the achievement challenges that have long driven decision-making in communities like Woodburn will be faced by others as well.

The phenomenon of *washback* refers to the effects that assessments (in the form of tests) have on instructional practice within the classroom and beyond (Alderson & Wall, 1993; Shohamy, Donitsa-Schmidt, & Ferman, 1996). As an area for study, washback has moved from a focus of applied linguistics to the subject of empirical study by language testing and assessment researchers and it is being recognized as an element of "impact," the wider influence of assessment on educational systems and greater society (Rea-Dickins, P. & Scott, C., 2007). I hope that this work will bring to light the influence of assessment policy decision on the educational experiences of students.

Indeed, public discourse surrounding No Child Left Behind and its influence on schools, students, families and communities is significant. Policy decisions at all levels should be made based on research and data, but "Assertions about the nature, extent, and direction (positive/negative) of impact in language testing have often been based on assumptions rather than on empirical evidence" (Taylor, 2005, p. 155). Unfortunately, there is a dearth of

research on the topic of English language acquisition timelines in general and none on the influence of disabilities on those acquisition timelines. Additionally, the research that does exist and is regularly cited was conducted over a decade ago.

To provide a context for these research questions, a review of literature was conducted. In the next chapter, the available literature that is relevant to the topic of this study will be reviewed.

Chapter II: Review of the Literature

This review of literature will describe the sometimes conflicting research findings regarding second language acquisition programs and ELL representation in special programs (including those for disabled and gifted students). It will also frame the areas of alignment and areas of misalignment between what we know about English language learners and the policy decisions driving our nation's schools. Finally, it will highlight the dearth of research on key elements of this study – second language acquisition timelines and impact of exceptionalities (disabilities and giftedness) on second language acquisition processes. This lack of focused research requires a broadening of the scope of this literature review to include the research components which may contribute to our understanding and explanation of observed phenomena.

My search for this material was completed through a review of literature by leaders in the field of English Language Development, which included book reviews, as well as publications in peer-reviewed journals, published statistical reports and analyses from both government agencies and policy review think-tanks. Database searches identified key pieces of scholarship related to the topics. The unexpected lack of literature on ELL second language acquisition timelines and the complete absence of literature on ELLs in special education and gifted programs required a wide net to find related articles. Key term searches pertaining to acquisition timelines yielded no results, so the search terms were eventually expanded to simply “English language learners” and “special education.” This began a review of nearly 3100 journal articles for relevance. These searches yielded approximately 300 articles which linked the two search criteria in meaningful ways, but none linking them to the topic of rate of second language acquisition specifically. Literature

pertaining to ELLs' rate of English acquisition in general came from searches centered on Collier and Thomas's (1989) foundational work.

Organization of the Review of Literature

This review is divided into seven sections, which are organized as described below.

Table 2.1

Organization of the Review of Literature

Section	Topic	Focus areas
1	Second Language Acquisition (SLA)	Historical perspectives on language acquisition
		SLA research
		Social and cultural factors influencing SLA
		Defining English language proficiency
		Academic English and its importance
2	English Language Learners	Historical and political context for shifting demographics
		Demographic trends
		Second language instruction in schools: programs and philosophies
		The political climate surrounding ELLs
3	Assessment	No Child Left Behind and high-stakes testing
		Appropriate assessments for measuring language proficiency
4	Rates of Second Language Acquisition	Acquisition timelines
		Measurement and assessment
5	Special Education and English Language Learners	Demographic trends and issues of identification and service
		Impact of learning disabilities on English language acquisition
6	Giftedness and English Language Learners	Issues of identification for ELLs for talented and gifted programs
7	Summary	Overview of research

Part One: Second Language Acquisition (SLA)

Part one will serve as an introduction to the topic of second language acquisition, including historical perspectives, theoretical models, and research in the field. Also included

is a brief discussion of some of the myriad factors influencing the process of acquiring a second language – particularly those that can be observed and studied. Finally, the section will explore English language acquisition specifically and the topic of academic English.

Historical perspectives on language acquisition.

Our understanding of second language acquisition (SLA) has evolved through the latter half of the twentieth century, influenced heavily in policy and practice by the study of first language acquisition. Behaviorist models of language acquisition are most closely associated with B.F. Skinner, whose 1957 publication *Verbal Behavior* proposed that language learning behavior is an extension of learning by operant conditioning (Brown, 2000). This viewpoint proposes that language acquisition occurs along with the development of complex behavioral webs reinforced through cycles of imitation and feedback (Beaumont & Langdon, 1992). This model of second language acquisition proved inadequate in addressing the underlying cognition that is inevitably associated with producing and processing novel language patterns with specific meaning. Movement away from this theoretical framework for understanding language acquisition opened the door for theories that included consideration of the abstract nature of language, as well as the influence of interaction between the language learner and his environment.

The Nativist theory of language is grounded in the concept that in all individuals there is an innate ability to learn language and a predisposition to construct an individual language system that allows one to make sense of perceptions of language surrounding us (Brown, 2000). Nativists explored the relationship between language learner and environment and the effect of this relationship on language development. The foundations of this theory are most closely associated with Noam Chomsky, a critic of Skinner's

behaviorist theories. Chomsky (1965, as cited in Brown, 2000) and David McNeill (1966, as cited in Brown, 2000) proposed and described a conceptual model of a language acquisition device (LAD) consisting of four innate linguistic abilities – the ability to differentiate the unique sounds of human speech from other sounds, the ability to mentally organize linguistic intake into categories, the ability to conceptualize the feasibility of one type of linguistic system, and the ability to evaluate linguistic input to construct a linguistic system.

One of the most well-known and controversial innatist theories of SLA was developed by Stephen Krashen (1985). Krashen's model is commonly referred to as the Input Hypothesis and is actually made of five hypotheses developed over more than twenty years (Brown, 2000). These hypotheses seek to describe how language learners acquire a second language (L2).

Table 2.2

Krashen's Five Hypotheses for Second Language Acquisition

Hypothesis	Main Concepts
Acquisition-Learning Hypothesis	Second language proficiency is attained through the unconscious, intuitive process of acquisition, not through conscious learning (Krashen, 1981).
Monitor Hypothesis	Conscious learning acts only as a monitor, but actual production is initiated through acquisition (Krashen, 1981).
Natural Order Hypothesis	There is a natural order and sequence to the acquisition of second language learners. Error-making is systematic and a normal part of the acquisition. Error correction should not be overly emphasized as use and fluency are more important (Krashen & Terrell, 1983).
Input Hypothesis	For language acquisition to occur, learners must receive L2 input that they are able to understand yet which contains structures and functions that are just beyond their current level of competence (Krashen, 1985).
Affective Filter Hypothesis	High anxiety, defensiveness or other affective factors may prevent the learner from utilizing the language acquisition device to process input and acquire the language. Instructional practice and the learning environment can be used to lower anxiety (Krashen & Terrell, 1983; Krashen, 1985).

Krashen's theories of second language acquisition were and continue to be hotly debated, most notably by McLaughlin (1978 and 1990, as cited in Brown, 2000), a psychologist who has argued that Krashen's distinction between learning and acquisition relies on an unfounded clarity between the conscious and unconscious. Despite the criticism from McLaughlin and others, Krashen's ideas remain a powerful force in educational practice. In the late 1970s, the basic concept that the environment triggers the LAD was developed further through affirmation of the significance of the learning that occurs as the child interacts with his world (Beaumont & Langdon, 1992). Despite this, Nativism remained associated with the development of forms and structures in language, not deeper meanings conveyed by language.

The refining of Nativist theory, however, coincided with the development of cognitive theories of language acquisition which emerged with the work of Lois Bloom (1971), whose exploration of language structures challenged the notion that organizations of surface structures are the basis of language acquisition and meaning-making. Instead, Bloom delved into the nuanced meanings of language which are tied to children's social context and interaction with their environment. Thus language acquisition processes became tied to cognitive development and the cognitive and constructivist theories of Jean Piaget (1960).

Most modern educational theories of language acquisition and development are, indeed, grounded in constructivist theories and are considered to have what is called an interactionist viewpoint. The interactionist model assumes a strong connection between cognitive and language development. It is grounded in Vygotsky's (1986) "zone of proximal development," which, in the case of language development, exists between current and potential levels of language proficiency (Beaumont & Langdon, 1992). Pioneering work in

the application of this theory (e.g. Wells & Wells, 1984) began to explore actual language usage for meaning making and expression rather than simply form and function.

Although this cognitive model of second language acquisition is still the dominant paradigm, there have been calls for a shift away from interactionist views of cognition to a new paradigm calling for a language-socialization paradigm (Watson-Gegeo, 2004). Watson-Gegeo viewed this paradigm shift as a synthesis of second language acquisition concepts from both cognitivist and sociocultural theory proponents, prompted by changes in cognitive science theory. Dutro (2006) described the complex connections among language function, form and fluency. Fluency is acquired, she argued, through practice of accurate and fluent use of language, with functions (the actions students take using reading, writing, speaking and listening) pushing the student to connect language and cognition.

SLA research.

While extensive research has been conducted on first language acquisition in monolingual children, relatively little attention has been paid to language acquisition in dual-language children (Genesee, Paradis & Crago, 2004). Thus, researchers and educators often use research conducted with monolingual children for comparative purposes and theoretical development. There are difficulties in using this research grounded in monolingual contexts to develop an interpretive lens in the study of children acquiring a second language (Genesee, Paradis & Crago, 2004). English language learners do not simply differ from their monolingual English-speaking peers due to a lack of English language proficiency, but in the overall patterns of their language development which are influenced by dual language development (Schon, Shaftel & Markham, 2008).

Langdon (2008) identified as a concern for educators that the majority of longitudinal studies on second language acquisition have been case studies focused on linguistics. These studies have typically been centered on children raised bilingually by choice in additive bilingual environments in which both languages are valued and respected (Bialystok, 2001). This focus may not adequately address the complex interactions of cognition and social factors related to the learning environment and the child's place in it (Bialystok, 2007).

Tabors (as cited in Genesee, Paradis & Crago, 2004, p. 119) has described the phases of language usage in ELLs to include four stages – 1) use of the home language (L1) in the school setting, 2) the nonverbal period, 3) communication through telegraphic and formulaic language structures, and 4) productive language use. Generally, the first stage is quickly abandoned if the learning environment is not equipped to meet their needs as expressed in the home language, particularly when the teacher and/or peers do not speak the language. During the second stage, students will still interact and attempt to convey meaning, often through gesture, as they are developing receptive language skills in English. The third phase involves the use of utterances, like short words and memorized phrases, to communicate. The final stage is reached when productive language is utilized by the student in building unique sentences using vocabulary in the second language (L2). However, the productive language stage is not equivalent to proficiency. The stage of transfer between productive language use and proficiency in L2 is referred to as the interlanguage period. This period is characterized by the student's use of "a rule-governed system" but one in which the patterns deviate from the L2's correct language patterns (Genesee, Paradis & Crago, 2004, p. 121)

Social and cultural factors influencing SLA.

Yorio (1976, as cited in Brown, 2000) created a classification system for the many different variables that influence second language learning. His classification system included over fifty identified variables, most of which are outside the control of school systems. The complex interplay of numerous factors is daunting as one considers the development of a theory of second language acquisition. There are social and cultural factors, however, that are of particular interest to educators and researchers alike because they operate outside the influence of schools.

Langdon (2008) described multiple examples of cultural norms in the Hispanic community that may create a cultural disconnect for language minority children in the culture of American schools. For example, unlike majority culture parents, Hispanic parents may not verbalize or explicitly pair actions and words regarding ongoing events in simple daily activities like cooking and shopping. Similarly, it is rare for adults to prompt children to retell details of events at which they were both present or to ask children to give interpretations of events or foretell predictions of what will happen. That similar activities are used in mainstream classrooms for both formative and summative assessment may create situations which feel foreign or unnatural for this group of English language learners, according to Langdon.

While attempts have been made to draw conclusions regarding the impact of cultural identity on literacy, these have been inconclusive and are more useful as insights into variations in cultural norms than in predicting outcomes for students. When Vasquez, Pease-Alvarez, and Shannon (cited in Genesee, Paradis & Crago, 2004) studied Chicano homes in a California community, there was within-group variation in socialization patterns

for children regarding language. Additionally, they found that there were similarities between interaction patterns of Chicano families and Anglo/majority culture White families. Thus, drawing conclusions and making policy decisions from perceived cultural differences in practices related to language and literacy should also be considered carefully, not only because of the variation within groups, but also because cultural practices related to literacy are dynamic (Genesee, Paradis & Crago, 2004). Major changes in literacy and language socialization practices have been documented as happening within as little as one generation (Chen, 1997).

Home factors are of particular interest to educators and researchers, although they have been difficult to research due to access issues. More easily measurable factors, however, are available for drawing conclusions. A strong correlation has been found between the use of L2 outside of school and oral L2 language development (Pease-Alvarez, 1993, as cited in Genesee, et al., 2006; Umbel & Oller, 1994; Hansen, 1989), but that use of oral L2 language in school is strongly correlated to reading comprehension an area in which ELLs tend to struggle (Hansen, 1989; Lesaux, Lipka, & Siegel, 2006).

In a US Department of Education-sponsored review of literature on language minority children acquiring a national language not spoken in their homes, The 2006 National Literacy Panel on Language Minority Children and Youth (August & Shanahan, 2008) affirmed a positive correlation between parental education and literacy outcomes for students, but reported inconsistent findings regarding the influence of literacy experiences within the home on literacy attainment. Familial activities and responsibilities are associated with differing student attitudes toward reading and self-concept as readers (August & Shanahan, 2008), while home culture and socioeconomic status have been shown to influence

maintenance of home language and L2 acquisition (Lambert & Taylor, 1996). These may be interrelated with the relative status of the home language in the community. Community respect for the home language, creating what is known as an additive bilingual environment, has been shown to have a positive correlation with successful second language acquisition (Bialystok, 2001; Cummins, 2000). When home cultures and languages are valued as sources for contribution to learning in the classroom, students engage more in learning opportunities and show greater academic gains (Langdon & Li-Rong, 1992).

In a review of relevant research, Genesee and Riches (2006) found that the body of research examining the relationship between academic achievement and the use of a language other than English at home indicated that there is, at best, only a weak, indirect relationship. The relationship between home language and the development of L2 is influential in other ways as well. The concept of transference has been the topic of research since it was first proposed by Cummins (1981) as a description of the process through which cognitive skills (such as literacy) developed in the first language can be transferred to the second language. It remains an important foundational component of second language acquisition theory (Dopke, 2000). Transference and its relationship to bilingual education will be discussed in the next section of this review.

While lack of motivation has not been found to be a common characteristic for language minority children (Genesee, Paradis & Crago, 2004), researchers have often suggested that a disposition to social interaction would confer an advantage on a language learner in providing more incentive for language practice and more opportunities for interaction with and modeling from native English speakers. Strong (1983, 1984) and August (1987) found that ELLs establishing friendships with fluent and native English speakers tend

to do so only after reaching minimum level of language proficiency and that this behavior only increases with increasing language proficiency, demonstrating a potential positive feedback loop for social behaviors. This feedback loop concept is supported by her findings that correlated natural communicative language with talkativeness and responsiveness to others. Strong also found that teachers could support and encourage these behaviors through the creation of activities that require student communication, findings that have been supported by additional research (Rubinstein-Ávila, 2003). However, social behaviors were not correlated with other language structures and functions – specifically pronunciation and sentence structure (Strong, 1983).

Similarly, Wong Fillmore (1983) found, in a longitudinal study of Spanish-speaking English language learners, that desire for social interaction does seem to be a motivating factor for some students. Within the group observed, gregarious students who initiated interactions with native English speakers were among the group of strongest language learners. Conversely, the other group of students with the strongest language acquisition skills included those who were extremely introverted and shy, but very attentive and academically-inclined. Not surprisingly, the nature of the learning environment and activities influenced the relative success of these students. Further research has confirmed that while the use of learning groups offered many opportunities for ELLs to engage in both output and input, without significant scaffolding and structure, many opportunities to learn and build language are missed (Jacob, Rottenberg, Patrick, & Wheeler, 1996; Schultz, 1989/1990; Slavin, 1989/1990). Structurally sound design for cooperative learning create the supportive, low-anxiety environments for learning called for to address Krashen's Affective Filter Hypothesis (Krashen & Terrell, 1983; Krashen, 1985).

Defining English language proficiency.

Difficulties in assessing English language proficiency and in understanding the time necessary to reach proficiency in English are tied, in part, to a lack of clarity in defining English language proficiency. Some difficulties arise from the complexity of language proficiency which is considered to include four elements – reading, writing, speaking and listening. True proficiency in a language would include proficiency in each of the elements of the language. Unfortunately, measures of language proficiency may be skewed to favor oral language proficiency while ignoring the development of academic language or, alternately, oral language proficiency is considered a secondary measure with literacy and academic achievement as primary targets (Genesee, Lindholm-Leary, Saunders & Christian, 2006). Still other definitions focus on the idea of communicative competence and the ability to interact linguistically with the correct social, cognitive and cultural norms and conventions (Beaumont & Langdon, 1992; Merino, 1992).

In its 2006 report *Developing Literacy in Second-Language Learners*, the National Literacy Panel on Language-Minority Children and Youth used a working definition of oral language proficiency that included “knowledge or use of specific aspects of oral language, including phonology, vocabulary, morphology, grammar, and discourse domains; it encompasses skills in both comprehension and expression” (August & Shanahan, 2008, p. 1). Systems for defining language proficiency are typically measured in both literature and in educational settings on a 1 – 5 scale, with Levels 1 and 2 representing the very beginning levels of English acquisition, Level 3 representing intermediate language proficiency (which often includes oral social language proficiency), Level 4 viewed as the minimum level of

proficiency required for participation in mainstream English instruction, and Level 5 representing native-like English proficiency (Saunders & O'Brien, 2006).

However, what is expected at these proficiency levels varies greatly, depending on the criterion against which students are measured. It has been asserted that measures of English acquisition may be measuring against standards which are too low and that native-like English proficiency, as defined by the standards, is not a significantly rigorous measure (Saunders & O'Brien, 2006), which may account for later discrepancies between the performance of native English speakers and those who learned English as a second language. Dutro (2006) described the "plateau effect" that occurs when English language learners' acquisition of English stops at the Intermediate level and their academic achievement begins to decline. This plateau effect is often the result of a gap between social language necessary to communicate and academic language necessary to succeed in school. Thus, more rigorous, academically-oriented measures of proficiency serve as better predictors of success in mainstream English instruction (Schrack, Fletcher, & Alvarado, 2006).

The disconnect between language proficiency measures and academic performance may be related to a separate measure of language skill levels. Language proficiency includes two differentiated levels or categories of language proficiency – defined as BICS /"basic interpersonal communicative skills" and CALP/"cognitive/academic language proficiency" (Schon, Shaftel, & Markham, 2008). These categories are associated with the levels of Blooms Taxonomy required for each – knowledge, comprehension and application for BICS versus analysis, synthesis and evaluation for CALP. The concept of Academic English, associated with CALP, will be discussed in the next section of this review, but it is important

to note that proficiency in each of these categories requires different skills and vocabulary, and that the time required to reach the two proficiency levels differs greatly.

The acquisition of BICS is influenced by the context, which provides cues to English Language Learners. Langdon (2008) outlined research on the effect of non-verbal communication in making and interpreting meaning (Birdwhistell, 1970; Mehrabian, 1972) and the kinds of non-verbal communication that convey meaning, such as facial movement, intonation, body movement and interpersonal space (Chen & Starosta, 1998; Lustig & Koester, 1999).

The shift from BICS to CALP represents a shift in the complexity of language and language patterns. This is reflected in changes in morphology utilized by English Language Learners as they progress from beginning to advanced levels of English proficiency. Genesee, Paradis and Crago (2004) provided an excellent description of grammatical morphemes:

Grammatical morphemes are little words and inflectional affixes that are the “glue” that sticks the content words together in the sentence; they add subtle semantic meaning, and anchor the sentence in the discourse. Prototypical content words are nouns and verbs. Choosing two content words, such as *dog* and *run*, one can make several sentences with them. One can say, “A dog runs,” “The dog runs,” “The dogs are running,” “The dog ran” and so forth. All of these sentences have different meanings based on whether they refer to any dog, a specific dog, or a group of dogs of whether the dog is running as a habit, running now or running in the past. The grammatical morphemes (i.e., definite and indefinite articles *a* and *the*, the plural *-s*, third person singular marker *-s*, progressive *-ing*, past irregular *run-ran*, auxiliary

verb *to be*) generate these different meanings from the two base content words. (p. 122)

While native English speakers acquire these morphemes through everyday interactions, English Language Learners must be explicitly taught the correct usage of such morphemes. Pure acquisition models of language development leave the development of such morphemes up to chance encounters with specific language patterns (Dutro, 2006).

If we consider the ability to understand and communicate complex thoughts, ideas and concepts to be a component of language proficiency, then the mastery of morphemes is a key concept. The recognition of this fundamental concept as instrumental in helping ELLs achieve CALP has helped propose an architectural metaphor for second language acquisition, with vocabulary making up the “bricks” and grammatical structures of language needed to use vocabulary to express ideas serving as the “mortar” (Dutro & Moran, 2003; Dutro, 2006). Dutro described the use of academic language necessary for achieving language proficiency as including “syntax, sentence structure, grammar, and academic vocabulary” (Dutro, 2006, p. 3). Dutro’s work reinforces other research on the importance of grammatical morphemes and the necessity of mastering grammatical morphology in order to understand and express the breadth of nuance and meaning in a language (Genesee, Paradis and Crago, 2004).

Academic English and its importance.

Context-imbedded communication includes day-to-day social language, generally about a shared experience or topic about which the participants share equal understanding, through which ELLs may use feedback to instantly negotiate meaning. In contrast, abstract, context-reduced communication offers less opportunity for ELLs to negotiate meaning. The latter form of communication dominates high-level academic environments (Goldenberg,

2008). Thus, a definition of academic English language proficiency must include the ability to negotiate both oral and written communications (Genesee, Paradis & Crago, 2004). Recent research has shown that even the strongest English language learners, who quickly master English at the lower grades, begin to fall behind their native-English peers in reading at the 4th grade level and never catch up, falling further and further behind through high school. The trend appears to coincide with a movement to less contextualized and more complex reading requirements (Viadero, 2009).

As previously discussed, BICS and CALP are associated with differing levels of cognitive demand, with “academic English” associated with CALP. Although Cummins’ (2000) conception of CALP has been challenged by some as promoting a deficit model for linguistic differences (for a review, see Scarcella, 2003), the need for academic English to succeed in modern American academics cannot be denied. Although many different uses of language are utilized in school settings, each genre of school-based language use shares common features and adherence to the rules of academic English that are rewarded in schools (Schleppegrell, 2001). Teacher expectations for academic English often encourage and reward explicitness and the use of an authoritative stance with conventional structures, even when these expectations are not communicated to students explicitly (Schleppegrell, 2001). For more specific descriptions of the lexical features and grammatical structures of academic English, one is referred to Schleppegrell (2001).

The academic English proficiency demonstrated through CALP differs dramatically from the common, everyday words utilized in BICS, not only in the complexity of grammatical patterns, but in the very vocabulary itself (Corson, 1995 as cited in Fitzgerald & Cummins, 1999). The lack of vocabulary necessary to comprehend texts is a major factor contributing

to struggles in reading. The failure to recognize as little as 2% of vocabulary words in a text has been shown to adversely affect comprehension (Stahl & Fairbanks, 1986). While native-English students enter school with 5,000 to 7,000 word vocabularies, English language learners may be starting with only a handful of English words. Students need to know 2000 – 3000 sight words to fully engage in reading (Tran, 2006). Even as ELLs work to learn the necessary vocabulary to learn to read, native-English students acquire more vocabulary and English language learners continue to lag behind, with a persistent gap that widens at higher grade levels (August, Carlo, Dressler, & Snow, 2005; Wallace, 2007).

Cummins (2000) described the essential hallmark of proficiency in academic English as the ability to determine meaning from language alone, without contextual or paralinguistic cues. Although much scholarship regarding educating English language learners emphasizes the importance of accessing students' prior knowledge and life experiences to make input more comprehensible, academic success in higher education depends on the ability to read, write and speak about complex ideas and concepts without the aforementioned context clues or past experience (Genesee & Riches, 2006). This description of the challenge of academic English is reinforced by findings that identified decontextualized reading comprehension exercises as a particular challenge for English language learners (Langer, Barolome, & Vasquez, 1990). Mastery of academic English clearly has consequences in the schooling of English Language Learners because of its influence on academic success and access to higher education; additionally, some have proposed positive effects on cognitive functioning.

Until the 1960s, bilingualism was thought to have a negative impact on cognitive development. The groundbreaking work of Lambert and Peal (1962, cited in Takakuwa,

2000) first proposed that bilingualism, in fact, conveyed a cognitive benefit. Support for and opposition against this idea have persisted throughout the past four decades, as research design flaws, differing definitions of cognitive development and conflicting measures of concepts like intelligence have made it difficult to draw clear conclusions (Díaz, 1995; Takakuwa, 2000). There are advantages in the development of particular elements of cognition, however, that are linked to bilingualism, particularly metalinguistic awareness (Díaz, 1995). Further research into unimodal and bimodal bilinguals indicate that cognitive control of two languages enhances cognitive functioning (Emmorey, Luk, Pyers, & Bialystok, 2001).

Cognitive effects of differing levels of bilingual competence further highlight the relationship between cognition and language. Cummins (2000) found that children with high levels of bilingual proficiency enjoyed positive cognitive effects in areas such as problem-solving, critical analysis or the ability to identify alternative points of view, while children with low levels of bilingual proficiency actually suffered negative cognitive effects. Interestingly, children who had average bilingual proficiency showed neither positive nor negative cognitive effects. Cummins has hypothesized that low language skills in either L1 or L2 may negatively affect children due to impediments to their ability to garner the full benefits of their learning environment. Alternately, children with high proficiency in two languages may demonstrate greater metacognitive awareness (Bialystok, 2001) that enhance their ability to take advantage of learning opportunities and environments. This phenomenon has been referred to as the “threshold hypothesis” (Cummins, 1981).

Part Two: English Language Learners

Part two will give an overview of the historical events that have influenced the English language learner populations across the United States and specifically in Woodburn. The political climate surrounding ELLs and the effect of that political climate on educational policy decisions are discussed. Finally, a review of program models for English language learners is presented, along with data on the efficacy of those models. Some common myths from the current public discourse surrounding language acquisition among immigrants are dispelled.

Historical and political context for shifting demographics.

The Woodburn School district, which will serve as the context for this study, has a unique demographic history. Beginning as early as the 1950s, Woodburn's location in the lush Willamette Valley and abundance of agriculture jobs made it a destination for migrant farm crews from Texas and Mexico. In the 1960s and 1970s, a second immigrant wave created a more settled sub-population in Woodburn – that of an Old Believer Russian population, which had fled Russia in the 1920s and come to the United States via Turkey, China, Brazil and Argentina (Kissam & Stephen, 2006).

Martin (1994) summarized the history and political context of legislation that impacted the demographic shift in Woodburn, along with other rural towns that served as centers of agriculture. The shift began with the creation of two legalization programs that accompanied the Immigration Reform and Control Act (IRCA) legislation of 1986. The first, I-687, granted legal status to any illegal aliens who had continuously resided in the United States since January 1, 1982. The second, the Special Agricultural Worker (SAW) program, granted legal status to illegal farm workers who had worked at least 90 days in agriculture

during 1985-1986. The government had predicted 350,000 applicants for the SAW program. Instead, more than 1.3 million applied. Additionally, the market was influenced by the emergence of farm labor contractors (FLCs) – “intermediaries who, for a fee, recruit, transport and supervise farm workers” (Martin, 1994).

Although the intent had been to create a stable agricultural work force and to apply pressure to farmers to improve wages and working conditions, the influx of migrant workers and the work of FLCs actually reduced the incentive for farms to improve salaries and working conditions. As a result, migrant farm workers who had benefitted from IRCA began to settle into the area and eventually to move from low-paying agriculture jobs into other fields with their newly established legal status (Martin, 1994). This shift then created more demand for yet another wave of farm workers to fill the vacancies left behind by many of the now-legal workers. These waves of immigration were documented in Kissam and Stephen’s 2003-2004 community study of Woodburn, which found evidence of a steady flow of immigrants into Woodburn, starting with the Mexican-born immigrants who arrived via Texas, immigrants who arrived directly from Mexico, and, most recently, indigenous migrants from Oaxaca, Guerrero and Michoacan.

The programs meant to reduce illegal immigration have, in fact, increased it, not only due to the new wave of immigrant workers. The 1.3 million applicants to the SAW program were primarily young men, whom the government assumed would continue to return to their families each year. Instead, many have relocated their families to the United States, although only the men have legal status. Children born later in the United States also enjoy citizenship rights, but among the family members, citizenship status varies. While public discourse on illegal immigration remains heated and the political environment is strongly

anti-immigrant, United States citizens continue to reap the benefits of cheap food, subsidized by the government on the backs of migrant farm workers (Martin, 1994).

The unintended results of these programs have created new levels of rural poverty not seen since the 1960s. The poverty created by these programs places the burden on small farming communities to serve this population, often while denying its members services based on citizenship status. At the same time, there has been a tremendous impact on rural communities like Woodburn. Oregon, as a whole, is considered a “new settlement” state. It experienced 108% growth in its immigrant population in the decade leading up to the 2000 census (Kissam, 2007). In 2000, Woodburn, for the first time, became a “pluralistic minority-majority community” (Kissam & Stephen, 2006), with 50.1% of its residents reporting Hispanic origin on the census.

In 2010, the percentage of Hispanic residents grew to 58.9%, an 8.8% rise (Cavanaugh, 2011). While Woodburn is home to only 0.63% of Oregon’s overall population, it is home to 3.2% of the state’s entire Hispanic population (US Census Bureau, 2011). Woodburn’s growth was lower than the 64% growth rate of Oregon’s overall Hispanic population (Cavanaugh, 2011). If such growth rates remain, demographic changes in schools will soon reflect the changing demographics in the population.

Kissam and Stephen (2006) identified three major challenges to immigrants settling into Woodburn – securing employment, securing housing and language. Continuing waves of immigrants have provided the Woodburn School District with a steady stream of English language learners. In addition to native Spanish speakers, more recent waves of immigrants include many indigenous peoples from Mexico, who may speak no Spanish or use Spanish as their second language. Among children 0 – 18 in the Woodburn population, only 8% are

English only and 13% English dominant bilingual. Twenty nine percent of children speak Spanish with little or no English and a full 40% are bilingual Spanish/English, but with a preference for Spanish (Kissam & Stephen, 2006). This latter group represents a continuing tradition, even among 2nd and 3rd generation Mexican Americans, of speaking primarily Spanish at home and raising their children speaking Spanish.

This phenomenon is not limited to Woodburn. A 2005 Urban Institute Report (Fix & Capps, 2005) based on the 2000 census data found that 78% of elementary school ELLs and 58% of secondary school ELLs are US-born. Additionally, they found that more than 80% of ELLs are “linguistically isolated” in homes without English speakers (Fix & Capps, 2005). Similarly, in Woodburn, immigrant heads of household were found to have been in Woodburn from 1 to 65 years, and their children and grandchildren represent a wide range of both cultural and linguistic assimilation (Kissam & Stephen, 2006). This long pattern of demographic shift has created a unique situation in Woodburn schools, where more than 75% of all students are Hispanic and more than 80% of Hispanic students in grades K – 2 are English language learners. In fact, more than 70% of all students at all grade levels are currently or were once English language learners.

While this demographic profile is unique in Oregon, urban centers, particularly those in states with high immigrant populations, have experienced similar changes in demographics and are facing similar challenges in schools. In the 1990’s the number of immigrants entering the US averaged over 1 million per year. By 2000, immigrants made up more than 11% of the US population. Six states – California, New York, Texas, Florida, Illinois and New Jersey – were home to over two-thirds of all the foreign-born in the United States. Twenty-two additional states, set across the Northwest, Rocky Mountain states, Midwest

and Southeast, experienced greater than 90% growth in their immigrant populations in the 1990s (Capps, Fix & Passel, 2002).

It is predicted that the number of school-age children born to immigrants will increase to nearly 18 million by 2020, most needing ELL services (Cook, 2008). With one in five children in the United States now born to one or more immigrant parents and immigrants dispersing beyond the traditional immigrant centers, schools across the country should be preparing for the influx of English language learners that accompany such growth (Cosentino de Cohen & Clewell, 2007). Twenty years ago, one in twenty students was an English language learner, but today it is one in nine and it is predicted that by 2020, it may be as many as one in four (Goldenberg, 2008).

Demographic trends.

Kindler's (2002) report surveying ELL demographics and national state of English language learner programs highlight dramatic growth in this population. Between the 1997-1998 and the 1999-2000 school years, ELL enrollment in schools increased by 27% to a total of 4,416,580 students. Ten states and jurisdictions experienced an increase in ELL enrollment between 40% and 162% in just this short window of time. Twenty-two additional states and jurisdictions experienced 10% to 40% growth. The most prominent increases were at the elementary level, where ELLs made up more than 10% of all enrolled students. At the secondary level, more than 5% of all students were ELLs. However, the secondary level has a higher percentage of foreign-born students compared with lower grade levels (Fix & Capps, 2005). Nearly 80%, or just over 3.5 million, of these ELLs are Spanish-speakers.

By the 2004-2005 school year, ELL enrollment had further increased to 5,119,561 students. This growth represented a 152% increase in the previous 15 years, compared with

just over 20% growth in total K-12 enrollment (Kindler, 2008). In the decade between the 1994-1995 and 2004-2005 school years, 23 states had ELL population growth rates of over 100% (Schon, Shaftel & Markham 2008). Currently, nearly half of all English language learners are born in the United States to immigrant parents, while an additional 17% are actually third generation Americans with both parents born in the US, leaving only about one-third of ELLs foreign-born (Zehr, 2009a). All are much more likely to live in poverty than their non-ELL peers. In fact, poverty rates for foreign-born immigrant children have risen sharply (from 11.9% in 1970 to 33.0% in 1995), especially when compared with poverty rates of non-Hispanic White children (9.6 to 11.8%) in the same time period (Ruiz-de-Velasco, Fix & Clewell, 2000). By 2002, rates of poverty for ELL children of immigrants had reached 60% (Fix & Capps, 2005).

In addition to high rates of poverty, immigrant children and the children of immigrants face challenges in school due to their limited English proficiency. While almost all immigrants switch to a preference for English by the third generation (August & Shanahan, 2008), trends for language use in the home have changed. Between 1980 and 1995, the percentage of US-born children of immigrants from minority-language homes rose from 43.4% to 60.1%, while 75% of foreign-born immigrants spoke a language other than English at home (Ruiz-de-Velasco, Fix & Clewell, 2000).

ELLs are concentrated and segregated in schools, with nearly half attending schools whose populations are more than 30% ELL. This figure is over 50% for elementary age ELLs, with 70% of elementary age ELLs attending 10% of schools (Cosentino de Cohen, Deterding & Clewell, 2005). This is perhaps an indication that this segregation is worsening. Conversely, the average non-Hispanic White student or African American student attends a school with a

population that is 2% or 3.7% ELL, respectively (Ruiz-de-Velasco, Fix, & Clewell, 2000). The data suggest a pattern of linguistic and cultural isolation that is due in part to residential patterns, but that also may be due in some districts to the pooling of resources for ELLs.

In general, schools with high percentages of ELLs are more likely to have difficulty hiring highly qualified teachers. As a result, they were more likely to resort to hiring uncertified teachers or those with emergency, provisional, or temporary certification (Cosentino de Cohen, Deterding & Clewell, 2005), but they were also more likely to have a teacher certified in ESL and bilingual education (Cosentino de Cohen & Clewell, 2007). However, 63% of general education teachers in schools with high percentages of ELLs reported receiving recent training in how to best serve ELLs, compared with just 25% of teachers in schools with low percentages of ELLs (Cosentino de Cohen & Clewell, 2007). These high-ELL schools are also more likely to offer Title I services, remedial, after-school and summer support services to students. Such differences may explain why ELLs whose schools enroll high percentages of ELLs are more likely to take higher level math and science classes and generally perform better academically than ELLs in schools with smaller percentages of ELLs enrolled (Callahan, Wilkinson, Muller, & Frisco, 2009).

Despite these interventions, achievement gaps persist between ELLs and their English-proficient peers. In 2007, fourth grade ELLs scored 36 points lower in reading and 25 points lower in math than their English proficient peers. At eighth grade, the gap was even wider, with ELLs trailing by 42 points in math and 37 points in reading (Goldenberg, 2008). In New York City, for example, only 23% of students who start 9th grade as ELLs will graduate within four years. More than 40% will drop out within four years (Zehr, 2009a). While achievement gaps are wider at the secondary level than at the elementary level, it is

important to note that many ELLs at the secondary level are actually long-term ELLs and that ELLs who become English proficient early in their schooling do not count among the ELL subgroup in subsequent years. Thus, we are measuring our schools' performance with ELLs solely on the subgroup that fails to meet proficiency for many years. This is a unique subgroup consideration for NCLB.

Abedi (2004) identified several threats to the validity of assessment of this subgroup, which for NCLB reporting is known as the Limited English Proficient (LEP) subgroup. The identified threats included inconsistent identification methodologies and assessment tools, sparse populations in many areas of the country, and a lack of stability within the group. While other underserved subgroups are made up of members whose proficiency may increase from level to level, showing the progress made by school districts over time, the ELL subcategory is a paradox. While subgroups for underserved ethnicities are stable K-12, membership in the limited English proficient subcategory is based on not meeting academic proficiencies with language. At the same time, schools' success with the subgroup is based on assisting students in meeting academic proficiencies. Once students meet academic proficiencies, they no longer qualify for membership in the group. At the secondary level, then, the ELL subgroup is comprised of newly arrived students who have not had time to learn the language and demonstrate proficiency, along with students who have struggled for many years without meeting even lower grade level proficiencies. In the words of one local administrator, "it is like a height test for short people."

In addition to an ever-changing pool of members, the ELL subgroup faces other challenges. ELLs must also make up more academic ground each year, compared with their English proficient peers. ELLs must master grade-level academic content, often without the

necessary language skills, while also attempting to learn English. Gaps in education are a contributing factor also, with 20% of all ELLs having missed two or more years of schooling (Ruiz-de-Velasco, Fix, & Clewell, 2000), often due to issues of access and poverty. Even newcomers who enter US schools with strong educational records in their home country may face challenges in receiving credit for academic work completed successfully at the high schools level, as policies vary from state to state and district to district (Zehr, 2009b). Bilingual education programs, which help to address this challenge, will be discussed in the next section.

It is imperative that schools meet the needs of English language learners early in a family's history. Multigenerational linguistic isolation may play an important role in determining the success of future generations. While nationally the high school graduation rate is 64% for ELLs, studies have shown that second-generation ELLs (who are the children of parents born in the US) are twice as likely to drop out of school (at 38.7%) than foreign-born ELLs or second-generation children who are English proficient (Ruiz-de-Velasco, Fix, & Clewell, 2000). These challenges highlight the importance of quality educational programs to support ELLs not only in acquiring English, but also in meeting grade-level expectations that leave open the door for higher education.

Second language instruction in schools: programs and philosophies.

The history of educational programs for English language learners began in the mid-1960s, influenced by Title VI of the 1964 Civil Rights Act. Four years later, Title VII, the Bilingual Education Act of 1968, became law, offering low income language minority children educational support programs. Ten years later, in 1978, Title VII was expanded to include all ELLs and began to address the concept of academic English (Garcia & McLaughlin, 1995).

Langdon (2008) described the five main educational program types commonly used for English language learners.

1. Submersion programs (which have also been called “sink or swim” models) involve mainstreaming ELLs into English-only content classes. These programs include required ESL class time, but little to no support in mainstream classes and no native language instruction or support.
2. Structured Immersion programs (which have also been referred to as sheltered English programs) offer required ESL class time, scaffolded mainstream classes designed to help students achieve English language proficiency through content learning, and, in some instances, limited native language instruction.
3. Transitional bilingual programs (also called early-exit bilingual models) offer instruction in both English and the student’s native language until students are deemed ready for entering mainstream English-only classes, at which point native language instruction ceases. These programs typically last from one to three years.
4. Maintenance bilingual programs have also been called developmental bilingual programs, and late-exit bilingual programs. The goal of these programs is to maintain the student’s first language while learning English and to develop literacy skills in both languages. These programs typically last five to six years, and native language instruction continues even after the student has reached proficiency in English. In Woodburn, this program is referred to as the One-Way Bilingual to differentiate the program from the Two-Way Dual Immersion program.
5. Two-way bilingual programs are a variation on late-exit bilingual programs in which native speakers of English and native speakers of other languages learn together in

the same classroom. All students receive instruction in both languages. The goal is for students to learn from each other and to become fully bilingual and literate in two languages.

In his 2008 review of research on educational practices for ELLs, Goldenberg estimated that as of 2002 (the most recent data available) approximately 12 percent of ELLs were in submersion programs, 48 percent were in structured immersion programs, and the remaining 40 percent were in some form of bilingual education. Woodburn's bilingual programs are late-exit programs - both one-way (maintenance/developmental) and two-way (dual immersion) models, although the number of classrooms offering the latter is limited by the small number of native English speakers in the elementary grades. In many contexts, maintenance bilingual and two-way bilingual programs are not feasible, generally due to large numbers of languages being spoken by the ELL population or due to insufficient numbers of ELLs to support such programs.

In areas in which bilingual programs are possible, however, the question of how best to serve ELLs in schools is hotly debated primarily in terms of the use of native language instruction. Many arguments against bilingual programs are based in political ideology rather than on educational merit (Waters, 2001). However, there are educational theories which support English-only programs, most notably the time-on-task and the critical period hypotheses. Proponents of the critical period hypothesis (Pinker, 1994, 1996; Porter, 1990) argue that the optimal time for learning a second language is between the ages of three and five or as soon as possible thereafter. The theory is grounded in the view that language acquisition is biologically controlled and analogous to the development of other physiological systems (Hakuta, 2001). The time-on-task argument against bilingual education is related.

Proponents (Porter, 1990; Rossell, 2004; Rossell & Baker, 1996) assert that schooling in an ELL's L1 will retard English Language development because they receive limited exposure to English.

Alternately, proponents of bilingual education (Krashen & Biber, 1988; Cummins, 2000; Genesee, 2002; Lindholm-Leary, 2004; Thomas & Collier, 1997) emphasize the critical nature of first language literacy, which has been recognized as key to the success of ELLs who began their schooling outside the US (Sack-Min, 2008). Bilingual education proponents argue that bilingual education allows students to develop strong literacy skills in L1 that provide a scaffolding on which to build L2 literacy skills and that there is a transfer of literacy skills between L1 and L2 (Langer, et al., 1990; Jimenez, 2000; Jimenez, Garcia & Pearson, 1996; Waters, 2001). This concept is known as "transference" and it has been supported consistently in research on second language acquisition, although there are differing views on at what point and how the transition from native language to English should occur (Saunders, 1999). In particular, the additive bilingual environment of two-way bilingual programs have been reported to offer long-term advantage over English-only or even transitional bilingual programs (Alanis, 2000; Lindholm, 2001; Thomas and Collier, 2002; Lindholm-Leary & Borsato, 2005, 2006), although it may take more years to show initial comparable L2 skills (Saldate, Mishra, & Medina, 1985; Calderón, Hertz-Lararowitz & Slavin, 1998).

Additive bilingual environments are those in which bilingualism is valued and there is an expectation that children can and should maintain their native language while acquiring another, while in subtractive bilingual environments the expectation is for children to abandon their native language, which is regarded as inferior (Genesee, Paradis & Crago,

2004). Positive attitude toward a child's first language is reported to not only encourage the maintenance of the first language, but also to aid in acquisition of the second language (Cummins, 2000; Bialystok, 2001). It should be noted that studies claiming the instructional advantage of long-term bilingual education models have been interpreted differently in review due to some questions of experimental design and controls (Goldenberg, 2008). However, giving students the opportunity to think and process in either language in the classroom is beneficial to students and allows them to both see the value of their heritage language and to reflect on the role of language in meaning-making (Bauer, 2009).

Regardless of program type, characteristics of ELL programs are based in best practices. August and Hakuta (1998) identified such characteristics as an inclusive school climate that values the cultural and linguistic diversity of its students and strong communication between the school and family. Classroom best practices have also been identified for ELLs. These include encouraging interactive teaching, reading in English, setting learning targets and sharing them with students, and the use of cooperative groups (Goldenberg, 2008). Cooperative groups have been found to provide four simultaneous benefits: creating a safe environment for listening and speaking practice in English, creating a network of support to ensure that students understand assignments and activities, fostering friendships with English-speaking peers, and allowing students the opportunity for leadership and ownership of academic work, which can, in turn, build self-esteem (Johns, 1992; Zwiers, 2004; Rubinstein-Ávila, 2003).

This development of L2 oral language ability has strong effects on literacy as well. Lindholm and Aclan (1991) found that, while in the early grades, L2 oral proficiency was not correlated with L2 literacy skills, such a correlation was found by third grade and, by fourth

grade, only the most proficient L2 speakers were able to meet grade level expectations. Building on the use of cooperative groups, additional strategies for serving ELLs include sheltered instruction with explicit support for learning language patterns to further support language development, particularly academic English (Echevarria, Short & Powers, 2003; Echevarria, Vogt & Short, 2000).

Still, these best practices have not emerged and been accepted simply. There has been great division in the field over the concept of whether it is even possible to “teach” a second language (Goldenberg, 2008). While one of the most long-standing and widely recognized necessities of a successful ELL program is comprehensible input (Langdon & Merino, 1992), opinions on other elements of language acquisition programs, as previously discussed, have varied greatly. Different foci have emphasized explicit grammatical and vocabulary instruction, comprehensible input only and output. Models have moved in and out of favor and these changes have been reflected in different movements within the field of education over the past thirty years.

However, the most recent movement is grounded in the model of Susana Dutro, whose work has been previously described. Effective second language instruction is comprised of direct teaching of both social and academic language forms and functions (ideally in a focused class block), along with language practice in realistic situations with language on meaningful topics (Goldenberg, 2008). More specifically, Dutro’s proposed architectural metaphor for English language instruction for ELLs that involves a balance of instruction grounded in multiple theories has become a template for second language instruction for ELLs. Dutro’s work recognizes the complexity of processes involved in acquiring a second language and can work in either bilingual or English-only contexts.

The political climate surrounding English language learners.

Despite the fact that the majority of English language learners are United States citizens, much of the public discourse on instruction for ELLs remains mired in anti-immigrant rhetoric. This reflects a broader climate of anti-immigrant sentiment, including the myth that immigrants don't want to learn English or assimilate (Hardy, 2008; Olsen, 2000). The mixed citizenship status of many families, with legal US citizens being raised by undocumented parents, complicates the dynamics of the debate. Proposition 187, passed by California voters in 1994, denied health, educational and social services to illegal immigrants. Debated for five years before a compromise was reached, Proposition 187 was a hallmark in the changing public discourse on citizenship and rights. In *Shifting Borders: Rhetoric, Immigration and California's Proposition 187*, Ono and Sloop (2002) described their reason for choosing Proposition 187 for study:

We could study any period of U.S. history to gain a fuller understanding of immigration and the discourses that frame it. We chose to study the discourse surrounding Proposition 187 because this measure invited widespread public discussion about immigration and U.S. citizenship and, as such, allows us to address questions of race, politics, and marginality directly. Proposition 187 is a contemporary example of a popular public policy issue that produced a sustained rhetoric of Nativism and xenophobia. The discourse surrounding Proposition 187 shatters the cultural assumption that the United States is a "post-racist" society, that mass, public racism cannot happen today, and that the United States is an open land of opportunity for those who want to improve their own and their family's lot.

(pp. 2-3)

The legal legacy of Proposition 187 continues, with calls nationwide for anti-immigrant measures at the local and state levels (Hardy, 2008). In Texas, in 2007, a broad range of anti-immigrant legislation was proposed, including denying in-state tuition to undocumented students, applying a tax to money transfers to Mexico (which would be refunded to US citizens and legal residents only), and denying citizenship to US-born children of illegal immigrant parents (Bustillo, 2007; Ratcliffe, 2007).

When raids of local employers leave parents in detention centers and fearful children with no one at home, schools are often left to pick up the pieces (American School Board Journal [ASBJ], 2008). Schools are often caught between their desire (and requirement under federal law) to best serve all students -regardless of citizenship status - and the need to work with locally elected school boards that may support anti-immigrant policies (Hardy, 2008; Stover, 2008). More broadly, learning English has become more than just an educational task for students. It is now a political issue surrounded by the anti-immigrant rhetoric described above (Olsen, 2000).

At the center of the controversy is the question of the language of instruction. The previous section described the research base that demonstrates that learning occurs best in a student's first language and that support for first language literacy will ultimately help to develop stronger second language skills. Despite this support for first language maintenance and the reality that for fifty years English has been the dominant language among second and third generation child of immigrants, public fears over unassimilated immigrants and their potential threat to "the hegemony of Anglo-American culture" remain strong (Alba, 2005). These fears trump educational research and drive the push for English-only instruction. Arizona, Arkansas, California, Connecticut, Massachusetts, New Hampshire, and

Wisconsin currently ban or restrict bilingual instruction for ELLs (Viadero, 2009).

Unfortunately, detrimental effects of curtailing bilingual education have been shown to emerge quickly. In Boston, for example, within three years of a 2003 ballot measure greatly limiting bilingual education for ELLs, dropout rates for ELLs doubled and achievement gaps widened at all levels (Zehr, 2009c). Meanwhile estimates put the percentage of ELLs already receiving inadequate supports in English mainstream classrooms at up to 50%, and there are movements to further limit instructional modifications and supports (Goldenberg, 2008).

As students are pushed to abandon their home language in favor of English, they receive the message that their home language is inferior to English and not worth preserving (Genesee, Paradis & Crago, 2004). They may experience a separation from their families through a period in which they cannot communicate in either English or their home language the complexity of their feelings and experiences, effectively silencing and isolating them (Olsen, 1998). Olsen (2000) described this phenomenon, as well as the relationships between the anti-immigrant political climate and the social environment that is created in schools. While the purported goal for pushing English-only instruction is to push forward immigrants into faster and more complete assimilation, the rhetoric has created an environment that often prevents language-minority students from developing friendships with majority culture peers, both through language isolation in pull-out ESL programs and through the social isolation ELLs feel when anti-immigrant sentiment spills over into classrooms and onto playgrounds.

Part 3: Assessment

Part 3 of this review will present an overview of the performance of English language learners and students with disabilities on standardized assessments mandated by No Child

Left Behind. Issues surrounding the inclusion criteria for these subgroups are reviewed, along with a discussion of the lack of literature surrounding students who are both English language learners and students with disabilities (ELL-Ds).

No Child Left Behind and high-stakes testing.

No Child Left Behind Act of 2001 (NCLB), which was designed “to close the achievement gap with accountability, flexibility, and choice, so that no child is left behind” (U.S. Department of Education [USDOE], 2008), ushered in a new era of high-stakes testing and accountability. While the effects of NCLB on schools and students are hotly debated, that it has fundamentally changed the way education functions, measures success and addresses inequity cannot be denied. As discussed in Chapter 1, the 2014 deadline for school districts to have 100% of all students in all subgroups meeting in all academic areas is a mere three years away. Additionally, all English language learners will be expected to grow a full proficiency level each year and to become fully proficient in English within five years.

NCLB is likely to leave a mixed legacy regarding the education of English language learners. Even those who disagree with some elements of the law often agree that its role in shining a light on underserved populations was needed (Abedi, 2004). Research over the past three decades has consistently identified the achievement gaps for ELLs and Hispanic students in general. Underachievement by Hispanic subgroups has existed, at roughly the same rates, since the 1970s (Ochoa & Cadiero-Kaplan, 2004). The patterns of inequity emerge early (Garcia, 2001) and persist through high school, where Hispanic students are dramatically over-represented among dropouts. By ninth grade, 17% of Hispanic students have already dropped out of school. By tenth grade, the dropout figure increases to 31% of

Hispanic students. Among those who remain in school, fewer than 50% are on track with credits to graduate high school on time (Garcia, 2001).

Even greater achievement gaps between the ELLs and their English-proficient peers have been documented throughout the same period (Abedi, 2002; Abedi & Lord, 2001; V. Collier, 1992; Cosentino de Cohen, Deterding, Clewell, 2005; Duran, 1989; Goldenberg, 2008). The need for close attention to be paid to this group is obvious. Whether NCLB provides the best framework for assessing how well schools are meeting the needs of this group remains to be seen. As previously discussed, schools are, in many contexts, limited in the types of educational programs they can offer students, specifically with regards to instruction in the home language. Thus, a school may be unable to offer its ELL students the most appropriate education, yet be held accountable when those same students fail to meet standards. Inconsistencies in identification procedures and assessment methodologies play some role in the controversy over assessing schools based on the performance of this subgroup, which is known as Limited English Proficient, or LEP, in NCLB lingo.

Equally problematic, however, are questions of the validity of content-area assessments to measure what they claim to measure. "For a test to be valid and fair implies that resulting scores reflect content knowledge only and that the scores have not been affected by construct-irrelevant factors such as, for ELLs, level of English language proficiency" (Young, et al., 2008, p. 171). While issues of bias against ELLs in content area tests are obvious, even the English Language Proficiency Assessment itself fails to take into account the compounding effects that can occur when limited English proficiency is compounded by other challenges such as learning disabilities and poverty. While NCLB did address the need to disrupt the structures that allowed for continued acceptance of low

standards, insufficient academic support and underachievement for underserved groups, it failed to recognize the individual needs of students. NCLB fails to account for the heterogeneity of the ELL subgroup (Abedi, 2004; Duran, 1989) and the complex interplay among socioeconomic, familial, cultural and linguistic properties of the population (Abedi, Leon, & Mirocha, 2003; Collier & Thomas, 1989).

The single achievement target for all subgroups, including those whose membership is defined by a failure to perform on grade level, is problematic in assessing school improvement. Like the LEP subgroup, students with disabilities are held to the same grade level targets. When one considers Regulation 34 CFR 300.309 in the reauthorized Individuals with Disabilities Act (IDEA), the disconnect between policy and pragmatism is clear. Addressing the identification of students with disabilities, Regulation 34 CFR 300.309 (USDOE, 2006) includes the following provision for the criteria for determining the existence of a specific learning disability:

The group described in 34 CFR 300.306 may determine that a child has a specific learning disability, as defined in 34 CFR 300.8(c)(10), if:

The child does not achieve adequately for the child's age or to meet State-approved grade-level standards in one or more of the following areas, when provided with learning experiences and instruction appropriate for the child's age or State-approved grade-level standards:

- Oral expression.
- Listening comprehension.
- Written expression.

- Basic reading skills.
- Reading fluency skills.
- Reading comprehension.
- Mathematics calculation.
- Mathematics problem solving

The child does not make sufficient progress to meet age or State-approved grade-level standards in one or more of the areas identified in 34 CFR 300.309(a)(1) when using a process based on the child's response to scientific, research-based intervention; or the child exhibits a pattern of strengths and weaknesses in performance, achievement, or both, relative to age, State-approved grade-level standards, or intellectual development, that is determined by the group to be relevant to the identification of a specific learning disability, using appropriate assessments, consistent with 34 CFR 300.304 and 300.305; and the group determines that its findings under 34 CFR 300.309(a)(1) and (2) are not primarily the result of:

- A visual, hearing, or motor disability;
- Mental retardation;
- Emotional disturbance;
- Cultural factors;
- Environmental or economic disadvantage; or
- Limited English proficiency.

Thus, by the criteria above, for a student to be included in the Student with Disabilities category due to a learning disability, the student must qualify for special education by not meeting grade level standards and not making adequate progress to meet the standards. NCLB then judges schools, not on a student's growth toward meeting targets at a pace appropriate to the individual, but on the achievement of these students on in passing the very grade level assessments they have not passed due to their disability. Major achievement gaps have been observed both between ELLs and English proficient students and between students with disabilities and their non-disabled peers (Abedi, 2009), but little attention has been paid to the students who qualify into both special populations (USDOE, 2004).

Students who face challenges due to both limited English proficiency and learning or other disabilities may be particularly-ill-served by the high-stakes testing environment of NCLB and the assessments used (Solano-Flores & Trumbull, 2003). The challenges of this particular group will be addressed in the next section, but research supports the assertion that a student's limited English proficiency and/or disability may make available standardized assessments inappropriate measures of learning and achievement.

In an analysis of the impact of limited English proficiency and disabilities, Abedi (2009) used a reference group of non-disabled English proficient students and compared the performance of this group in reading and math against three separate subgroups: English language learners without disabilities (ELLs), English proficient students with disabilities (SWDs), and English language learners with disabilities (ELL-Ds). The study looks at data from two sites, pre- and post-NCLB, and at different grade levels and, although the data could not be compiled for a summary analysis, Abedi found consistent, significant underperformance

of ELLs, SWDs and ELL-Ds. In one data set, for example, Abedi found that ELLs underperformed the reference group by 53.4%, SWDs underperformed the reference group by 56.4%, and that the ELL-Ds underperformed the reference group by 208% in reading. In mathematics, the results were similar, with underperformance rates of 25.7% for ELLs, 34.0% for SWDs and 101% for ELL-Ds. These results indicate that this non-identified subgroup of students faces significant challenges in meeting the requirements of No Child Left Behind.

NCLB mandates testing for all students, and allows only 1% of all students in a given district to be tested using alternative measures. These alternative measures, then, are used only for students with the most severe cognitive disabilities (Minnema, Thurlow, Anderson, & Stone, 2005). In a review of forty years of literature regarding ELLs, students with disabilities and assessment, Minnema, et al. (2005) found only ten articles that dealt with all three topics, but none that specifically addressed the accommodations needed for the appropriate participation of ELL-Ds in statewide assessments. This lack of research on appropriate accommodations for ELL-Ds, along with concerns regarding identification of ELL-Ds and regarding the use of standardized assessments to measure content knowledge of students who have not yet mastered academic English, indicates a potential looming crisis in 2014.

Appropriate assessments for measuring language proficiency.

It has been noted that a major component in the achievement gaps may be assessment itself. Accessibility issues for English Language Learners create challenges to the validity of assessments in measuring students' knowledge (Solano-Flores & Trumbull, 2003). These assessment issues, surprisingly, are not limited to the content area tests, but also in the very assessments used to identify students as English language learners.

While the predominant framework for understanding how second language acquisition occurs has shifted, the predominant framework for assessing language proficiency still emphasizes student mastery of grammatical and structural forms, rather than the ability to understand and use the language in real-life settings. Thus, assessments typically measure specific discrete language skills or grammatical forms, sometimes simultaneously, but often through individual test items (August & Hakuta, 1997). Assessment of discrete language skills does have a place as a predictive tool, given the correlation of routinization of basic language skills with more fluent spoken and written skills (McLaughlin, 1984, cited in August & Hakuta, 1997). It should be noted, however, that this correlation does not, in itself, constitute language proficiency. The process of determining what constitutes English language proficiency is complicated further by the fact that it is a moving target, which changes from year to year if meeting academic achievement levels are considered as one of the measures of proficiency (V. Collier, 1995).

Part Four: Rates of Second Language Acquisition

Part 4 of this literature review will present the lack of research in the field related to second language acquisition in general and specifically related to the most common group of ELLs in US education system – Spanish-speaking students. The implications of this on policy surrounding expectations for English language acquisition rates are also discussed.

Acquisition timelines.

Although there is a significant research base on which to build theories for second language instructional programs and measure their success, there is little on which to assess the success of those programs in one key facet of second language learning – the rate at which students become proficient in English. Goldenberg (2008) reports that both his and

others' reviews of literature indicate that ELLs require at least six years of instruction with most reaching intermediate levels within two to three years, but requiring four or more additional years to reach native-like proficiency levels.

A seminal study in the field is that of Ramirez, Yuen and Ramey (1991) - an eight-year project (1983 – 1991) studying the effectiveness of English Immersion, Early-Exit and Late-Exit Transitional Bilingual Education programs. The project included a 4-year longitudinal data collection that began in 1984 and focused solely on Spanish-speaking language minority students. The first phase focused on analyzing classroom practices across “optimal” implementations of program models. Additionally, data was collected on the demographics and characteristics of students, families and schools included to account for differences in factors such as socioeconomic status, homework completion, sibling English skill and family support.

The second phase focused on gauging the relative effectiveness of the three program types with regard to reading, language proficiency and mathematics. Within the Late-Exit model, the relative effectiveness of differing implementations was also considered. They found that students in English Immersion and Early Exit programs have comparable results in reading, language proficiency and mathematics by the end of third grade. Unfortunately, due to the lack of school districts with both English Immersion and Late-Exit Bilingual program models, Ramirez, Yuen and Ramey stated that it was “not possible to disentangle the effects of district and school from treatment effects” (1991, p. 21). Thus, they could not compare the relative effectiveness of these differing program models, although they did note that students in Late-Exit programs continued growth not at simply a comparable rate, but actually at accelerated rates of growth, fast or faster than the norming population or

students in other models. Programs with the most consistent use of Spanish throughout the program years showed the strongest growth.

More recently, the primary investigators in the field of second language acquisition have been Collier and Thomas, whose work for over a decade (V. Collier, 1987, 1989, 1992; Collier & Thomas, 1989; Thomas & Collier, 1997) focused on ELLs acquiring the level of academic English proficiency necessary to achieve at the 50th percentile on normed measures of academic achievement. Controlling for variables such as student background and instructional variation, Collier and Thomas found that ELLs with no instruction in their first language require seven to ten years, or more, to meet this academically rigorous definition of proficiency (V. Collier, 1995). Ironically, students who had two to three years of schooling in their first language before entering US schools achieved proficiency faster than those whose formal schooling began in the US, typically taking five to seven years. In fact, eight to eleven year olds who entered schools on grade level in academic content and first language literacy achieved proficiency much faster and outperformed their native English peers on measures in mathematics, often within two years (Collier & Thomas, 1989).

However, while Thomas and Collier's seminal work is foundational for our understanding of English language acquisition rates, there are limitations to its applicability. The 1987 and 1998 study samples, for example, contained only 20% Hispanic students and 65% Asian students, a population that has, by and large, experienced high levels of academic success in US schools and universities (Dixon, 2006). Similarly, while a majority of students were from low-income families, a large percentage came from different socioeconomic backgrounds in their home countries and samples were limited to students who entered US schools at or above grade level from their native schooling backgrounds. In fact, Thomas and

Collier dubbed these students “advantaged immigrants” and shared their expectation that these students would reach targeted achievement levels in English in the shortest amount of time possible.

Collier and Thomas (1989) reported that they anticipated the results to set minimum estimates for the rates of language acquisition, with the understanding that less advantaged groups would require more time (Collier & Thomas, 1989). Instead, the minimum requirement for an advantaged student (five years) has become the maximum expectation for all English language learners regardless of background. Meanwhile, in the two decades since these studies, the demographic trends among English language learners have shifted dramatically. As previously described, nearly 80% of ELLs today are Hispanic students, the majority born into poverty in our own country, having no first language instruction, and, if they are immigrant, coming with gaps in schooling from their home country.

It is also important to note that while Collier and Thomas’s minimum estimate for language acquisition rates have been widely accepted and adopted, their consistent, subsequent advocacy for the importance of bilingual education and native language development (Thomas & Collier, 1997, 1999, 2002, 2003; Collier & Thomas, 2004, 2005; Collier, Thomas & Tinajero, 2006) has been largely ignored. Also ignored has been their finding that early achievement of ELLs in English-only programs later gives way to declines in performance, resulting in achievement gaps as students enter middle and high school, where cognitive demand and the need for academic language is much higher (V. Collier, 1995).

A subsequent five-year study which ended in 2001 (Thomas & Collier, 2002) included a wider range of students that more closely mirror today’s ELL population and addressed many of the methodological constraints of the first study, but its focus was the relative

success of different program models for ELLs (e.g. English mainstream, content-based ESL, developmental bilingual and dual immersion) via analysis of long-term results for ELLs in maintaining academic success relative to peers in other programs. Data from the study suggests that, while all program models will result in development of English language skills, bilingual programs and, particularly, dual immersion programs, produce lasting English language proficiency skills that students need to meet the demands for academic English in high school and beyond.

Another primary source of data regarding English acquisition timelines is Cummins (2000), who has studied primarily English language learners in Canadian schools. Cummins's findings are compatible with those of Thomas and Collier, with estimates of five to seven years to reach full proficiency and recognition of the growing achievement gap in the upper grades. This gap between ELLs and their proficient peers may grow as a result of native speakers building new, grade-level verbal academic skills in the English, while ELLs must work on acquiring the language in addition to these new academic applications. If one considers, for example, vocabulary development, new dimensions of complexity for English language learners are clear. In many ways, the development of academic vocabulary, which involves "novel encoding of individual items" distinct from the development of generalized language structures, may require significantly more effort, time and access to contextual experiences (Genesee, Paradis & Crago, 2004, p. 79). Interestingly, research on native English speakers in French immersion programs determined that while they too require five to six years to attain grade level norms in reading in L2 (in this case French), their writing and speaking skills remained below that of native speakers through the end of high school (Swain, 1985, as cited in Langdon & Li Rong, 1992).

The most recent study related to English language acquisition timelines in school-age children was conducted in 2000 by Hakuta, Goto Butler and Witt. The study included two California school districts and two Canadian school districts and the authors highlight several methodological issues that limit the strength of conclusions drawn. Like the Collier and Thomas research, the ELL population studied did not mirror the current average ELL in the United States. However, their findings do support previous findings of Collier and Thomas. Specifically, their findings support the following conclusions: 1) academic proficiency takes at least four to seven years, 2) socioeconomic factors influence the rate of English language acquisition and 3) there is a widening gap in achievement at higher grade levels.

Despite these limitations, the work of Collier and Thomas remains the primary source on which language acquisition literature draws. With a lack of empirical, generalizable evidence on which to judge English acquisition timelines, the literature has focused instead on factors related to second language acquisition and references are made to possible influence of these factors on rates of acquisition by ELLs. Saunders and O'Brien (2006) highlighted the quandary created by the lack of data on acquisition rates:

Clearly, additional research is needed that documents rates of oral proficiency development. Some may take objection to this proposal insofar as rates of development or proficiency attainment tend to gloss over considerable individual variation. Nevertheless, with schools under considerable pressure to establish criteria for adequate yearly progress for ELLs, such data are critical. States, districts, and schools throughout the country are trying to define criteria for adequate yearly progress, essentially, without the aid of any empirically derived estimates. (p. 40)

Measurement and assessment.

Measuring the development of English language proficiency as a whole can be problematic, because rates can be different for the different linguistic areas that make up proficiency – reading, writing, speaking and listening. These distinct rates for these subcategories vary by individual, but also by the age at which second language acquisition begins. While syntax and morphology are more quickly acquired by teens and adults, for example, younger children may more quickly master elements of the language like accent and may achieve higher achievement levels overall (Langdon & Merino, 1992; Langdon, 2008).

Looking beyond measures of comprehensive literacy and academic achievement, which dominate the few available studies, Saunders and O'Brien (2006) conducted a survey of research related to oral language proficiency development in ELLs. They found only a small number of studies which varied greatly in terms of study design and methodology, as well as characteristics of the programs. The findings of eight studies of oral language proficiency gains (on the 1 to 5 proficiency scale) among elementary-age ELLs were synthesized to determine rates of English language acquisition. Annual average gains of between 0.26 and 0.78 were found. Considering that oral proficiency has been found to be the first element of proficiency to develop and that consistent gains of 0.8 would be required of all ELLs for attain proficiency within a five-year time frame, NCLB requirements seem unrealistic. In fact, even measures of near-native fluency (level 4) take significant time to develop. Mean scores of 4 did not appear in any study before third grade, and consistent scores of 4 did not appear until fifth grade, which represents six years of schooling. Interestingly, Saunders and O'Brien's review also found that L2 oral acquisition rates are

consistent for English-speaking Spanish language learners in dual language programs and English language learners in all program types - English immersion, dual immersion and maintenance bilingual programs.

Regardless of timelines, with few exceptions, English language learners do acquire English language skills and move toward proficiency, although they may maintain Spanish as a preferred language for a significant period of time. In bilingual children, there are phases through which students move in which their two languages take on different prominence. The language in which students show more proficiency is their dominant language (Genesee, Paradis & Crago, 2004). Kohnert and Bates (2002) identified timelines for change in dominance from Spanish to English among Mexican American children and adolescents for whom English was a second language in communities in which Spanish was widely used. They found that verbal comprehension skills dominance shifted from Spanish to English after approximately six years of English schooling, while verbal processing skills and production were stronger in Spanish for approximately ten years of experience with English.

The comprehensive view of what research is available in the field highlights a lack of alignment between realistic expectations for second language development and the requirements set forth in No Child Left Behind. It is true that research on English language acquisition rates is complicated by a broad range of complex variables, including age, program differences, motivation, English input opportunities outside school, personality factors, first language literacy, socioeconomic status, and acculturation factors (Langdon & Merino, 1992). It is also true that establishing narrow norms for acquisition may be difficult or impossible, given this complexity. However, in the NCLB era, norms for acquisition have been set without research. The lack of empirical research within the field fails to provide a

base from which educators and advocates can affirm or challenge the notion that five years is a reasonable window in which to expect ELLs to reach English proficiency, and this has implications for schools, educators and students across the country.

Part Five: Special Education and English Language Learners

This section of the literature review will introduce the group of students that fill the intersection of two key NCLB subgroups – English Language Learners and students with disabilities (ELL-Ds). The limited demographic information available on this group is shared, along with an overview of the literature surrounding ELL-Ds. Of particular interest is the research on ELL-Ds, which is explored in great depth in certain areas of research and completely ignored in other regards. Implications for this lack of understanding are introduced.

Demographic trends and issues of identification and service.

The US Department of Education's Office of English Language Acquisition estimated that in 2001, the population of English language learners with disabilities (ELL-Ds) was over 357,000, or 9% of all ELLs and 8% of all students with disabilities (USDOE, 2004). The identification rate of ELLs for special education, then, is lower than the identification rates of 13.5% for the general population as a whole. However, wide variance has been noted, with evidence of both over- and under-identification (Ortiz, 2002; USDOE, 2000). This variance can be due to two issues of identification: when students' difficulties due to disabilities are instead classified as difficulties due to limited English proficiency and when normal stages of English language development are classified as learning disabilities (Ysseldyke & Bielinski, 2002). Moreover, acculturation characteristics have been shown to be related to the identification of ELLs for special education services (C. Collier, 1987).

As previously discussed, the English language learner subgroup is growing dramatically and demographic trends nationwide indicate that serving these students will affect an increasing number of school districts nationwide. As the ELL population grows, the need for effective means of identification and service will be an integral part of best meeting their needs, particularly in light of NCLB's increasing demands on districts. For states and districts which lack experience with ELLs in general, understanding the challenges facing these students and the educators who serve them will take on new significance.

Research on English language learners with disabilities.

Although there is a lack of understanding on the needs of ELL-Ds related to requirements for No Child Left Behind (USDOE, 2000, 2004), there is, in fact, a rich research base spanning three decades on English language learners with disabilities. Topics of interest include appropriate forms of instruction in the classroom (e.g. Garcia & McLaughlin, 1995; Genesee, Paradis & Crago, 2004; Gonzalez, Brusca-Vega & Yawkey, 1997; Hart, 2009) and the need for appropriate referrals of students for special education services (C. Collier, 1987, 2001; Genesee, Paradis & Crago, 2004; Langdon, 2008; Miller, 1984). Unfortunately, these studies are largely based on individualization of services and assessment, while NCLB's focus is on broad-range standardized tests that lack differentiation for student needs.

Extensive and detailed attention has been paid to the characteristics of particular disabilities, the cognitive links between language learning and disability, and the subtle differences in grammatical structures and usage patterns between ELLs and students with disabilities, particularly those with Specific Language Impairment (e.g. Fillmore, Kempler & Wang, 1979; Genesee, Paradis & Crago, 2004; Langdon & Li-Rong, 1992; Levy & Schaeffer, 2003). At the same time, while this population has been studied extensively, I could find no

study evaluating the effect of disabilities on the rate of acquisition for English Language Learners. As previously discussed, there are only five core studies of English acquisition rates in general, but none disaggregate ELL-Ds. This study will be a foundational study on the effect of disabilities on the rate of English language acquisition.

Part Six: Giftedness and English Language Learners

While special education identification issues for ELLs have included both over- and under-identification, identification issues for talented and gifted (TAG) programs have consistently included under-identification (Artiles & Zamora-Durán, 1997). In fact, Hispanic language minority students are less than half as likely as their Anglo peers to be identified for Talented and Gifted programs (Donovan & Cross, 2002). Factors affecting these identification rates include cultural and language differences (Ford & Harmon, 2001; Lewis-Moreno, 2007).

Even well-intentioned monolingual teachers may be unable to accurately gauge their ELL students' potential and thus be less likely to identify them as potentially gifted (Plata & Masten, 1998). Culture may also be a contributing factor with giftedness manifesting differently across cultures (Kitano & Espinosa, 1995). However, even when students are referred by teachers for evaluation, efforts to conclusively identify students may fail due to inappropriate measures. Assessment systems based solely on quantitative measures may not accurately measure a student's potential, may not take into account socioeconomic factors or may fail to identify different cultural manifestations of giftedness (Castellano, 1998; Matthews & Matthews, 2003).

Bilingual programs may meet the needs of TAG ELLs in two specific ways. Bilingual programs with teachers who share a linguistic and cultural background with their students may be more likely to identify giftedness in ELLs (Kitano & Espinosa, 1995; Passow & Frasier,

1996). For students who have not benefitted from elementary level bilingual education programs and who may have oral fluency but not academic reading and writing skills in their first language, more pathways to demonstrate giftedness are needed. Bilingual programs may also “level the playing field” for ELLs, allowing them to demonstrate their academic talents and giftedness without the constraints of operating in English (Matthews & Matthews, 2003).

Part Seven: Summary

While there are deep pockets of knowledge surrounding English language learners and their needs, in many areas we lack the research necessary to make policy decisions surrounding the instruction and assessment of ELLs in general, and ELL-Ds particularly. Calls for more research have come from within the field (Abedi, 2009; Genesee, Paradis & Crago, 2004; Langdon, 2008; Minnema, et al., 2005) and from our own government (USDOE, 2004). Our lack of empirical evidence on the rates of second language acquisition has allowed politicians, rather than experts within our field, to set expectations for students in reaching language proficiency. NCLB’s 2014 deadline for schools to demonstrate that all students are meeting the same standards— both in academic content and language proficiency – on the same timelines is approaching quickly. Without the kind of empirical evidence required by the policy-making bodies that dominate educational reform, we lack a voice to influence policy and, in turn, the lives of our students.

Chapter III: Design of Study

The purpose of this study is to examine the relationship of significant factors associated with second language acquisition timelines for Hispanic English Language Learners, with a particular focus on students with exceptionalities, both disabilities and giftedness. In this description of the study design, I will outline the design plan and rationale for the methodological approach chosen.

Methodological Considerations

For the scope of this research study, quantitative methods provided the most effective means to analyze the large number of data pieces. As mentioned before, the type of data produced through quantitative means is the most accepted and utilized by educational policymakers. Quantitative data and statistics are the language of education in the No Child Left Behind era. Generally, studies of ELLs must involve multiple locations, school districts and programs in order to reach a threshold for population or sample size that can yield statistically significant results. Unfortunately, this often means that differences in school programs and community demographics add additional variable. With its relatively small size and unified programs, the Woodburn School District's sizeable Spanish-speaking ELL demographic offers a rare opportunity to collect in one unified system and small community the quantity of data needed for analysis.

While the town and school district demographics are unique compared with other school districts in the state, the average Woodburn student is representative of the overwhelming majority of ELLs in the United States with regard to home language, poverty level, citizenship status, linguistic isolation. The district's extensive ELL population also allows for the study of ELL-Ds, a special sub-population that has been largely ignored in the

research base. In the rare instances when addressed, ELL-Ds have been analyzed primarily through small qualitative studies. In this case, sampling was not utilized, but rather results from all population members who met the requirements for inclusion were analyzed.

Design of Experiments (DOE) is often defined as an experimental process of selecting and manipulating an independent variable, then measuring its effect on a dependent variable. However, it can also be viewed as a structured methodology for analysis of complex data and their interactions. In contrast to pure designed experiments, *observational experiments* include analysis of results with the researcher having little or no control over the variables (McClave & Sincich, 2000). In this case, descriptive statistics were used to determine ranges and average rates for acquisition of English as a second language, and one-way and two-way chi-square analysis were utilized to determine if significant differences in distributions are present. When attempting to make inferences about the difference of means between two populations, both the z and t statistics were useful (McClave and Sincich, 2000). Depending on the subgroup sizes, the z and t statistics were used to determine statistically significant differences in the English language acquisition rates between ELLs with disabilities (ELL-Ds), Talented and Gifted (TAG) ELLs and their peers without exceptionalities, who for the purposes of the study will be referred to as “average.”

Data sets inevitably contain numerous variables that cannot possibly be accounted for explicitly. Given the number of factors identified as affecting second language acquisition (see Chapter 2), this is clearly true. Ideally, analysis could be structured to identify the major (significant) interactions from the extraneous variables that could be a potential source of variation but are not addressed explicitly. In this case, many variables that could have an influence are 1) not known, 2) not measurable or 3) are themselves related to variables that

are being addressed explicitly. Controls to mitigate these threats to internal validity will be addressed later in this chapter.

With studies that involve complex systems such as education, mediational variables may be in effect. Baron and Kenny (1986) described a basic framework of mediational variable system as one in which an independent variable acts upon a dependent outcome variable, but through a separate variable known as the mediational variable. The field of mediational analysis has been most explored most often in studies of prevention programs, where variables related to, for example, drug use, are often not only interrelated, but even share causal relationships (MacKinnon & Dwyer, 1993). While this form of analysis would be beneficial for future research, initial studies are needed to gauge relationships in order to identify potential mediational variables.

Additionally, mediational analysis cannot account for the effects of clustering. Clustered data can occur when a group of subjects share high degrees of similarity. While the Woodburn English language learner population is not homogeneous, they may show some similarities that would not be expected in a randomly collected sample across multiple settings. Potential sources of within-group similarity include “shared group experiences, reciprocal influence resulting from group interaction, or non-randomly distributed background variables” (Krull and MacKinnon, 2001, p.250). Such clustering leaves the decision of selecting the unit of analysis (group or individual) to the researcher.

Both unit-level and individual-level analyses have drawbacks, as individual-level analysis can produce increased rates of type I errors, while group-level analysis experiences reduced degrees of freedom and reduces variability at the individual level (Krull and MacKinnon, 2001). Little is known about either group-level or individual-level variance in

terms of rates of second language acquisition. In this case, the range of individual variability is a source of major interest, given the universal time constraint of five years to English language proficiency set forth in No Child Left Behind's AMAOs, making individual-level analysis appealing. However, group-level analysis was also utilized when considering populations within programs.

The use of a multi-level model of analysis utilizing the Empirical Bayes/Maximum Likelihood (EB/ML) technique would better reduces error rates associated with clustered data and allows for analysis of both individual and group-level effects of variables (Raudenbush & Bryk, 1986). However, when the purpose of such multi-level analysis is for both description and prediction, its value must be carefully considered. While the added parameters set in multi-level analysis may improve the descriptive quality of the analysis through reducing bias, precision in estimating the actual effects of the parameters of interest is reduced (Kreft & de Leeuw, 1998).

There is a relative paucity of research on second language acquisition in general and, in considering many variables, reports are conflicting. As previously described, the variables related to language learning are vast in range, complex and, likely, deeply intertwined. For the topic of English language acquisition rates, the most widely-cited research consists of five studies based on research conducted a decade ago (Ramirez, Yuen & Ramey, 1991; Collier & Thomas, 1989; Cummins, 2000; Hakuta, Goto Butler and Witt, 2000; Thomas & Collier, 2002). There are no studies examining the relationship between disabilities or giftedness and language acquisition rates. Given these constraints, it is difficult to identify which variables may have any significant effects, and impossible to determine, at this point, their interrelatedness and mediational effects. However, by identifying whether or not there is a

statistically significant difference between disabled, gifted and average (neither disabled nor gifted) English language learners relative to the rate of English language acquisition, the door is opened for future research to begin to address the potential interrelatedness and net effects of other factors associated with the schooling of students with special needs.

Data Collection

The data used for analysis was archived data collected systematically through school district processes of registering, identifying, and assessing students for many purposes, as well as from state testing programs including the English Language Proficiency Assessment (ELPA). Student identification numbers were used to link data from multiple sources. Data was collected for all students who were enrolled at any time during the four year period.

Data was drawn from databases for the following school years: 2006-2007, 2007-2008, 2008-2009 and 2009-2010. All data collected were archived in the district and identified with student ID numbers. The following data were collected:

- District entry and exit dates (if applicable)
- Grade levels during the study period
- Home language(s)
- Instructional Program model
- Talented and Gifted identification (if applicable)
- Special Education identification (if applicable)
- Special Education identification codes (primary and secondary)
- English Language Proficiency Assessment (ELPA) scores
- English language proficiency levels, as determined by the ELPA, during the study years

- ESL Exit/reclassification date (if applicable)
- Statewide assessment results for reading and writing during the study years

The initial data pull included 8422 total students. The following students were removed from consideration:

- Students whose primary language(s) did not include Spanish. This included speakers of other South and Central American languages (Mixteco, Zapotec, Tarascan, etc.) in Spanish bilingual programs for whom Spanish was a second language and English a third.
- Students who entered the school district already English proficient
- Kindergarteners who began the school year in 2009-2010
- Students who were not in the school district long enough to complete a testing cycle

Among the English Language Learners identified, all ELL-Ds were included with the exception of students whose disabilities:

- preclude their participation in English language development programs or prevent them from participating in ELPA testing entirely
- require significant modification to assessments for English language proficiency, often including exclusions of large portions of testing, thus requiring that assessments of language proficiency be made in fewer than the four required areas (reading, writing, speaking, listening)
- require non-standard means of identification of the student's initial English language proficiency upon entering school

5404 current or former English Language Learners were identified. Of these, 3460 were native Spanish speakers who had entered the district during the primary years (grades

K – 2), 590 during the intermediate years (grades 3 – 5), 333 during the middle school years (grades 6 – 8) and 217 during high school (grades 9 – 12). Unfortunately, desired data pieces including school district registration language proficiency assessment results and prior schooling information (e.g. other US school, foreign school, no schooling) was not available. Because these factors strongly influence language development (Langdon & Merino, 1992), particularly among students entering the school district at later ages, and because these factors could not be addressed, the study was limited to students who entered during the primary years (kindergarten through second grade).

Of the 3460 ELLs or former ELLs who entered in the primary years, 473 were ELL-Ds and 281 were identified as talented and gifted (TAG). 1615 students were still enrolled in 2009-2010 but were not yet English proficient. An additional 384 had exited the district before reaching English proficiency, while 150 had graduated not yet proficient in English. 1311 total students had been reclassified including 70 ELL-Ds and 212 TAG students. These students became the target population of the study. Of this group, 1081 were in Bilingual Education programs, while 230 had been in English Immersion programs.

Research Questions and Variables

1. What is the rate at which Hispanic English Language Learners acquire English and reach English language proficiency?
2. Are Hispanic English Language Learners over- or under-identified for Special Education and/or Talented and Gifted Programs?
3. What effect, if any, does a disability or giftedness have on the rate of English language acquisition and the attainment of English language proficiency?

4. What effect, if any, does native language instruction through Bilingual Education programs have on the rate of English language acquisition?
5. If there is an effect due to program type (bilingual or English Immersion), does it differ for gifted or disabled English language learners versus non-special needs students?

Variables.

The dependent variable in this study is the rate of English language acquisition, measured in years from beginning an ESOL program to reaching proficiency and being reclassified as fluent English proficient. This is the form of the variable used by federal and state governments in the AMAOs related to English language learners. To insure the most precision in measure, partial years due to entering the district part way through the year or reclassification mid-year were calculated. The format used included a whole year, followed by a decimal representation of the partial year, with each month of the school year represented by a decimal value.

As an observational experiment, an independent variable was not manipulated in the course of an investigation and students were not assigned to either a treatment or control group. The independent variable equivalents in this case are the presence or absence of a disability, the identification or lack of identification as a talented and gifted student and the instructional program model in which the student is enrolled. Disabilities were grouped together for analysis, but, additionally, if sample sizes were sufficient they were considered by individual category for analysis. In this case, only Code 90 (Specific Learning Disability) had a sufficient population for consideration on its own.

Null hypotheses for research questions.

Research questions 1 and 2 were evaluated using descriptive statistics and chi-square analyses. However, questions 3, 4 and 5 were evaluated using quantitative analysis. Table 3.1 outlines the null hypotheses evaluated for research questions 3, 4 and 5.

Table 3.1

Research Questions and Corresponding Null Hypotheses for Research Questions 2 - 5

Research Questions	Null Hypotheses
Question 2: Are Hispanic English Language Learners over- or under-identified for Special Education and/or Talented and Gifted Programs?	There are no significant differences between English Language Learners and English Proficient students in the identification rates for Special Education and/or Talented and Gifted Programs?
Question 3: What effect, if any, does a disability or giftedness have on the rate of English language acquisition and the attainment of English language proficiency?	There are no significant differences in the rates of English language acquisition among average ELLs, ELL-Ds and ELLs identified as TAG
Question 4: What effect, if any, does native language instruction through bilingual programs have on the rate of English language acquisition?	There is no significant difference in the rate of English language acquisition between students enrolled in English immersion/mainstream and students enrolled in bilingual education programs
Question 5: If there is an effect due to program type (bilingual or English Immersion), does it differ for gifted or disabled English language learners versus non-special needs students?	Among students enrolled in English immersion/mainstream programs, there are no significant differences in the rates of English language acquisition among the average ELLs, ELL-Ds and ELLs identified as TAG.

Descriptive Statistics.

For contribution to the field of knowledge, some of the most powerful elements of the study were simply the descriptive statistics surrounding the representativeness of identification for special education services and rates of reclassification of English Language Learners. While research on identifying various disabilities in English Language Learners is

not uncommon, it has not been studied systematically or longitudinally in an education system comparable to Woodburn. The system created in Woodburn to support English Language Learners addresses many of the variables that influence second language learning or threaten the validity of assessment and identification. Although schools are increasingly held accountable for meeting timelines for helping ELLs to reach English language proficiency during a set, five-year window, research on the rates of English language acquisition is extremely rare. The findings of this study on Woodburn's ELL population as a whole will contribute to our understanding of this complex topic.

Statistical Analyses

Archived data drawn from multiple databases across the four-year span identified (the 2006-2007 to 2009-2010 school years) was linked via student identification number using Microsoft Access and then used to create a Microsoft Excel spreadsheet. Data was imported to the Mini-Tab (statistical analysis) program from Excel. Mini-Tab was used to calculate the following descriptive statistics to be used in analysis: number, mean, median, and standard deviation. Three primary statistical tests - chi-square, z-tests and *t*-tests - were then utilized for statistical analyses.

Chi-square tests were utilized for hypothesis testing because of their specific usefulness in applications in which the data set is made up of discrete distributions, such as binomial variables for which there are only two possible outcomes (McClave & Sincich, 2000). In this study, because questions of identification rates for TAG (Talented and Gifted) and Special Education programs are binomial (yes or no), the Chi-Square was the most appropriate measure. Analysis involving years required to reach English language

proficiency, the simple Chi-square was utilized to compare the means of differing programs or classifications.

Chi-square analysis involved determination of a pattern or similiary of distribution between *expected* (E) rates or values and *observed* (O) rates or values. In One-way analysis, calculation of the degrees of freedom is determined by subtracting one from the number of observed values being evaluated.

Figure 3.1
One-Way Chi-Square Test Calculation

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

However, contingency table analysis was used when the data were classified according to two or more criteria. In those instances, Chi-square was then used within contingency table analysis to determine whether the two classifications were independent of each other. In both forms of analysis, expected values were calculated by determining the mean of the aggregate population without regard to classification or program. For a higher degree of specificity, P-values for chi-square tests with degrees of freedom between 1 and 20 were determined using VassarStats, an online statistical calculation program (Lowry, 2011). For chi-square calculations with degrees of freedom greater than 20, p-values were determined using GraphPad QuickCalcs (GraphPad Software, 2005) and confirmed with reference tables (McClave & Sincich, 2000).

Figure 3.2
*Expected Value Calculation for
Contingency Tables Cells*

$$\hat{E}(n_{ij}) = \frac{r_i C_j}{n}$$

Figure 3.3
*Total Chi-Square Value Calculation for
Contingency Tables*

$$\chi^2 = \sum \frac{[n_{ij} - \hat{E}(n_{ij})]^2}{\hat{E}(n_{ij})}$$

For analyses of measures with multiple values – in this case, years to reach English language proficiency – a different test statistics were utilized for hypothesis testing. The goal of this testing was primarily focused on determining whether statistically significant differences were found either between programs or between subgroups. In each case, a null hypothesis was created that assumed no difference between the groups or programs being considered, which means the hypothesized difference in the means (D) would be zero. Depending on the size of the populations, either z or t-tests were used.

Figure 3.4
z-test calculation

$$Z = \frac{(\bar{x}_1 - \bar{x}_2) - D_0}{\sqrt{\left(\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2} \right)}}$$

Figure 3.5
t-test calculation

$$t = \frac{(\bar{x}_1 - \bar{x}_2) - D_0}{\sqrt{\sigma_p^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Because of the Central Limit Theorem, the sampling distribution of the difference in sample means $(\bar{x}_1 - \bar{x}_2)$ is assumed to be normal. The standard deviation of the sampling distribution, $\sigma_{(\bar{x}_1 - \bar{x}_2)}$, is the standard deviation of the difference between the sample means. This is determined using the values of σ and n for each sample. When comparing two populations or sub-population means with samples where $n < 30$, the estimates of the

standard deviations (σ_1^2 and σ_2^2) may be unreliable. When this occurs the Central Limit Theorem cannot be applied to make the assumption that the sampling distribution is normal (McClave & Sincich, 2000). Thus, a different test statistic is needed. In such cases, the *t*-test is used as the test of hypothesis for small samples. The *t*-test accounts for small sample sizes by pooling the variance overall, but weighting them differently based on the individual sample sizes using formula (Figure 3.6).

Figure 3.6

Calculation of the Pooled Standard Deviation

$$\sigma_p = \sqrt{\frac{(n_1 - 1) \sigma_1^2 + (n_2 - 1) \sigma_2^2}{n_1 + n_2 - 2}}$$

For *t*-tests and *z*-tests yielding test statistic values less than or equal to 3.75, *p*-values were determined using VassarStats (Lowry, 2011) and GraphPad QuickCalcs (GraphPad Software, 2005). For test statistics greater than 3.75 (or less than – 3.75), *p*-values were determined using GraphPad QuickCalcs. In order to be open to either outcome in a given comparison (e.g. English Immersion programs require fewer years than Bilingual programs), a two-tailed test was used in each case. In the use of both the *z*- and *t*-tests, the ultimate question, whether considering populations or sub-populations, was “is there a difference?” and the null hypothesis assumed no difference. The question was explored using the Null and Alternate Hypotheses below:

$$\text{Null Hypothesis} = H_0 (\mu_1 - \mu_2) = 0$$

$$\text{Alternate Hypothesis} = H_a (\mu_1 - \mu_2) \neq 0$$

Threats to Internal and External Validity

Internal Validity.

One of the greatest threats to internal validity in the cases of educational research is the confounding variables (or confounders). In a statistical model, the confounding variable is one that is correlated with both the independent and dependent variable. If the confounders are not controlled in the experimental design or analysis, there is a high likelihood of having a type I error which falsely indicates a causal relationship between dependent and independent variables. Analysis of covariance, ANCOVA, which treats confounding variables as covariants in analysis, is often used in an attempt to control for confounding factors. However, it is similarly limited in its ability to control for cluster effects. Both ANOVA and ANCOVA forms of analysis have limitations, particularly in educational settings, “given the most important research questions in this field” (Kreft & de Leeuw, 1998, p. 5).

The question of “why” there is variance cannot be answered by this study, but it is possible to make efforts at controlling for confounding variables in other ways. Frequently, the creation of cohorts of subjects that match on multiple variables is used to control confounding variables, but this can result in high rates of exclusion if sample sizes are too small. This study addressed two specific independent variables – instructional program and the presence of a learning disability or giftedness. These are not mediating factors, but it is not clear the degree to which they may be interrelated.

For the population being considered in this study, parents had the choice of placing their children in an English mainstream classroom or in a bilingual model classroom. This element of choice could be a confounding factor in considering the question of the effect of

program type on language acquisition rates for all students and such considerations will be made in the interpretation of analyses when drawing conclusions. However, one would not predict a relationship between parental choice of program model and the presence or absence of a disability or giftedness, unless the disability or giftedness required alternate classroom placement due to the need for specialized services.

Rates of identification for Special Education and Talented and Gifted programs in both bilingual and English Immersion classrooms were evaluated via chi-square analysis. Expected rates of identification were determined by determining the identification rate for the population as a whole, without disaggregation by program. The following hypotheses were considered:

H_0 : There is no difference in identification rates between the student populations in Bilingual versus English Immersion programs

H_a : There is a difference in identification rates between the student populations in Bilingual versus English Immersion programs

For Special Education program identification rates (Table 3.2), the chi-square value was 2.24, not sufficient to identify differences in rates on program model selected with 90% confidence. For TAG program identification rates (Table 3.3), chi-square value was 1.82, which was likewise not sufficient to identify statistically significant differences in identification rates based on program model selected with 90% confidence. Therefore, there is not sufficient evidence to state that observed rates of Special Education or TAG identification are dependent on program model.

Table 3.2

One-Way Chi-square Analysis of Special Education Identification Rates by Program Selection

Program Model	Observed Rates of Identification for Special Education	Expected Rates of Identification for Special Education
Bilingual Program	4.53%	5.34%
English Immersion Program	8.70%	5.34%
Chi-Square Value	$\chi^2 = 2.24$	
Degrees of Freedom	$df = 1$	
	$P = 0.1345$	

Table 3.3

One-way Chi-square Analysis of Talented and Gifted Identification Rates by Program Selection

Program Model	Observed Rates of Identification for TAG programs	Expected Rates of Identification for TAG programs
Bilingual Program	17.30%	16.17%
English Immersion Program	10.87%	16.17%
Chi-Square Value	$\chi^2 = 1.82$	
Degrees of Freedom	$df = 1$	
	$P = 0.1773$	

Additional threats to validity are unknown variables or those which cannot be measured and which produce residual confounding (Pearl, 2000). This is a real possibility, given the complex web of influences on language acquisition and assessment. Again, the large sample sizes in this study will minimize the effects of these unknown variables, as they should be equally distributed across Talented and Gifted, disabled and average English language learner groups.

External Validity.

Typically, the inability of a random sample contributes to the lack of representativeness of a sample, which, in turn, limits generalizability to the general population. In this context, the data were not collected from a sampling of students, but from the entire population from a single context. The data were also collected from only one system which has very specific characteristics, such as extremely high percentages of English language learners and bilingual Spanish-speaking students, high poverty rates, along with an extensive bilingual program, high percentages of Spanish-speaking staff and Special Education identification procedures and supports that take into account best practices that might not be achievable in other settings. While these aforementioned characteristics strengthen the ability to make conclusive statements regarding study outcomes, they may not be reflected in other contexts in which English language learners are acquiring English. These threats are similar to those that plague many educational studies, and will require that caution be taken in applying the conclusions in other contexts.

Protection of Human Subjects

Because the data to be used are archived and publicly available, there was no need for researcher-subject interaction. All data were linked to student ID numbers and could be analyzed without individual identification. Additionally, the large population being considered for this study offered additional protections for the identities of the students. The data being used for the purposes of this study are regularly used for the purposes of analysis, including publication through required reporting by both state and district.

Chapter IV: Results

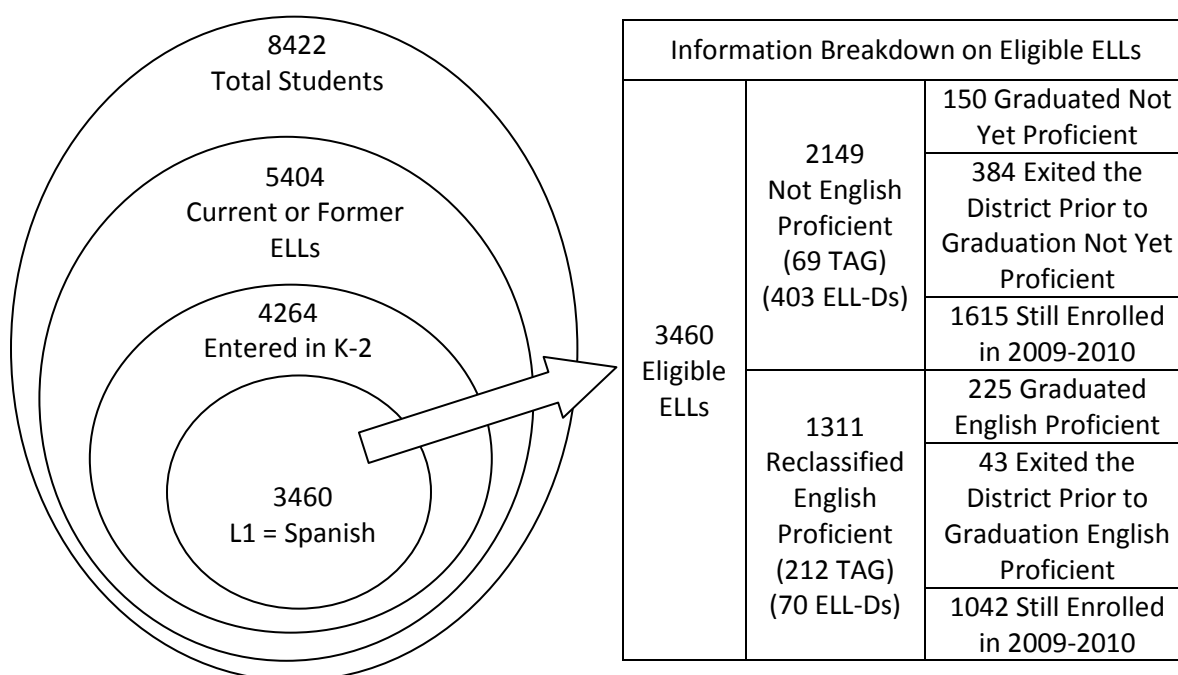
This chapter presents the data collected from the study and the results of statistical analyses. The organization of this chapter will begin with a section on demographics of the student population, followed by five sections which correspond to each of the five research questions:

1. What is the rate at which Spanish-speaking, Hispanic English Language Learners acquire English and reach English language proficiency?
2. Are Spanish-speaking, Hispanic English Language Learners over- or under-identified for Special Education and/or Talented and Gifted programs?
3. What effect, if any, does a disability or giftedness have on the rate of English language acquisition and the attainment of English language proficiency for Spanish-speaking, Hispanic English Language Learners?
4. What effect, if any, does native language instruction through bilingual programs have on the rate of English language acquisition for Spanish-speaking, Hispanic English Language Learners?
5. If there is an effect due to program type (bilingual or English Immersion), does it differ for gifted or disabled English language learners versus non-special needs students?

Demographics of Student Population

The study ultimately identified 1311 Spanish-speaking, Hispanic English Language Learners who entered the Woodburn School District during their primary years (kindergarten through 2nd grade).

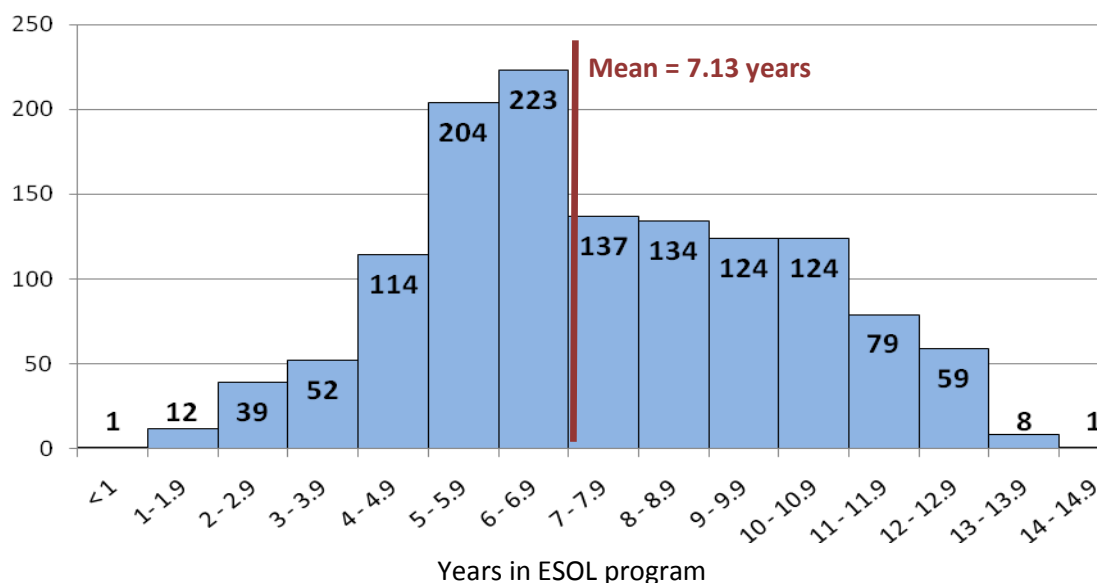
Figure 4.1

Determination of Eligible ELLs for Inclusion and Group Information**Research Question 1**

What is the rate at which Spanish-speaking, Hispanic English Language Learners acquire English and reach English language proficiency?

When viewed as a single non-disaggregated group, Woodburn's Hispanic English Language Learners who enter between kindergarten and second grade were reclassified after a mean of 7.13 years. The median value was 7.0 years. The minimum value for the group was 0.4 years and the maximum value was 14 years.

Figure 4.2

Distribution of Reclassified Students by Years in ESOL Program

Because the focus of the study was the length of time required to reach English language proficiency, students who had not yet become proficient could not be included in analysis, but they make an interesting comparison group comprised of two main sub-groups – students who graduated not proficient and ELLs still enrolled in the district. Among the originally pulled data were 150 English Language Learners who graduated without reaching English proficiency. I explored a separate set of calculations, adding these students and their years in district ESOL programs (which equaled their years in the district) as data points. With these students included the mean increases slightly to 7.58 years, but the median remains 7.0 years.

Among the actual reclassified population included in the study, 43.25% had been in ESOL programs for longer than the mean 7.1 years. Alternately, just 21.07% of the comparable population of currently enrolled Hispanic English Language Learners who

entered the district in grades K – 2 (n = 1615) reported in the original data pull but not included in the study had been in district ESOL programs for longer than 7.1 years. This subgroup had a mean value of 5.06 and a median of 4.0 years in ESOL programs. It will be important to continue to evaluate the long-term language acquisition rates for this group in future study to determine if the mean years to language proficiency remains as more students are able to be included.

Research Question 2

Are Spanish-speaking, Hispanic English Language Learners over- or under-identified for Special Education and/or Talented and Gifted programs?

5473 students were included in the analysis of this question. Identification rates (Table 4.1) were utilized to complete one-way chi-Square analysis of placement rates. Chi-square analysis was completed for both Talented and Gifted (TAG) and Special Education (SpEd) programs serving ELL-Ds. Rates for current and former ELLs were compared with rates for students who entered the school English proficient – as either English Only (EO) or Fluent English Proficient (FEP). The latter refers to students who enter school speaking two languages, including fluent English.

For each, the observed rates for the subgroups were compared with expected rates of identification for the population as a whole to determine the χ^2 value (Table 4.2) for the following null and alternate hypotheses:

H₀: There is no difference in identification rates between English Proficient students and ELLs/former ELLs

H_a: There is a difference in identification rates between English Proficient students and ELLs/former ELLs

Table 4.1

Identification Rates for Special Education and Talented and Gifted Programs by Language Proficiency Classification

Classification	Total Students	Sp Identification Rates	TAG Identification Rates
EO (English Only)	n = 1322	n = 271 20.50%	n = 230 17.40%
FEP (Fluent English Proficient) – Spanish speakers	n = 163	n = 6 3.68%	n = 27 16.56%
FEP (Fluent English Proficient) – Non-Spanish speakers	n = 53	n = 2 3.77%	n = 7 13.21%
Reclassified English Proficient – Spanish speakers	n = 1311	n = 70 5.34%	n = 212 17.54%
Non-English Proficient – Spanish speakers	n = 2149	n = 403 18.75%	n = 69 3.21%
Reclassified English Proficient – Non-Spanish speakers	n = 277	n = 19 6.86%	n = 64 23.10%
Non-English Proficient – Non-Spanish speakers	n = 198	n = 37 18.69%	n = 21 10.61%

Table 4.2

One-Way Chi-Square Analysis of Special Education Identification Rates by Language Proficiency Classification (Spanish/English)

Language Proficiency Classification	Observed Rates of Identification for Special Education	Expected Rates of Identification for Special Education
EO & FEP – All languages	18.14%	15.05%
Reclassified and Non-English Proficient – Spanish Speaking	13.67%	15.05%
Chi-Square Value	$\chi^2 = 0.706$	
Degrees of Freedom	$df = 1$	
	Two-tailed P = 0.4008	

When comparing Special Education identification rates for ELLs and English proficient students, the significance level falls below 60% (Table 4.2). Therefore, the null hypothesis cannot be rejected. When English Language Learners and Reclassified students whose first language is not Spanish were included, similar results were found (Table 4.3). With non-Spanish speaking ELLs included, the significance level falls to under 50%. Again, null hypothesis cannot be rejected.

Table 4.3

One-way Chi-Square Analysis of Special Education Identification Rates by Language Proficiency Classification (Spanish/English/Other)

Language Proficiency Classification	Observed Rates of Identification for Special Education	Expected Rates of Identification for Special Education
EO & FEP – All languages	18.14%	14.76%
Reclassified and Non-English Proficient – Spanish Speaking	13.67%	14.76%
Reclassified and Non-English Proficient – Non-Spanish Speaking	11.79%	14.76%
Chi-Square Value	$\chi^2 = 1.381$	
Degrees of Freedom	$df = 2$	
	Two-tailed P = 0.5013	

There is not sufficient evidence to support a statistically significant difference between students who enter school English proficient and those who enter as Spanish-speaking English Language Learners in identification rates for special education. Similarly, there is not a statistically significant difference when English Language Learners with first languages other than Spanish are included. This is an important finding when considering further research questions. It is important that special education identification be

independent of language proficiency status in order to accurately describe the impact of special education needs on English language acquisition timelines.

Analysis was also completed for Talented and Gifted Program identification rates using the following null and alternate hypotheses:

H_0 : There is no difference in identification rates between English Proficient students and ELLs/former ELLs

H_a : There is a difference in identification rates between English Proficient students and ELLs/former ELLs

When comparing Talented and Gifted program identification rates for ELLs and English proficient students, a difference based on classification is indicated at a significance level greater than 96% (Table 4.4). Therefore, the null hypothesis can be rejected.

Table 4.4

One-way Chi-Square Analysis of TAG Identification Rates by Language Proficiency Classification (Spanish/English)

Language Classification	Observed Rates of Identification for Talented and Gifted programs	Expected Rates of Identification for Talented and Gifted programs
EO & FEP – All languages	17.17%	11.26%
Reclassified and Non-English Proficient – Spanish Speaking	8.12%	11.26%
Chi-Square Value	$\chi^2 = 4.316$	
Degrees of Freedom	$df = 1$	
	Two-tailed P = 0.0378	

When English Language Learners and Reclassified students whose first language is not Spanish were included, similar results were found (Table 4.5). When ELLs with first

languages other than Spanish were included, the significance level is 97.5%, supporting again the rejection of the null hypothesis. The results support the alternate hypothesis – that there is a statistically difference in identification rates for talented and gifted programs for students who enter school English proficient (EO and FEP) and those who enter as Spanish-speaking English Language Learners (current ELLs and Reclassified students).

Table 4.5

One-way Chi-Square Analysis of TAG Identification Rates by Language Proficiency Classification (Spanish/English/Other)

Language Classification	Observed Rates of Identification for TAG programs	Expected Rates of Identification for TAG programs
EO & FEP – All languages	17.17%	11.51%
Reclassified and Non-English Proficient – Spanish Speaking	8.12%	11.51%
Reclassified and Non-English Proficient – Non-Spanish Speaking	17.89%	11.51%
Chi-Square Value	$\chi^2 = 7.38$	
Degrees of Freedom	$df = 2$	
	Two-tailed P = 0.025	

When considering TAG program identification rates, there is sufficient evidence to reject the null hypothesis, which assumes no difference in identification rates for talented and gifted programs for students who enter school English proficient (EO and FEP), those who enter as Spanish-speaking English Language Learners (current ELLs and Reclassified students) and those who enter as English Language Learners with first languages other than Spanish.

Research Question 3

What effect, if any, does a disability or giftedness have on the rate of English language acquisition and the attainment of English language proficiency for Spanish-speaking, Hispanic English Language Learners?

Data from 1311 Spanish-speaking, reclassified students (former English Language Learners) were analyzed. Using one-way Chi-square analysis of means, average students (AVG), Talented and Gifted students (TAG) and ELLs with Disabilities (ELL-D) sub-population means for evaluation (Table 4.6), the following hypotheses were considered:

H₀: There is no difference in time required to reach English proficiency when comparing average ELLs, ELL-Ds and TAG ELLs.

H_a: There is a difference in time required to reach English proficiency when comparing average ELLs, ELL-Ds and TAG ELLs.

One-way Chi-square analysis was completed to compare average ELLs, TAG ELLs and ELL-Ds, but the null hypothesis cannot be rejected at this significance level (Table 4.6).

Table 4.6

One-way Chi-Square Analysis of English Language Acquisition Rates for TAG ELLs, ELL-Ds and Average ELLs

Student sub-population	Observed Average Years to English Proficiency	Expected Average Years to English Proficiency
Average Students (AVG)	7.354	7.128
Talented and Gifted Students (TAG)	5.423	7.128
ELLs with Disabilities (ELL-D)	8.933	7.128
Chi-Square Value	$\chi^2 = 0.872$	
Degrees of Freedom	$df = 2$	
	Two-tailed P = 0.6466	

With a significance level of less than 36%, the chi-square results did not support statistically significant differences among sub-population classifications. However, after creating a frequency distribution table, it was clear that the distribution shapes varied. A two-way contingency table analysis was needed for confirmation. With this form of analysis, the null and alternate hypotheses are framed in terms of the independence of distribution shape rather than the identification of a pattern across the means:

H_0 = the distribution shape is independent of classification as TAG, ELL-D or average

H_a = the distribution shape is dependent on classification as TAG, ELL-D or average

Values for the *expected* row cells were calculated using information from the frequency charts of raw data, reported in the *observed* rows cells. These cells values were then used to determine the chi-square value in each column. Analysis comparing TAG and average ELLs was conducted (Table 4.7). In this case, values from 0 to 1.9 were pooled and values greater than 10 were pooled to insure sufficient counts in each cell. For analysis of TAG and average ELLs, a total chi-square value of 129.35 was found through contingency table analysis. This value supports rejection of the null hypothesis and support for the alternate hypothesis of a significant difference between average and TAG student rates of English language acquisition. This hypothesis testing resulted in support for the alternate hypothesis at a greater than 99.99% significance level, even though a one-way test with these same two groups yielded a χ^2 value of only 0.381. Unfortunately, to conduct Contingency Table Analysis, all cells must have at least a value of five to complete analysis (McClave & Sincich, 2000), so contingency table analysis for ELL-Ds was not possible.

Table 4.7

Two-way Contingency Table Analysis of English Language Acquisition Rates for TAG ELLs and Average ELLs

	Years										
TAG	< 2	2 – 2.9	3 – 3.9	4 – 4.9	5 – 5.9	6 – 6.9	7 – 7.9	8 – 8.9	9 – 9.9	≥ 10	Row Total
Obs	5	11	19	32	64	32	23	9	8	9	212
Exp	2.21	6.47	8.68	19.41	34.23	37.29	21.80	21.46	19.24	41.21	
χ^2	3.52	3.17	12.27	8.17	25.89	0.75	0.07	7.23	6.57	25.18	92.82
	Years										
AVG	< 2	2 – 2.9	3 – 3.9	4 – 4.9	5 – 5.9	6 – 6.9	7 – 7.9	8 – 8.9	9 – 9.9	≥ 10	Row Total
Obs	8	27	32	82	137	187	105	117	105	233	1033
Exp	10.79	22.40	26.55	68.04	113.67	115.16	87.12	97.08	87.12	193.32	
χ^2	0.72	0.94	1.12	2.86	4.79	6.53	3.67	4.09	3.67	8.14	36.53
Col Total	13	38	51	114	201	219	128	126	113	242	1245
Total Chi-square Value										$\chi_t^2 = 129.35$	
Two-tailed P										P < 0.0001	

After completing the two-way chi-square analysis, relative frequency histograms were completed (Figures 4.3 - 4.5). Histograms allow observation of distribution differences even when 1) one-way chi-square analyses failed to demonstrate differences and/or 2) when frequency table numbers are insufficient to complete individual-level chi-square analysis. Moreover, the use of histograms allows comparison of distribution shapes across sub-populations even when sample sizes vary.

While the means are not significantly different, the relative frequency histograms reveal dramatic differences in the distribution patterns among the three sub-populations being evaluated. The TAG student distribution (Figure 4.4) takes on the traditional bell curve pattern with a strong peak between 5 and 5.9 years, the range into which the mean (5.42)

falls. Conversely, the average student histogram distribution (Figure 4.3) covers a broad range with small peaks at values lower than the mean, followed by nearly identical representation across a four year span. The histogram for ELL-Ds (Figure 4.5), with a mean of 8.93 years, shows relatively low representation across the range from zero to 8.9 years, followed by large leveled population samples over the final five years (9 – 13.9).

Figure 4.3

Relative Frequency Histogram - Years to English Proficiency for Average ELLs

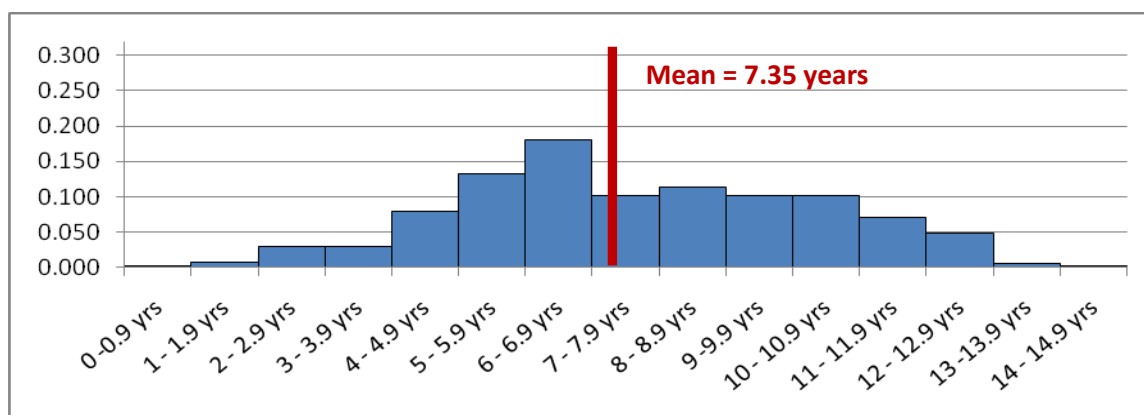


Figure 4.4

Relative Frequency Histogram - Years to English Proficiency for TAG ELLs

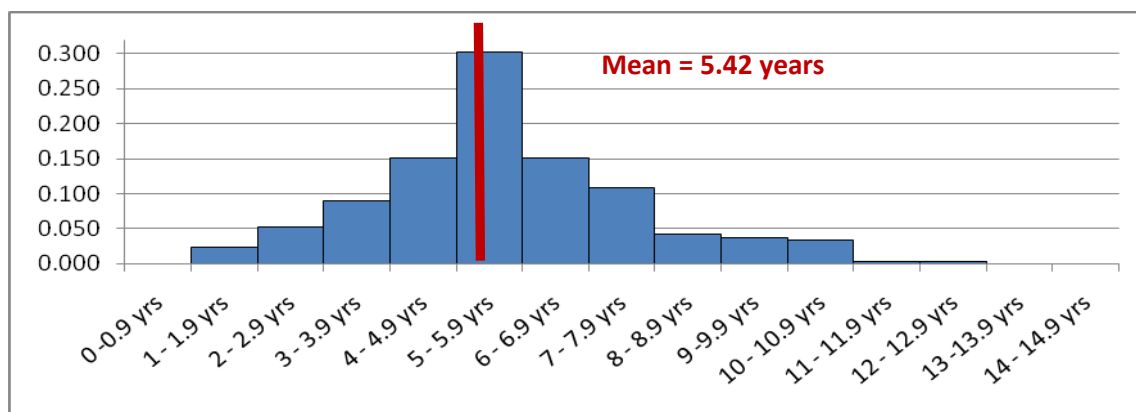
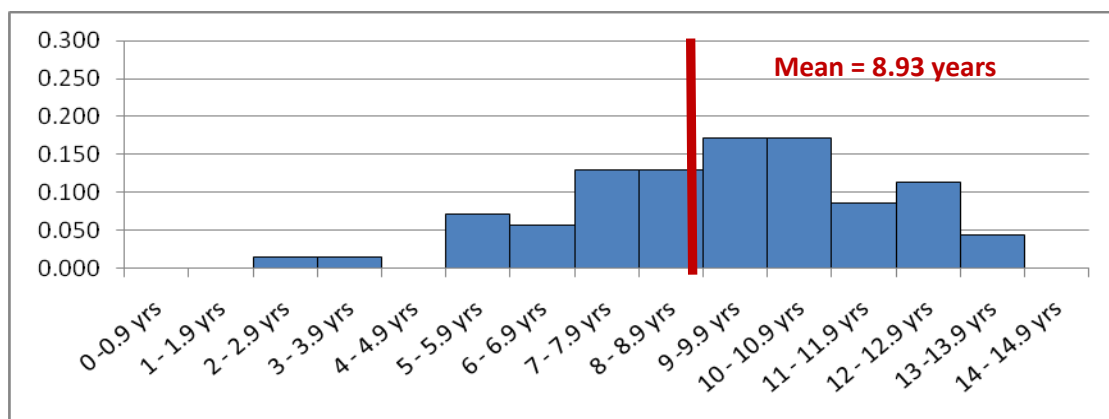


Figure 4.5

Relative Frequency Histogram - Years to English Proficiency for ELL-Ds



For another level of analysis related to the same hypotheses, two z-tests (Tables 4.8 – 4.9) were conducted with the descriptive statistics data for 1) the average student population and the students with disabilities population and 2) the average student population and the TAG student population. Thus, in comparing both TAG ELLs and ELL-Ds to their peers without exceptionalities, the critical values for z support rejection of the null hypothesis asserting no difference at greater than 99.99% significance levels.

Table 4.8

z-test Comparing English Language Acquisition Rates of Average ELLs and ELL-Ds

Average ELLs	ELL-Ds
$n_1 = 1033$ $\bar{x}_1 = 7.3537$ $\sigma_1 = 2.6087$	$n_2 = 70$ $\bar{x}_2 = 8.933$ $\sigma_2 = 2.430$
$Z = -5.237$	
Two-tailed $P < 0.0001$	

Table 4.9

z-test Comparing English Language Acquisition Rates of Average ELLs and TAG ELLs

Average ELLs	TAG ELLs
$n_1 = 1033$ $\bar{x}_1 = 7.3537$ $\sigma_1 = 2.6087$	$n_2 = 212$ $\bar{x}_2 = 5.423$ $\sigma_2 = 1.996$
$Z = 12.12$	
Two-tailed $P < 0.0001$	

Research Question 4

What effect, if any, does native language instruction through bilingual programs have on the rate of English language acquisition for Spanish-speaking, Hispanic English Language Learners?

With average rates established and differences in acquisition rates among average ELLs, TAG ELLs and ELL-Ds considered, research question 4 explored the effect of language program model on English language acquisition. Data was analyzed utilizing the following null and alternate hypotheses regarding the effect of language program model:

H_0 : There is no difference in time required to reach English proficiency when comparing ELLs enrolled in Bilingual programs and ELLs enrolled in English Immersion programs.

H_a : There is a difference in time required to reach English proficiency when comparing ELLs enrolled in Bilingual programs and ELLs enrolled in English Immersion programs.

The chi-square value and significance level from one-way chi-square analysis did not support the alternate hypothesis (Table 4.10). However, after creating a frequency distribution table, it was clear that the distribution shapes varied. Once again, two-way contingency table analysis was utilized.

Table 4.10

One-way Chi-Square Analysis of English Language Acquisition Rates for ELLs in English Immersion and Bilingual Program

Instructional Program	Observed Mean Years to English Language Proficiency	Expected Mean Years to English Language Proficiency
Bilingual Program	6.956	7.128
English Immersion Program	7.933	7.128
Chi-square value	$\chi^2 = 0.1205$	
Degrees of Freedom	$df = 1$	
	Two-tailed P = 0.7285	

A frequency distribution table was completed to compare individual rates and distribution of measures of years required to reach English language proficiency for students in Bilingual education programs (BP) and English Immersion programs (EI) using the following null and alternate hypotheses:

H_0 = the distribution shape is independent of program type

H_a = the distribution shape is dependent on program type

One-way chi-square analysis did not yield support for a statistically significant difference. However, two-way contingency table analysis (Table 4.11) indicated rejection of the null hypothesis with a total $\chi^2 = 52.14$ and a significance level of greater than 99.99%. A statistically significant difference between the years required to reach English language acquisition for the two program models can be supported, even though one-way analysis yielded a chi-square value of only 0.1205.

Table 4.11

Two-way Contingency Table Analysis of English Language Acquisition Rates for ELLS in English Immersion and Bilingual Programs

Bilingual Program												
Years												
	≤ 2.9	3 – 3.9	4 – 4.9	5 – 5.9	6 – 6.9	7 – 7.9	8 – 8.9	9 – 9.9	10 – 10.9	11 – 11.9	≥ 12	Row Total
Obs	42	42	94	184	203	120	109	90	95	57	45	1081
Exp	42.88	42.88	94	168.21	183.88	112.96	110.49	102.25	102.25	65.14	56.07	
χ^2	0.02	0.02	0	1.48	1.99	0.44	0.02	1.47	0.51	1.02	2.18	9.15
English Immersion Program												
Years												
	≤ 2.9	3 – 3.9	4 – 4.9	5 – 5.9	6 – 6.9	7 – 7.9	8 – 8.9	9 – 9.9	10 – 10.9	11 – 11.9	≥ 12	Row Total
Obs	10	10	20	20	20	17	25	34	29	22	23	230
Exp	9.12	9.12	20	35.79	39.12	24.04	23.51	21.75	21.75	13.86	11.93	
χ^2	0.08	0.08	0	6.97	9.34	2.06	0.09	6.90	2.42	4.78	10.27	42.99
Total	52	52	114	204	223	137	134	124	124	79	68	1311
Total Chi-square Value											$\chi^2 = 52.14$	
Two-tailed P											P < 0.0001	

Once again, after completing the chi-square analysis, relative frequency histograms were completed to demonstrate the differences in distribution (Figures 4.6 – 4.7). The relative frequency histograms reveal differences between the two programs being evaluated. The high two-way chi-square value is mirrored in relative frequency histograms created for each program, confirming the differences in distribution despite only minor differences in means.

Figure 4.6

Relative Frequency Histogram - Years to English Proficiency for ELLs in Bilingual Education Programs

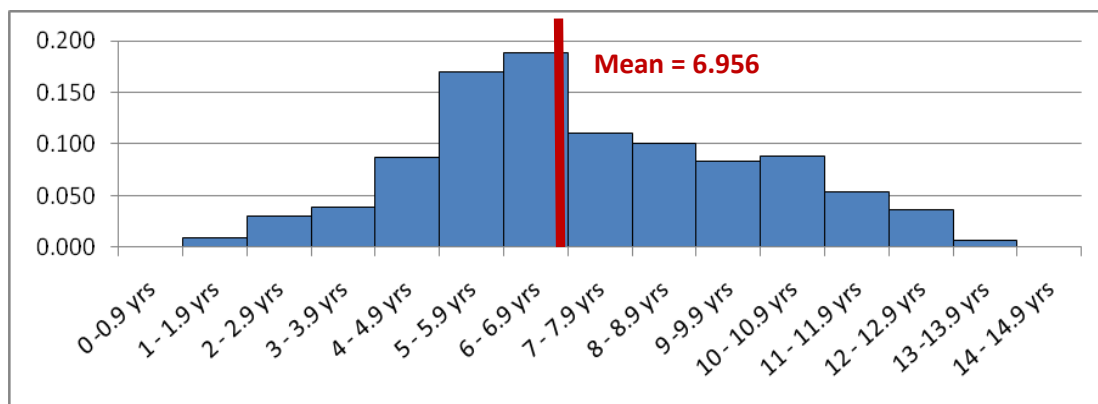
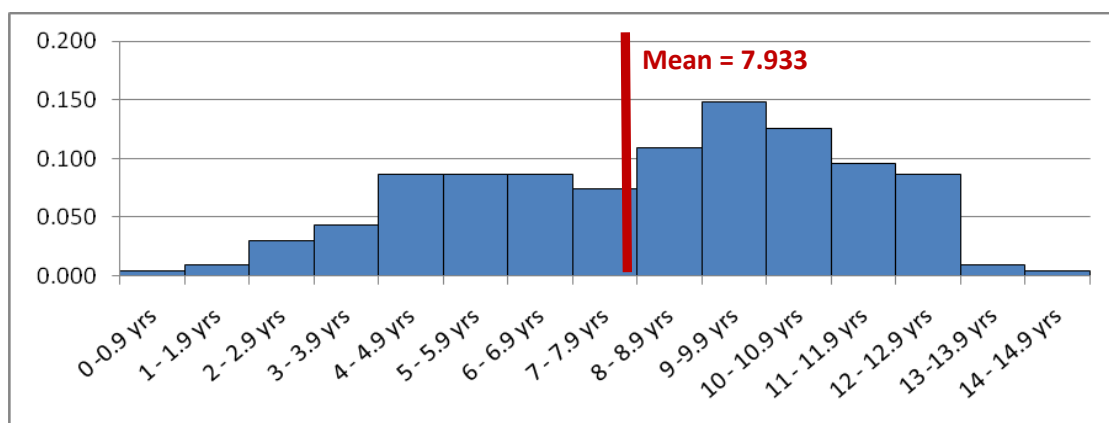


Figure 4.7

Relative Frequency Histogram - Years to English Proficiency for ELLs in English Immersion Programs



The data from the two-way test and the relative frequency histograms supports the alternate hypothesis of a significant difference in program impact on ELLs. To further support this hypothesis, a z-test was conducted with the descriptive statistics data for the ELL population (Table 4.12).

Table 4.12

z-test Comparing English Language Acquisition Rates of ELLs in Bilingual and English Immersion Programs

Bilingual Program	English Immersion
$n_1 = 1081$ $\bar{x}_1 = 6.9562$ $\sigma_1 = 2.5425$	$n_2 = 230$ $\bar{x}_2 = 7.933$ $\sigma_2 = 2.950$
$Z = -4.66$	
Two-tailed $P < 0.0001$	

At a significance level of greater than 99.99%, the null hypothesis of no difference in program impact on years to proficiency can be rejected. During program analysis an interesting sub-population emerged: students in bilingual programs who experienced a gap in their bilingual education during which they were switched to an English Immersion program prior to acquiring English proficiency. These changes tended to occur in late elementary or, most often, in middle school. Further analysis revealed that this switch in program prior to English proficiency had a significant impact on the language acquisition rates for these students. This will be analyzed and discussed further in the “Additional Findings” section located after Research Question 5.

Research Question 5

If there is an effect due to program type (Bilingual or English Immersion), does it differ for gifted or disabled English language learners versus non-special needs students?

To establish a baseline, the effect of instructional program model on English language acquisition rates was first analyzed for average students without exceptionalities using the following null and alternate hypotheses:

H_0 : There is no difference in time required to reach English proficiency when comparing average ELLs in bilingual programs and average ELLs in English Immersion Programs.

H_a : There is a difference in time required to reach English proficiency when comparing average ELLs in bilingual programs and average ELLs in English Immersion Programs.

Table 4.13

One-way Chi-square Analysis of English Language Acquisition Rates for Average ELLs in Bilingual and English Immersion Programs

Instructional Program	Observed Mean Years to English Language Proficiency	Expected Mean Years to English Language Proficiency
Bilingual Program	7.180	7.354
English Immersion Program	8.139	7.354
Chi-square value	$\chi^2 = 0.1141$	
Degrees of Freedom	$df = 1$	
	Two-tailed P = 0.7355	

Once again, one-way chi-square analysis indicated very low levels of significance - less than 27% (Table 4.13), but two-way contingency table analysis yielded significant values related to the distribution shape (Table 4.14). With a total two-way chi-square value of 42.4, the null hypothesis proposing no difference in distribution shape can be rejected at a significance level of greater than 99.99%.

The high two-way chi-square value and significance level is mirrored in relative frequency histograms created for each program (Figures 4.8 – 4.9), confirming the differences in distribution despite only minor differences in means. The data from the two-way chi-square test and the relative frequency histograms indicates a significant difference in program impact on average students.

Table 4.14

Two-way Contingency Table Analysis of English Language Acquisition Rates for Average ELLs in Bilingual Programs (BP) and English Immersion Programs (EI)

	Years in Bilingual Program											
	≤ 2.9	3 – 3.9	4 – 4.9	5 – 5.9	6 – 6.9	7 – 7.9	8 – 8.9	9 – 9.9	10 – 10.9	11 – 11.9	≥ 12	Row Total
Obs	28	27	66	124	172	88	96	74	79	54	38	846
Exp	28.66	26.21	67.16	112.2	153.15	85.99	95.82	85.99	85.99	58.97	45.86	
χ^2	0.02	0.02	0.02	1.24	2.32	0.05	0	1.67	0.57	0.41	1.35	7.69
	Years in English Immersion Program											
	≤ 2.9	3 – 3.9	4 – 4.9	5 – 5.9	6 – 6.9	7 – 7.9	8 – 8.9	9 – 9.9	10 – 10.9	11 – 11.9	≥ 12	Row Total
Obs	7	5	16	13	15	17	21	31	26	18	18	187
Exp	6.34	5.79	14.84	24.80	33.85	19.01	21.18	19.01	19.01	13.03	10.14	
χ^2	0.07	0.11	0.09	5.61	10.50	0.21	0	7.56	2.57	1.90	6.09	34.71
Total	35	32	82	137	187	105	117	105	105	72	56	1033
Total Chi-square Value											$\chi^2_t = 42.4$	
Two-tailed P											P < 0.0001	

Figure 4.8

Relative Frequency Histogram - Years to English Proficiency for Average ELLs in Bilingual Education Programs

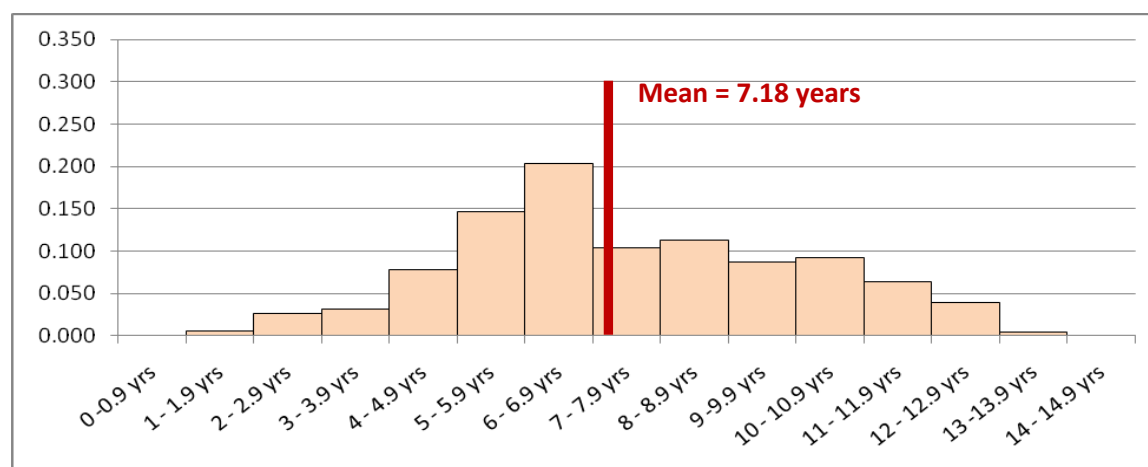
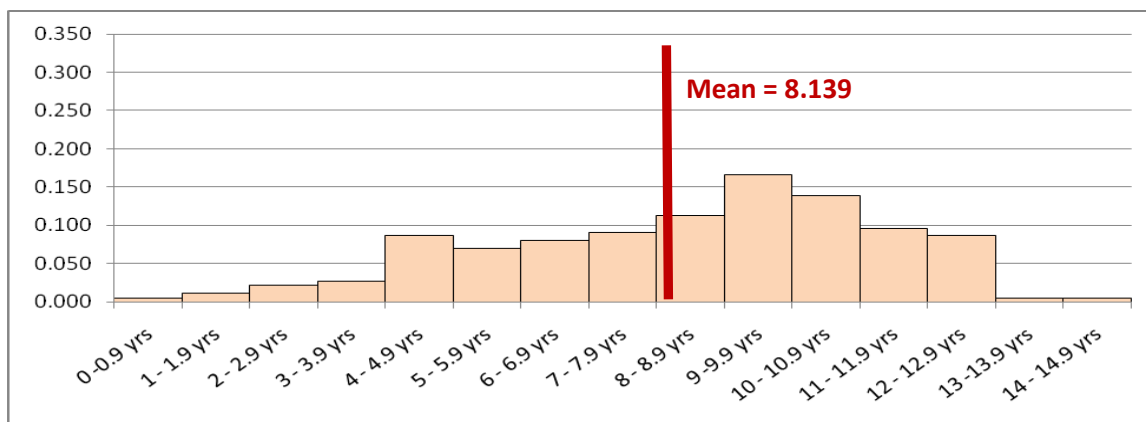


Figure 4.9

Relative Frequency Histogram - Years to English Proficiency for Average ELLs in English Immersion Programs



For further hypothesis testing, a z-test was conducted with the descriptive statistics data for the average student population (Table 4.15). The z-test results, at a greater than 99.99% significance level, support rejection of the null hypothesis.

Table 4.15

Z-test Comparing English Language Acquisition Rates of Average ELLs in Bilingual and English Immersion Programs

Bilingual Program	English Immersion
$n_1 = 846$ $\bar{x}_1 = 7.1801$ $\sigma_1 = 2.5284$	$n_2 = 187$ $\bar{x}_2 = 8.139$ $\sigma_2 = 2.821$
$Z = -4.28$	
Two-tailed $P < 0.0001$	

Analysis of ELLs in TAG programs yielded different results when considering the following hypotheses:

H_0 : There is no difference in time required to reach English proficiency when comparing

TAG ELLs in bilingual programs and TAG ELLs in English Immersion Programs.

H_a : There is a difference in time required to reach English proficiency when comparing

TAG ELLs in bilingual programs and TAG ELLs in English Immersion Programs.

At less than 10% significance level, the chi-square results comparing English Language Acquisition rate means for TAG students in Bilingual and English Immersion programs do not support the rejection of the null hypothesis (Table 4.16). Therefore, assertion of the alternate hypothesis - that program type (Bilingual versus English Immersion) produces statistically significant differences in mean years to English proficiency for Talented and Gifted Students - is not supported.

Table 4.16

One-way Chi-Square Analysis of English Language Acquisition Rates for TAG ELLs in English Immersion and Bilingual Program

Instructional Program	Observed Mean Years to English Language Proficiency	Expected Mean Years to English Language Proficiency
Bilingual Program	5.463	5.423
English Immersion Program	5.128	5.423
Chi-Square Value	$\chi^2 = 0.0163$	
Degrees of Freedom	$df = 1$	
	Two-tailed P = 0.8984	

Two-way chi-square analysis through a contingency table was not possible due to individual cell sample sizes, but the failure to reject the null hypothesis is reflected in relative frequency histograms, which show only minimal variance in distribution (Figures 4.10 – 4.11). For further confirmation, additional hypothesis testing through a z-test was also conducted, but the significance level was just over 50% (Table 4.17), insufficient to reject the null hypothesis.

Figure 4.10

Relative Frequency Histogram - Years to English Proficiency for TAG ELLs in Bilingual Programs

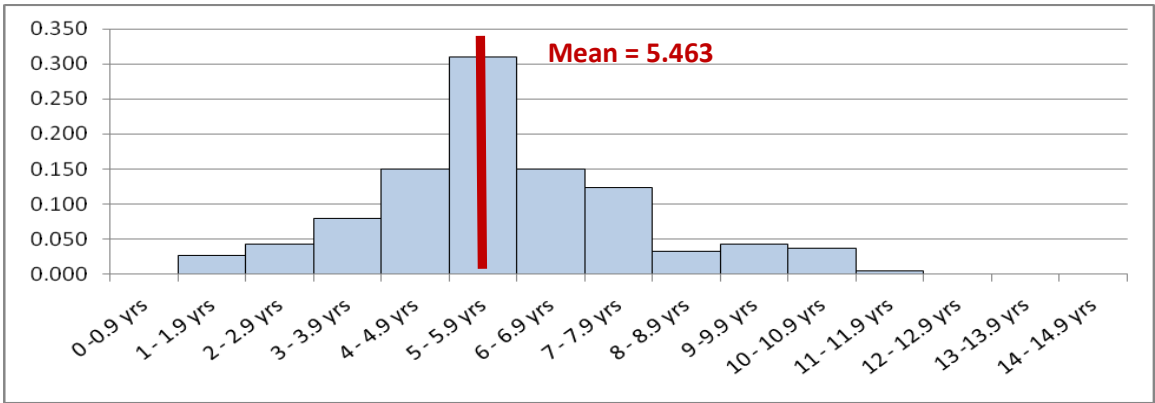


Figure 4.11

Relative Frequency Histogram - Years to English Proficiency for TAG ELLs in English Immersion Programs

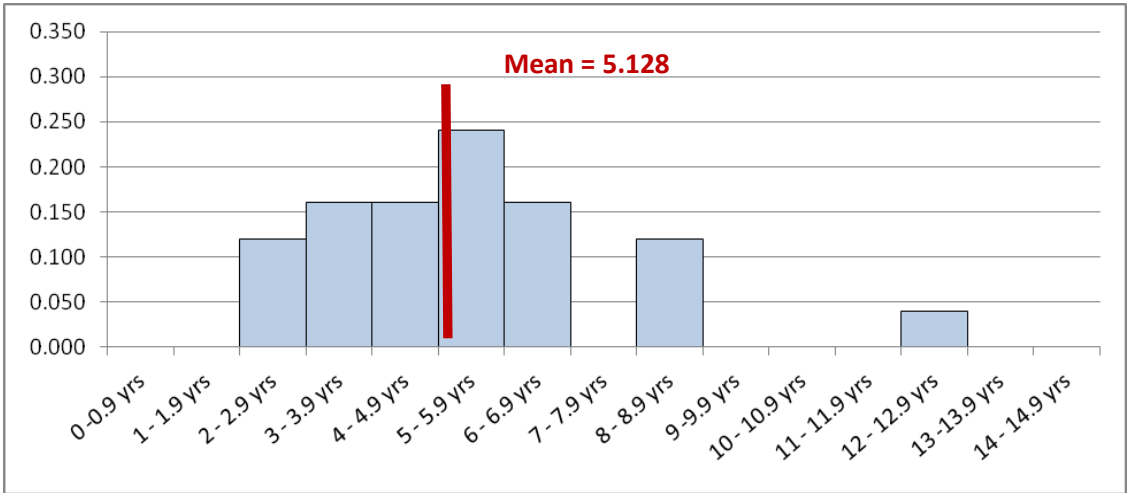


Table 4.17

z-test Comparing English Language Acquisition Rates of TAG ELLs in Bilingual and English Immersion Programs

Bilingual Program	English Immersion
$n_1 = 187$ $\bar{x}_1 = 5.463$ $\sigma_1 = 1.954$	$n_2 = 25$ $\bar{x}_2 = 5.128$ $\sigma_2 = 2.309$
$Z = 0.693$	
Two-tailed $P = 0.4883$	

When considering English Language Acquisition rates for ELL-Ds, one-way chi-square analysis of means yielded insignificant values with significance level less than 7% (Table 4.18) for the following null and alternate hypotheses:

H_o : There is no difference in time required to reach English proficiency when comparing

ELL-Ds in bilingual programs and ELL-Ds in English Immersion Programs.

H_a : There is a difference in time required to reach English proficiency when comparing

ELL-Ds in bilingual programs and ELL-Ds in English Immersion Programs.

Table 4.18

One-way Chi-Square Analysis of English Language Acquisition Rates for ELL-Ds with All Disability Types in English Immersion versus Bilingual Programs

Instructional Program	Observed Mean Years to English Language Proficiency	Expected Mean Years to English Language Proficiency
Bilingual Program	8.833	8.93
English Immersion Program	9.167	8.93
Chi-square Value	$\chi^2 = 0.0073$	
Degrees of Freedom	$df = 1$	
	Two-tailed $P = 0.9319$	

Relative frequency histograms were again created for each program (Figures 4.12 – 4.13). The distribution patterns within the histograms were difficult to interpret, but the lack of obvious differences in distribution further supports the chi-square results.

Figure 4.12

Relative Frequency Histogram - Years to English Proficiency for ELL-Ds in Bilingual Programs (All Disability Types)

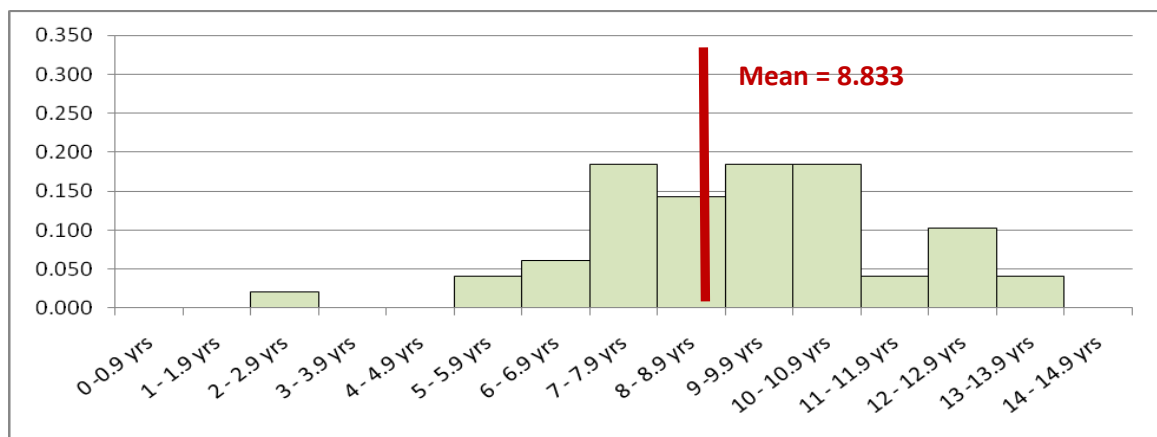
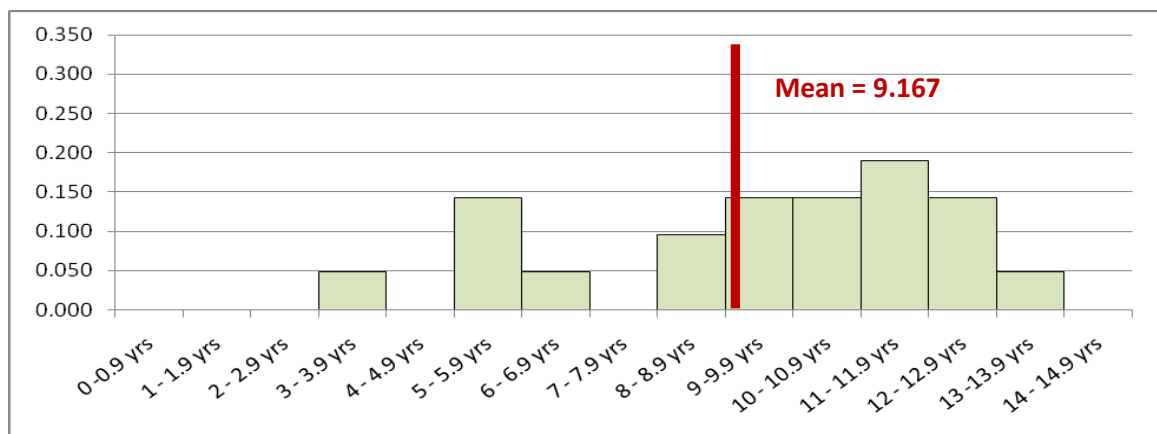


Figure 4.13

Relative Frequency Histogram - Years to English Proficiency for ELL-Ds in English Immersion Programs (All Disability Types)



Finally, while two-way chi-square analysis was not possible due to distribution values, a z-test was conducted. However, with significance levels of just over 36% for the z-test, rejection of the null hypothesis was not supported (Table 4.19).

Table 4.19

z-test Comparing English Language Acquisition Rates of ELL-Ds in Bilingual and English Immersion Programs

Bilingual Program	English Immersion
$n_1 = 49$ $\bar{x}_1 = 8.833$ $\sigma_1 = 2.242$	$n_2 = 21$ $\bar{x}_2 = 9.167$ $\sigma_2 = 2.869$
$Z = -0.4749$	
Two-tailed $P = 0.6349$	

The null hypothesis could not be rejected when the whole sub-population of ELL-Ds was considered. However, the category of students with disabilities covers a wide range of disabilities, such as hearing impairments, autism, and health conditions, in addition to specific learning disabilities. Unfortunately, the student populations for many of the disability categories were too small for further analysis. One sub-population – ELL-Ds with Specific Learning Disability – did have sufficient students for further analysis. One-way chi-square (Table 4.20) was conducted, but, with a significance level of just over 30%, the null hypothesis could not be rejected.

As with the ELL-D subgroup as a whole, there were insufficient numbers to conduct contingency table analysis, but hypothesis testing was conducted. Due to smaller sample sizes, a t-test, rather than a z-test was conducted. When analysis of program type effects was conducted via a t-test (Table 4.21), results supported rejection of the null hypothesis at a nearly 98% significance level.

Table 4.20

One-way Chi-Square Analysis of English Language Acquisition Rates in English Immersion versus Bilingual Program for ELL-Ds with Specific Learning Disability

Instructional Program	Observed Mean Years to English Language Proficiency	Expected Mean Years to English Language Proficiency
Bilingual Program	9.189	9.582
English Immersion Program	10.731	9.582
Chi-square Value	$\chi^2 = 0.154$	
Degrees of Freedom	$df = 1$	
	$P = 0.6947$	

Table 4.21

t-test Comparing English Language Acquisition Rates of ELL-Ds with Specific Learning Disabilities in Bilingual and English Immersion Programs

Bilingual Program	English Immersion
$n_1 = 38$ $\bar{x}_1 = 9.189$ $\sigma_1 = 2.241$	$n_2 = 13$ $\bar{x}_2 = 10.731$ $\sigma_2 = 1.394$
$\sigma_p^2 = 4.268$	
$t = -2.323$	
Two-tailed $P = 0.0202$	

Once again, while one-way chi-square analysis of means yielded insignificant values that did not support rejection of the null hypothesis, t-test results support rejection of the null hypothesis at greater than a 98% significance level. This indicates that while statistically significant differences cannot be found related to program model for the overall ELL-D population, there is a significant difference for ELL-Ds with specific learning disabilities. For further analysis, relative frequency histograms (Figures 4.14 – 4.15) were created. The patterns provide additional support for the alternate hypothesis.

Figure 4.14

Relative Frequency Histogram - Years to English Proficiency for ELL-Ds with Specific Learning Disabilities in Bilingual Programs

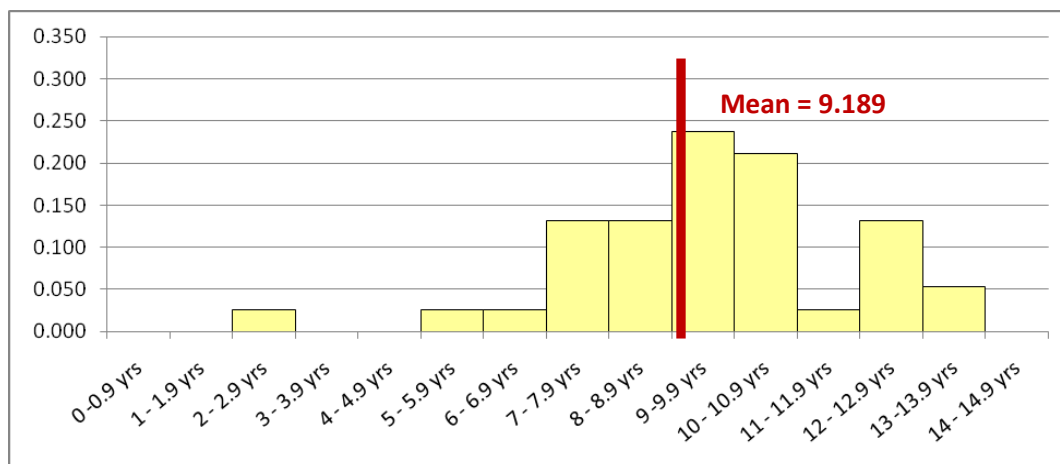
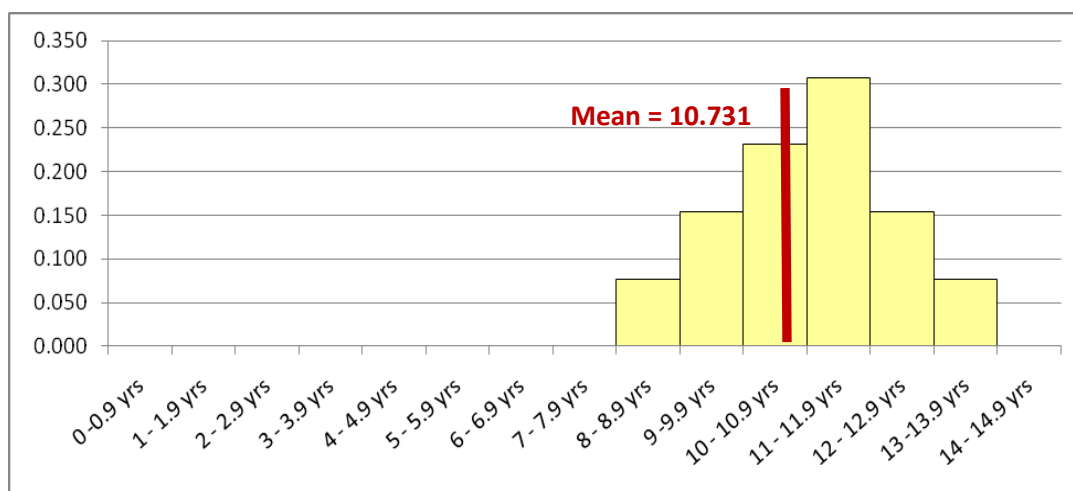


Figure 4.15

Relative Frequency Histogram - Years to English Proficiency for ELL-Ds with Specific Learning Disabilities in English Immersion Programs



Emerging Question

Is there an impact on English language acquisition rates for Spanish-speaking ELLs among those moved from a Bilingual program into an English Immersion program prior to reaching English language proficiency?

H₀: There is no difference in time required to reach English proficiency when comparing ELLs with and without a gap in bilingual program participation.

H_a: There is a difference in time required to reach English proficiency when comparing ELLs with and without a gap in bilingual program participation.

One-way chi-square analysis of means yielded insignificant values (Table 4.22) and rejection of the null hypothesis was not strongly indicated with only an 83% significance level. Two-way chi-square via contingency table analysis was not possible, but a z-test was conducted and a difference was supported at a great than 99.99% significance level (Table 4.23). Together, these two forms of analysis support the rejection of the null hypothesis and indicate significant differences in acquisition rates.

Table 4.22

One-way Chi-Square Analysis of English Language Acquisition Rates For All Students in Bilingual Programs With and Without Gaps in Program

Instructional Program	Observed Mean Years to English Language Proficiency	Expected Mean Years to English Language Proficiency
Bilingual Program – with gap	10.566	6.9562
Bilingual Program – no gap	6.6045	6.9562
Chi-square Value	$\chi^2 = 1.89$	
Degrees of Freedom	$df = 1$	
	$P = 0.1692$	

Table 4.23

z-test Comparing English Language Acquisition Rates Bilingual Program ELLs With and Without a Gap in Program Model

Bilingual Program with Gap	Bilingual Program without Gap
$n_1 = 96$ $\bar{x}_1 = 10.566$ $\sigma_1 = 1.932$	$n_2 = 985$ $\bar{x}_2 = 6.6045$ $\sigma_2 = 2.3107$
$z = 18.82$	
Two-tailed $P < 0.0001$	

Further analysis of relative frequency histograms (Figures 4.16 – 4.17) support the z-test results, showing dramatic differences in both mean and distribution patterns. Although not one of the original research questions, the contrasts are striking and the question of the importance of program continuity is clearly indicated.

Figure 4.16

Relative Frequency Histogram – English Language Acquisition Rates for All ELLs in Bilingual Programs – No Gaps

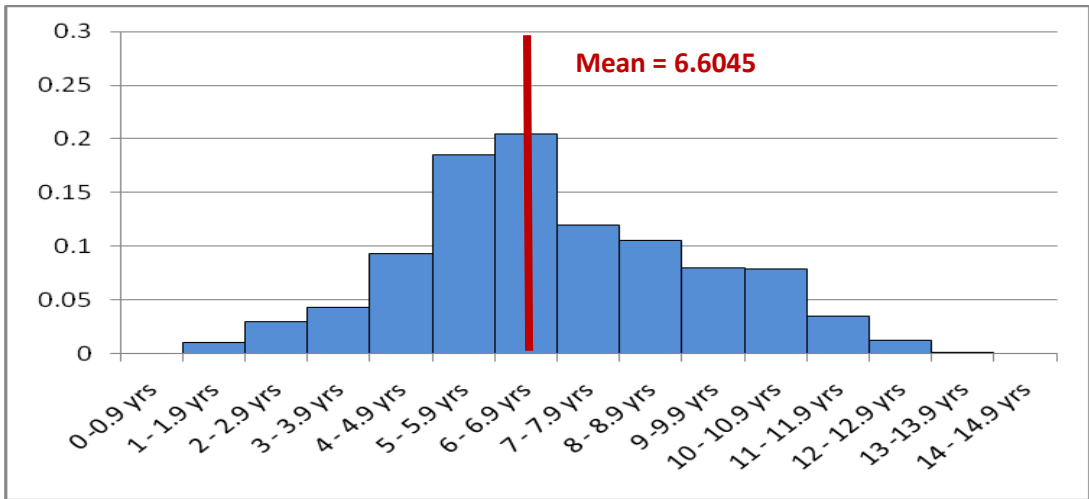
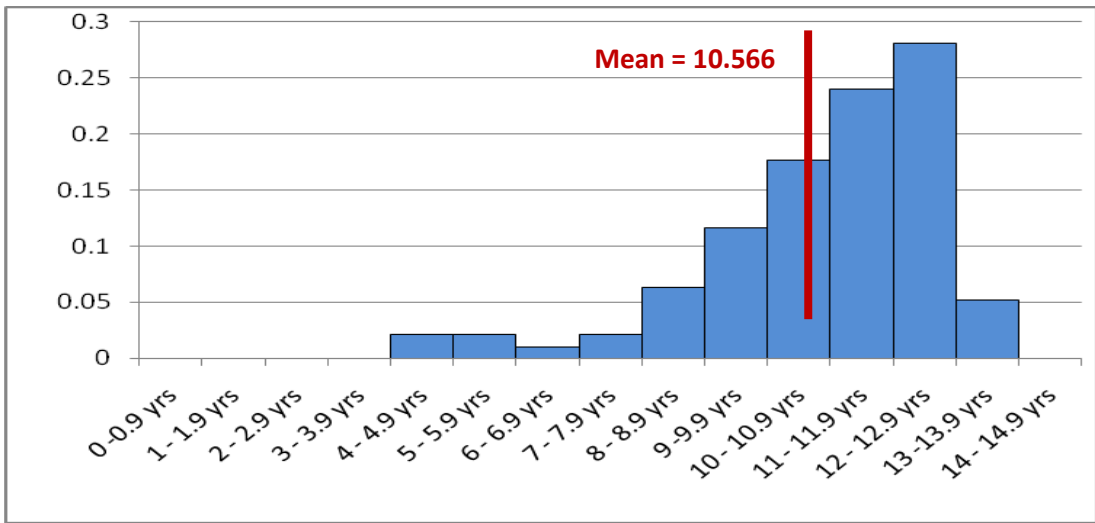


Figure 4.17

Relative Frequency Histogram – English Language Acquisition Rates for All ELLs in Bilingual Programs with Gap in Program



Chapter V: Findings and Discussion

The purpose of this study was to examine the relationship of significant factors associated with second language acquisition timelines for Hispanic English Language Learners, with a particular focus on students with exceptionalities, both disabilities and giftedness. While the previous chapter focused on presentation of the descriptive and inferential statistical analysis results for data collected in this study, the current chapter will focus on synthesizing this information to discuss the research questions. Below is a presentation of findings and data analysis discussion.

Specific Findings and Discussion

More than 20 years ago, Ramirez, Yuen and Ramey (1991) determined that students in late-exit bilingual education models had accelerated growth rates compared with English Language Learners in other program models. Advocacy for the benefits of bilingual education and native language development (Thomas & Collier, 1997, 1999, 2002, 2003; Collier & Thomas, 2004, 2005; Collier, Thomas & Tinajero, 2006) continued to appear in research literature, yet these findings have been largely ignored in developing academic programs for the exploding English Language Learner population in the United States (Kindler, 2008), nearly 67% of whom are born in the United States (Zehr, 2009a) and begin their schooling in US schools.

Achievement gaps between English Language Learners and their English proficient peers persist and school districts struggle to meet the expectations for the AMAOs, which set the expectation for all English Language Learners to acquire proficient English in five years. This target population of this study is representative of the fastest-growing demographic in America's schools – Spanish-speaking English Language Learners. The results build on the

research base that began in the 1990s, but which has failed to grow in concert with the changing demographics of US schools. The results of this study will provide important information for both districts with large English Language Learner populations and also those which will see changing demographics over the coming years and will need to be prepared to best serve their students.

Research Question 1 addressed the rate at which Hispanic English Language Learners acquire English and reach English language proficiency. This rate was found to be, on average, 7.13 years for the full population of reclassified English Language Learners who entered the school district between kindergarten and second grade. It is important to emphasize, however, that the range of time requirements spanned from less than one year to more than thirteen, with more than 43% of all reclassified students requiring more than the mean 7.13 years. An additional 150 students, not included in the study, did not reach proficiency prior to graduation despite spending an average of 12.28 years in district schools and ESOL programs.

It is somewhat difficult to determine exactly how these results fit into the current knowledge base, given the wide range of predicted timelines found even among the small group of most commonly cited research on English language acquisition timelines. Varying proposed time requirements for ELLs to reach proficiency include:

- at least four to seven years with more time needed for low SES students (Hakuta, Goto Butler and Witt, 2000)
- seven to ten years for ELLs with no native language instruction (V. Collier, 1995)
- five to seven years for ELLs with 2 to 3 years of native language instruction prior to learning English (V. Collier, 1995)

- minimum of six years (Goldenberg, 2008)

At a mean 7.13 years for an overwhelmingly low SES, Spanish-speaking population to reach proficiency, the findings support the research base. Additionally, with more than 71% of all reclassified students taking longer than five years to attain proficiency, results indicate that NCLB's flat expectation of five years is unrealistic.

Research Question 2 was important to answer in order to put confidence in analysis of the impact of special needs on English language acquisition rates. It considered over- or under-identification of Spanish-speaking English Language Learners for Special Education and Talented and Gifted (TAG) programs. Chi-square analysis was used to compare identification rates for both TAG and Special Education programs to determine if there were statistically significant differences between observed and expected identification rates. While identification rates for special education were found to be comparable for ELLs and students who entered school English proficient, the same was not true for TAG programs. Spanish-speaking students who entered schools not yet proficient in English were far less likely to be identified for TAG programs than their English proficient peers. They were also less likely to be identified than English Language Learners with first languages other than Spanish.

Research on Special Education identification among ELLs suggests that both over- and under-identification are issues (Ortiz, 2002; USDOE, 2000). This variance can be due to two issues of identification: when students' difficulties due to disabilities are instead classified as difficulties due to limited English proficiency and when normal stages of English language development are classified as learning disabilities (Ysseldyke & Bielinski, 2002). Moreover, acculturation characteristics have been shown to be related to the identification of ELLs for special education services (C. Collier, 1987). The study shows that, in the

Woodburn School District, students are neither over- nor under-identified for special education services.

Given that such a large percentage of students enter the school district as ELLs and that so many bilingual staff members are available to participate in assessment for special services, issues related to appropriate referrals (C. Collier, 1987, 2001; Genesee, Paradis & Crago, 2004; Langdon, 2008; Miller, 1984) may be minimized. Additionally, with extensive training and district-wide professional development focused on issues of language acquisition and support for ELLs in the district, teachers and specialists may be less likely to confuse language acquisition issues with learning disability issues. Likewise, strong support for students' and families' cultural heritage may prevent cultural issues from influencing over-identification.

Research Question 3 then asked about the effect of disability or giftedness on English language acquisition rates – a question which has not been addressed in the literature. One-way chi-square analysis did not indicate differences in acquisition rate mean ($\chi^2 = 0.872$) sufficient to reject the null hypothesis that identification was independent of classification category – TAG ($\bar{x} = 5.423$), average ELLs ($\bar{x} = 7.354$) or ELL-Ds ($\bar{x} = 8.933$). However, when the independence of distribution shape from classification was analyzed via two-way analysis, the results suggested significant differences ($\chi^2 = 129.35$) with greater than 99% significance. These differences were further supported through analysis of relative frequency histograms. Further hypothesis testing was conducted via z-tests for both TAG students ($z = 12.12$) and students with disabilities ($z = 5.237$) compared with their average peers, both of which were found to be sufficiently different to reject the null hypothesis. TAG students were found to require significantly less time to acquire English as a second

language than either average students or students with disabilities, who required the most time.

Returning to the Spanish-speaking, ELL population as a whole, Research Question 4 explored the impact of native language instruction through bilingual programs on English language acquisition rates. Once again, one-way chi-square analysis did not indicate differences in acquisition rate mean ($\chi^2 = 0.1205$) sufficient to reject the null hypothesis that time to English language proficiency was independent of program type – bilingual versus English Immersion. However, again, when the independence of distribution shape from program type was analyzed via two-way analysis, the results suggested very strong differences ($\chi^2 = 52.14$), which were supported by relative frequency histograms. Further individual-level analysis was conducted via a z-test for student rates in bilingual and English Immersion programs, and the z-value was sufficient ($z = 4.66$) to reject the null hypothesis that there was not a significant difference for students in bilingual programs versus English Immersion programs. Students in bilingual programs were found to require less time than their peers in English Immersion programs.

These results seem to support the findings of Collier and Thomas (1989) who found that ELLs with two to three years of schooling in their first language before entering US schools generally achieved proficiency within five to seven years - faster than those who began their schooling immersed in English in US schools. The mean time to proficiency in this study for bilingual program ELLs was 6.956 years, compared with 7.933 years for ELLs in English Immersion programs. While the difference in means is just under a year, the difference in results is more striking when Relative Frequency Histograms are analyzed, showing that the bilingual program participation years with the highest rates of

reclassification were years 5 and 6 in a student's program. Alternately, in the English Immersion program, the participation years with the highest rates of reclassification were years 9 and 10. Early gains in English acquisition for English Immersion students (which later give way to academic losses and increased achievement gaps) have been previously reported (V. Collier, 1995; Swain, 1985, as cited in Langdon & Li Rong, 1992), but such results were not found in this study. The bilingual program produced either equivalent or faster rates of English acquisition from the first to the final years in students' programs.

Finally, Research Question 5 examined whether the impact of program type (bilingual or English Immersion) had differing effects for gifted or disabled English language learners versus average student. Once again, due to a lack of scholarly research on acquisition rates for these special populations, there are no comparison results with which to discuss outcomes of this study. The null hypothesis was again that time required to acquire English proficiency was independent of program type for each subgroup. With one-way chi-square analysis values of $\chi^2 = 0.1141$, $\chi^2 = 0.0163$, and $\chi^2 = 0.0073$ for average students, TAG students and ELL-Ds respectively, no significant differences in impact were indicated.

Two-way chi-square analysis could only be conducted for average ELLs, as neither TAG nor ELL-D subgroups were able to meet the minimum five units per cell requirement. For the average subgroup, individual analysis again yielded, with greater than 99% significance, strong support ($\chi^2 = 42.4$) for rejection of the null hypothesis that distribution shape was independent of program type for average students. Average ELLs in Bilingual programs required less time than their peers in English Immersion programs.

The alternate hypothesis of differing results for Bilingual program students and English Immersion program students was further supported by relative frequency histogram.

Results of a z-test ($z = -4.28$) also strongly supported a difference in impact at a greater than 99% significance level. Further analysis via z-test was also conducted for TAG students, but z values ($z = 0.693$) were not sufficient to indicate differences in program effect.

Individual analysis via z-test was also conducted for ELL-Ds. However, for this subgroup as with TAG students, the z value ($z = -0.4749$) was not sufficient to indicate differences in program effect. Because of small numbers in most categories, initial plans to differentiate analysis for discrete disability types could not be completed. However, impact of program type was considered with a t-test for students with disabilities whose disability type was specific learning disability. When this particular subgroup within students with disabilities was considered independent of others, there was a significant difference in program effect at more than a 98% significance level, indicating faster language acquisition rates for students in bilingual programs.

In addition to the research questions above, a new question emerged which considered the impact of inconsistent program participation on bilingual program students. In the course of the research, a new subgroup was discovered – students who were enrolled in the bilingual program, but who had a gap in their program prior to reaching English proficiency, generally for 1 -3 years in the upper elementary or middle school grade levels. For this specific subgroup – ELLs in Bilingual program with gaps – English language proficiency timelines look dramatically different from their peers whose Bilingual programs were uninterrupted prior to reaching English language proficiency.

The acquisition rates of bilingual program students who maintained participation in bilingual programs throughout the years of the study ($\bar{x} = 6.6045$ years) were compared with the results of those who were experienced gaps in their educational program prior to

reaching English proficiency and during which they were served in English Immersion programs with sheltering (\bar{x} = 10.566 years). One-way chi-square analysis comparing ELLs with and without gaps in their bilingual programs did not yield a statistically significant difference in time required to reach English language proficiency associated with continuity of program. Two-way chi-square analysis was not possible due to drastically different distributions than made meeting the minimum value of five per cell impossible. However, z-test results ($z = 18.82$) support the hypothesis that a gap in bilingual program extends the average time required to reach English proficiency at greater than a 99% significance level.

Summative Findings

Perhaps not surprisingly, Spanish-speaking English Language Learners identified for Talented and Gifted programs were found to acquire English as a second language faster than non-TAG ELLs. ELL-Ds lagged behind both TAG and average peers. Participation in bilingual program model was found to have a positive impact on English language acquisition rates for students when the entire population was considered. Analysis of results for TAG students and students with disabilities did not yield statistically significant differences in acquisition timelines, but there was a statistically significant difference for average students who made up nearly 79% of all ELLs. Table 5.1 synthesizes the tests conducted, results and overall indications for each question considered.

Table 5.1
Summary Results for Research Questions

Question	χ^2 – One-way Analysis		χ^2 – Two-way Contingency Table Analysis		z-test or t-test		Relative Frequency Histograms	
	Test Run?	Results?	Test Run?	Results?	Test Run?	Results?	Test Run?	Results?
Are Spanish-speaking ELLs over- or under-identified for Special Education?	YES - ELL vs. EO/FEP	No indication of significant Δ	NO - binomial variable	NA	NO - binomial variable	NA	NO - binomial variable	NA
Are Spanish-speaking ELLs over- or under-identified for Special Education?	YES - ELL vs. EO/FEP vs. Other ELL	No indication of significant Δ	NO - binomial variable	NA	NO - binomial variable	NA	NO - binomial variable	NA
Are Spanish-speaking ELLs over- or under-identified for TAG?	YES - ELL (L1 = Spanish) vs. EO/FEP	Significant Δ - ELL (L1 = Spanish) rates much lower	NO - binomial variable	NA	NO - binomial variable	NA	NO - binomial variable	NA
Are Spanish-speaking ELLs over- or under-identified for TAG compared with English Proficient and ELLs with a different L1?	YES – ELL (L1 = Spanish) vs. EO/FEP vs. ELL (L1 \neq Spanish	Significant Δ - ELL (L1 = Spanish) rates much lower than EO or ELL (L1 \neq Spanish	NO - binomial variable	NA	NO - binomial variable	NA	NO - binomial variable	NA

Question	χ^2 – One-way Analysis		χ^2 – Two-way Contingency Table Analysis		z-test or t-test		Relative Frequency Histograms	
	Test Run?	Results?	Test Run?	Results?	Test Run?	Results?	Test Run?	Results?
Does TAG, ELL-D or AVG status impact the years required to reach proficiency for Spanish-speaking ELLs?	YES - TAG vs. ELL-D vs. AVG	No indication of significant Δ	YES - TAG vs. ELL-D vs. AVG	Significant Δ @ > 99% SS-ELL distribution indicates much longer time needed; TAG ELLs significantly faster	YES – ELL-D vs. AVG <u>and</u> TAG vs. AVG	Significant Δ @ > 99% for both TAG vs. AVG and ELL-D vs. AVG (TAG has shortest time required; ELL-D the longest)	YES - TAG vs. ELL-D vs. AVG	Graphs support Contingency Table/ χ^2 – Two-way Analysis
Does Bilingual program participation impact the years required to reach proficiency for Spanish-speaking ELLs?	YES – Bilingual Program vs. English Immersion Program	No indication of significant Δ	YES - Bilingual Program vs. English Immersion Program	Significant Δ @ > 99% Bilingual distribution much earlier	YES - Bilingual Program vs. English Immersion Program	Significant Δ @ > 99% Bilingual mean value smaller	YES - Bilingual vs. English Immersion	Graphs support Contingency Table/ χ^2 – Two-way Analysis
Does Bilingual program participation impact the years required to reach proficiency for average Spanish-speaking ELLs?	YES - Bilingual Program vs. English Immersion Program	No indication of significant Δ	YES - Bilingual Program vs. English Immersion Program	Significant Δ @ > 99% Bilingual distribution much earlier	YES - Bilingual Program vs. English Immersion Program	Significant Δ @ > 99% Bilingual mean value much smaller	YES - Bilingual vs. English Immersion	Graphs generally support Contingency Table/ χ^2 – Tow-way Analysis

Question	χ^2 – One-way Analysis		χ^2 – Two-way Contingency Table Analysis		z-test or t-test		Relative Frequency Histograms	
	Test Run?	Results?	Test Run?	Results?	Test Run?	Results?	Test Run?	Results?
Does Bilingual program participation impact the years required to reach proficiency for Spanish-speaking TAG ELLs?	YES - Bilingual Program vs. English Immersion Program	No indication of significant Δ	NO - Insufficient Numbers in Cells	NA	YES - Bilingual Program vs. English Immersion Program	No indication of significant Δ	YES - Bilingual vs. English Immersion	Graphs do not indicate a statistically significant difference
Does Bilingual program participation impact the years required to reach proficiency for Spanish-speaking ELL-Ds?	YES - Bilingual Program vs. English Immersion Program	No indication of significant Δ	NO - Insufficient Numbers in Cells	NA	YES - Bilingual Program vs. English Immersion Program	No indication of significant Δ	YES - Bilingual vs. English Immersion	Difficult to determine if graphs generally support a slight difference in favor of Bilingual
Does Bilingual program participation impact the years required to reach proficiency for Spanish-speaking ELL-Ds with Specific Learning Disabilities?	YES - Bilingual Program vs. English Immersion Program	No clear indication of significant Δ (significant @ $\cong 83\%$)	NO - Insufficient Numbers in Cells	NA	YES - Bilingual Program vs. English Immersion Program	Significant Δ @ > 98% Bilingual values and distribution earlier	YES - Bilingual vs. English Immersion	Graphs generally support a difference in distribution -favors bilingual

Chapter VI: Conclusions and Recommendations

This chapter will summarize final conclusions from the research. Recommendations will also be made for further study and application.

Conclusions

For English Language Learners as a whole, the time necessary to reach English proficiency was greater than seven years. There were statistically significant differences in English language acquisition rates for English Language Learners when classification as a TAG student, average student, or student with disability was considered. Interestingly, only the TAG subgroup came close to meeting the AMAO requirement of acquiring English proficiency within five years, and even within this group the mean was greater than five years (\bar{x} = 5.42 years). For average students, the mean time to English proficiency was 7.35 years, while ELLs with disabilities averaged 8.93 years to English proficiency, nearly 180% of the time allowed by No Child Left Behind. On the whole, only 28.99% of the 1311 students who reached English proficiency did so in five or fewer years.

With the exception of a small, statistically insignificant difference in mean favoring English Immersion programs for TAG students, students in the Bilingual program acquired English more quickly than their peers in the English Immersion program. These differences did not emerge in one-way analysis, with mean values similar in both programs, but rather in two-way analysis when the independence of distribution was considered. However, the results speak to the power of the bilingual program. Relative Frequency Histograms provided a visual means of analyzing distribution patterns for different groups and programs. These were used both in addition to two-way chi-square analysis (when it was possible) and in lieu of individual

chi-square analysis (when minimum cell requirements could not be met). Results of z-tests and t-tests confirmed the findings.

While the long-term academic benefits to an additive, late-exit bilingual education model for English Language Learners is well established in the research, the findings here suggest equally strong benefits in assisting ELLs in acquiring English more quickly. This validates the concept of transference – the transfer of literacy skills between a well-developed first language and an acquired second language (Langer, et al., 1990; Jimenez, 2000; Jimenez, Garcia, & Pearson, 1996; Waters, 2001). However, while it has been believed that students in bilingual education programs take longer to show initial comparable skills in the second language (Saldate, Mishra & Medina, 1985; Calderón, Hertz-Lararowitz, & Slavin, 1998), this study's results indicate instead that second language acquisition (in this case English) occurs more quickly in bilingual programs than in English Immersion programs for ELLs in general.

The exception to this finding is that in Relative Frequency Distributions, TAG students do show slightly higher rates of reclassification as English proficient in the early years of the English Immersion program than in the bilingual program. However, the overall means shows only an insignificant difference of around four months. Similarly, for ELL-Ds as a whole group, there is not a significant difference. However, when the results for ELL-Ds with specific learning disability are analyzed separately, there is a statistically significant difference in favor of the bilingual program, though only at the 90% confidence level. When looking strictly at language acquisition rates, the benefits of the bilingual program appear significant for average students, but not for TAG and bilingual students. However, it is still important to keep in mind the long

term goal of greater academic success for ELLs, and the long-term benefits of bilingual program toward this goal are well-established.

Within the bilingual program, a subgroup of students whose bilingual program was interrupted prior to reaching English proficiency emerged. With this interruption of program, the time required for these students to acquire English proficiency was dramatically lengthened, falling behind even their peers in English Immersion programs. However, despite their inclusion in the Bilingual program classification, results for the bilingual program overall continue to show a strong benefit to students in reaching English language proficiency. This is an important sub-group to consider, as the implications for districts implementing bilingual education programs are significant.

As the population of English Language Learners in public schools continues to grow, the question of how best to support these students looms large. The public discourse of degrades into debate over illegal immigration, but, in truth, the majority of ELLs in public schools are United States citizens. While opponents of bilingual education often cite the need for English Language Learners to quickly acquire English, the results of this study indicate that bilingual education is the best program model to help ELLs to acquire English. However, it is also clear that continuity of program is integral to the success of students in bilingual programs.

Recommendations

Continued research on English language acquisition timelines in other contexts is necessary. The work of Thomas and Collier (V. Collier, 1987, 1989, 1992; Collier & Thomas, 1989; Thomas & Collier, 1997), Ramirez, Yuen and Ramey (1991), Hakuta, Goto Butler and Witt

(2000), and Cummins (2000) have given us a foundation on which to build and frame the results of further studies, but the landscape and demographics of the ELL population in the US has changed dramatically in the last decade. Additionally, there is a lack of research on the TAG and ELL-D subpopulations within the general ELL population. Educational research on English language acquisition rates has not provided the necessary clarity on the complexity of the process of acquiring English as a second language. It is clear that while quantitative research on English language acquisition is needed, it cannot rely solely on whole group means, the measures used in rating schools and programs through No Child Left Behind.

The findings in this study point to the inadequacy of a five-year timeline for language acquisition. Although the TAG subgroup came close to meeting this requirement on average, the consideration of under-identification of ELLs for TAG programs must not be ignored. In order to draw broader conclusions for TAG ELLs, an understanding of the factors influencing under-identification must be explored. Because “speed and ease of language acquisition, in fact, has long been recognize as a preeminent characteristic of bilingual students” (Matthews & Matthews, 2003, p. 53), it is possible that quick English acquisition is a factor in identification of the small percentage of ELLs identified for TAG and that this skews the timelines for TAG ELLs found in this study. If English achievement has greater influence than first language achievement, the bilingual program may, in fact, provide benefits that are lost in issues of identification.

Taking up the mantle of the original Ramirez study (1991) which stopped short of comparing English Immersion and Bilingual Programs due to school and district differences, this study provides support for the theory that bilingual education provides a strong

foundation on which English Language Learners can scaffold their language learning and literacy for not only to find long-term academic success, but also to achieve short-term goals for timely English language acquisition. While TAG ELLs and ELL-Ds in bilingual programs did not show the significantly shorter timelines of their average peers, participation did not slow down progress in English acquisition and other benefits of participation in additive bilingual programs remain (Bauer, 2009). It is also noteworthy that analysis of students with gaps in their bilingual program prior to reaching proficiency also demonstrated the importance of continuity in program. Educational research has supported the benefits of bilingual programs, but the discourse is mired in political dialogue over immigration and educational reform. Schools and districts that too quickly abandon bilingual programs in the face of political pressure will ensure that the predictions of opponents are realized in their results. With the intense scrutiny of NCLB measures, this could falsely label bilingual education with failure.

While No Child Left Behind has been a powerful force to shine a light on educational inequities and achievement gaps, it has, in its stated goal of accountability for schools, disallowed the kinds of differentiation needed to meet the needs of students with special needs – at both ends of the spectrum. While, in theory NCLB purports to close inequities in expectations and achievement for all students, in many ways it is antithetical to IDEA. In setting identical expectations for all students, NCLB suggests that setting challenging but somewhat modified goals for students with disabilities is a failure. Similarly, through the requirement that students meet those identical goals within identical time frames, NCLB in essence regards slower progress to the same goal as a failure. Criticism of NCLB has also included its negative impact on programs for talented and gifted students, from which

resources have been diverted to focus on the helping average and high-needs students to meet NCLB requirements (Golden, 2003). These changes, together with the *washback* phenomenon driving a hyper-focus on test preparation, are tying the hands of schools that hope to inspire students through creativity, engagement and the pride of reaching one's individual goals through a well-rounded education.

For both Bilingual and English Immersion programs, the need for revision of the NCLB AMAOs by which schools are measure for their success with English Language Learners is clear. With the exception of the sub-population of ELLs identified as Talented and Gifted, the five year goal for reaching English proficiency is not viable. The recent changes to the AMAO goals for schools (ODE, 2010b) are more reflective of realistic expectations for the percentage of students who can meet the five-year target. However, it would be more beneficial to revise the AMAO expectation to reflect the true number of years required for students to acquire English rather than to simply lower the rates at which schools are expected to meet the unrealistic deadline.

Most ideally, we would see a change in policy that demonstrates and understanding of the complexity of what is being asked of students and schools. English Language Learners who enter our schools are given the monumental task of not only meeting the learning expectations for all students in every subject area, but also learning an entirely new language and demonstrating their learning in that new language. This is reflected in the broad range of English acquisition timelines in the target population of this study. While some ELLs required only a year or two to reach proficiency, others needed thirteen or fourteen years, and 150

students of the original 3460 graduated without reaching the state of Oregon's definition of proficiency and choice of measure – the English Language Proficiency Assessment (ELPA).

In light of this broad range of language needs, public schools face the daunting task of helping their students to not only meet these challenges, but to do so in a very short window of time. A revised policy that respects and honors students, families and schools would allow our educational institutions the ability to focus on long-term success for all students rather than short-term goals to avoid sanctions. Beyond the obvious conclusion that a five-year timeline is unrealistic, can we draw the conclusion that it is unreasonable to set a 100% rate for any non-differentiated goal based on a single target rather than growth?

The results of this study should embolden proponents of bilingual education, but there is still work to be done. Future research focusing on students who are not reaching proficiency, the academic outcomes for reclassified students, and how to support ELLs with disabilities is needed for a more nuanced view of our successes with ELLs than NCLB reporting can provide. School demographics continue to change and schools must adapt, but decisions regarding changes in programs and practice must be based on research, not intuition, tradition or politics. Innovative approaches must be introduced, implemented with fidelity, supported and studied in order to inform practice in our field and help us to reach our goals for student success.

As a community of researchers, we must also be cognizant of the need for applicable research in the field to influence both school practice and policy change at the local, state and national levels. The findings here suggest strong support for the benefits of bilingual education, yet the concept remains a political hot-button. Continued study of bilingual

education and one-way bilingual and two-way/dual immersion bilingual programs is a natural next course, as now we lack the information to appropriately address critics. Further study on continuity in bilingual education and the impact of disruption on student outcomes could also address the trend seen related to gaps in program which emerged raised unexpected questions in need of answers.

Finally, although a majority of ELLs are born in the US and begin their schooling here like the participants in the study, little attention has been paid to English language acquisition timelines and the impact of bilingual education for ELLs who arrive later in their schooling or who arrive with educational gaps. Such study will require careful planning to gather information on the wide range of factors influencing these older beginning ELLs. Because of small numbers, such research would need to happen across multiple contexts.

References

- Abedi, J. (2002). Standardized achievement tests and English language learners: Psychometric issues. *Educational Assessment, 8*(3), 231–257.
- Abedi, J. (2004). The No Child Left Behind Act and English language learners: Assessment and accountability issues. *Educational Researcher, 33*(1), 4 – 14.
- Abedi, J. (2009). English language learners with disabilities: Classification, assessment, and accommodation issues. Davis, CA: UC Davis, National Center for Research on Evaluation, Standards, and Student Testing.
- Abedi, J. & Lord, C. (2001). The language factor in mathematics tests. *Applied Measurement in Education, 14*(3), 219–234.
- Abedi, J., Leon, S., & Mirocha, J. (2003). *Impact of students' language background on content-based assessment: Analyses of extant data* (CSE Tech. Rep. No. 603). Los Angeles: University of California, National Center for Research on Evaluation, Standards, and Student Testing.
- Alanis, I. (2000). A Texas two-way bilingual program: Its effects on linguistic and academic achievement. *Bilingual Research Journal, 24*(3), 225-248.
- Alba, R. (2005). *Bilingualism persists, but English still dominates*. Washington, DC: Migration Policy Institute. Retrieved from <http://www.migrationinformation.org/Feature/display.cfm?ID=282>
- Alderson, J. C. & Wall, D. (1993) Does washback exist? *Applied Linguistics, 14*(2), 115–129.
- American School Board Journal. (2008). Postville, Iowa: School officials ease students' fears in wake of raid. *American School Board Journal, 195*(9), 27.

- Artiles, A.J. & Zamora-Durán, G. (Eds.). (1997). *Reducing disproportionate representations of culturally diverse students in special and gifted education*. Reston, VA: Council for Exceptional Children.
- August, D. (1987). Effects of peer tutoring on second language acquisition of Mexican-American children in elementary school. *TESOL Quarterly*, 21, 717-736.
- August, D., Carlo, M., Dressier, C, & Snow, C. (2005). The critical role of vocabulary development for English language learners. *Learning Disabilities Research & Practice*, 20(1), 50-57.
- August, D. & Hakuta, K.(Eds) (1997) *Improving Schooling for Language-Minority Children: A research agenda*. Washington, DC: National Academy Press
- August, D. & Hakuta, K. (1998). *Educating language-minority children*. Washington, DC: National Academy Press.
- August, D. & Shanahan, T. (2008) *Developing reading and writing in second-language learners: Lessons from the report of the National Literacy Panel on language-minority children and youth*. New York, NY: Routledge.
- Bauer, E. (2009). Informed additive literacy instruction for ELLs. *The Reading Teacher*, 62, 446 – 448.
- Beaumont, C. & Langdon, H. (1992). Speech-language services for Hispanics with communication disorders. In Langdon, H. and Li-Rong, L. C. (1992) *Hispanic children and adults with communication disorders: Assessment and intervention* (pp. 1-19). Gaithersburg, MD: Aspen Publishers Inc.

- Bialystok, E. (2001). *Bilingualism in development: Language, literacy and cognition*. New York, NY: Cambridge University Press.
- Bialystok, E. (2007). Language acquisition and bilingualism: Consequences for a multilingual society. *Applied Psycholinguistics*, 28, 393 – 397.
- Bielenberg, B. & Wong Fillmore, L. (2004). The English they need for the test. *Educational Leadership*, 62(4), 45 – 49.
- Birdwhistell, R.L. (1970). *Introduction to kinesis*. Philadelphia: University of Pennsylvania Press.
- Bloom, L. (1971). Why not pivot grammar? *Journal of Speech and Hearing Disorders*, 36, 40-50.
- Brown, H. (2000). *Principles of language learning and teaching*. White Plains, NY: Addison Wesley Longman, Inc.
- Bustillo, M. (2007). Texas may pull up the welcome mat. *Los Angeles Times*. Retrieved from: <http://articles.latimes.com/2007/feb/27/nation/na-immigtexas27>
- Calderón, M., Hertz-Larowitz, R., & Slavin, R. (1998). Effects of bilingual cooperative integrated reading and composition on students making the transition from Spanish to English reading. *The Elementary School Journal*, 99(2), 153-165.
- Callahan, R., Wilkinson, L., Muller, C., & Frisco, M. (2009). ESL placement and schools: Effects on immigrant achievement. *Educational Policy*, 23, 355-384.
- Capps, R., Fix, M.E., & Passel, J.S. (1992). *The Dispersal of Immigrants in the 1990s*. Washington, DC: Urban Institute. Retrieved from www.urban.org/url.cfm?ID=410589

- Castellano, J. (1998). Identifying and assessing gifted and talented bilingual Hispanic students. (Report No. EDO-RC-97-9). Washington, DC: Office of Educational Research and Improvement. Retrieved May 1, 2011, from EBSCOHost ERIC database.
- Castillo, S. (2006). Growth model pilot project proposal. Salem, OR: Oregon Department of Education [ODE]. Retrieved from:
<http://www.ed.gov/admins/lead/account/growthmodel/or/orgmp.pdf?exp=1>
- Cavanaugh, R. (2011, March 13). Hispanic growth in Woodburn much lower than county, state. Retrieved from: www.woodburnindependent.com
- Chen, C. (1997). *Language use and language socialization in bilingual homes in Inuit communities* (Unpublished manuscript). McGill University, Montreal, Canada.
Retrieved from
http://portal.usask.ca/index.php?sid=285410048&t=sub_pages&cat=644&rtype_limit=33
- Chen, G.M. & Starosta, W.J. (1998) *Foundations of Intercultural Communication*. Boston: Allyn & Bacon.
- Collier, C. (1987). Comparison and acculturation and education characteristics of referred and non-referred culturally and linguistically different children. *Theory, Research and Applications: Selected Papers from the 16th Annual Meeting of the National Association for Bilingual Education*. Retrieved from <http://www.eric.ed.gov/PDFS/ED336956.pdf>
- Collier, C. (2001). Separating difference and disability. Paper presented at the Annual Meeting of Teachers of English to Speakers of Other Languages. Retrieved from
<http://www.eric.ed.gov/PDFS/ED456667.pdf>

- Collier, V. (1987). Age and rate of acquisition of second language for academic purposes. *TESOL Quarterly*, 21, 617 – 641.
- Collier, V. (1989). How long? A synthesis of research on academic achievement in second language. *TESOL Quarterly*, 23, 509-531.
- Collier, V. (1992). A synthesis of studies examining long-term language minority student data on academic achievement. *Bilingual Research Journal*, 16, 187 – 212.
- Collier, V. (1995). Acquiring a second language for school. *Directions in Language and Education*, 1(4), 1 – 12.
- Collier, V. & Thomas, W. (1989). How quickly can immigrants become proficient in school English? *Journal of Educational Issues of Language Minority Students*, 5, 26 – 38.
- Collier, V. & Thomas, W. (2004). The astounding effectiveness of dual language education for all. *NABE Journal of Research and Practice*, 2(1), 1-20.
- Collier, V. & Thomas, W. (2005). The beauty of dual language education. *TABE Journal*, 8(1), 1-6.
- Collier, V., Thomas, W. & Tinajero, J. (2006). From remediation to enrichment: Transforming Texas schools through dual language education. *TABE Journal*, 9(1), 23-34.
- Cook, G. (Ed.) (2008). Immigration and diversity: An ASBJ special report. *American School Boards Journal*, 195(9), 22-23.
- Cosentino de Cohen, C. & Clewell, B.C. (2007). *Putting English language learners on the educational map: The No Child Left Behind Act implemented*. Washington, DC: The Urban Institute. Retrieved from <http://www.urban.org/publications/311468.html>

- Cosentino de Cohen, C. Deterding, N., & Clewell, B.C. (2005). *Who's left behind? Immigrant children in high and low LEP schools*. Washington, DC: The Urban Institute, Program for Evaluation and Equity Research. Retrieved from <http://www.urban.org/publications/411231.html>
- Cummins, J. (1981). Empirical and theoretical underpinnings of bilingual education. *Journal of Education*, 163(1), 16 – 29.
- Cummins, J. (2000). *Language, power and pedagogy: Bilingual children in the crossfire*. Clevedon, UK: Multilingual Matters.
- Díaz, R.M. (1985). Bilingual cognitive development: Addressing three gaps in current research. *Child Development*, 56, 1376-1388.
- Dixon, D. (2006). Characteristics of the Asian born in the United States. Washington, DC: Migration Policy Institute. Retrieved from <http://www.migrationinformation.org/USFocus/display.cfm?ID=378>
- Donovan, M.S. & Cross, C.T. (2002). *Minority students in special and gifted education*. Washington, DC: National Academy Press.
- Dopke, S. (2000) Generation of and retraction from cross-linguistically motivated structures in bilingual first-language acquisition. *Bilingualism: Language and Cognition*, 3(3), 209-226.
- Duran, R. (1989). Assessment and instruction of at-risk Hispanic students. *Exceptional Children*, 56(2), 154 – 158.
- Dutro, S. (2006). Providing Language Instruction. Retrieved from http://www.scoe.org/docs/ah/AH_dutro.pdf

- Dutro, S. & Moran, C. (2003). Rethinking English language instruction: An architectural approach. In G.G. García (Ed.), *English Learners* (pp. 227-258). Newark, DE: International Reading Association.
- Echevarria, J., Vogt, M.E., & Short, D.J. (2000) *Making content comprehensible for English language learners: The SIOP model*. Needham Heights, MA: Allyn & Bacon.
- Echevarria, J., Short, D., & Powers, K. (2003). *School reform and standards-based education: How do teachers help English language learners?* Santa Cruz, CA: Center for Research on Education, Diversity & Excellence.
- Emmorey, K., Luk, G., Pyers, J.E., & Bialystok, E. (2001). The source of enhanced cognitive control in bilinguals: Evidence from bimodal bilinguals. *Psychological Science*, 19, 1201 – 1206.
- Fillmore, C.J., Kempler, D. & Wang, W.S. (1979). *Individual differences in language ability and language behavior*. New York, NY: Academic Press.
- Fine, M. (1998). Working the hyphens: Reinventing self and other in qualitative research. In N.K. Denzin and Y.S. Lincoln (Eds.), *Landscape of qualitative research: Theories and issues* (pp.130-155). Thousand Oaks, CA: Sage Publications, Inc.
- Fitzgerald, J. & Cummins, J. (1999). Bridging disciplines to critique a national research agenda for language-minority children's schooling. *Reading Research Quarterly*, 34, 378 – 390.
- Fix, M. & Capps, R. (2005). Immigrant children, urban school and the No Child Left Behind Act. Washington, DC: Migration Policy Institute. Retrieved from <http://www.migrationinformation.org/Feature/display.cfm?id=347>

Ford, D.Y. & Harmon, D.A. (2001). Equity and excellence: Providing access to gifted education for culturally diverse students. *Journal of Secondary Gifted Education*, 12(3), 141 – 147.

Garcia, E. E. (2001). *Hispanic education in the United States: Raices y alas*. New York: Rowan & Littlefield Publishers.

Garcia, E.E. & McLaughlin, B. (Eds.) (1995) Meeting the challenge of linguistic and cultural diversity in early childhood education. New York, NY: Teachers College Press.

Genesee, F., Lindholm-Leary, K., Saunders, W.M., and Christian, D. (Eds.) (2006). *Educating English language learners: A synthesis of research evidence*. New York, NY: Cambridge University Press.

Genesee, F., Paradis, J., & Crago, M. (2004). *Dual language development and disorders: A handbook on bilingualism and second language learning*. Baltimore, MD: Paul H. Brookes Publishing Co.

Genesee, F. & Riches, C. (2006). Literacy: Crosslinguistic and crossmodal issues. In F. Genesee, K. Lindholm-Leary, W. M. Saunders, and D. Christian (Eds.), *Educating English language learners: A synthesis of research evidence* NY: Cambridge University Press.

Golden, D. (2003, December 29). Initiative to leave no child behind leaves out gifted. *The Wall Street Journal*. Retrieved from http://online.wsj.com/public/resources/documents/Polk_Gifted.htm

Goldenberg, C. (2008). Teaching English language learners: What the research does - and does not - say. *American Educator*, 32(2), 8 – 44. Retrieved from <http://www.aft.org/newspubs/periodicals/ae/issues.cfm>

- Gonzalez, V., Brusca-Vega, R., & Yawkey, T. (1997) *Assessment and instruction of culturally and linguistically diverse students with or at-risk of learning disabilities*. Boston, MA: Allyn and Bacon.
- GraphPad Software Inc. (2005). QuickCalcs: Online calculators for scientists [Online application]. Retrieved from <http://www.graphpad.com/quickcalcs/PValue1.cfm>
- Guba, E.G. & Lincoln, Y.S. (1998). Competing paradigms in qualitative research. In N.K. Denzin and Y.S. Lincoln (Eds.), *Landscape of qualitative research: Theories and issues* (pp. 195 - 220). Thousand Oaks, CA: Sage Publications, Inc.
- Hakuta, K. (2001). A critical period for second language acquisition? In D.B. Bailey, J.T. Bruer, F.J. Symons and J.W. Lichtman (Eds.), *Critical thinking about critical periods* (193 – 205). Baltimore: Paul H. Brookes Publishing Co.
- Hakuta, K., Goto Butler, Y., & Witt, D. (2000). *How long does it take English learners to attain proficiency?* Santa Barbara, CA: The University of California Linguistic Minority Research Institute. Retrieved from http://www.lmri.ucsb.edu/publications/00_hakuta.pdf
- Hamilton, D. (1998). Traditions, preferences, and postures in applied qualitative research. In N.K. Denzin and Y.S. Lincoln (Eds.), *Landscape of qualitative research: Theories and issues* (pp. 111 - 129). Thousand Oaks, CA: Sage Publications, Inc.
- Hansen, D.A. (1989). Locating learning: Second language gains and language use in family, peer and classroom contexts. *NABE Journal*, 13(2), 161-179.
- Hardy, L. (2008). The divided line. *American School Board Journal*, 195(9), 28 – 32.

- Hart, J. (2009). Strategies for culturally and linguistically diverse students with special needs. *Preventing School Failure*, 53(3), 197 – 206.
- Hofer, B. (2000). Dimensionality and disciplinary differences in personal epistemology. *Contemporary Educational Psychology*, 25, 378 – 405.
- Jacob, E., Rottenberg, L., Patrick, S., & Wheeler, E. (1996). Cooperative learning: Context and opportunities for acquiring academic English. *TESOL Quarterly*, 30, 253-280.
- Jimenez, R.T. (2000). Literacy and the identity development of Latina/o students. *American Educational Research Journal*, 37, 971-1000.
- Jimenez, R., Garcia, G.E., & Pearson, P.D. (1996). The reading strategies of bilingual Latina/o students who are successful English readers: Opportunities and obstacles. *Reading Research Quarterly*, 31(1), 90-112.
- Johns, K.M. (1992). Mainstreaming language minority students through cooperative grouping. *The Journal of Educational Issues of Language Minority Students*, 9, 37-60.
- Kindler, A. (2002). *Survey of the states' limited English proficient students & available educational programs and services 1999-2000 summary report*. Washington, DC: National Clearinghouse for English Language Acquisition/NCELA.
- Kindler, A. (2008). *How has the limited English proficient student population changed in recent years? AskNCELA no. 8*. Washington, DC: National Clearinghouse for English Language Acquisition/NCELA. Retrieved from <http://www.ncela.gwu.edu/rcd/bibliography/BE021773>

- Kissam, E. (2007). *Migration networks and processes of community transformation: Arvin, California and Woodburn, Oregon*. Conference paper from Cumbre 2007: Latino/Latin American Summit of the Great Plains, Omaha, NE. Retrieved from <http://www.unomaha.edu/ollas/papers.php>
- Kissam, E. & Stephen, L. (2006). *The new pluralism in Woodburn Oregon: A community study conducted in 2003-2004*. Burlingame, CA: Aguirre Division, JBS International.
- Kitano, M. K., & Espinosa, R. (1995). Language diversity and giftedness: Working with gifted English language learners. *Journal for the Education of the Gifted*, 18, 234-254.
- Kohnert, K. & Bates, E. (2002) Balancing bilinguals, II: Lexical comprehension and cognitive processing in children learning Spanish and English. *Journal of Speech, Language and Hearing Research*, 45, 347 – 359.
- Krashen, S. (1981). Second language acquisition and second language learning. Retrieved from http://www.sdkrashen.com/SL_Acquisition_and_Learning/index.html
- Krashen, S. (1985). *The input hypothesis: Issues and implications*. London: Longman.
- Krashen, S. & Biber, D. (1988). *On course: Bilingual education's success in California*. Sacramento, CA: California Association for Bilingual Education.
- Krashen, S., & Terrell, T. (1983). *The natural approach: Language acquisition in the classroom*. Oxford, UK: Pergamon.
- Kreft, I. & de Leeuw, J. (1998). *Introducing multilevel modeling*. London, UK: Sage Publications.
- Krull, J. & MacKinnon, D. (2001). Multilevel modeling of individual and group level mediated effects. *Multivariate Behavioral Research*, 36, 249 – 277.

- Lambert, W.E. & Taylor, D.M. (1996). Language in the lives of ethnic minorities: Cuban American families in Miami. *Applied Linguistics*, 17, 478-500.
- Langdon, H. W. (2008). *Assessment and intervention for communication disorders in culturally and linguistically diverse populations*. Clifton Park, NJ: Thompson Delmar Learning.
- Langdon, H. & Li-Rong, L. C. (1992). *Hispanic children and adults with communication disorders: Assessment and intervention*. Gaithersburg, MD: Aspen Publishers Inc.
- Langdon, H. & Merino, B. (1992). Acquisition and development of a second language in the Spanish speaker. In H. Langdon and L.C. Li-Rong (Eds.) *Hispanic children and adults with communication disorders: Assessment and intervention* (pp. 132 – 167). Gaithersburg, MD: Aspen Publishers Inc.
- Langer, J.A., Barolome, L., & Vasquez, O. (1990). Meaning construction in school literacy tasks: A study of bilingual students. *American Education Research Journal*, 27, 427-471.
- Lesaux, N., Lipka, O., & Siegel, L. (2006) Investigating cognitive and linguistic abilities that influence the reading comprehension skills of children from diverse linguistic backgrounds. *Reading and Writing*, 19, 99 – 131.
- Levy, Y. & Schaeffer, J. (2003). *Language competence across populations: Toward a definition of specific language impairment*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Lewis-Moreno, B. (2007). Shared responsibility: Achieving success with English-language learners. *Phi Delta Kappan*, 88, 772 – 775.
- Lindholm, K. (2001). *Dual language education*. Clevedon, England: Multilingual Matters.
- Lindholm, K. & Aclan, Z. (1991). Bilingual proficiency as a bridge to academic achievement: Results from bilingual/immersion programs. *Journal of Education*, 173(2), 99-113.

- Lindholm-Leary, K. (2004). The rich promise of two-way immersion. *Educational Leadership*, 62(4), 56 – 59.
- Lindholm-Leary, K. & Borsato, G. (2005). Hispanic high schoolers and mathematics: Follow-up of students who had participated in two-way bilingual elementary programs. *Bilingual Research Journal*, 29, 641 – 652.
- Lindholm-Leary, K. & Borsato, G. (2006). Academic achievement. In F. Genesee, K. Lindholm-Leary, W. Saunders and D. Christian (Eds.) *Educating English language learners: A synthesis of research evidence* (pp. 176 – 222). New York, NY: Cambridge University Press.
- Lowry, R. (2011). VassarStats: Website for Statistical Computation [Online application]. Retrieved from <http://faculty.vassar.edu/lowry/VassarStats.html>
- Lustig, M. & Koester, J. (1999) *Intercultural competence: Interpersonal communication across cultures* (3rd ed.). New York: Longman.
- MacKinnon, D.P. & Dwyer, J.H. (1993). Estimating mediated effects in prevention studies. *Evaluation Review*, 17, 144-158.
- Martin, P.L. (1994). Good intentions gone awry: IRCA and U.S. agriculture. *The Annals of the Academy of Political and Social Science*, 534, 44-57.
- Matthews, P.H. & Matthews, M. S. (2003). Heritage language instruction and giftedness in language minority students. *Journal of Secondary Gifted Education*, 15(2), 50 – 55.
- McClave, J. & Sincich, T. (2000). *Statistics* (8th ed.). Upper Saddle River, NJ: Prentice Hall.
- Mehrabian, A. (1972). *Nonverbal communication*. Chicago, IL: University of Chicago Press.

- Merino, B. (1992) Acquisition of syntactic and phonological features in Spanish. In H. Langdon and L. Li-Rong (Eds.) *Hispanic children and adults with communication disorders: Assessment and intervention* (pp. 57 – 98). Gaithersburg, MD: Aspen Publishers Inc.
- Miller, N. (Ed.) (1984). *Bilingualism and language disability: Assessment and remediation*. San Diego, CA: College-Hill Press, Inc.
- Minnema, J., Thurlow, M., Anderson, M., & Stone, K. (2005). *English language learners with disabilities and large-scale assessments: What the literature can tell us* (ELLs with Disabilities Report 6). Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes.
- Ochoa, A.M. & Cadiero-Kaplan, K. (2004). Towards promoting biliteracy and academic achievement: Educational programs for high school Latino English language learners. *High School Journal*, 87(3), 27 – 43.
- Olsen, L. (1998). *Made in America: Immigrant students in our public schools*. New York, NY: The New Press.
- Olsen, L. (2000). Learning English and learning America: Immigrants in the center of a storm. *Theory into Practice*, 39(4), 196 – 202.
- Ono, K.A. & Sloop, J.M. (2002). *Shifting borders: Rhetoric, immigration, and California's Proposition 187*. Philadelphia, PA: Temple University Press.
- Oregon Department of Education. (2008). State issues progress report on English language proficiency in Oregon schools. Retrieved from <http://www.ode.state.or.us/news/announcements/announcement.aspx?ID=6774&TypeID=5>

Oregon Department of Education. (2010a). Oregon annual measurement of achievement objectives 2009-10 statewide district results. Retrieved from <http://www.ode.state.or.us/superintendent/priorities/amao-statewide-district-data.doc>

Oregon Department of Education. (2010b). Oregon annual measurement of achievement objectives frequently asked questions. Retrieved from <http://www.ode.state.or.us/wma/superintendent/release/amao-faq.pdf>

Ortiz, A. A. (2002). Prevention of school failure and early intervention for English language learners. In A.J. Artiles & A.A. Ortiz, (Eds.). *English language learners with special education needs* (pp.31-63). Washington, DC: Center for Applied Linguistics.

Passow, A.H. & Frasier, M.M. (1996). Toward improving identification of talent potential among minority and disadvantaged students. *Roeper Review*, 18 (3), 198-202.

Pearl, J. (2000). *Causality: Models, reasoning, and inference*. Cambridge University Press.

Piaget, J. (1960). *The psychology of intelligence*. Paterson, NJ: Littlefield, Adams & Co.

Pinker, S. (1994). *The language instinct*. New York William Morrow & Company.

Pinker, S. (1996). *Language learnability and language development*. Cambridge, MA: Harvard University Press.

Plata, M. & Masten, W.G. (1998). Teacher ratings of Hispanic and Anglo students on a behavior rating scale. *Roeper Review*, 21(2), 139 – 144.

Porter, R.P. (1990) *Forked tongue*. New York: Basic Books.

- Ramirez, J.D., Yuen, S.D., & Ramey, D.R. (1991). *Final report: Longitudinal study of structured English immersion strategy, early-exit and late-exit transitional bilingual education programs for language-minority children*. San Mateo, CA: Aguirre International.
- Ratcliffe, R.G. (2007, January 4). Illegal workers the talk of Texas. *Houston Chronicle*. Retrieved from: <http://www.chron.com/disp/story.mpl/front/4440332.html>
- Raudenbush, S. & Bryk, A.S. (1986). A hierarchical model for studying school effects. *Sociology of Education*, 59(1), 1 – 17.
- Rea-Dickins, P. & Scott, C., (2007). Washback from language tests on teaching, learning and policy: Evidence from diverse settings. *Assessment in Education*, 14(1), 1 – 7.
- Rossell, C.H. (2004). Teaching English through English. *Educational Leadership*, 62(4), 32 – 36.
- Rossell, C.H. & Baker, K. (1996). The educational effectiveness of bilingual education. *Research in the Teaching of English*, 30, 7-74.
- Rubinstein-Ávila, E. (2003). Negotiating power and redefining expertise: Buddy reading in a dual immersion program. *Journal of Research in Reading*, 26, 83 – 97.
- Ruiz-de-Velasco, J., Fix, M., & Clewell, B. (2000). *Overlooked & Underserved: Immigrant students in U.S. secondary schools*. Washington, DC: The Urban Institute.
- Sack-Min, J. (2008). A race against time. *American School Board Journal*, 195(9), 34 – 37.
- Saldate, M., IV, Mishra, S.P., & Medina, M., Jr. (1985) Bilingual instruction and academic achievement: A longitudinal study. *Journal of Instructional Psychology*, 12(1), 24-30.
- Saunders, W. (1999). Improving literacy achievement for English learners in transitional bilingual programs. *Educational Research and Evaluation*, 5, 345 – 381.

- Saunders, W. & O'Brien, G. (2006). Oral language. In F. Genesee, K. Lindholm-Leary, W. Saunders, D. Christian (Eds.), *Educating English language learners: A synthesis of research evidence* (pp.14 – 63). New York, NY: Cambridge University Press.
- Scarcella, R. (2003). *Academic English: A conceptual framework* (The University of California Linguistic Minority Research Institute Technical Report 2003-1). Retrieved from: http://www.lmri.ucsb.edu/publications/03_scarcella.pdf
- Schleppegrell, M. J. (2001). Linguistic features of the language of schooling. *Linguistics and Education*, 12, 431-459.
- Schon, J., Shaftel, J., & Markham, P. (2008). Contemporary issues in the assessment of culturally and linguistically diverse learners. *Journal of Applied Psychology*, 24, 163 – 189.
- Schrank, F., Fletcher, T.V., & Alvarado, C.G. (1996). Comparative validity of three English oral language proficiency tests. *The Bilingual Research Journal*, 20, 55-68.
- Schultz, J. (1989/1990). Cooperative learning: Refining the process. *Educational Leadership*, 47(4), 43 – 45.
- Shohamy, E., Donitsa-Schmidt, S., & Ferman, I. (1996) Test impact revisited: Washback effect over time, *Language Testing*, 13, 298–317.
- Slavin, R. (1989/1990). Research on cooperative learning: Consensus and controversy. *Educational Leadership*, 47(4), 52-54.
- Solano-Flores, G., & Trumbull, E. (2003). Examining language in context: The need for new research and practice paradigms in the testing of English-language learners. *Educational Researcher*, 32(2), 3–13.

- Stahl, S.A. & Fairbanks, M.M. (1986). The effects of vocabulary instruction: A model-based meta-analysis. *Review of Educational Research*, 56, 72 – 110.
- Stover, D. (2008). Caught in the middle. *American School Board Journal*, 195(9), 24 – 27.
- Strong, M. (1983). Social Styles and the second language acquisition of Spanish-speaking kindergarteners. *TESOL Quarterly*, 17, 241-258.
- Strong (1984) Integrative motivation: Cause or result of successful second language acquisition? *Language Learning* 34(3), 1 - 13.
- Takakuwa, M. (2000). What's wrong with the concept of cognitive development in studies of bilingualism? *Bilingual Review*, 25, 225 – 237.
- Taylor, L. (2005). Washback and impact. *English Language Teachers Journal*, 59, 154 – 155.
- Thomas, W. & Collier, V. (1997). Two languages are better than one. *Educational Leadership*, 55(4), 23 – 26.
- Thomas, W. & Collier, V. (1999). Accelerated schooling for English language learners. *Educational Leadership*, 56(7), 46-49.
- Thomas, W. & Collier, V. (2002). *A national study on the effectiveness of language minority students' long-term academic achievement*. Santa Cruz, CA: Center for Research on Education, Diversity and Excellence. Retrieved from <http://crede.berkeley.edu/research/crede/research/llaa/llaa.html>
- Thomas, W. & Collier, V. (2003). The multiple benefits of dual language. *Educational Leadership*, 61(2), 61-64.
- Tran, A. (2006). An approach to basic-vocabulary development for English-language learners. *Reading Improvement*, 43(3), 157 – 162.

- Umbel, V.M. & Oller, D.K. (1994). Developmental changes in receptive vocabulary in Hispanic bilingual school children. *Language Learning*, 44, 221-242.
- U.S. Census Bureau. (2011). *State and County Quick Facts – Oregon*. Washington, D.C.: U.S. Census Bureau. Retrieved from <http://quickfacts.census.gov/qfd/states/41000.html>
- U.S. Department of Education [USDOE]. (2000). *Elementary and Secondary School Civil Rights Compliance Report*, Washington, D.C.: U.S. Department of Education, Office for Civil Rights.
- U.S. Department of Education. (2004). *National symposium on learning disabilities in English language learners, October 14-15, 2003: Symposium summary*. Washington, D.C.: US Department of Education, Office of Special Education and Rehabilitative Services, Office of the Assistant Secretary
- U.S. Department of Education. (2006). Topic: Identification of specific learning disabilities. Washington, DC: US Department of Education. Retrieved from <http://idea.ed.gov/explore/view/p/%2Croot%2Cdynamic%2CTopicalBrief%2C23%2C>
- U.S. Department of Education. (2008). *Policy: Elementary and secondary education*. Washington DC: US Department of Education. Retrieved from <http://www2.ed.gov/policy/elsec/leg/esea02/beginning.html>
- Viadero, D. (2009). Delving deep: Research hones focus on ELLs. *Education Week*, 28(17), 22 – 25.
- Vygotsky, L.S. (1986). *Thought and language – Revised edition* (A. Kozulin, Ed.). Cambridge, MA: MIT Press.

- Wallace, C. (2007). Vocabulary: The key to teaching English language learners to read. *Reading Improvement, 44*(4), 189 – 193.
- Waters, G. (2001). ESL policy and practice: A linguistic human rights perspective. *Clearing House, 74*(6), 296 – 300.
- Watson-Gegeo, K. (2004). Mind, language and epistemology: Toward a language socialization paradigm for SLA. *Modern Language Journal, 88*, 331 – 350.
- Wells, G. & Wells, J. (1984) Learning to talk and talking to learn. *Theory into Practice, 23*(3), 190 – 197.
- Wheatley, M. (1999). *Leadership and the new science: Discovering order in a chaotic world*. San Francisco, CA: Berrett-Koehler Publishers, Inc.
- Wong Fillmore, L. (1983) The language learner as an individual: Implications of research on individual differences for the ESL teacher. In M. Clarke & J. Handscombe (Eds.), *On TESOL '82: Pacific perspectives on language learning and teaching* (pp. 157-173). Washington, DC: Teachers of English to Speakers of Other Languages.
- Ysseldyke, J. & Bielinski, J. (2002). Effect of different methods of reporting and reclassification on trends in test scores for students with disabilities. *Exceptional Children, 68*, 189 – 200.
- Young, J.W., Cho, Y., Ling, G., Cline, F., Steinberg, J., & Stone, E. (2008). Validity and fairness of state standards-based assessments for English language learners. *Educational Assessment, 13*, 170 – 192.
- Zehr, M. (2009a). Adopted tongue: English-learners pose policy puzzle. *Education Week, 28*(17), 8 – 17.

Zehr, M. (2009b). High school credits for ELLs still a challenge. *Education Week*, 28(19), 12 – 14.

Zehr, M. (2009c). English language learners. *Education Week*, 28(29), 5.

Zwiers, J. (2004). The third language of academic English. *Educational Leadership*, 62(4), 60 – 63.