11-1-2016

Explaining Special Education Communication Disorder Classification by Race, Native Language Spoken, SES, and EL Status: A Logistic Regression Study

Jonathan Fost
George Fox University, jfost@georgefox.edu

EXPLAINING SPECIAL EDUCATION COMMUNICATION DISORDER CLASSIFICATION BY RACE, NATIVE LANGUAGE SPOKEN, SES, AND EL STATUS: A LOGISTIC REGRESSION STUDY

By

JONATHAN FOST

DISSERTATION RESEARCH COMMITTEE

Chair: Patrick Allen, Ph.D.

Members: Dane Joseph, Ph.D., Susanna M. Thornhill, Ph.D.

GEORGE FOX
UNIVERSITY
COLLEGE OF EDUCATION

"EXPLAINING SPECIAL EDUCATION COMMUNICATION DISORDER CLASSIFICATION BY RACE, NATIVE LANGUAGE SPOKEN, SES, AND EL STATUS: A LOGISTIC REGRESSION STUDY," a Doctoral research project prepared by JONATHAN FOST in partial fulfillment of the requirements for the Doctor of Education degree in Educational Leadership.

This dissertation has been approved and accepted by:

11.29.2016 Patrick Allen		Committee Chair
Date	Patrick Allen, PhD	Professor of Education
12.21.2016		
Date	Dane Joseph, PhD	Assistant Professor of Education
11.29.2016		
Date	Susanna Thornhill, PhD	Associate Professor of Education

Abstract

This study examined whether a special education communication disorder for kindergarten students was dependent on race/ethnicity, native language spoken, socioeconomic status, and EL status using a dataset of 3,642 students across 2010, 2012, and 2014 in a large district in Oregon. Using a logistic regression methodology, this study explored (a) the relationship between identification with a special education communication disorder by race/ethnicity, (b) the relationship between identification with a special education communication disorder by native language, (c) the relationship between identification with a special education communication disorder by socioeconomic status (based on free and reduced lunch status), and (d) the relationship between identification with a special education communication disorder by EL status. The results from this study suggest that the odds of students being classified with a special education communication disorder are nearly double for those who receive free and reduced lunch. Other demographic variables did not significantly predict the likelihood of remediation. The findings from this study highlight the complexity of the story as to why students are identified with a special education communication disorder. This study can be used to inform future research on the connection between poverty and placement in a special education communication disorder.

ACKNOWLEDGMENTS

First and foremost, I would like to thank colleagues at work for their input and support with this dissertation. Many of them are likely tired of hearing how every topic I bring up in meetings and conversation somehow ties into research and findings from my dissertation. In addition, a select few colleagues have provided untold support with their encouraging words, listening ears, care, and ideas as I navigated through the roller coaster of emotions with this dissertation.

I also would like to acknowledge my committee members: Dr. Patrick Allen for his philosophical discussions, emotional support from when he was going through his doctoral work, and for his reminders that everything was going to be okay and that we would get through this; Dr. Dane Joseph for his countless analogies of real-life examples of the complicated methodology of logistic regression; and Dr. Susanna Thornhill for her calm, yet very direct input with rhetorical questions such as “I think you’re opening up a big can of worms here…do you really want to do that, I wonder?”

I also want to thank my father, Dr. Frederic Fost, for his time and effort in reading, rereading and providing suggested edits for my drafts of this quantitative study when his wheelhouse lies in qualitative studies and philosophy. In addition, I want to thank my family for putting up with my staring at the computer night after night dedicating countless hours towards completion of this project that seemed it would never end.

Finally, I thank you, the reader, for taking the time to read this study and to put it into use in future studies that benefit all students, specifically English learners.

Table of Contents

CHAPTER 1

Introduction

English Learners (ELs) can be misidentified with a special education communication disorder when the true issue is a lack of English proficiency (Klinger & Harry, 2006). The researcher has observed such cases first hand. In one case, after the third-year evaluation of the student's Individual Education Plan, the evaluating team determined that the student did not have a communication disorder, so the student left the special education program—after three years! The reality of this type of misidentification in special education is the focus of this study.

The 2011 United States Census data indicates there are more than 60.5 million people over the age of five who speak a language other than English in the home (Ryan, 2013). In many communities, due to the large numbers of speakers of languages other than English, families can navigate their way through the community and find food, shelter, and other basic needs without speaking English. Although this is very convenient for these families, it becomes a challenge when their children enter kindergarten. Suddenly the familiar world and comfort of their home culture and language are gone, and children may shut down and simply not speak. This is known as the silent period (Krashen, 1982). Krashen notes that the silent period is most noticeable with children who are in the process of second language acquisition. This linguistic shock can leave them virtually mute for several months, and create confusion and concern for educators and practitioners who are unfamiliar with the second language acquisition process. During this time, children listen and try to understand the language spoken by those around them and slowly build confidence to reproduce the language they are learning. Once children have gained enough confidence, they often start to speak as if full sentences were a single word. Experts are not in agreement as to the amount of time it takes to get native-like academic proficiency in English for

ELs. Hakuta, Butler, and Witt (2000) suggest four to seven years; Cummins argues five to seven years (1981), and others warn that it may take up to ten years, depending on the age upon arrival and the extent of formal education in the student's native language (Thomas & Collier, 1997). Specifically, it takes five to seven years for students who arrive between ages eight and eleven and have two to five years of formal schooling in their native language. It can take up to ten years if they arrive before they are eight years of age (Thomas & Collier, 1997). Other factors that affect the time it takes to become proficient are their parents' education, socioeconomic status (Hakuta, Butler, & Witt, 2000), student mobility (Thomas & Collier, 1997), and identification in special education (Sullivan, 2011).

Unfortunately, not many educators have a thorough understanding of linguistics, the second language acquisition process, the timeline for proficiency in English, or the difference between social language and more technical or academic language. Additionally, few educators in the United States have had an experience traveling to another country and learning another language at a level that is required to be able to navigate as a tourist, much less a citizen. Moreover, even fewer educators can speak in another language about advanced topics in school that require more technical language ability. This implies a general lack of understanding for teachers who subsequently find it difficult to understand and empathize with students who speak a language other than English.

Cummins (1979; 1984) describes two types of language contexts that help explain why there is much confusion as to why a child seems perfectly fluent when speaking to friends or talking about weekend activities but is not comfortable speaking about science, math, or other more academic topics. Basic interpersonal communication skills (BICS) are the everyday language skills used in social interactions such as taking about the weather, conversing on the

playground, or talking among friends about what they plan to do over the weekend. Cognitive academic language proficiency (CALP), however, is the more complex and technical language that is used in such activities as talking about the conclusion of a science experiment or discussing the pros and cons of recycling plastics. Fernandez and Inserra (2013) emphasize that teachers may work with students who have a wealth of social language and who are fluent in everyday conversations (BICS), yet watch these same students struggle to learn and keep focus in the classroom. It is frustrating for both student and teacher. As a result, many students misbehave in class, do not complete their assignments, and are unable to complete grade level academic work.

Given these complicating factors that students face, and given the fact that many educators lack an understanding of second language acquisition, it is not surprising that ELs are at times incorrectly diagnosed with a special education communication disorder. Furthermore, even teachers who deeply desire to help their students may not understand the root cause of the struggles EL students have in speaking and learning. Often, this translates into too little attention given to the pre-referral process in special education; for example, teachers might be better to start with strategies to help students acquire English rather than begin the referral process. Consequently, students are often assigned with a special education communication disorder with the assumption that the problem lies with the child (Klingner & Harry, 2006), when simply it is a matter of not providing enough time or support for the second language acquisition process.

The complications ELs face are not unique to any single district in the United States. But in order to understand these issues in a particular context better, this study will focus on an urban school district in the Northwest that is now experiencing an upswing of ELs in special education from the elementary to the middle school level. The researcher works as an Associate Director

of English Learners in the Ayka School District (all names are pseudonyms) and has asked himself these questions: Have we done a disservice to students who are in the English language development (ELD) program for more than five years, and are we actually misidentifying students with special education diagnoses when it is actually a language acquisition issue? Do the goals in special education meet language learners' educational needs? Due to the researcher's position in the district, he is often invited to special education meetings with the district team. As he looks at the testing data, he has been asked questions on more than one occasion as to why a particular fifth grader is still identified with a special education communication disorder. A special education communication disorder is one of the categories in special education in which a student may progress towards goals of an Individual Education Plan (IEP) and exit the program once the goals are sufficiently met. However, this is not the case for many of the categories of special education, where the condition is permanent, such as autism. Moreover, in the cases of a misidentification of a special education communication disorder, the natural second language acquisition process itself may address the problem as the student becomes proficient in English. Still, some students do not exit the special education program. Why? Certainly, there is a misalignment when the goals of the IEP do not match with the student's linguistic needs. In the case of this particular fifth-grade student, the researcher suspects that early childhood special education staff members identified this student as having a communication disorder because they did not understand second language acquisition process. For example, unlike native speakers, Spanish speakers are unable to pronounce the phoneme that the letters "th" make in English (You, Alwan, Kazemzadeh, & Narayana, 2005), which was also true for this fifth-grade student. This may be one of the reasons ELs are identified with a special education communication disorder.

One of the most common special education referrals for students in the Ayka School District is for a communication disorder. However, the process of identification is not straightforward and there are four variations of communication disorders a student may have: 1) voice disorder, 2) morphology/syntax/grammar, 3) fluency disorder, and 4) a phonological or articulation disorder (M. Rocha, personal communication, February 3, 2016). There is no evidence if ELs are identified with one of these four variations more than others; nevertheless, what is clear is that these variations further complicate the identification process.

The process for identifying students with a special education communication disorder in the Ayka School District is complicated and will be discussed in more detail in Chapter 3. In addition, it is important to mention that despite the fact the pattern of strengths and weaknesses model has fallen out of favor in many districts, the Ayka School District uses a version of this model for the referral process for a special education communication disorder. This process begins as follows: The speech language pathologist prescreens the student in question with classroom observations, file review of standardized and non-standardized test results, informal classroom assessments, writing samples, peer comparisons, core content work, and knowledge of letters and sounds. Then the process continues with the speech language pathologist gathering a collection of evidence to show there is a language deficiency substantiated with formal evaluations and samples.

In conversations with other district administrators, special education staff members, and English language development specialists, the researcher has come to believe that there has been an historic over-identification of incoming kindergarten EL students as in need of special education due to a communication disorder—especially native Spanish speakers. Consequently, they remain dually identified in special education and ELD far too long. For example, in one of

the middle schools in the district, approximately 50% of the ELs were also dually identified in the special education program (Data Dashboard, 2016). However, on a national level, the percentage of ELs with disabilities is only 9% (National Center on Educational Outcomes, 2011). This disparity begged to be examined because studies indicate that special education misidentification of minority students leads to decreased performance potential, stigma, loss of educational opportunities, lower levels of achievement, behavioral problems, and fewer postsecondary opportunities, just to name a few (Artiles, Rueda, Salazar, & Higareda, 2005; Christina, 1993; Fetcher & Navarrete, 2003; Ford, 2012; Klingner et al., 2005; Patton, 1998).

Purpose of the Study

The purpose of this study was to determine if a special education communication disorder for kindergarten students was dependent on race/ethnicity, native language spoken, socioeconomic status, and EL status for kindergarten students in the Ayka School District. Specifically, the researcher conducted a multiple-year comparative analysis of English and non-English language learners who entered kindergarten with a special education plan that designated a communication disorder. This study statistically examined whether ELs were disproportionately placed with a special education communication disorder based on these variables.

For context, the Ayka School District has approximately 1,600 ELs and 74 languages of origin in the total student population. The top five languages of origin recorded in the student information system in the district are Spanish (2,088), Russian/Ukrainian (889), Vietnamese (404), Chinese (249), and Romanian (95) (Data Dashboard, 2016). It is important to note that there are many students who have a language of origin other than English who are fluent in English and do not require services in ELD. In this study, all kindergarten students in the Ayka

School District were divided into three groups dependent on their language status: native English speakers, Spanish-speaking ELs, and non-Spanish-speaking ELs. In addition, the Ayka School District has a kindergarten through twelfth grade dual language immersion program in Spanish and English. There are two elementary schools that have dual language immersion classrooms and non-dual language immersion classrooms. Both elementary schools feed into one middle school and high school.

Significance of the Study

This study is important because it will contribute to an understanding of why there is an alarmingly high number of early childhood ELs in Ayka School District who are identified with a special education communication disorder. If early educators are made aware of the numbers of ELs who are identified as having a special education communication disorder when they do not actually have a learning disability, this would have the potential to change the way those teachers work with early childhood language learners. It could drastically change children's lives by preventing an unnecessary diagnosis and allowing those students to focus on gaining English proficiency. Moreover, the argument that special education appropriately slows down the curricular demands on a child so he can learn English is moot because that scenario often represents a misalignment between academic and English proficiency goals. Lastly, it exacerbates inappropriate educational goals that often negatively affect students' placement in classes, cause them to feel incapable of learning, and reduce their elective options starting at the secondary level.

Students who are dually identified are pulled from their classes in elementary school to receive the extra support they need, based on the goals of their special education plan. They are also pulled for English Language Development Program classes. Consequently, their day is

partitioned and they have less time in their regular classroom and this results in fractured education (Sakash & Rodriguez-Brown, 1995).

At the middle school level, such dually-identified students are often precluded from taking elective classes such as band, choir, or drama. This is troubling because such courses often inspire students to pursue other interests and to be more involved in school in general – factors that promote persistence in school.

Students who are dually identified are doubly stigmatized with special education and EL labels, and their special education goals may not address the real pathway to academic success: to increase their proficiency in English. If misdiagnosis and consequent assignment of students to special education is due to a misunderstanding in the identification process, staff may want to take steps towards improving this process. After all, the impact of these decisions can last a lifetime.

Umansky, Thompson, and Díaz (2016) conducted a study on students identified as ELs at any point during their kindergarten through twelfth grade education in the state of Oregon. Their work provides complementary information to this research on kindergarten and early childhood identification in special education. Their study followed all students who were ever classified as EL to find the representation in special education. The findings showed large proportions of students who were dually identified as EL and in special education even at the middle and high school level. Umansky et al.'s research pinpoints the importance of more accurate identification for special education students at the kindergarten and early childhood level lest ELs are misidentified for special education when the real issue is English language proficiency.

Research Question

The following research question will be addressed in this study:

Is a special education communication disorder dependent on kindergarten students' race/ethnicity, native language spoken, socioeconomic status, or EL status?

It is important to note that the odds of being classified with a special education communication disorder were calculated with each independent variable, a combination of them, and with all of them combined.

Key Terms

The following section provides some definitions of the key terms that will be used in this study:

Code switching:

Code switching is a mixing of two or more languages by bilingual or multilingual speakers without changing who is speaking or the topic of discussion (Poplack, 2015).

Dually identified:

This study uses the term dually identified to refer to students who are identified both in the English Language Development (ELD) program and Special Education.

English Language Development (ELD):

This term refers to the method of instruction, program, and curriculum used for English learners to gain proficiency in English to be able to understand and access academic content.

English learner (EL):

An EL is a student who grew up in a home speaking another language besides English or in a bilingual home but who is not completely fluent in English based on a local English language proficiency assessment.

Native English speaker:

This term references students who were born in an English-speaking home and who learn only in English.

Non-ELs:

In this study, this term is synonymous with native English speakers in the above definition.

Oracy:

This term refers to one's proficiency in oral expression and grammar (Oxford Dictionaries, 2015).

Second language acquisition:

Krashen (1982) indicates there are two ways to acquire a second language: 1) a natural process of learning a language as a child does in his/her first language. It is acquired without the learner's active awareness; he just knows what 'sounds right;' and 2) learning the language in a structured format by studying the rules and grammatical forms of the language.

Special education plan (AKA an Individualized Education Plan or IEP):

An educational plan created by a team of professionals and family to address the specific deficiencies found from cognitive assessment results.

Limitations and Delimitations

There were several limitations to this research project. First, the research came from existing secondary data. Thus, the researcher could only use what was available and in the form it was collected and stored. Second, the data did not give the researcher the reasons why students were diagnosed with a special education communication disorder. It only showed that there was a certain proportion of students who were identified with a special education communication disorder. Third, the data were limited to students enrolled in kindergarten in public schools and did not include home school, private school students, or students not enrolled in school during their kindergarten year.

Another very significant limitation to this research is the district's home language survey. The survey provides questions for parents to complete on the native language spoken by their child for screening purposes for ELD. However, parents do not always answer these questions about the language spoken at home, native language of the student, or correspondence language because they do not want their child screened for ELD. Often this is problematic when their child is orally fluent in English but is limited in his/her academic English, and thus struggles without the support of ELD. The languages spoken by the kindergarten students are collected from the information parents provide on the home language survey section of the enrollment registration form. However, there are factors involved that influence what parents indicate on this form. For example, many parents do not put their native language spoken on the home language survey section of this form. It is not clear how many parents do not answer accurately; however, the researcher's experience working with parents from other language groups reveals it is common. There are various reasons why parents indicate they put only English down on the home language survey. These reasons vary from their own personal experience of English as

second language programs that are very different than they are today, recommendations from friends and family, and recommendations from faith-based organizations. Some parents indicate their church leaders tell them to put only English down on the form and they will help the family work on their native language at church. Other parents put only English for their children because their children speak and use English with their siblings and community members, even though the parents speak to them in their native language. Others feel the need to integrate and assimilate into the English-speaking culture as quickly as possible, and they worry that if their children are in an English as a second language program, they will be slowing down the language learning process in English. Other examples include parents filling out the home language survey in Spanish and putting English down as the language spoken both at home and by the children even though the parents themselves do not speak English. All of these things contribute to the issue of not identifying all students who could benefit from specific and targeted English language development. These many factors indicate the problematic nature of the language information available to Ayka School District.

There were several delimitations for this study, as well. First, in addition to native English speakers, this study only focused on Spanish-speakers and the four most populous language groups in the district categorized as other: Russian/Ukrainian, Vietnamese, Chinese, and Romanian. The other language groups in the district were simply too small to be utilized in this analysis. Finally, the study utilized 2010-2014 data from only one public school district in the Pacific Northwest.

Summary

Klinger and Harry (2006) argue that ELs can be misidentified with a special education communication disorder when the true issue is a lack of English proficiency, and in the

researcher's own professional experience, he suspected at the outset of this study that this is, indeed, the case. The purpose of this study was to examine the factors surrounding special education placement of kindergarten ELs in a large school district in the Northwest. The study utilized secondary, internal district data to examine the placement in special education of three native language groups: English speakers, Spanish speakers, and non-Spanish speaking ELs. The significance of the study lies in the fact that misidentified ELs are often doubly stigmatized, leading to lower achievement and fewer opportunities for college and career readiness.

CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

This first section of the literature review identifies the reasons why there is a disproportionate rate of ELs who are referred and identified into special education in the United States. This section begins with the overview of special education diagnoses that include implications for native languages spoken. It then details the classification of learning disabilities in special education and the three diagnosis processes by which students are identified and assigned into special education: ability-achievement discrepancy, Response to Intervention, and patterns of strengths and weaknesses. Finally, the eligibility criteria, the assessments used in diagnosis, the effects of misdiagnosis classification in special education, and the implications with native languages spoken are examined.

The second section of the literature review addresses the impacts of special education diagnoses in terms of a) stigma and lower achievement of students in special education, b) Latino identification in special education, c) fewer opportunities for college and career readiness for special education students, and d) parental involvement in the special education identification process. The final section of the literature review discusses how student demographics relate to the research questions, particularly for students who are entering kindergarten and what it means to look at an increasingly diverse community of kindergarten learners through the lens of socioeconomic status, influence of federal and state laws, and questions of race and equity.

Special Education Diagnosis

In this section, the implications for native language and proficiency, typologies for the classification of learning disabilities, and how students are identified in special education provide a context for diagnosing a student with a communication disorder.

Native language and proficiency. Shore and Sabatini (2008) highlight that a learning difference or disability may not be completely evident in a child's native language. They recommend taking a detailed look at second language acquisition in a number of areas of reading, including phonological awareness, phonemic awareness, decoding, oral vocabulary, and text comprehension. The authors also emphasize that one of the most important components of reading across languages is a student's phonological awareness. Phonological awareness is the ability to differentiate separate speech sounds from whole word meanings, which is essential in learning to read in both one's native language and a second language. Development of phonological awareness in a second language may be hindered in students who do not have a strong base in their native language, specifically if they are low in vocabulary knowledge (Durgunoglu, 2002). Students with low overall metacognitive and metalinguistic awareness need to be supported in this area and observed for a longer period of time before being referred to special education. Durgunoglu (2002) indicates that low levels of academic fluency in the native language are likely due to limited support from home and school and this reason is not a justification for ELs to be referred for a special education communication disorder.

Hibel and Jasper (2012) reported that English learners are less likely to be placed in special education in kindergarten to second grade, yet the rate of their identification increases in grades three to five. Historically, it seems, ELs have been underrepresented in special education in early grades, then gradually overrepresented – starting in the third grade according to Samson

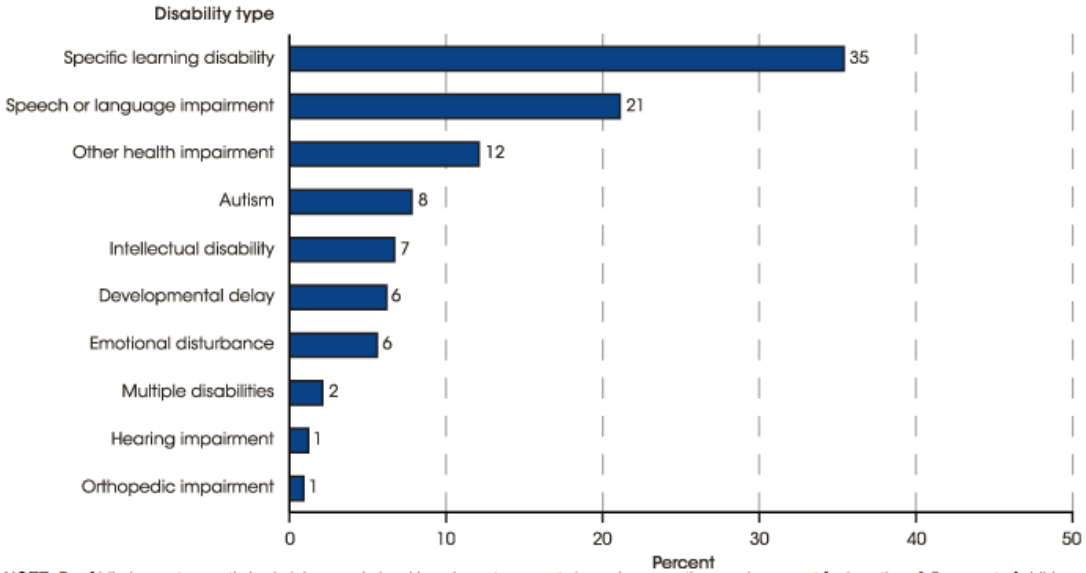
and Lesaux (2009) and in the fifth grade according to Artiles et al. (2005). One theory is that school staff members are hesitant to put ELs in special education in the early grades until students are more proficient in English (Hibel & Jasper, 2012; Samson & Lesaux, 2009). However, another study (Artiles et al., 2005) finds that ELs in California who are limited in both their native language and English are consistently overrepresented in special education at both the elementary and secondary levels.

It is the higher rate of referral for kindergarten Spanish speakers in a particular district in the Northwest that is the focus of this study.

Classification of learning disabilities in special education – typologies. There are 13 different individual categories of disability under the Individuals with Disabilities Education Act (CPIR, 2016b). Students who are identified with a learning disability have a designation in one or more of these categories.

Figure 1 below shows the distribution of types of disability in the US (NCES, 2016).

Figure 1. Percentage distribution of children ages 3–21 served under the Individuals with Disabilities Education Act (IDEA), Part B, by disability type: School year 2012–13



NOTE: Deaf-blindness, traumatic brain injury, and visual impairments are not shown because they each account for less than 0.5 percent of children served under IDEA. Due to categories not shown, detail does not sum to total.
SOURCE: U.S. Department of Education, Office of Special Education Programs, Individuals with Disabilities Education Act (IDEA) database, retrieved October 3, 2014, from https://inventory.data.gov/dataset/8715a3e8-bf48-4eef-9deb-fd9bb76a196e/resource/a68a23f3-3981-47db-ac75-98a167b65259. See *Digest of Education Statistics 2014*, table 204.30.

Diagnosis – how students are identified in special education. Each state must determine criteria to ascertain whether a child has a specific learning disability within these guidelines: 1) a specific learning disability designation cannot require the use of large discrepancy between achievement and intellectual ability, 2) the designation must allow Response to Intervention for the child that is both scientific and research-based, and 3) the designation must allow other research-based methods in the process to ascertain whether a child has a learning disability (IDEA, 2016).

A child who attends a public institution and is between the ages of three and twenty-two and is identified with one of the special education eligibility criteria (discussed in detail below) may qualify for special education, but only if the disability has an adverse effect on the child's academic performance (Understanding Special Education, 2016).

For example, the Individuals with Disability Education Act (IDEA) states the following for just one of the thirteen disability categories that a:

> …[s]pecific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. (IDEA, 2016)

However, IDEA does not specify the following learning problems "…that are primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage" (IDEA, 2016a). Thus, the process of identifying a child in special education is not simple and requires a number of steps. In order to

determine if a child has a learning disability, there must be a variety of assessments and strategies documented in the process that may include but are not limited to classroom observations, assessments, interviews, and curriculum-based assessments (CPIR, 2016a). In addition, the data collected must also come from a variety of sources: the child, parents, teachers, and specialists, among others. The data collected must include assessments that address specific educational subjects such as reading and math, as opposed to solely obtaining an intelligence quotient (IQ). Only through the process of gathering data from multiple approaches and a variety of sources is it acceptable and appropriate to identify and understand the child's strengths and weaknesses, to move forward with a determination of a learning disability.

Section 300.306 of IDEA (2016a) specifies that a group of qualified individuals and the parents look at the assessments and other evaluation measures to determine if a child has a disability. This section also indicates that a child must not be qualified as having a disability if the evidence or reason for determining there is a disability is due to a lack of appropriate reading instruction, lack of appropriate instruction in mathematics, or if *the student has limited English proficiency*. After following these procedures, if the child is determined to have a disability, the team must develop an Individualized Education Plan (IEP) for the child.

The group of qualified individuals determines if a child has a specific learning disability if s/he does not achieve state standards at his/her age and grade while receiving grade and age-appropriate learning experiences in one or more of the following: a) oral expression, b) listening comprehension, c) written expression, d) basic reading skill, e) reading fluency skills, f) reading comprehension, g) mathematics calculation, and h) mathematics problem solving (IDEA, 2016).

Eligibility Criteria in Special Education

In order to follow the process described above that uses a variety of sources, special education staff must have a formal process with clearly delineated learning eligibility criteria. Yet Maki, Floyd, and Roberson's (2015) review of the learning disability eligibility criteria in all 50 states and the District of Columbia shows a wide variance in identification practice. The three main approaches used in the United States are: *ability-achievement discrepancy, Response to Intervention,* and *pattern of strengths and weaknesses*. These are described below. The authors note that 67% of the states permit the ability-achievement discrepancy approach while 20% specifically prohibit its use; 16% of states only allow the Response to Intervention approach but its implementation varies widely; and about 50% of states do not allow the pattern of strengths and weaknesses approach. Those who do use this approach provide very little information on how it is used.

Ability-achievement discrepancy. The ability-achievement discrepancy approach ascertains whether there is a significant difference between the scores on a student's IQ test such as the Wechsler Intelligence Scale for Children and an achievement test such as the Woodcock Johnson Achievement Test (The IRIS Center, 2016). This model is often used to verify if a student has a learning disability. When a discrepancy is found between the IQ test scores that are at least 30 points (or two standard deviations) higher than the achievement test, it is likely there is a disability.

Nevertheless, the process requires further steps once ability-achievement discrepancy is met. There are four steps with two approaches to start the ability-achievement discrepancy process (Restori, Katz & Lee, 2009). These authors indicate the first approach is to analyze the performance on the intelligence test to determine strengths and weaknesses in processing. The

second approach the authors suggest is to test with an additional battery of tests that measure different areas of psychological processing. If the student performs below average on any measure such as auditory processing, then it is determined there is a psychological processing deficit. Step three is to determine if there is an educational need, and step four rules out any exclusionary considerations: linguistic diversity, mental retardation, economic disadvantage, inadequate instruction or emotional disturbance.

However, there are some concerns with this model: it does not allow students to be identified with a learning disability in primary grades as they are too young to meet the minimum discrepancy between IQ and achievement for this model and thus creates a wait-to-fail approach (Fuchs, Mock, Morgan, & Young, 2003; Restori, Katz, & Lee, 2009). Additionally, the testing does not indicate specific learning needs, and may provide inequitable results for language learners since the tests are often normed for native English speakers (The IRIS Center, 2016). The Ayka School District uses the Response to Intervention model described below that allows the process to start at an earlier age.

Response to Intervention. Response to Intervention (RTI) is a process of early intervention of learning and behavior needs of students (RTI Action Network, 2015). The RTI Action Network indicates there is not one single model that articulates how this process is to take place in schools and in the classroom; however, often it follows a multi-tiered three-step approach. RTI is a process that is used for students in the classroom who are not achieving at the same level as their peers (Kavale & Spaulding, 2008). This process begins in the regular classroom by monitoring student progress with ongoing assessments, both on an individual level and with a peer group, after the intervention is in process. From the assessment data, changes are

made (if necessary) in the type, frequency, and intensity of interventions, as described in the next paragraph.

The RTI Action Network (2015) describes the tiers of instruction in the following structure:

1. Tier One instruction and intervention happens in the general education classroom with highly qualified staff to provide instruction in the assigned curriculum. School staff members screen students periodically on their academics and behavior to have baseline data and provide extra support to students who are struggling. During the process, students who fall below the baseline established for their grade level are categorized as "at risk" and receive supplemental instruction in the classroom during the day. This process often follows an eight-week cycle. After the cycle is over, students who show progress continue in the regular classroom, and students who do not demonstrate adequate progress move on to Tier Two.
2. Tier Two consists of targeted interventions. The interventions increase in intensity commensurate with student needs and are often provided to a small group of students. In kindergarten to third grade, the focus is primarily on mathematics and reading. The cycle for this tier may take longer than Tier One, but it should not continue beyond a grading period. At the end of the grading period or designated intervention cycle, students who do not show progress in this tier move on to Tier Three.
3. Tier Three consists of individualized instruction that targets specific skills for each particular student who has not progressed in Tiers One or Two. Students who do not progress in Tier Three are referred for evaluation in special education. School staff members use the data from all three tiers in the decision for eligibility for special

education. In addition, parents may request an evaluation for their child for special education at any time during the RTI process.

Klingner and Edwards (2006) question the RTI process, as the reading progress data often excludes results from culturally and linguistically diverse students who frequently are ELs. The authors indicate ELs are omitted from the data samples provided to students because ELs often lack the English proficiency to complete these samples. They ask what each of the intervention tiers should look like to ensure they address the needs of ELs. The authors further state that instruction in all tiers needs to be evidence-based and validated with other ELs in order for it to be truly culturally responsible and appropriate to use to identify ELs through the RTI process. Moreover, the RTI staff members need to ascertain whether ELs received adequate instruction and opportunities to learn before they consider whether ELs have a learning disability.

Brown and Doolittle (2008) warn that unless school staff members who work with students in the RTI process are familiar with instruction that is both culturally and linguistically appropriate, there will be a disproportionate number of ELs in special education who are either underrepresented or overrepresented. Underrepresentation can occur without the use of the RTI process when the ability-achievement discrepancy approach is used. As indicated above, this is known as the wait-to-fail approach because students are too young to show a discrepancy between IQ and achievement (Fuchs, Mock, Morgan, & Young, 2003; Restori, Katz, & Lee, 2009). Likewise, underrepresentation can occur due to classroom teachers hesitating to refer ELs to special education because they are uncertain if difficulties presented in learning stem from a language difference or a disability (USDOE & NICHD, 2003). The authors also indicate that when ELs show a lack of growth, it is necessary to review the curriculum and ascertain

whether students' English language proficiency and the rigor match. Moreover, in comparing ELs' growth in the RTI process, Brown and Doolittle (2008) emphasize the importance of comparing growth to peers who have similar native language experiences, culture, and background. If similar peers are also struggling, then the instruction is not at the correct level for these ELs and needs to be adjusted, rather than moving the student on to a Tier Two intervention program. Their research enumerates a series of questions for educators to follow at each step in the RTI process before continuing interventions. For example, four of the questions that should be asked are: a) What are the functional, cultural, developmental, linguistic, and academic needs of the student? b) Is there information included in the assessment that addresses both the student's native language and English? c) Has instruction been ongoing and continuous? d) Is there any progress documented from previous interventions? Asking and answering these questions can help teachers tailor instruction to ELs' particular needs.

The RTI process has many variations and although there is not one set pattern or length of time for each intervention tier, there are some consistent processes. For example, Tier One always takes place within the classroom. In addition, unless educators take into account linguistic and cultural differences that may affect progress in each tier, the RTI process may misrepresent students in the process (Brown & Doolittle, 2008; Klingner & Edwards, 2006).

Pattern of strengths and weaknesses. Pattern of strengths and weaknesses is a third approach to identifying students in need of special education. Similar to RTI, there are many ways to implement patterns of strengths and weaknesses. There are, however, essential steps in the process: identify academic need under the federal guidelines for disabilities, ascertain area or areas of weakness with research-based links to an identified academic problem, find any

cognitive areas that are average or above average, and analyze the findings for a pattern that will either rule out or confirm a disability (Schultz, Simpson, & Lynch, 2012).

From the literature, it is clear that there is no single way to identify children in special education, and each of the three major approaches is complex and inexact. This makes the process more difficult for school staff members to identify students properly. Obviously, identification is a local practice with lots of variability, and as the next section makes clear, students often get caught in the middle.

Effects of Misdiagnosis Classification in Special Education

One study (Klingner, Artiles, & Mendez-Barletta, 2006) indicates there are specific subgroups of ELs, such as Spanish speakers who have a language loss in their primary language, who are more readily identified in special education than others. The authors of this study (Klingner et al., 2005) do not agree that culturally and linguistically diverse students are more likely to be represented in special education because they actually have a higher incidence of disabilities, and Donovan and Cross's (2002) research indicate that most students are in special education due to reading difficulties and behavioral issues. They point out that at the same time that there is an overrepresentation of minority students in special education, there is an underrepresentation of minority students in talented and gifted programs. Klingner et al. (2005) stress the importance of school leaders being culturally knowledgeable and responsible in order to reduce the number of ELs that are referred to special education for factors that are unrelated to a disability. In short, school leaders need to become experts in the referral process, particularly when dealing with the specific needs and characteristics of ELs.

Moreover, it is important for teachers to respond to the cultural subtleties of minority students and not assume that students' deficits in academics are due to the need for special

education. Rather, ELs may underachieve because teachers do not promote learning that meets the culturally and linguistically diverse learning needs for these students.

The lack of consideration of language issues is an ongoing problem in properly identifying students for special education. School staff members may interpret difficulties students have with language as deficits or learning problems rather than a lack of proficiency in English (Klingner & Harry, 2006). In addition, due to limited knowledge of the second language acquisition process, multiple school educators confuse this process with learning disorders, processing issues, low intelligence, or attention problems. Often, when noticing a child's inability to follow directions, educators assume it is because of poor auditory memory rather than the lack of understanding of English that is typical for someone learning a new language (Klingner & Harry, 2006). Klingner and Harry (2006) also indicate that educators place too much emphasis on test scores to indicate students' capabilities, failing to take into account that there may be negative factors associated with a teacher or a classroom environment. In short, educators often assume that the problem is in the student, when it very well may lie outside the student.

In a three-year longitudinal study, Klingner and Harry (2006) examined the possibility of overrepresentation of ELs in special education and showed that referral teams for special education often base their referral decisions on oral proficiency. In addition, teams referred ELs to special education when ELs were not learning English commensurate with their peers in the classroom. Referral teams made decisions without guidance or background on students' rates of English acquisition, regardless of the native language. Other studies (Durgonoglu, 2002) highlight the concept of language interference from the child's first language while learning English. This normal phenomenon of cross-language transfer interference occurs when ELs rely

on the structure of their native language to make decisions about their second language. Therefore, they may make errors in English under the influence of syntax and structure in their native language. This information can be very helpful when determining whether students are in a normal stage of language development in a second language as opposed to having a learning disability. To sum up, it is important for educators to take native language interference into account before making decisions about placement in special education, particularly for young learners.

Early Identification of English Learners in Special Education

One of the challenges of teasing out a language disorder versus second language acquisition delay in ELs is that tests used to assess students are normed for native speakers of English and thus have very little value in providing information about second language learners (Fernandez & Inserra, 2013; Schiff-Myers, Djukic, McGovern-Lawler, & Perez, 1994). Schiff-Myers et al. further note that students from homes who speak a language other than English will not perform as well until they become more proficient in English. Fernandez and Inserra (2013) stress the importance of focusing on ELs on a case-by-case basis with careful screening and evaluation due to the difficultly in distinguishing between a language deficit and a language-related disability. Evidence from their research indicates that teachers often feel at a loss on how to proceed with ELs, and in the interest of trying to help students, they refer them for special education. Unfortunately, a number of studies provide evidence that there is a lack of second language acquisition training (Fernandez & Guzman, 2014; Ortiz, 1997) or guidance that would allow educators to understand the difference between first-language interference versus a disability (Fernandez & Inserra, 2013; Flanagan, Fiorello, & Ortiz, 2010; Harding, Mereoiu, Hung, & Roach-Scott, 2009; Klingner, Artiles, & Mendez-Barletta, 2006).

The literature on identifying ELs in special education shows how complicated this process is. There are a multitude of factors in the process and many ways students can be identified. Early childhood and kindergarten is where educators notice the most English proficiency differences among ELs and native English speakers (Harding, Mereoiu, Hung, & Roach-Scott, 2009). The path to identification in special education is difficult and convoluted for both special education professionals and classroom teachers. As a result, students may either a) be misdiagnosed with a special education communication disorder due to a limitation in English proficiency rather than an actual disability or b) experience delayed identification due to misunderstanding of the second language acquisition process. Consequently, in either case, the unique needs of ELs go unaddressed.

The Impact of Stigma on Special Education Students

The impact of stigma on special education students is a factor that is important to understand and may have huge implications on student performance. The sections below provide an overview of the literature on the following subcategories: stigma and lower achievement for special education students, Latino identification in special education, limited college and career opportunities for special education students, and parental involvement in the special education identification process.

Stigma and lower achievement with special education. Donovan and Cross (2002) indicate that students with disabilities have a double negative impact on their academic performance when they are separated from their peers and then given a stigmatized special education label that implies a curriculum of low expectations. These lower expectations lead to a sense of inferiority that may ultimately lead a student to drop out of school. This in turn, decreases students' opportunities for postsecondary education. In addition, with over-

identification of ELs in special education, these students are at risk of a social stigma and therefore, are not given credit for their academic potential (Higgins, Raskind, Goldberg, & Herman, 2002). Furthermore, special education assignment is often justified and perpetuated by the belief that students who come from low-income homes have limited English proficiency, encounter more stress, and experience developmental difficulties that lead to poor performance in school (Skiba et al., 2008).

Students with a learning disability often perform at a lower academic level, and the stigma of being "learning disabled" is felt by students and perpetuated by parents and staff (Shifrer, 2013). That is to say, both parents and teaching staff hold lower expectations for students identified with a learning disability in special education as compared to students who are not designated as learning disabled. This often leads to a less rigorous curriculum, decreased academic growth, and substandard socio-emotional outcomes for these students (Harry & Klingner, 2006). Shifrer (2013) concludes that the attitudes and expectations held by teachers and parents for students with a learning disability likely contribute to the full spectrum of disadvantages these students face – social, academic, attitudinal, and behavioral. Consequently, the learning disability stigma for students not only lowers academic outcomes and decreases attitudes about education in general; these students are also socially less involved.

Despite the fact that students in special education benefit from legal protections, parents often resist having their child identified as a student in special education because of the stigma of the label and placement in special classes (Ho, 2004). Ho also indicated that since disabled people historically have been oppressed, parents may have a hard time readily accepting the disabled designation for their child. Moreover, parents may have concerns that others will treat their child differently if they have a special education label, and their special needs may lead

others to think of them as inferior or abnormal. In short, in many cases, the special education label has negative social and political implications that outweigh the legal protections the label affords.

Students of color who are in special education also suffer from stigma (Fellner, 2015). They are inherently stigmatized with the label of special education and marginalized by historical and political contexts that implicitly lead to lower academic performance. Culturally and linguistically diverse students historically have been assumed to perform lower academically due to a lack of the knowledge and skills required to be successful in school. The added label of special education exacerbates this stigma of lower expectations (Artiles, 2003; Waitoller, Artiles, & Cheney, 2010).

Latino identification in special education. Professional staff members face a number of challenges when identifying the educational needs of Spanish-speaking ELs. A disproportionately high number of Hispanic students are identified in special education (Gerber & Durgunoglu, 2004). This section will examine several of the more prominent challenges in identifying Spanish-speaking ELs with a with a special education communication disorder.

Speech language pathologists face a challenge in identifying Spanish-speaking students who come from non-English speaking homes because they must distinguish between a student who has normal second language development of English from a student who has a language disorder and has trouble learning any language (Schiff-Myers, 1992). This challenge is exacerbated by the fact that Spanish-speaking students in the United States often experience a loss of their native language. This loss is attributable to the influence of English in the community around them. As a result, their Spanish is weakened. This may be the result of

personal choice, family pressure to learn the dominant language, and/or societal pressure to speak English only.

Another challenge educators face with native Spanish-speaking students is that many such students have limited vocabulary and make syntax errors. Some contributing factors for this lack of proficiency could be related to: a) limited experience or exposure to English, b) switching back and forth from English to Spanish, called code-switching, c) interference from another dialect or other language spoken at home, and finally d) a learning disability with language learning (Schiff-Myers, Djukic, McGovern-Lawler, & Perez, 1994; Zentella, 1990).

Harding, Mereoiu, Hung, and Roach-Scott (2009) list four key areas that lead to a disproportionate number of Latino preschool aged children identified in special education: a) inconsistent screening and evaluation methods that lead to a larger number of placements in special education, b) limited parent participation during the entire referral process due to a lack of interpretation/translation and cultural sensitivity, c) lack of professional staff development and understanding of how to screen and evaluate limited English proficient students, and d) out-of-date and inconsistent screening policies, exacerbated by limited bilingual services for students and parents, a lack of funding for staff training, and materials for parents. Guiberson's (2009) work indicates that Latino students are less often identified as mentally retarded, but more often designated as learning disabled or speech impaired.

Limited college and career opportunities for special education students. ELs who are dually identified in special education have very low rates of employment after high school, despite the fact that a transition plan from high-school to post-graduation is a part of IEP goals (Trainor, Murray, & Kim, 2016). The authors also note that the transition education assistance provided to most ELs with disabilities is insufficient for them to find employment in careers that

interest them. Many ELs need more specific support in meeting postsecondary goals and gaining employment options, a problem common with students who live in poverty and come from schools where the majority of the students are on free or reduced lunch. In addition, students who come from historically marginalized racial and ethnic groups tend to need more guidance in making and executing postsecondary plans. Finally, findings from Trainor et al. (2016) show that ELs with disabilities were much less likely to be employed than non-ELs with disabilities.

Special education assignment is often justified and perpetuated by the belief that students who come from low-income homes have limited English proficiency, encounter more stress, and experience developmental difficulties that lead to poor performance in school (Skiba et al., 2008).

Parental involvement. Parental involvement is very important in the special education identification process. Harding, Mereoiu, Hung, and Roach-Scott (2009) indicate that educational professionals have an influence in the level of parental involvement of Latino families. The following factors play a role in the special education referral process in early childhood: a) trust is difficult to establish with officials due to potential immigration issues for families, b) parents often accept decisions at face value out of respect for teachers' positions even if they do not understand the reasons for the referral, c) families may be afraid to express their concerns or explain what they need, d) some parents do not understand the referral process, e) parents deny there is any disability because of cultural differences, and f) a lack of effective parental education beyond the parent rights handbooks. All these factors, according to Harding et al., can lead to an ill-informed decision, and parents who are not fully informed or understand all of the ramifications of the decision are more likely to rescind their decision later after they realize the impact it has on their child.

Studies of Latino parents reveal that more than half of EL students' parents feel they should not interfere with teachers' decisions and that they should also keep their distance from the educational process, because educators "know what is best" for their children (Harding, Mereoiu, Hung, & Roach-Scott, 2009; Lian & Fontánez-Phelan, 2001). In other cases, parents are afraid to voice the concerns they have about their children and the special education process because they do not possess the ability to explain their perspective in English. Moreover, when parents are new to the U.S. educational system and their children begin their pre-kindergarten experience, they are often unfamiliar with mainstream cultural and linguistic practices. According to Harding, Mereoiu, Hung, and Roach-Scott (2009), a lack of parent understanding and educators not having the background or the tools to separate learning differences from cultural and linguistic differences result in frequent misidentification in special education.

In other cases, even though educators state that parents are involved in the referral process from the beginning, there is actually very little parental involvement in the process (Klingner & Harry, 2006). In fact, the authors indicated staff are often negative towards parents, translation is sporadic, derogatory comments are made about parents, and in some cases, parents are referred to as being retarded and not capable of understanding the process (Klingner & Harry, 2006).

Welner (2004) indicates that IDEA also concerns the rights of parents in the final determination about special education services. Once a school finalizes the process and determines a child is to be categorized in special education or has an IEP, parents can request a due process hearing if they do not agree with the designation. At that time, parents have the right to ask if the child's race or English language proficiency has had any influence in placement in

special education. However, parents who do not speak English or understand their rights in this process are at a decided disadvantage and less likely to utilize a due process hearing.

An important part of the process of referring students to special education in a timely manner is getting parents involved in the process. Hardin, Mereoiu, Hung, and Scott (2009) found evidence of unclear state and Federal guidelines on screening and interpreting screening results of ELs, and a time lag for obtaining interpreters that initiate formal permission to evaluate students. These findings pose further challenges to the referral process. Moreover, the authors question the meaning and extent of school readiness that leads to referrals for culturally and linguistically diverse students who have been raised with different cultural and family practices. They stress the importance of conducting parent interviews and doing home visits to help understand native language and developmental skill levels, thus separating cultural and linguistic differences from learning difficulties. However, regardless of these recommendations, often parent interviews and home visits are not conducted due to limited time and funds, along with a lack of interpreters to support staff with parent interviews and home visits.

Student Demographics in Special Education

Socioeconomic status. Incoming kindergartners identified in special education are more likely to come from families that are non-white, receive government assistance, have parents with fewer years of education, and have lower levels of income (McIntyre, Eckert, Fiese, DiGennaro Reed, & Wildenger, 2010). Low levels of socioeconomic status correlate with low reading achievement levels for students as early as kindergarten. In addition, whether a student is a native speaker of English or non-native fluent English speaker, reading achievement is higher with increased socioeconomic status. Furthermore, ELs with low socioeconomic status show the lowest levels of word reading achievement (D'Angiulli, Siegel, & Maggi, 2004). These

two studies with kindergarten students reveal that low socioeconomic status does play a role in students' reading performance, particularly so for ELs who fall into this category.

Influence of federal and state laws. Federal and state laws requiring early screening procedures on children often have the indirect consequence of pushing young ELs into a SPED identification. The laws also fail to outline how educators should determine language proficiency, do not address the lack of screening/evaluation measures available for this purpose, and neglect the complex issues surrounding the need for parental involvement in the process (Harding, Mereoiu, Hung, & Roach-Scott, 2009). Specific guidelines from Head Start programs are confusing, and they can lead to disproportionate representation of students in special education at early childhood. For example, "…within 45 calendar days of the child's entry into the program...[program staff] must perform or obtain linguistically and age-appropriate screening procedures to identify concerns regarding a child's developmental, sensory (visual and auditory), behavioral, motor, language, social, cognitive…" (US Department of Heath & Human Services, 2015). All too often this tight timeline forces school staff members to refer and identify students to special education when the real issue is a lack of English proficiency.

Title VI of the 1964 Civil Rights Act, enforced by the Office of Civil Rights, is another aspect that influences the numbers of ELs and other culturally and linguistically different students who are misidentified for special education (Welner, 2004). Title VI prohibits school districts from placing students in special education because of their lack of proficiency in English "[s]ince overrepresentation implicates issues of racial, cultural, and linguistic diversity, as well as disability status…" (Welner, p. 3, 2004). The active participation of the Office of Civil Rights demonstrates the severity of the problem of placing students in special education based on profiling a certain race or language group. Unfortunately, occasionally district staff members do

not follow Title VI by ensuring they do not make placements based solely on students' limited English proficiency or race.

Another law that governs public schools is Section 504 of the Rehabilitation Act of 1973. This law prohibits discrimination in programs or activities in public schools since they are federally funded. The Office of Civil Rights is also in charge of enforcing another law in public schools: the Equal Educational Opportunities Act. Under this act, no student shall be discriminated against for educational services based on his race, color, sex, or national origin. In short, this law sets the standard for districts to meet the legal obligations with ELs, and schools must overcome language barriers for students that may limit their equal participation in instructional programs in the school (Welner, 2004). Despite these laws that exist to prevent the overrepresentation of ELs in special education, Sullivan (2011) indicates they are often violated as indicated by the many numbers of ELs referred to special education. In particular, ELs are typically referred to special education without sufficient review of eligibility criteria or consideration of the influences of culture, race, or language.

Immigration and legal status is another federal issue that has implications for the process of getting ELs evaluated and referred for special education. Professionals realize it is often difficult to build trust with EL families because of their immigration status. Families often have a fear of approaching any authority lest they be identified and deported (Harding, Mereoiu, Hung, & Roach-Scott, 2009).

Racial and equity perspectives. Racial and equity perspectives have implications on the disproportionality of placement in special education programs for culturally and linguistically diverse students and students of color (Skiba et al., 2008). White middle class norms are a driving factor in schools (Wiley, 1996), which means that culturally and linguistically diverse

students' needs often go unmet. Wiley proposed a three-pronged approach to explain how language, literacy, and culture play a role in academics in schools: adaptation, accommodation, and incorporation. In short, educators must change the way they instruct culturally and linguistically diverse students. This awareness may help decrease discriminatory practices of placement in special education based on race and provide a more inclusive school environment for all students. Wiley stressed the importance of administration modeling these three stages of adaption, accommodation, and incorporation to all staff.

Artiles, Kozleski, Trent, Osher, and Ortiz (2010) discuss the problem of racial inequities in educational research. They indicate that culturally and linguistically diverse students and students of poverty are plagued by research that does not recognize race. It is consistently filtered by a White lens and ignores minority perspectives that are different than the mainstream culture. Consequently, well-intended research can further promote racial inequities in special education. In identification of students in special education, it is important to consider that race is at the root of all of the complexities that are often masked by blaming conflicts on culture, poverty, native language background, and gender (Artiles et al., 2010). Without addressing race as one of the core issues often associated with referrals to special education, schools will continue to perpetuate power and privilege inequities. Furthermore, the continued over-identification of historically segregated groups such as African Americans and Native Americans for special education continues to be a problem, leading to lower academic achievement among these groups (Artiles et al., 2010).

Historically, the U.S. public school system justifies disproportionality and minimizes the problem this poses for student success (Artiles et al., 2010). Artiles et al. identify three issues or trends that perpetuate this disproportionality historically: a) poverty and its impact on school

performance, b) special education services as a safety net for students who are struggling, and c) the propensity of teachers to emphasize the positive outcomes of special education. These three trends help explain why there is a long history of disproportionate numbers of culturally and linguistically diverse students in special education, and provide excuses to minimize the issue. In addition, the role of historical, contextual, and structural forces that place students in special education are not often recognized as part of the problem. Lastly, culture is not acknowledged as having an impact on professional practices.

Providing each family the needed support to make an informed decision on the placement of their child in special education is essential to a successful special education identification process. Klingner and Harry (2006) found that professional staff held a negative attitude towards parents, which contributes to the problem of over-identification of ELs in special education. Parents in this study were marginalized, their input neither valued nor wanted, and no efforts were made to investigate any family strengths or attributes of the non-dominant culture and language. The authors of this study suggest that this negative attitude regarding parents may have a direct outcome on the success of these students.

Conclusion

The review of the literature shows differing perspectives about how and when ELs ought to be identified in special education. ELs have been both underrepresented at early grades and overrepresented at later grades (Artiles et al., 2005; Hibel & Jasper, 2012; Samson & Lesaux, 2009; Umansky, Thompson, & Díaz, 2016). Also, it is clear that there is not a singular, prescribed process for identifying ELs in need of special education, which is highly problematic. In fact, the identification process is confusing, arbitrary, and unpredictable at best. For instance, the RTI process varies from district to district, depending on the format the district adopts.

Simply put, the identification process for special education does not work effectively for many ELs. Teachers must take into account the culturally and linguistically diverse needs of second language learners so those needs are not mistaken for a learning disability. In addition, professional staff members must consider the impact of enforcing state and federal laws too literally without fully accounting for the second language acquisition process that results in limited English for early childhood learners (US Department of Heath & Human Services, 2015).

Additionally, ELs may be misidentified and designated for special education in a process where language and cultural barriers may result in parents agreeing to services even though they do not fully understand the reasons and the stigmas that accompany this designation. Finally, multiple authors discuss the importance of educators' awareness and understanding of the second language acquisition process (Fernandez & Guzman, 2014; Ortiz, 1997) and difference between first-language interference versus a disability (Fernandez & Inserra, 2013; Flanagan, Fiorello, & Ortiz, 2010; Harding, Mereoiu, Hung, & Roach-Scott, 2009; Klingner, Artiles, & Mendez-Barletta, 2006).

CHAPTER 3

METHODS

Introduction

This study will examine the odds of special education placement for kindergarten students with a special education communication disorder in the Ayka School District (ASD) on the following factors: race/ethnicity, native language spoken, socioeconomic status, or EL status. The researcher will use data from approximately 3,500 kindergarten students obtained through the student information system in ASD for this study. The researcher anticipates the findings from this study will help inform the district as to whether any of these specific variables increase the odds of ELs being identified with a special education communication disorder.

Research Questions

This study will answer the following research question:

> Is special education communication disorder classification dependent on students' race/ethnicity, native language spoken, socioeconomic status, or EL status?

Research Design and Nature of the Data Set

This will be a secondary data analysis study on the identification of special education communication disorders for children who have completed a full year of kindergarten. The Ayka School District has a sample size of a) 1,180 kindergarten students in 2010, b) 1,265 kindergarten students in 2012, and c) 1,197 kindergarten students in 2014 for a total of 3,642 students.

Secondary data are data that have been collected for another purpose, but some or all of it can be used for different research or evaluation purposes (Goes & Simon, 2016). These authors provide a number of types of secondary data. These may be available for public use and include:

census data, statistical agencies, federal agencies, academic publications, and trade organizations. There are also secondary data that are internal to an organization and they can be obtained with permission, which include: standardized tests from an educational organization or annual business reports that may come at a cost. In addition, national, state, and local data is usually free; however, it may be difficult to access (Goes & Simon, 2016). The researcher received permission to access these secondary data through the data team in the district.

This study will use the following variables from the district student information system:

a. Student identification number
b. English learner program status
c. Special education status
d. Special education start date
e. Special education disability code
f. Kindergarten entry year
g. Native language spoken
h. Entry date in special education
i. Title IA (socioeconomic status)
j. Race/ethnicity

These data will be collected for each student and stored in electronic format in an Excel spreadsheet. Data will be pulled from the spring of 2010, 2012, and 2014; every other year will be used to avoid duplication of any students. This will help to meet the independence of observations assumption discussed later in the analytics section. In addition, this drastically lowers the probability of any student who was retained in kindergarten and thus could be double-counted.

Setting and Sampling Plan

The kindergarten through twelfth grade population in Oregon is 567,000 and 17,000 for the Ayka School District (ODE, 2015; Data Dashboard, 2016). The data in this study will be specifically from kindergarten students in Ayka School District from enrollment years 2010-2014, and will include the variables the researcher uses with their corresponding demographic information: race/ethnicity, native language spoken, socioeconomic status, EL status, and special education communication disorder. Table 3.1 below identifies the demographic context from the state to the district level for 2013-2014.

Table 3.1

Demographics of SPED and EL 2013-2014

Demographic characteristic	Count of population	Percent of sample
Total K-12 Oregon	567,000	100.0%
SPED Oregon	75,374	13.3%
ELs Oregon	57,376	10.2%
Total K-12 Ayka SD	17,000	100.0%
ELs Ayka SD	1,600	9.4%
Kindergarten Ayka SD	1,197	7.0%
ELs Kindergarten Ayka SD	235	1.4%

Table 3.2 below has the demographic data broken down for each year in this study for kindergarten students. It includes the four categories of race/ethnicity (White, Hispanic, Asian, two or more categories, and other), native languages spoken (English, Spanish, and other that includes the seventy-two native languages of kindergarten students), Title IA (free and reduced lunch), and EL status.

Table 3.2

Demographic data by year

Variable	Year 2010	2012	2014
Race/Ethnicity			
White	755	800	785
Hispanic	251	266	228
Asian	61	78	79
Two or More*	77	83	70
Other**	36	38	35
Language			
English	883	945	906
Spanish	175	188	152
Other***	122	132	139
Free and Reduced Lunch	665	726	583
English Learner (EL)	254	264	235

Note: * Two more or more ethnicities/races; **Other ethnicity/race; ***Other language.

In the fall of 2013, Oregon's total enrollment of kindergarten through 12th grade students was approximately 567,000 per the Oregon Department of Education, and 10.24 percent (n=57,376) of this population was comprised of ELs (ODE, 2015). In addition, the state of Oregon reports the number of students in special education in the spring of 2014 at 13.22 percent (n=75,374) of Oregon's kindergarten through 12th grade student population. The Ayka School District has approximately 3% of Oregon's total kindergarten through 12th grade population, with 17,000 students. About 9.5 percent of the district's enrollment, or 1,600 were ELs; 7 percent of the district total, or 1,197 students, were in kindergarten; and 1.4 percent, or 235 kindergarten students were ELs in the 2013-2014 school year (Data Dashboard, 2016).

The researcher will use a convenience sampling plan and employ available district data that he has permission to access for research purposes. The reason for a convenience sample is because the researcher works in this district, has access to the data, and sits in meetings with

concerns about dually-identified students. Moreover, the sample size of students is approximately 3,500 and will suffice for this study. The researcher will not employ random sampling of participant data; he will use all students at the end of their kindergarten year in 2010, 2012, and 2014. The reason all of the students in the dataset will be used is because of the low numbers of students with a special education communication disorder and the researcher does not want to jeopardize the study with even smaller numbers.

The subject data in this study will be kindergarten students at the end of the 2010-2014 school years from the Ayka School District in Oregon. The reference groups are identified ELs in Ayka School District per their identification requirements in the English language development program. The final unit of analysis will focus on whether these EL students have a special education communication disorder.

District context. The Ayka School District follows the federal and state guidelines for the referral process for a special education communication disorder. Although conversations are in place about using the RTI model, there are currently not sufficient resources and staff to implement this model.

Before the formal process for a communication disorder identification and referral begins, the speech language pathologist may screen students with parent permission. Classroom teachers may collect evidence on the student with their concerns that may include but is not limited to: observations of the child in whole-class settings, file review of standardized and non-standardized test results, informal classroom assessments, writing samples, peer comparisons, core content work, information regarding ELD services, and knowledge of letters and sounds.

Peer comparisons are conducted with a process of using cohorts. The process of identifying student cohorts with similar linguistic backgrounds requires district staff to create a

comparison list of students. The cohort is compiled and comparisons are made with assessment data from the identified students who speak the same language and who are in the same grade as the student in question. If the progress of the student in question deviates from the cohort, the speech language pathologist continues with the formal referral process.

Once a parent, teacher, or staff member makes a formal referral, the special education process is initiated. Evidence is gathered and the school multi-disciplinary team, including the speech language pathologist, meet with parents to review the process and determine whether formal testing is needed. If the team determines further testing is necessary, parental consent is required.

After parent consent is obtained, the speech language pathologist follows the standard process in order to qualify a student with a special education communication disorder: The speech language pathologist must show a language deficiency substantiated with at least one of the following: a) the standardized assessment Clinical Evaluations of Language Fundamentals - Fifth Edition (CELF-5), b) a speech language sample, and c) a hearing screening.

Other factors that further complicate the process for identification of students with a special education communication disorder in the Ayka School District are:

- Federal, state, and local laws do not align in all areas. For example, under federal law, students may qualify for developmental delay until nine years of age (IDEA, 2016b). However, the state of Oregon only allows students to qualify for a developmental delay until six years of age. This forces a re-evaluation of all students prior to kindergarten, which may increase the number of students who qualify for a special education communication disorder.

- The CELF-5 is normed for native English speakers; therefore, speech language pathologists must use professional judgment on what qualifies a student. Also, the CELF-5 does not take into consideration language interference errors from a student's native language that make responses incorrect, such as adding or omitting the pronoun "he."
- If the student is not a native English speaker, language samples in English and the native language are needed. The native language sample needs to be obtained through an interpreter. This poses challenges for the speech language pathologist if the interpreter does not provide verbatim translations of errors in native language from students. In addition, district interpreters have not had formal training on this process; therefore, they may not be aware of how important this step is in the evaluation process.

Dependent and Independent Variables

Dependent and independent variables will be conceptualized and operationalized as follows:

Dependent Variables:

- The dependent variable will consist solely of the categorical classification of a communication disorder in special education with the following coding scheme: Not special education (SPED) (0) and SPED (1).

Independent Variables: Dummy variables and dummy coding will be used for each of the independent variables below so that each group can serve as a reference. They will be categorically defined in the following format:

- Race/ethnicity will be White (0), Hispanic (1), Asian (2), Two or more (3), and other (4).

- EL status: Not EL (0) and EL (1).
- Native language spoken: English (0), Spanish (1), and other (2).
- SES will be categorically defined as students who received free and reduced lunch (FRL): No FRL (0) and FRL (1).

It is important to note the independent variable, SES, or students with Title IA status, refers to students who receive free and reduced lunch at school. Students with this status come from families whose incomes are below the threshold for poverty in the state of Oregon and therefore receive this assistance. The State of Oregon defines the threshold for poverty for a family of four at $44,955 or less per year (ODE, 2016b).

Analytical Procedures

The researcher will conduct a binary logistic regression of race/ethnicity, native language spoken, socioeconomic status, or EL status with a special education communication disorder. He will use the backward method rather than the forward method to lessen the effects of a Type II error. A Type II error occurs when it is concluded that there is no effect observed for the population parameter when in reality one does exist (Field, 2005).

Purposes of logistic regression. Logistic regression has multiple purposes: to inform on the accuracy of prediction of the dependent variable; to test how well the regression model fits the data; to determine how much variation in the dependent variable can be explained by the independent variables; and to further test specific hypotheses on the regression equations.

Data analysis. The researcher will conduct a binary logistic regression: one categorical outcome to be predicted from several predictors. A binary logistic regression is used when the dependent variable is dichotomous (Mertler & Vannatta, 2005).

Rationale. The researcher will use logistic regression to determine the odds of being classified with a special education communication disorder given one's race/ethnicity, native language spoken (English compared to Spanish and to the other four most spoken languages), SES, or EL status. Logistic regression is used with variables that are binary and do not have a partial quantity. For example, in this study, students will be categorized either EL or not, will have low SES or not, will have a special education communication disorder or not, etcetera. They cannot be partially EL or partially SES; there is no medium. Students will be considered SES if they qualify for the free and reduced lunch program located at each school site. A linear regression allows for variables that are continuous and do have a medium, whereas in a binary logistic regression, the dependent variable has only two categories, such as zero or one (Muijs, 2011). Logistic regression calculates the maximum likelihood of the odds of the dependent variable occurring or not. It converts the dependent variable into a logit variable or a log of odds of occurrence. Logistic regression thus estimates the probability of an event occurring based on the values of all of the independent variables combined (Foltz, 2016; Muijs, 2011).

The formula for logistic regression the researcher will use in this study is derived from Muijs (2011) and is:

$$\mathrm{Y} = \log \frac{p}{1-p} = b_0 + b_1 x_1 + b_2 x_2 + \cdots b_n x_n$$

The corresponding values for the formula in this study will be the following: the dependent variable (Y) of a special education communication disorder; the independent variables will be $x_1, x_2, \ldots x_n$ where x_1 is race/ethnicity, x_2 is EL status, x_3 is native language spoken, and x_4 is SES; the values $\mathrm{b}_0, \mathrm{b}_1, \mathrm{b}_2 \ldots \mathrm{b}_n$ are the regression coefficients (slope); the value Y changes when the value of X changes by one unit (Muijs, 2011).

The predictors or independent variables all have an individual impact on how well the data fit the model. It is important to understand how well each of these predictors fits the model. This process is calculated using a chi-square distribution called Wald statistic that is a value of the regression coefficient *b* divided by its standard error (Field, 2005). This calculation is similar to a *t*-test done in linear regression where one finds if the *b*-coefficient is slightly different than zero. This will tell the researcher if the predictor is making a significant contribution to the outcome prediction, in this case, of a kindergarten student being identified with a special education communication disorder.

$$Wald = \frac{b}{SE_b}$$

Interpreting logistic regression is best understood in terms of odds. The odds are defined by the probability of a particular event occurring divided by the probability of the event not occurring. This is illustrated by the equation below (Field, 2005).

$$Odds = \frac{p}{1-p}$$

In multiple regression, one can use the baseline scores to calculate the mean and predict the best outcome. This becomes the best guess for the probability of something to occur. The problem with logistic regression is that it is not possible to calculate the mean score when all of the values are either zero or one. This would give a mean that has no significance. The solution is to calculate the logistic regression and find frequency of either a zero or a one. For example, if an outcome occurs 151 times and it does not occur 22 times, then the best guess is that it will occur more often with the result of 151 since it is by far the most frequent outcome. Therefore, the baseline is the one that gives the best prediction when the values of the outcome are either

zero or one. Logistic regression tries to predict the outcome that most frequently occurs to fit a model (Field, 2005).

In determining the sample size in regression, Field (2005) indicates there should be at least 10 cases of data for each predictor in the model or 15 cases of data per predictor. Thus, with five predictors, there should be at least 50 to 75 cases respectively.

In short, the study will predict the outcomes of a student being categorized with a special education communication disorder with multiple predictors that may have influenced the odds of becoming categorized. The variables that will be used to see whether students have higher odds of being categorized with a special education communication disorder are a) race/ethnicity, b) native language spoken, c) socioeconomic status, and d) whether they are an English learner or not.

Logistic Regression Design Assumptions

This section provides an overview of the logistic regression design assumptions for the following areas: dichotomous dependent variables, independence of observations, mutually exclusive categories for dependent variables and nominal independent variables, and minimum sample size of independent variables in regression

Dichotomous dependent variables. A dichotomous dependent variable is the outcome of a study. The variable is dichotomous because it either is or is not an outcome (Field, 2005). In the case of this study, students will be either classified as having a special education communication disorder or not. They cannot have a partial classification.

Independence of observations. Each observation or variable is independent and should not depend on anything else (Laerd Statistics, 2016; Statistics Solutions, 2016).

Mutually exclusive categories for dependent variables and nominal independent variables. The dependent variable or outcome of the study cannot have two possible solutions for any one student. That is, no one student can be both classified with a special education communication disorder, and not classified with a special education communication disorder. (Kaci, 2016).

Minimum sample size of independent variables in regression. There should be a minimum of 10 cases of data for each independent variable or predictor in the model, with at least 50 total cases (Field, 2005).

Data Assumptions

The researcher will test for linearity between continuous independent variables and the logit of the dependent variables using the Box-Tidwell test. Multicollinearity will use associations and the variance inflation factor to assess whether individual independent variables have a strong linear relationship with other independent variables (Field, 2005). In addition, it will ascertain whether the independent variables are measuring different things independently, and can be treated as only one variable, versus combining them into one variable (Muijs, 2011). Multicollinearity will also take tolerance into consideration, where variance of each variable is not explained by other independent variables (Muijs, 2011).

The data assumptions will also recognize that outliers are normal unless they are 10 percent or more of the sample (Muijs, 2011). Case-wise diagnostics will measure for outliers, high leverage, and high influence analysis.

The analysis of this study will examine classification plots, Hosmer-Lemeshow goodness-of-fit tests, casewise diagnostics of studentized residuals, and outliers outside of 2.5 standard deviations.

Interpreting Results

The following factors will be included in interpreting the results of this study: a) Data coding to check for missing cases, number of cases expected, correct coding for the dependent variable, and low counts for any category; b) Classification analysis to examine situations where no independent variables have been added to the model, except for the constant. (This will be compared to the case where all independent variables are included); c) Hosmer-Lemeshow goodness-of-fit tests will be conducted to see how well the model predicts categories; d) Calculations for Cox and Snell, as well as Nagelkerke R^2, will be completed to see how much variation in the dependent variable could be accounted for by the model. Since Cox and Snell cannot reach a value = 1, it consistently overestimates the value, so Nagelkerke will be weighted more heavily in the interpretation of the results in Chapter 5's discussion. However, both will be reported; e) Category prediction will show whether cases can be correctly classified. Sensitivity and specificity will be reported; and f) Variables in the equation will examine the odds ratio changes in the dependent variable for each increase in 1 unit of an independent variable.

Research Ethics

Due to the fact that the data was already populated in the student information system database, the researcher does not need to obtain informed consent; therefore it is not necessary to get approval from the George Fox University Institutional Review Board. All of the data will be provided with anonymity; thus, all participants remain anonymous and confidentiality will be maintained. None of the data reports in this study will include any student identifiers. The data will be presented in such a way as not to identify the school district to reduce any risk to participants.

It is important to mention classification issues that arise if a student is incorrectly identified because he speaks another language or because of racial/ethnic profiling. Students who are learning another language besides their native language take time to show the fruits of their language acquisition. An EL entering in kindergarten often does not show academic results until well into his/her middle school years. This is especially true for ELs who are in dual language immersion programs where they are actively learning two languages at the same time. Despite the fact that teachers generally know better than to identify solely based on a student's language or skin color, there are some serious moral issues with misidentifying ELs in special education. For example, a dually-identified student would be pulled from his general education classroom to work on special education goals related to an identified communication disorder. If this student is misidentified, the communication disorder is often only evident in English and not in the native language. For this reason, progress in English is limited because the communication disorder goals are misaligned to the child's actual language learning needs. Hence, the student becomes frustrated. In time, this student can become a mental dropout and live under the stigmatized label of having a disability. Unfortunately, this can lead to the student becoming increasingly discouraged with school and dropping out altogether. The model in this study will be developed to ascertain the odds of this type of profiling and potential misplacement of kindergarten students with a special education communication disorder.

The type of analysis the researcher will run is a logistic regression. It is essentially an extension of regression. However, it is a generalized linear model. In linear regression, the predictors are continuous and therefore one can make a prediction on the line that fits the model. And in logistic regression, one makes a prediction of the probability of being identified with the dependent variable or outcome when the respondents have or do not have each of the

independent variables or predictors. In this case, the study will look at how the dichotomous independent variables of race/ethnicity, native language spoken, socioeconomic status, or EL status affect the odds of being identified with a special education communication disorder. The odds of being classified with a special education communication disorder will be calculated with each independent variable, a combination of them, and all of them combined.

Role of the Researcher

The researcher is a graduate student completing a doctoral degree in education. He is also a K-12 administrator. Consequently, he has the professional responsibility to provide ethical, authentic, and honest research to the educational community. He has 21 years of experience in education, working with students as young as three years of age and also with adults in English Language Development. As a district-level administrator in English Language Development, he has the responsibility to provide sound research that can help support English learners and educators alike. This study is the first of this magnitude for him.

Potential Contributions of the Research

This research may provide evidence of an over-identification trend of kindergarten ELs who come to public schools already identified with a special education plan. Moreover, it may prove to be valuable in identifying any potential disproportionality of ELs with a special education communication disorder for early childhood providers in the state, as well as Early Learning Hubs that work with all early childhood providers by county and region (Early Learning Hubs, 2015).

In addition, this study may provide evidence of specific native languages that have a higher rate of identification with a special education communication disorder. It may provide evidence whether certain native language groups are profiled and targeted at a higher rate for

early identification with a special education communication disorder. If there is a preponderance of evidence that odds are higher for ELs to be identified with a special education communication disorder for race/ethnicity, a specific native language spoken, or lower SES, then this research may help practitioners revise their screening practices. This research may also help Early Learning Hubs and early childhood practitioners to be mindful of their identification practices. Moreover, further studies as to why specific groups have higher odds of identification with a special education communication disorder may help educators understand that they have some preconceived notions about academic success, race, ethnicity, and native language.

CHAPTER 4

RESULTS

Introduction

The purpose of this study was to investigate the odds of a kindergarten student being placed with a special education communication disorder given his or her status in the following categories: race/ethnicity, native language spoken, socioeconomic status, and English learner. A binary logistic regression was performed using data from the Ayka School District in 2010, 2012, and 2014. In this chapter, a description of the methods used to clean the data is presented, along with the demographic characteristics of the sample. The results of the logistic regression model derived from this study are presented, along with the model's key assumptions.

Data Collection and Cleaning

The researcher requested the data from Ayka School District data analyst on July 11, 2016, and it was delivered in electronic format in an Excel spreadsheet on July 12, 2016. The dataset included a sample size of 8,941 kindergarten students and spanned the years 2009 to 2015. The data analyst included six years of data for future studies if needed. He included the odd years (2009, 2011, 2013, and 2013) based on trends from previous requests from other researchers who have come back for additional years before and after the original years requested. The data analyst from Ayka School District who pulled these data randomized the student identification numbers for anonymity before delivering them to the researcher. Prior to randomizing student identification numbers, a filter in an Excel spreadsheet located all of the duplicate student identification numbers and omitted these from the sample. Duplicate records would have been due to students moving to another school during the same year or withdrawing and reentering in the district one or more times during the year. Additionally, the race/ethnicity

code was recoded as one variable instead of two listed separately to reflect the study analytics. These were coded into the following: White, Hispanic, Asian, two or more races/ethnicities, and other.

The data was cleaned by variable identification for this study. First, the odd years were filtered out of the spreadsheet, leaving the even years to ensure no duplication of students in the dataset for children who were held back in their kindergarten year. This resulted in a total filtered sample size of 3,642 students. In addition, the grade column was cleared from the data as it is constant for kindergarten for each year and does not vary. The column for kindergarten remains the same in 2010, 2012, and 2014 for the data; therefore, it was not needed in the data set. The language variable was recoded to fit the analytical strategy. Languages were divided into English, Spanish, and other. The *other* category included the following most commonly spoken languages: Russian, Ukrainian, Vietnamese, Chinese, and Romanian. The languages not listed had very few speakers, and these included Amharic, Chuukese, Tonga, and Thai, among many others.

Demographics of the Data

The study sample consisted of a total of 3,642 kindergarten students from 2010, 2012, and 2014. The frequency distribution of student race/ethnicity was as follows: 2,340 (64%) White; 745 (21%) Hispanic; 218 (6%) Asian; 230 (6%) in two or more race/ethnicity categories; and 109 (3%) in the *other* category.

English speakers consisted of the largest language group with 2,734 students (75%). Spanish speakers were the second largest group with 515 students (14%). The *other* category was 393 (11%). There were 1,668 (46%) students who did not receive free and reduced lunch and 1,974 (54%) students who did receive free and reduced lunch. There were 753 (21%)

kindergarten English learners and 2,889 (79%) kindergarten students who were not English learners in this study. Finally, the designation with special education communication disorder in this sample consisted of 81 (2%) students; 3,561 (98%) students were not identified with a special education communication disorder.

It is important to note that the demographic data of race/ethnicity, language, socioeconomic status, EL status, and communication disorder were not mutually exclusive. In other words, a student who was a Spanish speaker may also have been identified as a student who had free and reduced lunch status. In addition, this same student may also have had a communication disorder or any combination of the independent variables in the study. Table 4.1 below provides all of the demographic data in this study.

Table 4.1

Demographic Data in the Study

Variable	N	Percent of total (%)
Race/Ethnicity		
White	2,340	63
Hispanic	745	21
Asian	218	6
Two or More	230	6
Other	109	3
Language		
English	2,374	75
Spanish	515	14
Other	393	11
Free and Reduced Lunch		
Yes	1,974	54
No	1,668	46
English Learner (EL)		
Not EL	2,889	79
Yes EL	753	21
Communication Disorder		
No	3,561	98*
Yes	81	2
Total	3,642	100

* Note: Figures are rounded to the nearest percent.

The data above shows a large discrepancy in the number of students with a communication disorder versus those who do not have this identification. Despite the fact that the numbers of students identified with a communication disorder is low for each year in the study as shown in Table 4.2, the trend varies. It is interesting to note the large increase in numbers of students identified with a communication disorder in 2012 versus 2010, from 22 students to 50. In addition, the final year revealed a significant decline in numbers to only 9. Table 4.2 below summarizes kindergarten students in special education who were identified with a special education communication disorder.

Table 4.2

Special Education Communication Disorder and no Communication Disorder in by Year

Year	N (%)	Communication Disorder (%)	No Communication Disorder (%)
2010	1,180 (100)	22 (2*)	1,158 (98)
2012	1,265 (100)	50 (4*)	1,215 (96)
2014	1,197 (100)	9 (<1*)	1,188 (99)

* Note: Figures are rounded to the nearest percent.

Table 4.3 below provides a summary of the logistic regression model and details of how the model fits the data. The pseudo R^2 results between .3 and 1.4 percent indicate the model does not fit very well.

Table 4.3

Summary of Logistic Regression Model

Model	Chi-square	*Df*	*P*	-2 Log likelihood	Cox & Snell R^2	Nagelkerke R^2
1	9.519	8	<.300	762.212	.003	.014

Individual Predictors

This study fit the logistic regression model to the student demographics using four predictors of race/ethnicity; native language spoken; SES; and EL status. For each variable, a

negative beta value and an odds ratio under one indicate a negative relationship between the independent variables and the outcome. In other words, as independent variables increase, the likelihood of the dependent variable (placement with a special education communication disorder) occurring decreases (Field, 2005). If the odds ratio is greater than one, then as the value of the predictor increases, so does the odds of an increase in the outcome. For example, the odds for a student who is on free and reduced lunch or Title IA is 1.925; therefore, there is an increased likelihood of a student being placed with a special education communication disorder if he qualifies for free and reduced lunch. Table 4.4 below shows beta values and their standard errors, along with odds ratios for independent variables based on 95% confidence intervals.

A Bonferroni correction was applied using all four predictors in the model resulting in statistical significance being accepted when $p < .00625$ (Tabachnick & Fidell, 2007). Linearity of the continuous variables with respect to the logit of the dependent variable was assessed via the Box-Tidwell (1962) procedure. Based on this assessment, all continuous independent variables were found to be linearly related to the logit of the dependent variable. There were no studentized residuals in this study with standard deviations of ±2; therefore, no outliers were removed from the analysis.

The logistic regression model was statistically significant, $\chi 2(4) = 9.519$, $p < .0005$. The model explained 1.4% (Nagelkerke R^2) of the variance in identification with a special education communication disorder and correctly classified 97.8% of cases. Of the predictor variables, only one was statistically significant: Title IA or students with free or reduced lunch.

The odds of being identified with a special education communication disorder are 1.335 greater for Hispanic students; however, these odds are not statistically significant with a p value of .468. The only independent variable that was statistically significant in the placement of a

student with a special education communication disorder was one who qualifies for Title IA. This Title IA variable was statistically significant with p value of .011. Table 4.4 shows none of the other independent variables in this study were statistically significant with a special education communication disorder.

Table 4.4

Logistic Regression Predicting the Likelihood of Communication Disorder Based on Race/Ethnicity, Language, Title IA Status, and EL Status.

	B	SE	Wald	*Df*	*p*	Odds Ratio	95% CI for Odds Ratio	
							Lower	Upper
Race/Ethnicity								
Hispanic	.289	.398	.527	1	.468	1.335	.612	2.916
Asian	.506	.579	.766	1	.381	1.659	.534	5.158
Two or More	.033	.477	.005	1	.945	1.034	.406	2.630
Other	-.179	.734	.059	1	.808	.836	.199	3.522
Language								
Spanish	-.202	.660	.093	1	.760	.817	.224	2.980
Other	-.442	.654	.457	1	.499	.643	.178	2.317
Title IA	.655	.256	6.519	1	.011	1.925	1.164	3.181
EL	.015	.571	.001	1	.979	1.015	.331	3.112
Constant	-4.21	.216	381.374	1	.000	.015		

Note: CI is confidence interval

Assumptions

This study had one dichotomous dependent variable. The dependent variable was a kindergarten student who either had or did not have a special education communication disorder. There were four independent variables broken down into categories. The first one was the polytomous independent variable of race/ethnicity that was comprised of White, Hispanic, Asian, two or more, and other. The dichotomous variables were native languages, Title IA, and English learners. These all represented inclusion or exclusion in this category.

Duplicated cases were deleted from the original sample; therefore, there is independence of observations. The sample size of independent variables is sufficient as there are significantly

more than the minimum required ten cases of data for each for logistic regression (Field, 2005). In addition, there is linearity between the continuous independent variables and the dependent variable since there are no continuous independent variables in this study. Lastly, there are several outliers; however, no simple data transformations work for normalizing the outlying variables.

Conclusion

In answering the research questions for this study, there was an insignificant statistical difference for kindergarten students who were identified with a special education communication disorder with race/ethnicity, native language spoken, and EL status. On the other hand, this study did find that there is a statistically significant difference in the number of kindergarten students identified with a special education communication disorder by whether or not they received free and reduced lunch.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

Introduction

This study used a logistic regression model to answer the research. Specifically, this study explored (a) the relationship between identification with a special education communication disorder by race/ethnicity, (b) the relationship between identification with a special education communication disorder by native language, (c) the relationship between identification with a special education communication disorder by socioeconomic status (based on free and reduced lunch status), and (d) the relationship between identification with a special education communication disorder by EL status. This chapter provides the problem statement and research questions, a summary of the findings, implications for practitioners and policymakers, recommendations for policy and practice, limitations of the study, and suggestions for future research.

Problem Statement and Research Questions

The researcher designed and conceptualized this study under the belief that there was an historic over-identification of Spanish-speaking ELs in the Ayka School District with a special education communication disorder. This belief was informed by many conversations with other district administrators, special education staff members, and English language development specialists in Ayka School District. For example, in one of the middle schools in the Ayka School District, approximately 50% of the ELs were also dually identified in the special education program (Data Dashboard, 2016). Further investigation is needed to reveal if these dually-identified middle school students were misidentified with a special education communication disorder early in their educational journey. However, on a national level, the

percentage of ELs with disabilities is only 9% (National Center on Educational Outcomes, 2011). This disparity begged to be examined.

Problem Statement: This study statistically examined whether ELs were disproportionately placed with a special education communication disorder due to their race/ethnicity, native language spoken, socioeconomic status, or EL status.

Primary research question: Is a special education communication disorder dependent on students' race/ethnicity, native language spoken, socioeconomic status, or EL status? This research question was designed to see if the odds of a student being identified with a special education communication disorder were affected by a child's race/ethnicity, native language, or socioeconomic status. Another predictor taken into consideration in this study was whether or not the student was also identified as an EL.

Logistic regression often uses the odds ratio to calculate the odds of an event occurring. For example, this model calculates the odds ratio of a student being identified with a special education communication disorder who does not speak Spanish and then calculates the odds of identification if the student speaks Spanish.

Summary of the Findings

The researcher hypothesized findings would reveal a statistically significant larger number of Spanish-speaking students with a special education communication disorder over other language groups. This did not prove to be accurate. Additionally, it was suspected that the variable of race/ethnicity would factor into children having higher odds of placement with a special education communication disorder; again, the model proved this was not the case. However, an interesting finding was that students who received free or reduced lunch were 1.925 times more likely to be placed with a special education communication disorder than students

who did not receive free and reduced lunch. Therefore, the logistic regression model found that the odds were statistically significant for a kindergarten student who had low socioeconomic status to be identified with a special education communication disorder. Ostensibly there is more to the story as to why students are placed with a special education communication disorder.

Regardless of these findings, this model is not a good fit. In order to determine the goodness of it, pseudo R^2 values of Cox & Snell and Nagelkerke were calculated to help predict variability on the dependent variable (Laerd Statistics, 2016). The values for this study of the pseudo R^2 were .003 for Cox & Snell and .014 for Nagelkerke, respectively. As a result, the variability of the dependent variable communication disorder in this model ranged from .3 to 1.4 percent. Consequently, with values this low, this is not a great model for explaining the odds of kindergarten students being placed with a special education communication disorder.

The logistic regression model found the odds are statistically significant for a kindergarten student who has low socioeconomic status to be identified with a special education communication disorder. The p value of Title IA, free and reduced lunch, was statistically significant as it fell below a p value of .05, at the value of .011 for this study. The only other variable that was anywhere close to showing statistical significance was the recoded race/ethnicity independent variable of Asian. The p value of the Asian variable was .381. Regardless, the Asian variable was not statistically significant in determining whether a student was placed with a special education communication disorder.

The literature review in this study did not support the justification that only students who have free and reduced lunch are placed with a special education communication disorder. Regardless, Perkins, Finegood, and Swain (2013) found that socioeconomic status has an impact on language development. The authors also stated that poverty affects language adversely with

parenting style, and increased stress. On a final note, they posited there is growing evidence that socioeconomic status plays an important role speech and language impairment. Nevertheless, at this point, not enough has been written to make the claim that low SES solely leads to identification with a special education communication disorder.

The researcher anticipated this study would reveal that there is an over-identification of ELs with a special education communication disorder during the kindergarten year. Clearly this was not the case with a three-year total of 81 (2.2%) kindergarten students who were identified with a special education communication disorder out of the total kindergarten sample of 3,642. Nevertheless, the number of students who were identified with a special education communication disorder during the kindergarten year with the independent variable Title IA was statically significant with a p value of .011.

Race/ethnicity. The findings from this study indicate that race/ethnicity did not play a role in the identification of kindergarten students with a special education communication disorder in 2010, 2012, and 2014 in the Ayka School District. The logistic regression model used in this study revealed that the independent variable of race/ethnicity was not a statistically significant factor in the placement of a kindergarten student with a special education communication disorder.

Native language spoken. The findings from this study indicate that native language spoken did not play a role in the identification of kindergarten students with a special education communication disorder in 2010, 2012, and 2014 in the Ayka School District.

Socioeconomic status. The findings from this study indicate that socioeconomic status did play a role in the identification of kindergarten students with a special education communication disorder in 2010, 2012, and 2014 in the Ayka School District. The odds of placement with a special education communication disorder for a student who received free and reduced lunch was 1.925 greater than a student who did not receive free and reduced lunch. This value is statistically significant with p value of .011.

EL status. The findings from this study indicate that EL status did not play a role in the identification of kindergarten students with a special education communication disorder in 2010, 2012, and 2014 in the Ayka School District.

Implications for Practitioners and Policymakers

Trends show students of poverty tend to score lower on standardized assessments (Petrilli & Wright, 2016). Correspondingly, it is interesting that there is something about students' Title IA status that makes it statistically significant for them to be placed with a special education communication disorder. Further studies would help reveal if there are other factors that contribute to this trend that were not included in this study.

The number of students of poverty in special education is increasing (Zorigian & Job, 2016). However, these authors highlight that students of poverty do not have more disabilities than children who are not from poverty. Furthermore the National Research Council (2002) delineates the following factors that may lead to the increased numbers of students of poverty in special education: a) teachers and families refer students more proactively, b) poverty increases risk factors that can lead to developmental delays (such as exposure to lead, prenatal drug and alcohol abuse, limited access to books, and parents having less time for their children, among others), and c) students of poverty lack of knowledge of the "hidden curriculum." Just as the

studies above indicate, the number of students of poverty referred to special education is on the rise.

On a positive note, for the years selected in this study, staff members did not base referrals for a special education communication disorder on race/ethnicity, native language spoken, or EL status. Regardless, this study reveals that practitioners need to be mindful of student referrals with a special education communication disorder based on poverty alone. Although this study does not reveal reasons why students from low SES have higher odds of placement with a special education communication disorder, a designation of poverty is now evident as a factor that must be considered in the identification process.

In addition, replication of this study can inform state policymakers of a propensity of certain factors or profiles that increase the likelihood of ELs being identified with a special education communication disorder. Further investigation can illuminate if there is profiling of specific students with these variables and thus they are misidentified with a special education communication disorder.

Further studies across the state of Oregon by Umansky, Thompson, and Díaz (2016), coupled with the findings from the Ayka School District, may help policymakers provide more support at early childhood education. These authors highlight the large numbers of ELs who are still dually identified in special education at the secondary level, which is also the case in Ayka School District. Additionally, Umansky, Thompson, and Díaz provide valuable insight statewide, which is also evident in the Ayka School District, that guidelines, funding, professional development, and separate classes often operate in silos without coordination between special education and ELD. Coordination could help ensure more equitable educational opportunities for students and allow educators to have a better understanding of why dually-

identified students are no longer profiting from ELD or special education. Finally, future studies can help identify trends that may lead to students being identified with a special education communication disorder as they enter kindergarten.

Recommendations for Policy and Practice

Districts need to come up with systems to support equitable practices around the placement of students with a special education communication disorder. Although the total numbers of students who were designated as such in this study was not significantly large, findings from this study reveal that students who received free and reduced lunch increased their odds of being placed at nearly twice the rate of students who did not receive free and reduced lunch. However, the specific factors that increase the odds of placement for kindergarten students with a special education communication disorder for students of poverty were not part of this study. It is recommended that the Ayka School District investigate the eighty-one students identified with a special education communication disorder to determine if there are other commonalities that were not included in the scope of this study. This may help reveal other practices that increase the odds of kindergarten students being placed with a special education communication disorder.

In addition, it is recommended that the Ayka School District take a more comprehensive review of students who are in special education beyond just the kindergarten year to see if the trend of higher odds of placement with a special education communication disorder due to free/reduced lunch continues at later grades.

Limitations of the Research

It is possible that the scope of this study was too narrow to show statistically significant results on any of the independent variables other than socioeconomic status based on the

researcher's choice to limit the special education classification disability code to communication disorder. Further studies may be able to reveal if the odds of an EL being identified with other disability codes are statistically significant by including them in this model. Moreover, the study was also limited by the decision to focus on kindergarten students. Studies by Umansky, Thompson, and Díaz (2016) that were in process while this study was taking place indicated that any student who had ever been identified as an EL in kindergarten through twelfth grade in the state of Oregon has higher odds of being placed in special education in all categories, particularly in later grades.

In addition, the quantitative data was limited to focusing on kindergarten; there is likely important qualitative data that could have added to this study. The researcher recommends the following for future studies based on this limitation: conduct serious stratified sampling or qualitative studies on the phenomenon. For example, often a child's incomplete educational and language history forces speech pathologists to revert to a standard process of identification rather than gathering pertinent information for proper placement. In addition, this study did not account for the in-depth developmental history that speech language pathologists indicate would help limit referrals that are language proficiency based rather than an actual communication disorder.

Further discussions with speech language pathologists in the Ayka School District indicate students may have more than one special education eligibility code. The primary code is the first code that appears on the student's record. Further investigation of the data in this study may reveal larger numbers of students who have a special education communication disorder listed in a secondary spot to a different disability code. Consequently, the dataset included in

this study may have fewer students identified with a special education communication disorder than actually exist because only the primary disability code was filtered to be included.

Another factor to take into consideration for further studies is to see whether the students who entered kindergarten with a primary disability code of a communication disorder were redesignated to another special education category during the year. The data collected in this study was a snapshot of the end-of-the-year disability code for kindergarten students. Thus, if a student had a communication disorder and it was changed to another disability type, it would not show up in the data set as a student with a communication disorder. Consequently, lower numbers of students show up in this study as entering kindergarten with a special education communication disorder. The researcher discovered this in conversations with a special education data entry specialist who was surprised by the study's finding of low numbers of students who enter kindergarten from preschool with a special education communication disorder.

Suggestions for Future Study

Future studies need to include qualitative assessment data used in the referral process for a special education communication disorder. For example, results the CELF-5 standardized assessment that speech language pathologists in the Ayka School District use in the referral process for a special education communication disorder may help clarify the increased odds of placement based on students who receive free and reduced lunch.

Speech language pathologists in the district have great concerns with the numbers of ELs who are identified with a special education communication disorder who continue to be in the special education program at the secondary levels. Further studies may help reveal factors of

being dually identified in ELD and a special education communication disorder to reduce the number of identifications or limit enrollment in both of these programs.

A lack of quantitative data is a limitation to this study as well. All of the independent variables in this study were either dichotomous or polytomous, categorical, and none were continuous. Further studies that include a continuous independent variable may provide a more comprehensive view as to why students are identified more readily with a special education communication disorder. Specifically, the study could focus on students who come from poverty. For example, one could pull specific testing data on incoming kindergarten students with the state's kindergarten readiness assessment and use the results from both early literacy and math in this model.

An additional consideration for research in a future study could focus on the referral process in the Ayka School District for a special education communication disorder. The reason for this is that the traditional process district staff members use for special education categories other than communication disorders is not used when a communication disorder is suspected. The referral process bypasses placing the student in interventions and it goes straight to the speech language pathologist to start the pre-referral process. For example, as described in Chapter 2, students who are struggling in reading go through the RTI process and they must participate in all Tiers before testing for special education begins. However, when a teacher has a concern that a student is not making normal progress or suspects that a student has a special education communication disorder, the student is referred to the speech language pathologist. The district also has a process of identifying cohorts of students with similar linguistic backgrounds similar to the process described by Brown and Doolittle (2008) in the literature review. However, district practice is not clear on the specific guidelines for the cohort process

mentioned in Chapter 3 and this may not be consistent at all schools in the district. If the progress of the student deviates from the cohort, the referral process continues with the speech language pathologist. Once parents are contacted and agree that their child can be tested, the speech language pathologist tests the student with a series of tests to determine if there is a special education communication disorder. If the testing results indicate concerns with communication, the student is identified. This process is completed locally with the speech language pathologist who works in the building, and services begin as soon as they are able to get parents to come for the initial IEP meeting. Consequently, if a teacher has a preconceived bias against students of poverty who do not come to school with as many language-rich experiences as other students, the student may be erroneously referred for a special education communication disorder. Moreover, if a student's native language is not English and he does not show progress as quickly as peers, this referral may also occur. It is likely this referral is due to a teacher's inexperience in second language acquisition and the time it takes to acquire English that is unique for each child and language group.

Another way to get a better picture as to why students are referred with a special education communication disorder is to conduct a qualitative study. Such a study could focus on interviewing teachers who refer students for a special education communication disorder. Specific questions that ascertain the reasons why teachers refer the students could provide additional insight into their referrals. It would be important to ask them what they based their decision on: e.g., a teacher's years of experience in teaching, testing results, native language spoken, feedback from parents, the teacher's understanding of the second language acquisition process, and more. In addition, a qualitative study focused on interviewing parents of students

who are referred for a special education communication disorder would be helpful in lending parents' perspective to the identification process.

Conclusion

Educators are faced with many challenges in the process of identifying ELs with a special education communication disorder. The process is even more complicated with the high numbers of Spanish speakers in the Ayka School District who have limited or no formal education in their native language. Consequently, it would not be desirable or accurate to evaluate these Spanish speakers' proficiency in Spanish in order to determine if they can recognize similar language patterns in English. Even educators are faced with a challenge in comparing English and Spanish in order to ascertain if there is a language issue or a disability. This challenge is due to the academic language and skills students have as well as the degree of formal education in Spanish.

The intent of this study was to investigate an observation by a seasoned professional that something was amiss in the designation of ELs to special education in kindergarten in a school district in the Northwest. It turns out that a general pattern of misidentification based on native language spoken, race/ethnicity, and EL status was not evident, although the link between a special education communication disorder designation and Title IA was identified as significant. However, more study is needed to identify key factors in this relationship. As with most dissertation projects, more questions and areas for further study emerge than precise answers. The researcher is optimistic about the opportunity to replicate this study at subsequent grades to see if the trend of increased odds of a special education communication disorder classification and Title IA status continues.

References

Artiles, A. J. (2003). Special education's changing identity: Paradoxes and dilemmas in views of culture and space. *Harvard Educational Review, 73*(2), 164–202.

Artiles, A. J., Kozleski, E. B., Trent, S. C., Osher, D., & Ortiz, A. (2010). Justifying and explaining disproportionality, 1968-2008: A critique of underlying views of culture. *Exceptional Children 76*(3), 279-299.

Artiles, A. J., Rueda, R., Salazar, J. J., & Higareda, I. (2005). Within-group diversity in minority disproportionate representation: English language learners in urban school districts. *Exceptional Children, 71*(3), 283-300.

Brown, J. E., Doolittle, J. (2008). A cultural, linguistic, and ecological framework for Response to Intervention with English language learners. *Teaching Exceptional Children, 40*(5), 66-72.

Center for Parent Information and Resources (CPIR). (2016a). Evaluating children for disabilities. Retrieved from http://www.parentcenterhub.org/repository/evaluation/.

Center for Parent Information and Resources (CPIR). (2016b). Categories for disability under IDEA. http://www.parentcenterhub.org/repository/categories/.

Christina, B. (1993). Reducing the inappropriate referrals of language minority youngsters to special education settings through teacher training (Doctoral dissertation, Nova University, 1993). Ed.D. Practicum Report.

Cummins, J. (1979). Linguistic interdependence and the educational development of bilingual children. *Review of Educational Research, 49*(2), 222–251.

Cummins, J. (1981). Age on arrival and immigrant second language learning in Canada: A reassessment. *Applied Linguistics, 11*(2), 132-149.

Cummins, J. (1984). *Bilingual education and special education: Issues in assessment and pedagogy.* San Diego: College Hill.

D'Angiulli, A., Siegel, L. S., & Maggi, S. (2004). Literacy instruction, SES, and word-reading achievement in English-language learners and children with English as a first language: A longitudinal study. *Learning Disabilities Research & Practice*, *19*(4), 202-213.

Data Dashboard. (2016). *Electronic district data.* Retrieved from https://dwnorth.cascadetech.org/.

Donovan, S., & Cross, C. (2002). *Minority students in special and gifted education.* Washington, DC: National Academy Press.

Durgunoĝlu, A. Y. (2002). Cross-linguistic transfer in literacy development and implications for language learners. *Annals of Dyslexia*, *52*(1), 189-204.

Early Learning Hubs. (2015). Oregon's early learning system. Retrieved from http://oregonearlylearning.com/current-early-learning-hubs/.

Fellner, G. (2015). The problem is education not "special education." *Cultural Studies of Science Education, 10*(3): 1089-1101.

Fernandez, M. R. & Guzman, N. (2014). Educational decisions and academic achievement: A focus on Mexican American students. *Research in Higher Education Journal, 26,* 1-10.

Fernandez, N. & Inserra, A. (2013). Disproportionate classification of ESL students in U.S. special education. *The Electronic Journal for English as a Second Language 17*(2). Retrieved from http://www.tesl-ej.org/wordpress/issues/volume17/ej66/ej66a1/.

Field, A. (2005). *Discovering statistics using SPSS (2nd ed.).* Thousand Oaks, CA: Sage Publications.

Flanagan, D. P., Fiorello, C. A., & Ortiz, S. O. (2010). Enhancing practice through application of

Cattell-Horn-Carroll theory and research: A "third method" approach to specific learning disability identification. *Psychology in the Schools, 47*(7), 739-760.

Fletcher, V. F., & Navarrete, L. A. (2003). Learning disabilities or difference: A critical look at issues associated with the misidentification and placement of Hispanic students in special education programs. *Rural Special Education Quarterly*, *22*(4), 30-38.

Foltz, B. (2016). Statistics 101: Logistic regression, an introduction. Retrieved from https://www.youtube.com/watch?v=zAULhNrnuL4&feature=youtu.be&list=PLIeGtxpvyG-JmBQ9XoFD4rs-b3hkcX7Uu.

Ford, D. Y. (2012). Culturally different students in special education: Looking backward to move forward. *Exceptional Children, 78*(4), 391-405.

Fuchs, D., Mock. D., Morgan, PL., & Young, C.L. (2003). Responsiveness-to-intervention: Definitions, evidence, and implications for the learning disabilities construct. *Learning Disabilities Research & Practice*, 18(3), 157-171.

Gerber, M., & Durgunoglu, A. Y. (2004). Reading risk and intervention for young English learners: Evidence from longitudinal research. *Learning Disabilities Research & Practice*, *19*(4), 199-201.

Goes, J. & Simon, M. (2016). Using secondary data in doctoral research. Retrieved from http://dissertationrecipes.com/wp-content/uploads/2011/04/Using-Secondary-Data-in-Doctoral-Research.pdf.

Guiberson, M. (2009). Hispanic representation in special education: patterns and implications. *Preventing School Failure*, *53*(3), 167-176.

Hakuta, K., Butler, Y. G., & Witt, D. (2000). How long does it take English learners to attain proficiency? (Policy Report 2000–1.) Santa Barbara: University of California Linguistic Minority Research Institute.

Harding, B. J., Mereoiu, M., Hung, H. F., & Roach-Scott, M. (2009). Investigating parent and professional perspectives concerning special education services for preschool Latino children. *Early Childhood Education, 37*(2), 93-102.

Hibel, J., & Jasper, A. D. (2012). Delayed special education placement for learning disabilities among children of immigrants. *Social Forces, 91*(2), 503-530.

Higgins, E. L., Raskind, M. H., Goldberg, R. J., & Herman, K. L. (2002). Stages of acceptance of a learning disability: The impact of labeling. *Learning Disability Quarterly, 25*(1), 3-18.

Ho, A. (2004). To be labelled, or not to be labelled: that is the question. *British Journal of Learning Disabilities, 32*(2), 86-92.

Individuals with Disabilities Act (IDEA). (2016a). Regulations part 300/A/300.8/c/10. Retrieved from http://idea.ed.gov/explore/view/p/,root,regs,300,A,300%252E8,c,10,.

Individuals with Disabilities Act (IDEA). (2016b). Building the legacy: IDEA 2004. Retrieved from http://idea.ed.gov/explore/view/p/,root,regs,300,A,300%252E8,b,.

Kaci, A. (2016). Education for all. Lecture 1: Theory, measurement, and research development. Retrieved from http://jjcweb.jjay.cuny.edu/akaci/_theory_measurement_and_research_development.html

Kavale, K. A. & Spaulding, L. S. (2008). Is Response to Intervention good policy for specific learning disability? *Learning Disabilities Research & Practice, 23*(4), 169-179.

Klingner, J. K., Artiles, A. J., Kozleski, E., Harry, B., Zion, S., Tate, W., Durán, G. Z., & Riley,

D. (2005). Addressing the disproportionate representation of culturally and linguistically diverse students in special education through Culturally Responsive educational systems. *Education Policy Analysis Archives, 13*(38), 1-43.

Klingner, J. K., Artiles, A. J., & Mendez-Barletta, L. (2006). English Language Learners who struggle with reading: Language acquisition or LD? *Journal of Learning Disabilities, 39*(2), 108-128.

Klingner, J. K. & Edwards, A. E., (2006). Cultural considerations with Response to Intervention models. *Reading Research Quarterly, 41*(1), 108-117.

Klingner, J. K., & Harry, B. (2006). The special education referral and decision-making process for English language learners: Child study team meetings and placement conferences. *Teachers College Record, 108*(11), 2247-2281.

Krashen, S. (1982). Principles and practice in second language acquisition. New York: Pergamon.

Laerd Statistics. (2016). Binomial logistic regression: SPSS statistics. Retrieved from https://statistics.laerd.com/premium/spss/blr/binomial-logistic-regression-in-spss-3.php.

Lian, M.-G. J., & Fontánez-Phelan, S. M. (2001). Perceptions of Latino parents regarding cultural and linguistic issues and advocacy for children with disabilities. *Journal of the Association for Persons with Severe Handicaps, 26*(3), 189-194.

Maki, K. E., Floyd, R. G., & Roberson, T. (2015). State learning disability eligibility criteria: A comprehensive review. *School Psychology Quarterly 30*(4), 457-469.

McIntyre, L., Eckert, T., Fiese, B., DiGennaro Reed, F., & Wildenger, L. (2010). Family concerns surrounding kindergarten transition: A comparison of students in special and general education. *Early Childhood Education Journal*, *38*(4), 259-263.

Mertler, C. A., & Vannatta, R. A. (2005). *Advanced and multivariate statistical methods*. Glendale, CA: Pyrczak Publishing.

Muijs, D. (2011). Doing quantitative research in education with SPSS (2nd ed.). London: SAGE Publications Ltd.

National Center for Educational Statistics (NCES). (2016). The condition of education: Children and youth with disabilities. Retrieved from http://nces.ed.gov/programs/coe/indicator_cgg.asp.

National Center on Educational Outcomes. (2011). *Understanding subgroups in common state assessments: Special education students and ELLs* (NCEO Brief No. 4). Minneapolis: National Center on Educational Outcomes, University of Minnesota.

National Research Council. (2002). Minority students in special and gifted education. Washington DC: National Academy Press.

Oregon Department of Education (ODE). (2015). Statewide report card: An annual report to the legislature on Oregon public schools 2013-2014. Retrieved from http://www.ode.state.or.us/data/annreportcard/rptcard2014.pdf.

Oregon Department of Education (ODE). (2016a). Division 15: Special education definitions. Retrieved from http://arcweb.sos.state.or.us/pages/rules/oars_500/oar_581/581_015.html.

Oregon Department of Education (ODE). (2016b). 2016-2017 Income eligibility guidelines. Retrieved from http://www.ode.state.or.us/wma/nutrition/snp/_3511-e-(income-guidelines).pdf.

Ortiz, A.A. (1997). Learning disabilities concomitantly with linguistic differences. *Journal of Learning Disabilities, 30*(3), 321–333.

Oxford Dictionaries (2015). Retrieved from

http://www.oxforddictionaries.com/us/definition/american_english/oracy.

Patton, J. M. (1998). The disproportionate representation of African-Americans in special education: Looking behind the curtain for understanding and solutions. *Journal of Special Education*, 32(1), 25-31.

Perkins, S. C., Finegood, E. D., & Swain, J. E. (2013). Poverty and language development: Roles of parenting and stress. *Innovations in Clinical Neuroscience, 10*(4), 10-19.

Petrilli, M. J., & Wright, B. L. (2016). America's mediocre test scores education crisis or poverty crisis? *Education Next*, *16*(1), 46-52.

Poplack, S. (2015). Code switching (linguistic) Retrieved from http://aix1.uottawa.ca/~sociolx/CS.pdf.

Restori, A. F., Katz, G. S., & Lee, H. B. (2009). A critique of the IQ / achievement discrepancy model for identifying specific learning disabilities. *Europe's Journal of Psychology*, *5*(4), 128-145.

RTI Action Network. (2015). What is RTI? Retrieved from http://www.rtinetwork.org/learn/what/whatisrti.

Ryan, C. (2013). Language use in the United States: 2011. United States Census Bureau. Retrieved from https://www.census.gov/prod/2013pubs/acs-22.pdf.

Sakash, K. & Rodriguez-Brown, F.V. (1995). Retrieved from http://www.ncela.ed.gov/files/rcd/BE020382/PIG24.pdf

Samson, J. F., & Lesaux, N. K. (2009). Language-minority learners in special education: Rates and predictors of identification for services. *Journal Of Learning Disabilities*, *42*(2), 148-162.

Schiff-Myers, N. (1992). Considering arrested language development and language loss in the

assessment of second language learners. *Language Speech & Hearing Services in Schools, 23,* 28-33.

Schiff-Myers, N. B., Djukic, J., McGovern- Lawler, J., & Perez, D. (1994). Assessment considerations in the evaluation of second-language learners: A case study. *Exceptional Children, 60*(3), 237-248.

Schultz, E. K., Simpson, C. G., & Lynch, S. (2012). Specific learning disability identification: What constitutes a pattern of strengths and weaknesses? *Learning Disabilities: A Multidisciplinary Journal, 18*(2), 87-97.

Shifrer, D. (2013). Stigma of a label: educational expectations for high school students labeled with learning disabilities. *Journal of Health and Social Behavior 54*(4), 462-480.

Shore, J. R. & Sabatini, J. (2009). *English language learners with reading disabilities: A review of the literature and the foundation for a research agenda. Research Report. ETS RR-09-20*. Educational Testing Service.

Skiba, R. J., Simmons, A. B., Ritter, S., Gibb, A. C., Rausch, M. K., Cuadrado, J., & Choong-Geun, C. (2008). Achieving equity in special education: History, status, and current challenges. *Exceptional Children, 74*(3), 264-288.

Statistics Solutions. (2016). Assumptions of logistic regression. Retrieved from http://www.statisticssolutions.com/assumptions-of-logistic-regression/.

Sullivan, A. (2011). Disproportionality in special education identification and placement of English language learners. *Exceptional Children, 77*(3), 317-334.

The IRIS Center. (2016). Topic: What is the IQ-achievement discrepancy model? Retrieved from http://www.ideapartnership.org/documents/IRIS_DG_IQ-Discrep_RTI.pdf.

Thomas, W. P., & Collier, V. P. (1997). School effectiveness for minority students. NCBE

resources collection series, No. 9. Washington DC: National Clearing House for Bilingual Education.

Umansky, I. M., Thompson, K. D., & Díaz, G. (2016, April 10). Using an Ever-EL framework to understand over- and under-identification of English learner students with disabilities. Paper presented at the annual meeting of the American Educational Research Association, Washington DC.

Trainor, A., Murray, A., & Kim, H. J. (2016). English learners with disabilities in high school: Population characteristics, transition programs, and postschool outcomes. *Remedial and Special Education,* doi:10.1177/0741932515626797: 1-13.

Understanding Special Education. (2016). Special education law: the individuals with disabilities act (IDEA). Retrieved from http://www.understandingspecialeducation.com/special-education-law.html.

U.S. Department of Education, & National Institute of Child Health and Human Development. (2003). *National symposium on learning disabilities in English language learners. Symposium summary.* Washington, DC: Authors.

US Department of Heath & Human Services. (2015). Head Start Program performance standards and other regulations. Retrieved from http://eclkc.ohs.acf.hhs.gov/hslc/standards/hspps/1304/1304.20%20Child%20health%20and%20developmental%20services..htm.

Waitoller, F. R., Artiles, A. J., & Cheney, D. (2010). The Miners' canary: A Review of overrepresentation research and explanations. *Journal of Special Education*, *44*(1), 29-49.

Welner, K. (2004). Legal rights: The overrepresentation of culturally and linguistically diverse students in special education. Boulder, CO: National Center for Culturally Responsive

Educational Systems.

Wiley, T. G. (1996). Literacy and language diversity in sociocultural contexts. Literacy and language diversity in the United States. Washington DC: Center for Applied Linguistics and Delta Systems.

You, H., Alwan, A. Kazemzadeh, & S. Narayanan. (2005). Pronunciation variations of Spanish-accented English spoken by young children. *Proc. of Eurospeech*, Interspeech, Lisbon.

Zentella, A. C. (1990). Integrating qualitative and quantitative methods in the study of bilingual code switching. *The Uses of Linguistics, 583,* 75-92.

Zorigian, K. & Job, J. (2016). Poverty and special ed. Retrieved from http://www.learnnc.org/lp/pages/6806?ref=search