

The Intervention and Referral Process: Purpose, Uses, and Implications

By

Alexis A. Rich

A dissertation submitted to the

Graduate School of Education

Rutgers, the State University of New Jersey

In partial fulfillment of the requirements

For the degree

Doctor of Education

Graduate Program in Special Education

written under the direction of

---

Bruce D. Baker, Ed.D.

---

Ariana Mangual Figueroa, Ph.D

---

Matthew Mayer, Ph.D

NEW BRUNSWICK, NEW JERSEY

January 2015

THE INTERVENTION AND REFERRAL PROCESS: PURPOSE, USES, AND IMPLICATIONS

©2015

Alexis Ava Rich

ALL RIGHTS RESERVED

# THE INTERVENTION AND REFERRAL PROCESS: PURPOSE, USES, AND IMPLICATIONS

## ABSTRACT

This study will examine the Intervention and Referral process (I&RS) in Gardenia School District. This district has been cited by the State of New Jersey Department of Education for overrepresentation of minority students in special education. Overrepresentation of minority students in special education is problematic because it implies students may be inappropriately placed in special education and/or denied access to general education placements. Thus, this study discusses the disproportionate representation of minority students placed into special education programs, with a specific focus on English Language Learners (ELLs), while exploring school practices that may improve the quality of education for both ELLs and non-ELLs.

The purpose of this study is to evaluate the teacher and administrator perceptions of the I&RS process in terms of procedures in meeting the needs of all students and determining correct placements of students in general education or special education settings. Additionally, this study aims to determine areas for improvement in terms of essential components of the I&RS process such as multi-disciplinary teams, teacher training, instructional interventions and assessment for ELLs, and follow-up.

This study employs a qualitative case study approach with mixed methods data analyses to provide a comprehensive analysis of the I&RS process at the elementary school level in this District. Data collection included a survey distributed to the four elementary schools in Gardenia School District, interviews with ten key participants in the I&RS process, and document review based on public documents pertaining to demographic data.

## THE INTERVENTION AND REFERRAL PROCESS: PURPOSE, USES, AND IMPLICATIONS

Findings of this study suggest that Gardenia School District has been adjusting the I&RS process to help meet the needs of students who are struggling in general education and to determine appropriate special education referrals. However, there are still areas for improvement for essential components of the I&RS process. Gardenia School District could further improve I&RS the process by enhancing multi-disciplinary teams, teacher preparation and training with language-based interventions, varied instructional interventions and assessment for ELLs, and providing both short and long-term follow-up throughout the I&RS process. An advanced process could better service students in general education and provide meaningful data to determine appropriate educational placements.

ACKNOWLEDGEMENTS

There have been many people who have supported me throughout this process. I would like to extend a special thanks to my dissertation committee and professors at Rutgers University. I would also like to thank my colleagues, administration, and my students at Gardenia School District for inspiring me and supporting me each step of the doctoral process.

## THE INTERVENTION AND REFERRAL PROCESS: PURPOSE, USES, AND IMPLICATIONS

### DEDICATION

I would like to sincerely thank my family for supporting me throughout the doctoral dissertation process. Mom, your advice, unconditional love, and support have helped me immensely; I will always remember when you would ask me, “How do you eat an elephant?” and the wisdom of your reply: “One bite at a time.” Dad, your humor and willingness to hear me discuss my program with you have been an extremely important part of this process. Amanda, you are the best! I love you so much and am so grateful for your patience and understanding while I worked on my dissertation. Your humor is also much appreciated. Ian, thank you for your guidance and support over these past few years, I am very lucky to have you in my life. I am so thankful for your words of encouragement, your patience, and your love. I dedicate this work and give a special thanks to my family, you have been my support system, my cheerleaders, and my best friends.

## TABLE OF CONTENTS

COPYRIGHT.....	i.
ABSTRACT.....	ii.
ACKNOWLEDGEMENT.....	iv.
DEDICATION.....	v.
LIST OF TABLES.....	ix.
CHAPTER	
I. INTRODUCTION.....	1
Context/background of the problem.....	1
Problem statement.....	6
Research questions.....	12
Significance of the study.....	13
Definition of terms .....	14
Limitations.....	16
Organization of the study .....	16
II. LITERATURE REVIEW.....	18
Disproportionality in special education.....	18
Factors affecting disproportionality.....	19
Measuring disproportionality.....	21
Referrals.....	23
The intervention and referral process.....	25
Teacher perceptions of English language learners .....	27
Language development or learning disability.....	29
IQ-achievement discrepancy model and the misdiagnosis of ELLs..	34
Instructional interventions and teaching practices for ELLs.....	36
Implications for English language learners.....	40
III. METHODOLOGY.....	42
Review of selected literature and research.....	42
Population and sample .....	43
Instrumentation .....	44
Research design.....	47
Data collection.....	48
Timeline.....	50
Data analysis .....	51
Reliability and validity.....	57
Limitations.....	59
Potential outcomes .....	60

## THE INTERVENTION AND REFERRAL PROCESS: PURPOSE, USES, AND IMPLICATIONS

Conclusion.....	60
IV. RESULTS.....	61
Introduction.....	61
Setting.....	61
Data Collection.....	63
Number of participants.....	63
Frequency, location, and duration.....	63
Data recording.....	64
Variation in data collection.....	64
Data Analysis.....	64
Coding.....	64
Codes, categories, and themes.....	65
Results.....	67
Descriptive Statistics.....	68
Personnel position and number of I&RS referrals.....	68
Elementary school, gender, and language.....	68
College degree level and area of certification.....	69
Research question one.....	69
Research question two.....	80
Research question three.....	93
Research question four.....	100
Research question five.....	106
Research question six.....	111
Evidence of trustworthiness.....	112
Summary.....	113
V. DISCUSSION.....	119
Introduction/Purpose.....	119
Findings and Interpretations.....	119
Research question one.....	119
Research question two.....	123
Research question three.....	131
Research question four.....	135
Research question five.....	138
Research question six.....	144
Limitations of the study.....	146
Recommendations for future research.....	147
Implications.....	148
REFERENCES.....	155
APPENDICES.....	166



## THE INTERVENTION AND REFERRAL PROCESS: PURPOSE, USES, AND IMPLICATIONS

Appendix A Chart linking research questions with methodology...	166
Appendix B Survey Instrument.....	169
Appendix C Interview Instrument.....	176
Appendix D Permission Letter and informed consent.....	177
Appendix E Coding Organization.....	181
Appendix F Categories.....	183
Appendix G Descriptive Statistics.....	184
Appendix H Inferential Statistics.....	189

LIST OF TABLES

Tables		Page
1.	Percentage of each ethnicity represented in Gardenia School District.....	5
2.	Percentages of minority students in special education categories in elementary schools in Gardenia School District.....	5
3.	Demographic Survey Questions.....	45
4.	Research question two: Regression equation and independent variables.....	54
5.	Research question four: Regression equation and independent variables.....	55
6.	Qualitative themes.....	66
7.	Independent variables for research question one.....	70
8.	Findings Research Question 1.....	70
9.	Dependent variables Research Question 1.....	74
10	Research question two independent variables.....	80
11.	Combined response independent variables research question two.....	81
12.	Combined response dependent variables research question two.....	83
13.	Independent variables for research question three.....	94
14.	Combined response independent variables research question three.....	94

## CHAPTER 1-INTRODUCTION

### **Context/background of the problem**

The problems of over-representation and under-representation of minority students in special education, collectively known as disproportionality, are controversial, unresolved, national issues (Coutinho & Oswald, 2000). Minority students in many districts are both over-represented in special education and underserved in both general education and special education, which are problematic issues pertaining to equity in education (Losen & Orfield, 2002, p. 15).

Historical research discusses many definitions and methods to determine disproportionate representation, and each possesses strengths and weaknesses (Coutinho & Oswald, 2000). One of the several historical approaches for defining disproportionality is the Chinn and Hughes (as cited in Artiles Rueda, Salazar, & Higareda, 2005) 10% rule to determine overrepresentation of a minority group in special education. It is important to note that this approach has not been widely adopted over the past two decades. When a certain racial or ethnic group is overrepresented in special education, the difference between the group's student population percentage and the percentage of students in special education is equal to or greater than 10% of the group's existing percentage in the school-age student population. Disproportionality may occur when the percentage of students from a certain subgroup is higher than the percentage of those students in the general population. In this case, that subgroup is said to be overrepresented. Conversely, when the percentage of students from a certain subgroup is lower than that group's representation in the general population, the group may be underrepresented (Salend & Duhaney, 2005). Disproportionality reflects systemic problems of inequity within the education system

(Sullivan, 2011). Disproportionality could refer to the comparison of a specific racial subgroup's representation in total enrollment to their representation in a specific disability category. For example, Garcia Fierros and Conroy (2002) discussed data from the Department of Education, Office of Civil Rights, fall 1998 that reflected disproportionality. Black students represented 17.4% of total enrollment in the category labeled, percent of overall enrollment; however, they represent 33.04% of all students with mental retardation (MR) (mental retardation is used because this term has been used in earlier studies; however, when discussing this disability category throughout the rest of this dissertation, intellectual disability (ID) will be used). On the other hand, Hispanic students represent 15.01% of the total enrolled students, but they only represent 10.04% of the total students with an intellectual disability. This information suggests that Black students are overrepresented, and Hispanic students are underrepresented in this disability category. These analyses reflected statistical measures where a racial group's representation in the total enrollment was compared to their enrollment in a specific disability category. This is problematic because students identified with ID are often placed in more restrictive special education placements (Garcia Fierros & Conroy, 2002). Thus, some concerning issues for minority students, specifically Black and Hispanic students, include high levels of disproportionality and restrictive educational settings. Another method to determine disproportionate representation is identifying the percentage of students who possess a certain characteristic as compared to the percentage of another group that has the same attribute. For example, according to the Department of Education Office of Special Education programs, the percentage of ethnicities in each disability category varies considerably. For Black students that are not Hispanic, classified in all IDEA disability categories, 16.8% happen to fall in the ID category, as compared to other percentages discussed for other racial groupings, 7.8% Hispanic

students fall in this category, and 8.3% White but not Hispanic students are considered a part of the ID category. This information shows a higher percentage of Black students in the ID category as compared to Hispanic students and White students. There is a more complete discussion of the approaches to measuring disproportionality in New Jersey in Chapter 2 of this dissertation.

Consequences of disproportionality include inappropriate classification of some minority students in special education, and less of a chance that minority students who receive special education services will be included in the general education classroom setting. Exposure to the general education curriculum is extremely important to the educational experience of all students. Minority students in special education are likely to be educated in a segregated classroom, a trend that is evident at both the state and district levels (Losen & Orfield, 2002).

Additionally, minority students may have limited academic experiences and exposure to the general education curricula since both academic and behavioral challenges may be addressed through special education (Zhang, Katsiyannis, & Roberts, 2014). Overrepresentation of minority students in special education may hinder their academic and social performance since they do not have substantial access to the general education curriculum (Salend & Duhaney, 2005). Furthermore, Losen & Orfield (2002) discuss disproportionate representation of minority students in special education as being problematic because research has shown that minority students in separate special education systems may experience greater negative consequences that may affect them academically, socially, emotionally, and/or behaviorally. Lack of exposure to the general education curriculum could contribute to these negative consequences, which may include lower academic achievement and graduation rates as well. Therefore, disproportionality and inappropriate classification may disadvantage minority students.

The setting for this study is Gardenia School District, which consists of four elementary schools, one middle school, and one high school. This district is cited by the State of New Jersey for disproportionate representation of minority students, specifically Hispanic and Black students, in all special education and related services categories. This research study focuses on the Intervention and Referral (I&RS) process, a process related to the placement of struggling students, in all four elementary schools in this district. Struggling students refers to students serviced in both general education and/or special education settings who perform below grade level on district-wide math and language arts assessments and achieve below their grade level peers in the classroom. The context is highly relevant because the district serves a diverse population of learners through both general and special education services; the district's process of placing students in special education may be a contributing factor toward the state citations.

The following tables indicate the ethnicity percentages in each elementary school and district wide as well as the number of students from each ethnicity enrolled in special education in Gardenia School District. This information is presented in order to demonstrate the diverse demographics of the students in this district. It is also important to note the differing demographics of the elementary schools. Further, the disproportionality citation is based on percentages across the entire district; however, this study will only focus on students enrolled in the elementary level. The district and the elementary schools have been given pseudonyms to ensure confidentiality.

While these tables do not provide all of the information necessary to reflect the State of New Jersey's 2012 citation of disproportionality for Gardenia School District, it provides a demographic overview of the students in the district, which contributes to its context. This is a significant factor to consider when discussing participant perceptions of students referred to the

I&RS process, students referred to special education services, and perceptions of minority students, specifically ELLs.

Table 1

Percentage of each ethnicity represented in Gardenia School District

School	Asian	Black/ Africa American	Hispanic Or Latino	American Indian/ Alaskan Native	Multiracial	Hawaiian native/other Pacific Islander	White
Magenta	20.41%	24.65%	17.07%	.13%	5.01%	.52%	32.22%
Tangerine	36.18%	17.04%	14.66%	0%	6 %	.84%	25.28%
Sapphire	43.19%	17.16%	19.48%	.28%	4.63%	.14%	15.12%
Lavender	29.88%	16.07%	39.71%	1.46%	3.32%	.49%	10.49%
District Wide	27.86%	20.21%	25.37%	.08%	2.74%	.37 %	23.46%

Table 2

Percentages of minority students in special education categories in elementary schools in Gardenia School District

Schools	Asian	Black/ African American	Hispanic Or Latino	American Indian/Alaskan Native	Multiracial	Hawaiian native/other Pacific Islander	White
Magenta	22%	28.57%	11.04%	0%	5.2%	1.30%	31.82%
Tangerine	14.29%	26.67%	20.96%	0%	4.76%	1.90%	31.43%
Sapphire	15.25%	33.9%	28.81%	0%	1.69%	0%	20.33%
Lavender	14.47%	27.64%	36.84%	0%	1.32%	0%	19.74%
District Wide	12.03%	28.94%	28.26%	0%	2.84%	.45%	27.47%

### **Problem Statement**

Disproportionality in special education identification affects many students in both general and special education classrooms who perform below grade level expectations and are not progressing adequately. These students may not receive specialized help that can help them succeed academically. Within subgroups that include students who belong to racial and/or minority groups, there is a special subset of students referred to as English Language Learners (ELLs). These students are classified as ELLs based on the determination that their English proficiency level warrants additional language learning support (Kieffer, Lesaux, & Snow, 2006). When the general education classroom is not modified to meet ELLs' language acquisition and learning needs, they can seem unresponsive to instruction; ELLs may not be able to effectively learn the content and may progress minimally in the classroom. For the purposes of this study, the ELL subgroup consists of students who are Hispanic, speak both English and Spanish, and are performing below their academic grade level.

Students who perform below grade level expectations are often referred to the Intervention and Referral process (I&RS) for academic and/or behavioral assistance in the classroom. This study discusses the Intervention and Referral Process, and its relationship to ELLs who are performing below academic grade level expectations in Gardenia School District. It is important to note that when the term ELL is used throughout this study, the focus is on specific students who are acquiring English as an additional language; their primary language is not English. Each student is unique, and traits suggested throughout this dissertation do not pertain to every child in a specific ethnic group; rather, they are traits commonly found among students who are struggling with the academic language curricula in schools. These traits are not



reflective of whole cultural communities and are not intended to be generalizable to these communities (Gutiérrez & Rogoff, 2003).

ELLs are diverse in terms of their ethnic backgrounds and nationalities, socioeconomic status, and the length of time their families have resided in the United States (Orosco & Klinger, 2010). They demonstrate a wide range of language and academic skills in both English and their primary language (Abedi & Linqunti, n.d). There are increasing numbers of students who are ELLs who have struggled to learn English academic content, that is, these students may have struggled with academic material presented in a general education setting. When this study refers to struggling to learn, it references primarily reading, writing, and mathematical skills in the context of challenging academic content areas that are taught in the classroom. According to classroom assessments and data that compare them to their grade level peers, these students may have demonstrated lower levels of academic achievement (Klinger, Artiles, & Barletta, 2006). Further, students who are ELLs face a double challenge, which entails learning academic skills as well as language skills. Reading, for example, requires knowledge of content as well as language, including syntax and language conventions (Goldenberg, 2008). Cheung and Slavin (2012) discuss the National Assessment of Educational Progress (2011), where 7% of ELLs in fourth grade scored at or above the proficiency level, while 46% of non-ELLs scored at or above proficiency on their assessment. These statistics are exclusive of the special education group. Even though ELLs may show improvement with English oral language and reading skills, many ELLs have not caught up academically with their grade level peers over time in the classroom.

In many cases, students who are ELLs have been referred to special education before their general education program has been modified with appropriate language supports to meet their needs, which may result in the inappropriate placement of ELLs in special education

(Huang, Clarke, Milczarski, & Raby, 2011). Thus, these students are affected in general education because they are progressing minimally with the curricula and presentation of the material. There are many reasons for this phenomenon, including possible budget concerns, school district policies, and infrastructure limitations, which are discussed further in subsequent sections of the literature review. This phenomenon could also be reflective of inadequate preparation of school personnel involved in the referral process. School personnel, including school psychologists who are involved in the special education referral process, may not have sufficient training to make informed decisions that require differentiating between the characteristics of learning disabilities and language acquisition (O'Bryon & Rogers, 2010). It is difficult to assess ELLs referred for special education evaluation, which determines the student's eligibility for special education services, due to the challenges related to identifying whether academic struggles result from language acquisition or a disability (O'Bryon & Rogers, 2010).

Therefore, school personnel should consider language and culture during special education testing. It is important to note that linguistic and cultural factors do not have the same effect on every subtest of an assessment. For instance, these factors impact sub-tests that require age-appropriate vocabulary knowledge more than other test sections. As a result, a student's performance on a test could be influenced by the degree their language and culture affects performance on specific sub-tests (Sotelo-Dynega, Ortiz, Flanagan, & Chaplin, 2013). When school psychologists assess culturally and linguistically diverse students, they tend to overlook factors such as a student's primary language and the amount of time he or she has received English instruction (Klinger, Artiles, & Barletta, 2006). Further, it is important to consider the linguistic knowledge base of a student and his or her ability to incorporate this knowledge of two languages into academic performance (Celic & Seltzer, 2011). School psychologists and

personnel involved with special education testing and placement need training to better support ELLs in both the general education and special education classrooms and to accommodate the learning environment to best meet the learning needs of ELLs.

Special education related problems that involve racial and/or language minority students, including students who are ELLs, have often occurred when the general education setting is not supportive enough for the student prior to parents seeking assistance through special education eligibility (Losen & Orfield, 2002). Thus, when working with these students, specifically ELLs and students with disabilities, it is important to consider whether or not the child is educated in a high-quality learning environment since these shortcomings in the general education setting could potentially result in inappropriate placement of minority students in special education. Further, approaches to meet the language needs of students who are ELLs in the classroom should consider ways to understand how student engagement in community practices contributes to their individual learning progress and development (Gutiérrez & Rogoff, 2003, p.21).

Research shows that ELLs who are inappropriately placed in special education lose ground when compared to their grade-level peers (Huang et al., 2011). Furthermore, students from non-English speaking backgrounds may have had minimal exposure to educational opportunities such as early reading and literacy intervention practices during school and at home, which can negatively impact their ability to acquire grade level-appropriate reading skills and can result in lower scores on reading assessments (Vaughn, Linan-Thompson, Mathes, & Cirino, 2006). These environmental factors need to be considered along with traditional models of identifying students for special education, such as the IQ-Achievement Discrepancy model, which is discussed further in the Literature Review section of this dissertation.

Alternatively, many ELLs, specifically ELLs who are Hispanic, may not have acquired foundational language skills, which refer to English academic language skills that are applied frequently in a school-setting, and these students may not have received intervention services prior to failing in general education (Sullivan, 2011). This may occur because of the infrastructure of schools and the types of supports available for students who are ELLs. Some students who are ELLs have not received sufficient language support in school to help them transfer language skills from their primary language to their second language and acquire the complexities of the new language both in the conversational and academic contexts. Also, if interventions are not implemented early enough for ELLs in school, acquiring academic language may be challenging. This is reflective of the “wait to fail” model, wherein teachers wait until a student demonstrates extreme learning difficulties over a prolonged period of time before referring him or her for special education and additional intervention services (Vaughn & Fuchs, 2003). Conversely, teachers may be reluctant to refer a child for special education eligibility evaluation because the child’s English language proficiency may not be adequately established, causing uncertainty about the existence of a learning disability (Samson & Lesaux, 2009). There are several disadvantages to this practice, which include late identification of students with disabilities and the failure to identify students who do not need special education services but require support in the general education setting (Vaughn & Fuchs, 2003). In both cases, students are not receiving intervention support services, neither special education nor general education, until they have already demonstrated failure and have performed below their grade level peers. Thus, by the time these students who are ELLs may be referred for special services, they have established an emerging trajectory of school failure.

Students who are ELLs may exit an English as a Second Language (ESL) program due to their improved proficiency with the English Language, but they may still struggle with a modified curriculum tailored to meet their needs, or teachers may determine that their continued difficulties in the classroom do not result from language acquisition (<http://www.state.nj.us/education/bilingual/ells/>). These students have often been referred to the Intervention and Referral (I&RS) process for support prior to possible special education eligibility. The I&RS process is designed to assist students working below grade level in the general education classroom with effective instructional interventions, modifications, and accommodations that will help them succeed (Klinger & Harry, 2006). Its intent is aligned with the Individuals with Disabilities Education Act (IDEA; 2004), which requires nondiscriminatory measures when assessing, identifying, and determining the school placement of students with disabilities. If students demonstrate low achievement primarily due to cultural and linguistic differences or environmental disadvantages, they should not be identified with a disability (Coutinho & Oswald, 2000). It is also a process that could potentially prevent inappropriate student referrals for special education services and combat disproportionality (Klinger & Harry, 2006).

While the theoretical intent of the I&RS process is positive, when translated into practice, there may be flaws in its execution. For instance, this occurs when little attention is dedicated to prereferral strategies and the focus is on child deficits that warrant special education testing instead of modifying the classroom environment and instruction to meet the students' needs (Klinger & Harry, 2006). Even though the I&RS process is implemented to prevent inappropriate special education referrals and provide intervention services, in practice, it tends to contribute to the "wait to fail" model by attempting to prevent overrepresentation of minority

students in special education, which can result in the failure to provide intervention services for minority students (Orosco & Klinger, 2010). The “wait to fail” model could occur when students’ low academic achievement is incorrectly attributed to language acquisition, and/or they are promoted to the next grade without intervention services (Orosco & Klinger, 2010). Thus, these factors may impede the supportive nature of the I&RS process when it is implemented in schools.

### **Research Questions**

The I&RS process may be a contributing factor to the problem of disproportionality of students in special education in Gardenia School District. Gardenia School District has been cited by the State of New Jersey for overrepresentation of Hispanic and Black students in all special categories (State of New Jersey Department of Education, 2012). This is problematic because minority students are often in placements where they receive low quality education and support services, or they are placed in environments that are unnecessarily restrictive (Losen & Orfield, 2002). Since the I&RS process may affect student placement in general education and special education, it could potentially influence the number of minority students in special education. This study explores the I&RS process in Gardenia School District in terms of its relationship to disproportionate representation of ELLs in special education, and its potential to combat disproportionality at the school and district level.

Thus, this study will address the following research questions:

- 1) What are teacher and administrator perceptions of the I&RS process at the four elementary schools in Gardenia School District?

- 2) To what degree and in what ways do teachers and administrators perceive the I&RS process to be providing appropriate interventions for struggling learners, especially those who are ELL students?
- 3) To what extent do teachers and administrators believe that the I&RS process leads to appropriate classifications for ELLs?
- 4) What do teachers and administrators perceive to be the strengths and weaknesses of I&RS at their school in Gardenia School District?
- 5) What do teachers and administrators believe should be done to improve the I&RS process for ELL students in their respective schools in Gardenia School District?
- 6) What additional factors and/or issues may be influencing the provision of an appropriate I&RS process, and in what ways?

### **Significance of the study**

This study contributes significantly to the literature regarding disproportionality, and servicing English Language Learners (ELLs) in schools. This research also focuses on the Intervention and Referral Process (I&RS), with the intent of exploring and potentially preventing disproportionate representation (over or under-representation) of minority students in special education as well as inappropriate placement of minority students in special education. Furthermore, this research contributes to an existing body of literature that addresses improving multi-disciplinary pre-referral teams and creating a high quality prereferral process (Salend & Duhaney, 2005). Since this study focuses on components of effective referral teams and their relationship to ELLs, it will add to the literature on the education of ELLs and implementing the I&RS process to provide a high quality education for ELL students and non-ELL students in

both general education and special education placements (Sullivan, 2011). This study is beneficial for both practitioners and policymakers because disproportionality is a national issue in schools (Coutinho & Oswald, 2000). Implementing an effective Intervention and Referral process could potentially mitigate the problem of disproportionality in schools by providing appropriate services for both ELLs and non-ELLs, and reducing the rate of inappropriate placement in special education.

### **Definition of Terms**

This section defines the following terms in order to ensure consistent understanding of language used throughout this research. I have developed some of these definitions, and some of these definitions are research based, which include citations.

*English Language Learners:* ELLs will be defined as students who are culturally diverse, whose primary language is not English, and who are enrolled in English-speaking schools. Many ELLs were born in the United States, but their parents were born outside of the United States (Goldenberg, 2008). These students are also part of a racial minority group as well as a linguistic minority group in Gardenia School District. Being part of a linguistic minority group, these students are not proficient with English when they begin school (Gandára & Rumberger, 2007). Students in this group may have knowledge of English conversational language, but they are not yet fluent (Goldenberg, 2008). For this study, the focus is on ELLs who are Hispanic; these include ELLs who are bilingual, whose primary language is not English, and/or students who have exited out of ESL programs, but are still acquiring English as an additional language. In the United States, the majority of ELLs (80 %) are Spanish speakers (Goldenberg, 2008). For the purposes of this study, ELLs represent students in this category who are demonstrating struggles both academically and behaviorally in English-speaking schools. Typically, ELLs are



referred to the I&RS process because of academic and/or behavioral struggles in school, which is the reason this group of ELLs is the focus for this study.

*Racial Minority:* Students in these groups are in a minority group as compared statistically to the dominant group in Gardenia School District.

*Linguistic Minority:* Students in this group are not yet proficient in English when they begin school (Gandára and Rumberger, 2007).

*Non-English Language Learners:* Non-ELLs will be defined as students who are monolingual with their primary language being English. Their families speak English as their primary language as well.

*Culture:* This refers to the tendencies of people who have a history of being involved with specific activities reflective of their culture. Culture is defined by people's experiences with activities rather than traits of people involved in a cultural group. This definition reflects a cultural-historical perspective (Gutiérrez & Rogoff, 2003). Culture influences how a child reacts and approaches learning and the ways they socialize in the home and the school setting (Espinoza, 2005). In this study, there is a distinction made between home culture and school culture.

- *Home culture:* refers to how a child is socialized at home in terms of literacy and learning (Espinoza, 2005). Cultural groups may socialize their children in these areas differently. This term also refers to family and community knowledge as well as multicultural experiences (Fránquiz, 2012).
- *School culture:* refers to the way students are socialized to learn, interact, and acquire language in a school setting. Some schools hold a deficit view of a culture whereas other schools are culturally responsive (Hernández Finch, 2012).

The professional culture of education contributes to the school culture in terms of shaping school practices, curricula decisions, school infrastructure, and school policies.

*Referral Teams:* A team consisting of members with varying areas of expertise who work with general education teachers to provide support within the classroom and determine the need for special education testing. Team members may include the school psychologist, speech therapist, an administrator, special education teacher, and the school counselor.

*Disproportionality:* The over- or under- representation of a subgroup of students in special education as compared to that subgroup's representation in the general population. Special attention will be paid to the disproportionate representation of minority students in special education.

*Second language acquisition:* Refers to the acquisition of an additional language. Students may be acquiring a second, third, fourth, etc. language.

### **Limitations**

There are internal and external threats to the validity and reliability of this study. Since this is a case study design that focuses on one school district, the results are localized, and the generalizability of the findings is a threat to the external validity of the study. Results may not be generalizable beyond the sample for this study.

### **Organization of the study**

There are five chapters in this dissertation. Chapter 1 presents an introduction to this study including research questions, the significance of the study, the context of the study, and the limitations of the study. Chapter 2 consists of a review of relevant and related literature to the problem being researched. Chapter 3 presents the methodology for this study including

procedures for data collection and analysis. Chapter 4 discusses the findings of the study.

Chapter 5 summarizes the study and provides recommendations and implications for future studies.

## CHAPTER 2-LITERATURE REVIEW

The I&RS process assists teachers through a team-based approach that provides the most beneficial educational recommendations and placements for students who are working below academic grade level. When the I&RS process is implemented with fidelity, it can potentially counter trends of disproportionality in education by preventing misclassification of both students who are ELLs and non-ELLs. In the subsequent subsections of this literature review, I explain characteristics of an effective I&RS process; these characteristics may contribute to the relationship between the I&RS process, appropriate classifications, and reduced inappropriate placement of minority students in special education. Therefore, a thorough examination of these larger issues with a focus on disproportionality can inform thinking on ELL related issues.

**Disproportionality in special education**

Disproportionate representation refers to either underrepresentation or overrepresentation of minority subgroups in either special education or gifted and talented programs.

Disproportionality may be a factor during discipline decisions and academic decisions as well as the special education exit process (Sullivan, 2011). Issues of overrepresentation and quality educational experiences have been significant in U.S. schools over the past thirty years (Coutinho & Oswald, 2000). For instance, disproportionate overrepresentation of Black students is prevalent in the special education subcategories of intellectual disabilities, emotionally disturbed, and developmentally delayed. Further, Hispanic, Black, and Native American students are overrepresented in special education programs for students with learning disabilities while they are often underrepresented in gifted and talented programs (Obiakor & Wilder, 2003). When minority students are overrepresented in special education, it may promote isolation, stigma, and labeling, which could negatively affect students' educational experiences (Fletcher

& Navarrete, 2010). Thus, receiving inappropriate services may be more harmful than receiving no services (Losen & Orfield, 2002). When students should be exposed to the general education curriculum and do not receive this experience, their academic progress may be hindered.

Consequences of inappropriate placement in segregated settings affect both the academic and social experiences of students (Losen & Orfield, 2002). Because disproportionality is a problematic issue, schools need to examine the overrepresentation patterns from their district data in order to begin reforming referral practices (Coutinho & Oswald, 2000).

States comply with stringent requirements to monitor disproportionality when reporting the demographic information of students in special education. As a result of the reauthorization of the Individuals with Disabilities Education Act (IDEA, 2004), states are required to monitor and record patterns of disproportionate representation at the district and state levels (Klinger et al., 2006). New Jersey uses specific measures to determine if districts have disproportionate representation of particular racial and ethnic groups in disability categories. According to Part B of the Annual Performance Report #6 for New Jersey (FFY 2010: July 1, 2010 – June 30, 2011), disproportionate representation is evident in some districts throughout New Jersey. The next section of this dissertation entitled Measuring disproportionality discusses certain statistical measures used to identify specific school districts that reflect disproportionate representation, which may result from inappropriate identification.

### **Factors affecting disproportionality**

Variables associated with disproportionality warrant discussion to adequately examine this phenomenon in schools. Factors such as inequity in educational practices, income inequality, poverty, and health risk factors should be considered in relation to an increase of disability identification among minority students. Researchers acknowledge that contextual,

environmental factors and poverty may be linked to an increased level of disability identification (Losen & Orfield, 2002). Some minority groups experience disproportionate levels of poverty, and generally when there is an increase in poverty, students have an increased risk for disability identification. Further, specific ethnic groups that have higher levels of poverty should have an increased disability risk (Oswald, Coutinho, & Best, 2002). For example, poverty can create additional risk factors for students such as exposure to harmful toxins or low birth weight, which may influence child readiness for school (National Research Council, 2014).

However, research findings indicate inconsistencies in this data. For instance, some students in high poverty areas may have lower disability identification rates in the category of intellectual disability. There are some possible explanations for this inconsistency relating to systemic factors or bias in terms of disability classification (Oswald, Coutinho, & Best, 2002). Even with the relationship between poverty, race, and achievement, there is an inconsistent association between poverty and the placement of minority students in special education. Further, while poverty or socioeconomic disadvantage may affect school readiness, the connection between poverty and academic and behavioral achievement is more complex (Skiba, Poloni-Staudinger, Simmons, Feggins-Azziz, & Chung, 2005). It is important to note that while poverty may impact the rate of disability identification, other factors such as segregated schooling may influence poverty. Even though these factors are significant, they may not be the primary cause of the heightened rate of disability identification. Further, Losen and Orfield (2002) refer to the relationship between poverty and racial disparity; they discuss how poverty cannot solely explain the racial disparities when students are identified in the disability categories of intellectually disabled and emotional disturbance. Additionally, poverty does not account for the differences in Black overrepresentation and Hispanic underrepresentation since

Hispanics are at a greater risk for poverty. Thus, national data trends counter theories that poverty is the sole cause of overrepresentation of minority students in special education (Losen & Orfield, 2002). It is also important to note that high quality instruction and effective classroom management practices could improve student trajectories (National Research Council, 2014). The complex interactions of contextual factors should be considered when discussing disproportionate representation of minority students in special education in terms of disability classification and special education placement.

**Measuring disproportionality.** The following paragraphs discuss measures used to determine disproportionality in New Jersey, which include the (a) Chinn & Hughes 10% rule, (b) Risk Index, (c) Risk Ratio, (d) Weighted Risk Ratio, and (e) Composition Index, and some results of these measures (Part B Annual Performance Report, 2010). Disproportionality is prevalent throughout New Jersey. There are different statistical measures used to determine the extent and presence of disproportionate representation in a school district.

One way to measure disproportionality is using a risk ratio, which identifies the level of risk for special education classification of a certain ethnic or racial group in comparison to the risk of other students. This risk ratio may be used to determine disproportionate representation at the state level and the school district level (Spooner & Algozzine, 2007). Risk ratios refer to a ratio that compares the classification risk for a certain racial/ethnic group in a specific disability category to the classification risk of a comparison group in that disability category. Risk ratios are used when there are at least ten students in a racial or ethnic group and at least ten students in the comparison group (Part B Annual Performance Report, 2010). When measuring disproportionality, the comparison group is often White students. If school districts have varied demographic make-ups, a weighted risk ratio may be used to determine the presence of

disproportionality, addressing limitations of risk ratios. It measures the level of risk that students from a certain ethnic/racial group may be classified with a specific disability compared to the level of risk for all other students classified in this category, adjusting for variability among districts in terms of racial and ethnic make-ups. It allows comparison of districts by standardizing each district's racial and ethnic demographic distributions based on state data (Bollmer, Bethel, Munk, & Bitterman, 2011).

Other measures include the risk index, which measures a population group and its percentage within a specific disability category, risk rate comparison, and a measure that compares the expected versus the observed number of students in special education. All of these methods include a chi-square test to test statistical significance of these measures in New Jersey, but it cannot necessarily be generalized to how other states and local school districts conduct statistical tests to measure disproportionality (Part B Annual Performance Report #7 FFY 2011).

To determine disproportionate representation in New Jersey, school districts were ranked on each measure (weighted risk ratio, risk rate comparison, and the measure of student impact comparing expected and observed number of students in special education; this is a composite ranking of the measures) over three years. School districts whose ranking fell between one and fifty and showed impact on more than twenty-five students, were identified as having disproportionality (Part B Annual Performance Report #7 FFY 2011). Thus, according to these measures, there were thirty-four school districts identified as having disproportionate representation and one school district identified as having disproportionality resulting from inappropriate identification (Part B Annual Performance Report #7 FFY 2011). In addition to the statistical calculations described above, a chi-square test was used to determine disproportionality for each racial ethnic group and the following disability categories: Learning



disabilities (LD), intellectual disabilities (ID), other health impaired (OHI), emotionally disturbed (ED), low incidence disabilities (LI), and autism (AU). A measure of impact was also applied, comparing the observed versus expected students in special education was applied. According to these analyses, when a school district had an impact greater than ten students, it was identified as having disproportionate representation of racial and ethnic groups in disability categories (Part B Annual Performance Report #7 FFY 2011).

While these methods are frequently used to determine disproportionality, they do not always take contextual factors into account. Documentation of contextual factors, such as language proficiency, that impact students' learning is limited nationally (Klinger et al., 2006). Moreover, disability identification processes and procedures vary across states, impacting eligibility decisions made by districts (Klinger et al., 2006). Thus, while the law requires data on current educational trends in disproportionality, there are underlying issues pertaining to school infrastructure and a lack of unique student data regarding environmental factors such as language, which impact current disproportionality data.

## **Referrals**

In many cases, students who are ELLs are part of a linguistic minority and/or a racial minority subgroup, and some districts are cited for the overrepresentation of minority subgroups in special education. Thus, referral teams may be reluctant to refer a minority student for special education determination because the district data reflects disproportionate overrepresentation of minority subgroups in special education programs. Racial disparity in special education is a factor that may influence special education referrals. Losen and Orfield (2002) delve into the complexity that surrounds this issue as it relates to education. "The cause of the observed racial

disparity is rooted not only in the system of special education itself, but also in the system of regular education as it encompasses special education” (p. xxv).

In an effort to prevent racial disparity, teams may either under- or over-refer minority students for special education services. In some cases, practitioners may not refer a minority student for special education out of concern people may think they are racially biased (Morgan, Farkas, Hillemeier, & Maczuga, 2012). Consequently, struggling students may not receive services (Zehr, 2007). For instance, minority students may be underrepresented in some early intervention programs, despite established risk. Therefore, legislation is necessary that ensures minority students have the same opportunities as White students, especially in terms of exposure to early intervention services (Morgan et al., 2012). On the contrary, some teams may refer students for special education too quickly. Klinger & Harry (2006) performed an ethnographic study where they examined the referral process at an urban district cited for overrepresentation of minority students in special education. They explored multiple factors involved in the I&RS process, and found that the team was too quick to refer students who were working below grade level. In this case, effective intervention instruction and identification procedures may have decreased the number of inaccurate referrals to special education (Klinger & Harry, 2006). Therefore, in order to prevent inappropriate identification of minority students in special education, reforms need to be implemented that encompass both special education and general education.

Additionally, district policies that are unclear about the referral process may lead to inappropriate placement of minority students in special education. There is a great deal of variation among referral policies regarding referring students to child study teams, strategies to determine students’ English proficiency, and disability determination procedures among districts

(Klinger et al., 2006). This may be in part due to the subjectivity of decision making in this area; subjectivity is evident in all of the steps of the evaluation process including decisions regarding which test to implement and who to test, the ways to interpret responses, and the methods for weighing the results of specific tests (Losen & Orfield, 2002). This variability may impede the process of creating uniform measures for special education referral and assessment (Klinger et al., 2006). Therefore, ineffective pre-referral policies could result in misclassification and disproportionate overrepresentation of minority students in special education. These issues will be discussed further in the subsequent sections about the intervention and referral process.

### **The intervention and referral process**

Disproportionality could be examined through an effective I&RS process. It is important to note that authors may use different terminology when referring students to the I&RS process, but they are essentially talking about the same process. The purpose of an ideal I&RS process is to implement strategies to help a student succeed in general education before a possible special education referral, with the rationale that adjusting instruction may result in student progress in the general education setting (Klinger & Harry, 2006). Therefore, the I&RS team should determine strategies and effective curricula to help students who struggle in the general education classroom; there should be more interventions to support students in the general education classroom (Klinger et al., 2006). Another role of the I&RS teams is to assist teachers implement pre-referral strategies, which could prevent referral for special education eligibility testing. The team members should first determine the problem and develop interventions to meet the needs of the learner. Subsequently, they assist the teacher to select the most helpful intervention or strategies, and create a plan to follow-up and evaluate the effectiveness of the intervention plan (Ortiz, Wilkinson, Robertson-Courtney, & Kushner, 2006).

I&RS teams should consist of multi-disciplinary team members, including experts in language and second language acquisition (Klinger & Harry, 2006; Obiakor & Wilder 2003).

This is especially important in cases when students who are ELLs are referred; bilingual speech and language therapists should attend these meetings since language differences may be misperceived as a communication disorder or a language delay (Obiakor & Wilder, 2003).

Teams should include the student's parents and someone familiar with the student's language and/or culture to help prevent inappropriate identification and overrepresentation (Obiakor & Wilder, 2003). Since this process could be subjective, schools and I&RS teams should acknowledge both culture and their own biases to prevent a lack of sensitivity to language differences, teacher attitudes, and the cultural roles of family members (Arnold & Lassmann, 2003).

A multi-disciplinary team could further contribute to an effective I&RS process by ensuring rigorous documentation and high quality decision-making. These factors can assist the team to make informed decisions when determining whether or not a student has a disability. The team should also examine previous referrals (Arnold & Lassmann, 2003). Additionally, it is important to document unsuccessful interventions since they prove that the team has intervened prior to classification. This information also assists teams to provide more successful support for the student (Obiakor & Wilder, 2003). Salend and Duhaney (2005) explain that effective prereferral services include interventions that are tailored to a student's needs and the consideration of contextual issues that may affect a student's learning experience such as medical history, culture, and/or language.

In addition to high quality documentation, the I&RS team should aim to refer a child for special education testing only if they can prove the child is failing to learn in a school climate

that is positive and culturally responsive, the teacher has used effective instructional strategies, and these interventions have not helped to resolve the problem (Ortiz, 2001). While this is not always realistic in schools, it is important for teams to keep environmental factors in mind when discussing whether or not to refer a student for special education eligibility evaluation testing since testing tends to focus on locating a problem within the child (Zetlin et al., 201). Keeping team members apprised of the variables involved in a high quality decision-making process could reduce inappropriate referrals of minority students to special education (Salend & Duhaney, 2005).

### **Teacher perceptions of English language learners**

Teacher perceptions serve a significant role in the referral process since they can impact the student's academic and behavioral performance in school (Chu, 2011). Teacher ratings and reports are also important because they assist during the process of identifying students with learning disabilities (Sideridis, Antoniou, & Padelia, 2008). However, often teachers may be unintentionally biased when rating their students. Educating teachers about the I&RS process could help reduce inappropriate referrals and improve educational experiences for ELLs and non-ELLs.

There is variability in teacher ratings of students with LD. Sideridis, Antoniou, & Padelia (2008) explore the biases associated with teachers' ratings when identifying students with LD. They found that teachers in general education tend to rate students less accurately than special education teachers teaching in special education placements. Thus, it is important that general education teachers have comprehensive knowledge about the referral process, language acquisition, culture, and disabilities so they could make better referrals. Since teacher ratings are commonly used as pertinent information during the referral and identification process, it is

important that these ratings are unbiased. Teacher ratings may also be associated with the over-identification of students with LD, which could lead to inappropriate referrals. Research has shown that disproportionate representation of minority students in special education may be due to inappropriate referrals and diagnoses of students from culturally and linguistically diverse backgrounds (Chu, 2011). Therefore, teacher knowledge, preparedness, and perceptions are an extremely important factor in the referral process.

In addition to teacher knowledge and preparedness, teachers should be prepared with instructional strategies, accommodations, and modifications to teach both ELLs and non-ELLs; however, many general education teachers feel they are not well trained with the instructional tools necessary to teach ELLs (Chu, 2011). Harry and Klingner (2006) studied the referral process in twelve schools, and while teachers implemented “alternative strategies” aimed to address the individual needs of referred students, their beliefs about student ability reflected a negative predisposition that undermined the pre-referral intervention component of the I&RS process. Additionally, teachers should be trained on cultural-historical approaches to understanding students who are ELLs as well as minority students, so they can avoid attributing generalizations about cultural commonalities to individual students and focus on incorporating knowledge of shared experiences of students from various cultures into the classroom (Gutiérrez & Rogoff, 2003).

Teachers’ perceptions could impact a student’s academic achievement and behavior in school. For instance, teachers may view students who are ELLs as not being ready to adjust to school routines and standards, which disadvantages these students (Chu, 2011). A teacher may refer an ELL for special education eligibility determination too quickly if, for example, he or she assumes that the student has a disability because the student completes certain tasks more slowly

than other students. These are biased views that disservice the student (Huang et al., 2011).

Furthermore, Grahm (2007), Rentz (2006), and Skiba et al (2006) (as cited in Chu, 2011) performed studies that revealed teachers were more likely to refer students for special education services based on factors internal to the student, such as a perceived lack of effort, rather than investigating systemic factors, including the effectiveness of prereferral interventions. Even though there has been a tendency to take a deficits-based view of children since a major tenet of special education identification is the “problem” experienced by the child, these systemic factors should be considered. Bias based on the child’s supposed deficits may influence teacher referrals. Referring students based upon their supposed deficits could potentially be influenced by bias. Teacher perceptions of special education and learning disabilities impact the referral process, therefore, it is important to recognize and account for these views to reduce the rate of inappropriate referrals (Drame, 2002).

Teachers tend to experience an enduring tension between deciding when/if to refer students to the I&RS process and the extent to which they are modifying the classroom and instruction to ensure they are responsive to student needs. These actions and perceptions are very important components of the I&RS process because this tension may be reflected throughout the I&RS meetings. The teacher’s role in the process is essential and his/her opinions regarding academics, language, placement, etc. are taken very seriously. Therefore, since teacher input is a key part of the process, it is an important factor that affects decisions about students, which is discussed in the next section of this dissertation.

### **Language development or learning disability**

Determining whether language acquisition or the presence of a disability is the cause of academic struggles for ELL students is a major concern in current educational trends.

Disproportionate representation of racial minority and language minority students in specific disability categories may occur when educators are not trained to distinguish between disability and language acquisition and/or diversity (Chu, 2011). It is important to note that language acquisition should be viewed with a continuum mindset rather than a dichotomous perspective of a child either being fluent or not fluent. ELLs are at different points along a continuum of language acquisition and require a variety of supports, which depends on their level of knowledge (Gandára and Rumberger, 2007). Recognizing diversity in the classroom and utilizing culturally responsive teaching strategies are essential competencies for all educators, especially those working ELLs (Prater & Devereaux, 2009).

Culture is a key component in the classroom, and teachers need to develop effective approaches to teach children in language and/or racial minority groups. These students are considered culturally and linguistically diverse (CLD) (Espinosa, 2005). Culture and literacy are linked, and at times there may be a discrepancy between a student's home culture and the culture of a school (Espinosa, 2005). Erikson (1984) discusses a distinction between literacy related to decoding and literacy related to prestige and power. When students attend school, they learn "cultural principles for acting in school-like ways" (Erikson, 1984). Student ability seems to be reflective of understanding school culture and performing school-related tasks. Schools include certain tasks that are considered school-specific, and it is important to note that there exists tasks that reflect cognitive ability that are task-specific outside of the school. Thus, there is a distinction between home culture and school culture, and consequently the school should place increased emphasis on culturally relevant teaching practices to accommodate and include students of diverse cultures (Hernández Finch, 2012). This is also relevant when discussing parental involvement in schools, which tends to be shaped by the expected roles of parents by the



teachers and administration. In some cases, there is a deficit perspective of minority parents and families that relates to their involvement in the school. In order to bridge this gap between families and the school, the school should engage in activities to empower families, where literacy, adult education, and cultural awareness are combined. Parents would not only teach their children and other parents, but they would also teach teachers, so it seems that this approach would be a mutually collaborative approach for empowering parents and increasing family involvement (Baquedano-López, Alexander, & Hernandez, 2013). Additionally, it is important to be aware of culture and language since different cultural patterns of speaking between the teacher and the student may affect social relationships (Erikson, 1984). Further, intervention teams should be prepared to help teachers with culturally responsive strategies. They need to understand the nature of language acquisition, culturally responsive teaching, and interventions in order to avoid attributing culturally and linguistically diverse students' learning difficulties to poor motivation, lacking effort, etc (Ortiz et al., 2006).

Additionally, teachers should understand second language acquisition in the context of schools. It is important to note that second language acquisition may refer to second, third, fourth, etc. language acquisition as well. ELLs may demonstrate translanguageing by using knowledge of multiple languages in their language expression. This view counters the idea of bilinguals having knowledge of two autonomous languages; rather, they use a "linguistic repertoire" to communicate effectively in schools with their chosen language (García & Wei, 2014). Second language acquisition is complicated, and there is a distinction between the acquisition of conversational and academic language (Prater & Devereaux, 2009). Conversational language may be acquired earlier since it focuses heavily on context (Scarcella, 2003). It takes students two years on average to acquire conversational language proficiency

(American Institutes for Research, 2010). Students need both conversational and academic language to succeed in school; however, it can take about five to seven years for ELL students to develop sufficient academic language competencies (Quirk & Beem 2012). For instance, a child may appear to have acquired conversational English, but he/she is not proficient with academic English, therefore, the student may still demonstrate low achievement. Academic English consists of many complex features and characteristics that are required to achieve success in schools such as the combination of English knowledge, knowledge of the content topic, and how to complete certain tasks (Echevarria & Short, 1999). Further, as students enter later grades in school, school tasks increase in complexity and include more knowledge of academic language; “academic English requires not only the development of those advanced reading skills which enable learners to access complex words, but also the advanced skills which enable learners to understand and use these words in spoken and written communication” (Scarcella, 2003, p.10). While an ELL is learning the English language, his or her rate of learning content knowledge will be slower than an English native speaker; learning content knowledge and the English language simultaneously is very difficult (Abedi, 2007).

Yet, teachers frequently use academic language in instruction and assessment. When academic assessments do not consider English language proficiency, they can inaccurately measure the level of an ELL’s content knowledge and skill-set. It is important that test developers carefully distinguish language that is related and unrelated to the content to ensure the assessment is valid for an ELL (Abedi & Linqanti, n.d.). Consequently, teachers should be aware of the possibility that language confounds examination results, or else teachers may misinterpret this data and collect information that may not reflect a student’s true abilities, which may result in misclassification and disproportionality.

Aside from teacher knowledge of language acquisition in second language learners, the learning environment may affect students' second language acquisition. There are different possible school placements for students labeled as ELLs, which include, but are not limited to, full English immersion, pullout ESL instruction, ESL inclusion, and bilingual instruction. These programs need to be quality programs with rich opportunities for language use. Learning environments should foster students' abilities to use knowledge in both their native language and English to further develop their linguistic abilities (Celic & Seltzer, 2011). A research study in California explores ELL student risk for special education services in relation to certain types of ELL placement. Researchers found that ELLs who receive the least amount of language services, typically those placed in an English immersion class, are more likely to be placed in special education resource classes than ELLs placed in the modified ELL immersion model with more language support. This is also the case when comparing the amount of ELLs placed in special day classes from the straight English immersion program and the modified English immersion program (Artiles, Rueda, Salazar, Higareda, 2002). Research studies regarding high school placement show conflicting practices. While the research on ELLs stress the importance of learning English simultaneously within a content area through rich instruction, often students who are ELLs may be marginalized and placed into lower tracks where they are not exposed to this type of rigorous curricula. It is important to note that high school ELLs are a vulnerable population of learners since second language acquisition becomes more difficult as students get older; students who arrive between the ages of 12-15 years old tend to have a more difficult time acquiring language compared to students aged eight to eleven and aged five to eight (Cho & Reich, 2008). Interestingly, research shows that students who are ELLs tend to be underrepresented in special education during their early elementary school years and

overrepresented in special education after fifth grade (Solari, Petscher, & Sidler Folsom, 2014).

Thus, students need to practice using English in different contexts with language support in order to gain proficiency in English and improve their language skills (Miramontes, Nadeau, & Commins, 1997).

**IQ-achievement discrepancy model and the misdiagnosis of ELLs.** Distinguishing between language acquisition delay and the presence of a learning disability in a student is a complicated decision with implications for the special education classification process. Students with learning disabilities are typically classified using the IQ-achievement discrepancy model, which uses norm-referenced, standardized tests to determine a student's IQ and academic achievement. The child study team then analyzes this information to determine the presence of a severe discrepancy between the two scores (O'Donnell & Miller, 2011). There have been a variety of statistical approaches to determine a discrepancy in terms of the way it is computed, its size, and the types of IQ tests and achievement tests used. The variability in this approach has resulted in inconsistencies in the prevalence of learning disabilities between states (Fuchs, Mock, & Young, 2003).

The current law states that a student can be classified with a learning disability if there is a severe discrepancy between the student's ability and his/her achievement level that negatively affects educational performance (O'Donnell & Miller, 2011). However, even when children demonstrate a discrepancy between their ability and their achievement, they may not have a learning disability; they may just be underachieving (Fletcher & Navarrete, 2003). Klinger and Harry (2006) discuss that in many cases, low achievement is often attributed to low IQ without considering the context where the student is underachieving. In addition, the IQ-A discrepancy model fails to take into account second language acquisition; according to Cummins (as cited in

Ortiz & Yates, 2001), norm-referenced assessments do not assess language completely because they do not assess spontaneity in conversation nor do they assess academic language proficiency. Additionally, it is important to note that historically, people who were immigrants tended to perform worse than people who were not immigrants on IQ-tests, thus, the critical role of language proficiency on what is being assessed through standardized testing, such as the IQ test, should be considered during analysis of the results (Menken, 2008). This type of assessment may not always accurately demonstrate whether a group reflects cognitive challenges. Moreover, translating IQ tests between languages is inappropriate because in the process of language translation, cultural norms are unlikely to be addressed (Gunderson, D'Silva, & Chen, 2011). It is difficult to assess the true potential of an ELL using the standardized IQ test; meanwhile, a great deal of emphasis is placed on the IQ test (Klinger & Harry, 2006). The IQ-Achievement Discrepancy model may cause school personnel to misinterpret students' linguistic and cultural differences as evidence of a disability (Chu, 2011). Thus, the role of language proficiency impacts IQ-tests and those analyzing and interpreting test results should have knowledge of language. The continuing prevalence of this model contributes to the overrepresentation of ELLs in special education (Sullivan, 2011). Therefore, the IQ-A discrepancy model has been criticized as a result of its inconsistencies, especially when applied to cases involving ELLs.

Misdiagnosing students who are ELLs with learning disabilities is problematic. ELLs may fall behind when they are classified with a learning disability, which may result from lessened exposure to educational opportunities in special education. Thus, careful consideration needs to be dedicated to placement and classification of students who are ELLs. It is a disservice to the student to assume that he or she needs special education services and is deviant because he

or she may need additional assistance with academic and/or behavioral work (Huang et al., 2011). Yet, it is difficult to determine whether a student is struggling academically because he or she is learning English, or he or she has a learning disability. Educators often misinterpret ELLs' language acquisition stage because many ELLs are still acquiring English when educators judge them as having a low IQ (Klinger & Harry, 2006).

Ideally, a bilingual school psychologist with training to conduct assessments with ELLs should work with these students; however approximately 10.8% of all school psychologists in the United States meet these criteria (O'Bryon & Rogers, 2010). Also, finding a bilingual practitioner who fluently speaks the student's primary language and is able to conduct an assessment may be difficult (O'Bryon & Rogers, 2010). A lack of translators trained to assess ELLs with LD can result in less valid assessments (Huang et al., 2011). Therefore, practitioners involved in the I&RS process should have knowledge about second language acquisition and the difference between academic and conversational language.

### **Instructional interventions and teaching practices for ELLs**

This section discusses some possible instructional interventions and teaching practices for students who are acquiring an additional language. There is an important caveat to note, which is that these best practices may apply to some students who are acquiring an additional language while others may benefit from different strategies. Determining best practices for students who are ELLs requires a teacher to understand the cultural background of the student and engage in culturally responsive teaching strategies. Additionally, while these strategies cannot be generalizable for all ELLs, they are best practice strategies that could help students in the areas of language and literacy.

Teachers need to provide high quality instructional practices, such as meaningful learning opportunities that meet the academic needs of ELLs; if a child has not been exposed to high quality instruction, then schools and teams cannot assume that he or she has a learning disability (Klinger & Harry, 2006). This is the rationale behind Response to Intervention (RTI) type approaches; if a student continues to demonstrate low achievement and is unresponsive to interventions, then they may need special education services, since RTI assumes that a student without a disability will progress given high quality instruction and intensive interventions (NJCLD, 2005). Rigorous, research-based interventions also should be provided early because they may help students reach grade level expectations in the general education classroom (Ortiz & Yates, 2001). Additionally, culturally relevant teaching strategies should be incorporated into the classroom by creating a multi-language environment, and using aspects of students' language and culture during instructional activities (Celic & Seltzer, 2011). The classroom should combine language, content, and sociocultural awareness to best scaffold instruction for students who are learning English (Echevarria & Short, 1999).

When intervention instruction and assessment practices for students who are ELLs are implemented in the classroom, they should focus on phonological awareness, language instruction strategies, and reading comprehension strategies, particularly in the early grades (Klinger et al., 2006). Teachers should implement effective early literacy instructional practices that focus on phonological awareness within the general education setting as part of the pre-referral process, before a child is potentially evaluated for special education (Klinger & Harry, 2006). Phonological awareness includes rhyming abilities and hearing the syllabication structure of words (Shaywitz, 2003). Moreover, phonological skills in English and Spanish predict future reading success. Phonological and decoding skills transfer between languages that have the

same linguistic family, so if a child knows these skills in one language, it may transfer to the second language within the family (Goldenberg, 2008). However, some skills may not transfer as easily between languages. Phonological ability is a key component of reading and regardless of a child's background and language exposure, a child's phonological awareness abilities best predict his or her ability to decode (Fielding-Barnsley & Hay, 2012). A large body of research suggests that a lack of these skills may put the child at risk for future reading problems (Vaughn, Thompson, Mathes, Cirino, Carlson, Pollard-Durodola, Cardenas-Hagan, & Francis, 2006).

Additionally, language development during the elementary school years (Kindergarten through fifth grade) should be a focus of instruction. What Works Clearing House describes the importance of instruction that focuses on academic language development for ELLs. Academic language development consists of multiple components including phonological, lexical, grammatical, sociolinguistic, and discourse. By including these components of literacy instruction, students could improve their oral and written communication skills (Scarcella, 2003). It is important to note that certain components are more prevalent for academic language use such as grammatical, vocabulary, and higher order thinking skills. To progress with knowledge of academic language, students should have acquired basic proficiency in the grammatical characteristics of conversational or everyday English (Scarcella, 2003). Instruction should concentrate on vocabulary that assists ELLs with language acquisition and include academic English instruction as a part of the core-reading program (WWC, 2007). Even though vocabulary needs to be taught and is important for ELLs, it should be integrated into instruction and taught in context. Teaching vocabulary out of context is reductive, so it should be combined with other aspects of language in the classroom. This approach would promote a rich, meaningful learning experience for students. The What Works Clearing House also recommends



intensive small group instruction, heterogeneous ability grouping, and progress monitoring strategies to help ELLs succeed in the classroom. Additionally, lessons and units should present inter-related topics and use purposeful language through complex texts with appropriate scaffolding to ensure that students develop autonomy with these skills. Grammatical skills and vocabulary knowledge should be taught in the context of the curriculum, so they have more meaning for students as well (Walqui, Koelsch, & Schmida, n.d.).

Studies that examine interventions, such as reading comprehension strategies, with ELLs who struggle with academic reading have been encouraging (Klinger et al., 2006). These studies show that comprehensive, systematic reading interventions may be effective for ELLs (Vaughn et al., 2006). As students progress in schools, they may still experience gaps between their comprehension ability and English production; it is important that instruction practices identify these gaps and provide ample opportunities for language instruction to fill these gaps (Fisher et al., 2011). Also, reading trajectories of young ELLs progress similarly to monolingual English-speaking children, therefore teachers can use the same evidence-based reading practices as long as they adjust the curricula to meet the needs of ELLs by modifying the lesson or providing accommodations, such as pacing adjustments (Amendum & Fitzgerald, 2011).

Assessments that focus on these early literacy skills are useful for identifying students who need extra early literacy instruction prior to a special education referral. Assessing and intervening through early intervention represents a shift from past practices. By focusing on early intervention, the teacher implements strategies to include the child within the general education setting instead of focusing on the “deficits” of the child (Klinger et al., 2006). An assessment portfolio is an effective strategy used to monitor students’ progress and should be used during the referral process (Ortiz & Yates, 2001). These assessment portfolios should be

part of a clinical teaching model where teachers identify gaps in a student's learning, design interventions to meet those needs, and assess with the use of research-based assessments. These evaluations may include curriculum-based assessment and portfolio assessment; each one of these types of assessments is valuable and could help teachers make decisions and inform instruction (Ortiz & Yates, 2001). This chapter will close with the implications for English Language Learners during classroom instruction and the prereferral process.

### **Implications for English language learners and non-ELLs**

Many students who are ELLs may need instructional strategies to improve their reading skills and increase second language acquisition. Some of these students who are acquiring an additional language may have frequently demonstrated lower achievement than their peers who are non-ELLs (Klinger et al., 2006). Therefore, teachers should use teaching approaches that encourage student success, enhance analytical thinking, and embed culture in the learning process as part of culturally relevant teaching (Ullucci, 2011). Also, evidence-based reading instruction and curricula should be implemented with ELLs to improve literacy skills.

To best meet the needs of ELLs, teachers need to be knowledgeable about second language acquisition strategies and should be prepared to judge whether or not to refer a child to the I&RS team. Teachers and administrators should implement effective approaches for ELLs, know about the backgrounds of these students, establish relationships with their families, and be knowledgeable about the effects of poverty, strategies to encourage academic achievement, and assessment strategies for children from non-English speaking homes (Espinosa, 2005).

These strategies could contribute to higher quality instruction, which will benefit both ELLs and non-ELLs. Consequently, pre-referral interventions and instruction will be more beneficial for all students. In some cases, ELL students are inappropriately referred to special

education because their current general education program has not been modified to best meet their needs (Huang et al., 2011). Poor educational programs could explain the appearance of some disabilities in students; therefore, the learning context needs to be a focus for change in addition to the student. (Miramontes et al., 1997). The I&RS process could potentially improve education experiences for both ELL and non-ELL students because it focuses on the pre-referral process and adjusting the student's environment prior to potential special education referral.

## CHAPTER 3-METHODOLOGY

**Review of Selected Literature and Research**

Finding information initially included using the Rutgers Library searchlight engine and *Educational Resources Information Center (ERIC)*; these search engines were then filtered to exclude articles that were not peer reviewed. The following key words and phrases were used: *The referral process, education, and special education*. Afterwards, the search was further refined using these key phrases: *disproportionate representation, the intervention and referral process, English Language Learners, minority students, overrepresentation, underrepresentation, and multi-disciplinary teams*. These searches resulted in journal articles that discussed topics such as ELLs, disproportionality, special education referral, and the team referral process. After early journal article sources were gathered, books, government publications, and additional journal articles were included that supported themes drawn from the initial journal article search.

The following methodological standards were used for inclusion of articles. Peer-reviewed journals were incorporated that were published between the years of 2000 and 2014 and relevant to the intervention and referral process. Impact factor was considered as well, impact factors included journals ranging from .274 to 2.065. While this indicates a range of impact factors, journals with higher impact factors tended to be cited more frequently throughout this study. Journals with impact factors very close to 0.0 were not included in this study. Articles from these journals were chosen because there have been increasing numbers of ELLs in schools during these years, and there has been an emphasis on interventions to meet the needs of diverse learners in schools. Also, articles were included that discuss disproportionality in the United States, measuring disproportionality in New Jersey, and second language acquisition to

develop an understanding of the problem of disproportionality in the United States and its relationship to ELLs. Additionally literature has been referenced about academic and conversational language as well as instructional strategies for ELLs in the classroom. Text resources were included to inform the methodology section that provided historical information on both qualitative and quantitative methodology. The book sources include classic sources on methodology as well as more modern approaches and sources for both qualitative and quantitative methodology. This study contains articles that discuss qualitative research as well.

The search excluded articles that were not peer reviewed nor published in peer-reviewed journals, articles that focused heavily on response to intervention since this paper focuses on the referral process, and articles that focused heavily on family and community involvement. While these are important factors, this study did not focus extensively on them. Sixty-seven articles and nine relevant books that met the criteria for the report were included, and fourteen articles were excluded based on the relevance of subject matter, and/or peer review status.

### **Population and Sample**

The population for this study includes all of the teachers, related service providers, and administrators who are employed in Gardenia School District. Convenience sampling procedures have been used to determine this sample since I have access to staff members at the elementary level in Gardenia School District. Thus, I included staff members who agreed to volunteer as subjects in this study.

I obtained permission from the Superintendent of Gardenia School District and building administrators from the elementary schools in the district to administer a paper survey that requests informed consent from the participants, explains the study, and asks questions about the Intervention and Referral process. I distributed surveys to all staff members (teachers,

administrators, and related service providers) during each school's faculty meeting and scheduled interviews with chosen participants based on convenience. I also obtained permission to conduct ten interviews with staff members for this study across all elementary schools in Gardenia School District.

Subjects have been purposively selected for this study based on their position in the district (i.e. administrator, special education teacher, etc.), and their degree of experience with the Intervention and Referral process. Participants have full knowledge of the study; they signed an informed consent form prior to participating in the study. The consent form explains the elements of the research, and the level of risk associated with this study, which is minimal to low. Also, if participants have questions or concerns, the consent form provides participants with contact information for the research and the Institutional Review Board (IRB) at Rutgers University. Rutgers IRB has approved this research study prior to implementation. Further, the data collection methods in this study, which include surveys and interviews, pose minimal risk since they inquire primarily about processes that are already in place. These procedures ensure against the possibility of coercion.

### **Instrumentation**

**Survey.** This survey consists of twenty-five quantitative, closed questions, which include Likert rating scales, multiple-choice responses, and checklists. Elicited survey responses inquire about participants' perceptions in terms of the I&RS process at each respective school, the strengths and weaknesses of the process, the benefits for ELLs, and areas for improvement.

The survey used for this study is adapted from an existing survey that inquires about the referral process. The survey, which inquires about team-based prereferral interventions, has been modified in order to inform the research questions (Bahr, Whitten, & Dieker, 1999).

Section One consists of three questions that relate to the demographic information of the participants. The second section is entitled the Team Effectiveness Scale and consists of eight Likert scale questions related to the effectiveness of certain elements included in the Intervention and Referral process. The Likert scale is a 6-point scale that ranges from 1-6: 1=strongly disagree, 2=disagree, 3=somewhat disagree, 4=somewhat agree, 5=agree, 6= strongly agree.

Section Three poses questions about team personnel and consists of four questions that relate to the role of different team members in the referral process. The fourth section is the follow up section and consists of two questions that inquire about follow up procedures the referral team performs. The fifth section is entitled Quality Indices and consists of one question with two parts to the question, asking participants to relate elements of the referral process in terms of their familiarity with each part of the process. Section Six is entitled Views on Professional Issues and consists of one question that pertains to professional issues that impact the Intervention and Referral process team. Section Seven is entitled English Language Learners and consists of two questions that relate to English Language Learners and the referral process.

Demographics of participants have been determined based on survey questions 1- 7 that were distributed to teachers and administrators for this study. Survey information was inputted into SPSS statistical software for analysis. These are the seven demographic questions that participants were asked and their results are presented in the table below the research questions.

Table 3

#### Demographic Survey Questions

Survey Question 1	1. Indicate your position at Gardenia School District:
	a. General education teacher
	b. Special education teacher
	c. Instructional assistant
	d. Administrator

---

	<ul style="list-style-type: none"> <li>e. Child study team member</li> <li>f. School Counselor</li> <li>g. Related Services Provider</li> <li>h. Other</li> </ul>
Survey Question 2	<p>2. At which elementary school in Gardenia School District do you work?</p> <p>_____</p>
Survey Question 3	<p>3. Please identify your gender</p> <ul style="list-style-type: none"> <li>a. Male</li> <li>b. Female</li> </ul>
Survey Question 4	<p>4. Identify your college degree level.</p> <ul style="list-style-type: none"> <li>a. Bachelor's Degree</li> <li>b. Master's Degree</li> <li>c. Master's +30 credits</li> <li>d. Higher than Master's degree</li> </ul>
Survey Question 5	<p>5. Please identify your primary language (If other, please indicate your primary language).</p> <ul style="list-style-type: none"> <li>a. English</li> <li>b. Spanish</li> <li>c. Hindi</li> <li>d.</li> </ul> <p>Other: _____</p>
Survey Question 6	<p>6. Identify your primary level of certification</p> <ul style="list-style-type: none"> <li>a. Elementary Education</li> <li>b. Special Education</li> <li>c. English as a Second Language</li> <li>d. Administrative</li> <li>e. Principal</li> <li>f. Supervisor</li> <li>g. Other</li> </ul>
Survey Question 7	<p>7. Approximately how many students have you referred to the I&amp;RS team or been otherwise involved in a student's Intervention and Referral process within the last three years?</p>

---



- a. 0
  - b. 1-5
  - c. 6-10
  - d. 10-15
  - e. 15+
- 

I adapted the questions from an existing survey implemented in previous research studies to help ensure the reliability and validity of this survey (Bahr, Whitten, & Dieker, 1999; Whitten & Dieker, 1995). Section Two, The Team Effectiveness Scale has been validated by assessing its validity and reliability. Researchers evaluated the content validity of the survey by rating each item in this section on a three-point scale, ranging from one to three. One indicated poor, two indicated satisfactory, and three indicated very appropriate. Then, the ratings were averaged, and these items ranged from 2.33 to 3.00. This survey was pilot tested by the researchers (Bahr, Whitten, & Dieker, 1999). To determine reliability, the survey was distributed to 22 teachers involved in school intervention teams, and the values for reliability ranged from .72 to .93. The overall reliability of this section was .95.

I worked with my dissertation committee members and applied experts' knowledge to modify and adapt questions where appropriate in lieu of pilot testing, which leads to improved quality of this instrument. I distributed this survey to participants in all four elementary schools from February 2014 until June 2014, and the population of administration, teachers, and related service providers was similar in each of the four elementary schools.

### **Research design**

This research design is a qualitative case study approach with mixed methods data collection to explore different facets of the I&RS process in depth over a sustained period of time. Case studies are useful to better understand a problem or program in a specific context (Patton, 2008). The purpose of this design is both formative and summative; it focuses on

evaluating the I&RS process in terms of staff members' perceptions and determining areas for improvement within the I&RS process.

This study uses concurrent mixed-methods procedures to merge quantitative and qualitative data to form a complete analysis of the I&RS process in Gardenia School District; this explains the case more comprehensively than the use of quantitative or qualitative methods alone. Qualitative data will add depth and richness to the quantitative data since collecting and analyzing qualitative data can explain or add to survey responses (Driscoll et al., 2007).

Implementing mixed methodological research could expand the scope of the study and enhance findings by providing richer, in depth data to support the quantitative data. During analysis of the findings, qualitative data could support quantitative data by clarifying and interpreting quantitative findings with more extensive descriptions and additional information. It could be powerful to combine strong quantitative tools with deeper understandings of real-world complex concepts (Miles & Huberman, 1994). Further, qualitative data could better explain the practices that are occurring in Gardenia School District, and it could lead to a deeper understanding of the experiences involved in this study (Lincoln & Tierney, 2004). Thus, to inform this research study and provide a comprehensive analysis of the data, both quantitative and qualitative data have been collected simultaneously.

### **Data Collection**

This study uses a concurrent mixed methodology approach within a qualitative case study format through the use of a survey, interviews, and document review.

**Survey.** Survey data has been collected that pertains to the following research questions:

- What are teacher and administrative perceptions of the I&RS process at the four elementary schools in Gardenia School District?

- To what degree and in what ways do teachers and administrators perceive the I&RS process to be providing appropriate interventions for struggling learners, especially those who are ELL students?
- To what extent do teachers and administrators believe that the I&RS process leads to appropriate classifications for ELLs?

**Interview.** Interviews inform the following research questions:

- What are teacher and administrative perceptions of the I&RS process at the four elementary schools in Gardenia School District?
- To what degree and in what ways do teachers and administrators perceive the I&RS process to be providing appropriate interventions for struggling learners, especially those who are ELL students?
- To what extent do teachers and administrators believe that the I&RS process leads to appropriate classifications for ELLs?
- What do teachers and administrators perceive to be the strengths and weaknesses of the I&RS process at their school in Gardenia School District?
- What do teachers and administrators believe should be done to improve the I&RS process for ELL students in their respective schools in Gardenia School District?
- What additional factors and/or issues may be influencing the provision of an appropriate I&RS process, and in what ways?

Ten participants who have experience with the I&RS process have been interviewed using a semi-structured interview protocol. The interview contains ten questions about the uses, benefits, and areas of improvement for the I&RS process. Interviews occurred place face-to-face during the school day or after school hours, depending on convenience for the participants. The

interview inquired about participants' perspectives regarding the referral process in Gardenia School District, factors influencing the process, perceptions of the strengths and weaknesses of the I&RS process, and necessary changes to improve the process. Interview questions have been developed to complement the existing survey for this study. These questions are an extension of the survey questions that further respond to the research questions pertaining to this study.

Participants' names have not been revealed in the dissertation research study; their names have been coded and stored in an electronic document with access granted to the principal researcher. Participants' names remain confidential; however, their roles in their respective schools are revealed through the interview. Interviewees signed a consent form to participate in the research.

**Document review.** Document review data inform this study as well. I have collected district demographic data to determine the racial demographics in each school as well as race representation in special education. Gardenia School District possesses this information, which is publicly available. This information has helped me to better understand the disproportionate representation of minority students in special education in Gardenia School District and at each individual elementary school.

### **Timeline**

I distributed the 25-question survey to all four elementary schools in Gardenia School District between the months of February 2014-June 2014; it included the informed consent information along with closed survey questions. Beginning in February 2014, I chose one-two key teachers and/or administrators at each school to interview using a semi-structured interview protocol to further discuss their experience with I&RS process. I interviewed the Director of Special Education and the Supervisor of Special Education in Gardenia School District with the same semi-structured protocol as well. I have chosen interview participants based on their

position and their level of expertise and knowledge of the I&RS process. Data collection for this research study began February 2014 and lasted until June 2014; the entire study lasted until January 2015. Simultaneously, I collected and analyzed district data to engage in analysis aligning with mixed-methodology approaches.

### **Data Analysis**

Appendix A consists of a chart linking the proposed research questions with data analysis procedures and methods that are explained in the following section. Research questions one, two, and three included descriptive statistics methodology, which included the computation of the means, medians, and standard deviations for each survey item relevant to the research questions. Research questions one, two, and three included regression analysis as well. Research questions four, five, and six have been analyzed using qualitative methods.

**Research question one.** Survey data, specifically survey questions eight, nine, ten, twenty, and twenty-one have been analyzed to answer research question one regarding teacher and administrative perceptions in each of the four elementary schools. The independent variable for this research question is the quality of the I&RS process with the following quality indicators of the I&RS process: (a) the I&RS team develops appropriate student interventions that are manageable for students; (b) The team develops well-matched academic interventions; (c) the team develops well-matched behavioral interventions; (d) and how adequately the I&RS team followed up with personnel after team meetings. These quality indicators have been determined based on the literature about referral teams. Further, these quality indicators have been summed to generate an overall quality score for the independent variable of research question one. Each question was weighted equally to the other question during the summing process since the survey population represents the general population of people included during the I&RS process,

excluding students' families. Each indicator has an overall quality score of 2-3, and this overall quality score ranges from 10 to 15. These indicators are quantified on the survey in (a) section two: team effectiveness scale and (b) section four: follow up; both of these sections include Likert scale questions.

The dependent variable for this research question is the general perceptions of the I&RS process. Research questions two, three, and four address the views of the I&RS process in greater depth. This dependent variable is relevant to research question one, it applies to section two of the survey, and it addresses the overall satisfaction with the I&RS process and its effectiveness to meet the needs of referred students. The quality score for this dependent variable has been determined based on the quality score for individual survey questions, specifically survey questions 12 and 14. Each question is assigned a number that indicates its quality and is based on the type of survey question. For instance, a Likert scale question with options ranging from 1-6, with 6 being the highest quality response, will have a quality indicator ranging from 5-6. Then, quality scores for each survey question have been summed to determine an overall quality score for this dependent variable. For this study, the overall quality score reflects the summing of multiple questions. Questions are weighted equally to each other since the survey population represents the general population of people included during the I&RS process, excluding students' families. The overall quality score for this variable ranges from 8-10. To further analyze these variables, the inferential statistical methods, linear and logistic regression, have been calculated to determine the extent that the independent variables are related to the dependent variable. In addition to quantitative methodology, qualitative methodology has been used to analyze data from the interviews. Each transcribed data set has

been inputted into Dedoose software for further analysis and coding to inform this research question.

**Research question two.** Research question two addresses the degree to which both teachers and administrators perceive the I&RS process as providing appropriate interventions for struggling learners, especially those who are ELL students. The independent variable pertaining to this research question is the quality of the I&RS process with the following quality indicators: (a) Uses data-based assessment to determine strategies for the classroom; (i.e. well matched academic and behavioral strategies to meet the student's needs); (b) Uses data-based assessment to determine strategies for ELLs in the classroom; and (c) the team's ability to distinguish a student's struggles (due to language acquisition or a disability). These quality indicators are based on the literature and the survey for this study.

Each indicator has an overall quality score of 4-5, and the overall score for these quality indicators ranges from 18-22. Similar to research question one methods, each question has been weighted equally to each other during the summing process since the survey population represents the general population of people included during the I&RS process, excluding students' families. These indicators are addressed in the survey in Section Two: Team Effectiveness Scale, where questions are quantified through Likert scales that measure these variables. Also, Section Seven of the survey, entitled English Language Learners, contains questions with Likert scales.

The dependent variable is teacher and administrator perceptions of the process in terms of appropriate interventions for struggling learners and ELL students. This dependent variable is similar to the dependent variable for research question one; however, its focus is on interventions for struggling learners and ELL students whereas the dependent variable for research question

one refers to participants' general perceptions of the I&RS process. The dependent variable for research question two focuses on participants' perceptions of the process relating to interventions to meet the needs of both struggling learners and ELLs. The quality score for this dependent variable has been determined based on the quality score for individual survey questions, specifically survey questions 13 and 14, and each individual quality score is determined based on the type of question. Then, each quality score for these questions have been summed to determine an overall quality score for this research question. Each question has been weighted equally to each other since the survey population represents the general population of people included during the I&RS process, excluding students' families. The overall quality score for this variable ranges from 10-12. Linear and logistic regression analysis has been used to analyze these variables and determine the extent to which the dependent variable is related to each of the independent variables. This question has been analyzed with qualitative methodology as well by inputting transcribed interview data into Dedoose software to code and analyze the data.

Table 4

*Research question two: Regression equation and independent variables*

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$

Quality indicators/independent predictor variables	Acronyms
1) Uses data-based assessment to determine strategies for the classroom;(i.e. well matched academic and behavioral strategies to meet the student's needs)	DB
2) Uses data-based assessment to determine strategies for ELLs in the classroom;	DBELL
3) The team's ability to distinguish a student's struggles (due to language	LAD



acquisition or a disability). These quality indicators are based on the literature and the State of New Jersey's Resource Manual for the I&RS process

---

**Research question three.** A response to research question three, regarding the extent to which teachers and administrators believe that the I&RS process leads to appropriate classifications for ELLs, has been determined by generating the means, medians, and standard deviations of the data. The independent variables in this research question are the quality of I&RS process in terms of appropriate classifications for ELLs with the following quality indicators: (a) The degree to which the process places students correctly in special education or general education, and (b) the degree to which the I&RS process meets the needs of ELLs. The quality score for the independent variable ranges from 8-10. These indicators are quantified on the survey through multiple choice responses in section six, entitled views on professional issues with a multiple-choice response and section seven, English language learners. The dependent variable is the perceptions of the quality of the I&RS process in terms of appropriate classifications for students. This dependent variable is relevant for research question three. The quality score for this dependent variable has been determined based on the quality score for the following individual survey questions 13 and 14. Each quality score has been determined for individual survey questions, and they have been summed to determine an overall quality score for the dependent variable. The questions during the summing process have been weighted equally to one another since the survey population represents the general population of people included during the I&RS process, excluding students' families. The overall quality score for this variable ranges from 10-12. Linear regression analysis has been used to analyze the relationship between each of the independent variables that indicate quality and the dependent

variables. Additionally, qualitative methodology has been used to determine a response for this research question as well. Interview data has been inputted into Dedoose software for coding and analysis.

Table 5

*Research question three: Regression equation and independent variables*

$$Y=a + b_1X_1 + b_2X_2 + b_3X_3$$

Quality indicators/independent predictor variables	Acronyms
The degree to which the process places students correctly in special education or general education;	PLAC
The I&RS process meets the needs of ELLs.	NELL

**Research question four.** I have generated a response to research question four about teacher and administrator perceptions of the strengths and weaknesses of the I&RS process in Gardenia School District through qualitative methodology. I inputted and coded interview data using Dedoose statistical software.

**Research question five.** Research question number five addresses areas of improvement for the I&RS process and meeting the needs of ELLs in Gardenia School District, based on the perceptions of teachers and administrators. I utilized qualitative methodology by determining patterns throughout the interview data that support this research question.

**Research question six.** Research question six discusses the additional factors and/or issues that may be influencing an effective I&RS process and in which ways. This research question has been analyzed through the interview section of the study with an interview question

that directly addresses this question. I used qualitative methodology by determining patterns throughout the interview data that supports this research question as well.

### **Reliability and validity**

I have ensured the validity and reliability of the qualitative methodology for this study. “Internal validity may be defined in conventional terms as the extent to which variations in an outcome (dependent) variable can be attributed to controlled variation in an independent variable” (Lincoln & Guba, 1985, p. 290). Internal validity deals with the level of truth in the study and whether the findings make sense (Miles & Huberman, 1994). External validity addresses whether the study could be generalized across different situations (Lincoln & Guba, 1985, p. 291). Reliability measures the consistency of the process or study over a period of time (Miles & Huberman, 1994). It is important to note that reliability is necessary to ensure validity; when a measure is not reliable, it cannot be valid (Lincoln & Guba, 1985). Reliability also refers to consistency of instrumentation, which could be established by replication (Lincoln & Guba, 1985, p. 298). These methods will help to ensure that the interviews are measuring what they are supposed to measure and are reliable over repeated uses.

To ensure the reliability of interviews, I have established the overall trustworthiness or credibility of the procedures through prolonged engagement, persistent observation, and triangulation (Lincoln & Guba, 1985, p.304-305). I have spent sufficient time becoming oriented to the material and the culture of Gardenia School District, and therefore have established trust with members of the Gardenia School District and the participants for this study. During the data collection and analyses phases of this study, I have established trustworthiness of data through prolonged engagement with the site of this study. Since I work

in Gardenia School District, I am able to establish this engagement and am aware of contextual factors important to the nature of this study.

Additionally, I have established reliability and validity in this study through the use of triangulation. Triangulation was utilized based on the type of data, whether it be qualitative or quantitative, and by collecting data through multiple methods (i.e. surveys, interviews, document review). Using multiple types of data for triangulation could complement each other since there are different strengths with each type of method (Miles & Huberman, 1994). Triangulation is important for this study since it allows each data source to be validated by another data source (Lincoln & Guba, 1985, p. 283). For example, the survey data collected for the study could be supported with the use of interview data because it adds richness and depth to the survey questions, which are broader and less detailed. With these procedures, each data collection procedure's validity is supported by another data collection method. These methods establish the trustworthiness of the qualitative findings in this study.

To further establish credibility of the research, examine, reexamine, and defend emerging hypotheses, I engaged in peer debriefing. This method has assisted me to be fully aware of the processes and procedures of this study and to test working hypothesis (Lincoln & Guba, 1985, p. 308). Additionally, I utilized member checks with each interview to enhance credibility. After each interview, I played the recording back to the interviewee to assess intentionality, correct error, add additional information, and provide an opportunity for summarizing (Lincoln & Guba, 1985, p. 314). I also utilized member checks to assess whether or not I understood the participants' intent of their responses and to ensure that I understood their responses.

In order to improve validity, I established transferability of the interview findings by including thick descriptions that prepared the audience with the necessary information to make

“transferability judgments possible” (Lincoln & Guba, 1985, p. 316). These descriptions assist the audience to apply and further comprehend the findings from the study. While triangulation is a way to establish the validity of methods, dependability is necessary to ensure the credibility or validity. With this logic, triangulation has been used to assure both validity or credibility and reliability or dependability of this study (Lincoln & Guba, 1985, p.305). Confirmability of this study has been assured through methods of triangulation and a reflexive journal where I recorded information about the methodology and information about my views, constructs, theories, etc. as I collected and analyzed data for this study (Lincoln & Guba, 1985, p.319).

To ensure reliability of the quantitative data for this study, I distributed an adapted survey to the participants of this study (Bahr, Whitten, & Dieker, 1999). Additionally, I tested the internal reliability of the survey by testing each survey item using the reliability coefficient, Cronbach’s Alpha to determine if it is internally consistent. Further, to assess whether the survey instrument is measuring what it is intended to measure, content validity has been established through expert review (Pearson, 2010).

### **Limitations**

A limitation of this study regards the survey. All elementary school staff members in Gardenia School District were provided with a survey that is adapted from a research-based survey (Bahr, Whitten, & Dieker, 1999). The adapted survey has been modified based on expert knowledge, but it was not pilot tested prior to distribution, which is a limitation. Also, survey items only include multiple choice items, checklists, and Likert scale questions. There are no open-ended responses on the survey to assure manageability. Furthermore, since this is a qualitative case study approach, the results are not generalizable to the general population. Further research could explore the perceptions of students and parents involved in the I&RS

process to learn more about their educational practice since school affects both of these groups' practices.

### **Potential Outcomes**

By analyzing the existing I&RS process, this study could help determine the areas of strength and areas for improvement of the process. By working with staff and administrators, a variety of perspectives have been obtained regarding this process, which could better inform the findings. This information could be used to improve the I&RS process at the elementary level in Gardenia School District. An enhanced I&RS process could result in less referrals, better instruction in general education, and appropriate placement and classification for both ELLs and non-ELLs.

### **Conclusion**

There is a gap between the theory of I&RS and its implementation in practice, which may contribute toward the "wait to fail" model and encourage disproportionate representation of minority students in special education. Therefore, with a mixed-methods approach embedded in a qualitative case study framework, I have more thoroughly analyzed this process as it occurs at the elementary level with a high minority population. I have focused on the people involved in the process and their perceptions of the referral process to improve pre-referral procedures for all students, especially students who are ELLs. With these findings, major stakeholders could improve the referral process and combat disproportionality, determine appropriate placements for ELLs and non-ELLs, and more accurately classify students for special education services in Gardenia School District.

## CHAPTER 4-RESULTS

### **Introduction**

The purpose of this study is to better understand the I&RS process in Gardenia School District with the hope of finding areas of improvement for major stakeholders, as previously discussed. Through the survey and interview process, this study aims to explore research questions related to teacher and administrator general perceptions of the I&RS process, its effectiveness in providing appropriate interventions for struggling learners, the strengths and weaknesses of the process, suggestions for improvement, and additional factors that may influence the process and its outcomes.

Chapter 4 reviews the results of this study. First, the setting will be described in which data collection occurred in addition to the demographics of the participants involved in this study. Then, data collection and data analysis procedures that have been performed will be discussed to better understand the data in this study. When presenting results, I will first represent the quantitative method results and then the qualitative results for this study for each research question. I will conclude this section by presenting the evidence of trustworthiness and summarize the results of this study.

### **Setting**

Participants for this study included teachers and administrators in the four elementary schools in Gardenia School District. Some personnel described having more experience with the I&RS process than others due to the nature of their position. For instance, a general education elementary school teacher may have more experience with the process than a physical education elementary school teacher. While there were changes in personnel during the course of the study, it did not affect the results of the study. There was a change in the Director of Special

Education, and I chose to interview the previous Director of Special education because this person had been more involved with the current I&RS process in Gardenia School District.

**Survey distribution.** Since the I&RS survey for this study was conducted during faculty meetings for each school, teachers that did not attend the faculty meetings were not part of this study. Faculty meetings are typically held bi-monthly for each elementary school and attendance is mandatory. Also, some teachers chose not to participate in the study because they did not have experience with the I&RS process and felt they were unable to answer the questions on the survey.

In Magenta Elementary School, 47 participants responded to the survey and 1 participant did not respond to the survey. Thirty-five participants in Tangerine Elementary School responded to the survey and 3 participants did not respond. In Sapphire Elementary School, 47 participants responded to the survey and 11 participants did not respond. Fifty-two participants participated in Lavender Elementary School, and 0 participants did not respond.

**Interviews.** Ten participants were interviewed who have experience with the I&RS process at the elementary level. One of the participants mentioned some experience with the process at the middle and high school levels. These participants consisted of five teachers and five administrators from throughout the district, and they were chosen based on knowledge of their involvement in the process. Additionally, participants were chosen based on position in order to obtain varied perspectives throughout interviews across the district.

**Influencing factors.** An element that may have influenced this study is reforms to the I&RS process that have taken place over the past year. During the 2013-2014 school year, Gardenia School District began reforming the I&RS process. Some of the differences included: changes in the required paperwork for referrals as well as the protocols for meetings;



incorporating more technology in the referral process; and some school administrators ordering additional material resources for teachers, so they could help better meet the needs of their students. It is important to note that while these changes did begin, all participants have not had experience with the new process. This may have influenced teacher responses to the survey since some teachers had been more involved in the current process while some teachers had more experience with the process in previous years.

### **Data Collection**

**Number of participants.** Data collection for this study consisted of surveys distributed to participants who work at the elementary level in Gardenia School District. The researcher conducted the interviews with 10 participants who have experience with the I&RS process at the elementary level as well. All participants signed informed consent forms to participate in the survey, and interviewees signed the additional section of the informed consent form, which explained they would be audio recorded.

The following numbers of participants at each elementary school participated in the study by completing surveys. Forty-seven participants participated from Magenta School, 35 participants from Tangerine School, 47 participants from Sapphire School, and 52 participants participated in the study from Lavender School. Additionally, there were 10 participants interviewed across the district, completing study surveys. There were a total of 182 participants in this study.

**Frequency, location, and duration.** Paper surveys were distributed during the faculty meetings at each of the four elementary schools. The survey took approximately 25 minutes and was distributed in the time period spanning from February 2014 to June 2014. Interviews took place in various settings and spanned from approximately 14 to 47 minutes. Interviews usually

took place at one of the schools in Gardenia School District that was most convenient for the participant in the study. Interviews were recorded using two types of audio recording devices and were semi-structured interviews. The researcher then transcribed the interviews for analysis.

**Data recording.** Paper surveys were checked for completeness and counted by the researcher. The survey data was then inputted into SPSS statistical software for analysis. When inputting the data, there were two personnel-based categories added for questions 15-18, including an academic support teacher and a behaviorist, since many participants wrote these two types of personnel in the “Other” option for these research questions. The survey is presented in the appendix.

Interview data was recorded after the interview occurred. The interviewer listened to the audio recording and played the audio recording for each participant where they had the opportunity to add, delete, or clarify any aspect of the interview. The interviewer then transcribed each interview on Microsoft Word. The interviewer also used time-stamps to keep track of the time during the interview.

**Variations in data collection.** I had planned to interview teachers, related service providers, and administrators for the interview data collection component of the study; however, due to scheduling constraints, I only interviewed teachers and administrators and was unable to interview related-service providers. However, some related-service providers participated in the study by completing surveys at each of the four elementary schools. This will be addressed in greater depth during the discussion of study limitations.

## **Data Analysis**

**Coding.** I chose to use a grounded theory of coding to analyze data for this study. I initially coded all interviews by hand and created a codebook with the initial codes to move from

inductively coded units to larger representations including categories and themes. I engaged in pre-coding and preliminary jottings as I collected field data, specifically interviews with participants (Saldaña, 2013). Then, I inputted interview data into Dedoose Statistical Software for the second round of coding. Using this software, I coded data with descriptive and structural coding. I used descriptive coding methods first with the use of primary codes and subcodes to more richly describe aspects of the data. I also used simultaneous coding with some excerpts, since some excerpts warranted more than one code. I updated the codebook with the new codes, as they emerged. Then, I coded the data a third time using structural coding based on the descriptive coding. I organized this data using code mapping strategies, which allowed me to track patterns and draw larger themes from parts of each interview (Saldaña, 2013).

There were 197 codes, which included both primary codes, subcodes, and versus codes after the second round of coding. I used code-mapping strategies to create 23 categories that encompassed the codes and their subcodes. Afterwards, I grouped these 23 categories into major themes portrayed throughout the interviews.

**Codes, categories, and themes.** This section describes the codes that occurred frequently throughout the interviews as well as their development into themes for this study.

**Codes.** Specific codes and subcodes were frequently discussed throughout the interviews for this study. Appendix E presents the most frequent codes with applicable subcodes and versus codes, as well as the number of times the codes occurred throughout the interviews. There are a total of 48 codes including subcodes, versus codes, and structural codes. Some of the most frequent codes include: *intervention*, *data*, *old I&RS process v. new I&RS process*, *I&RS strengths*, *I&RS weaknesses*, and *I&RS areas for improvement*.

**Categories.** I used these codes as well as some of the codes that occurred less frequently to further focus the data into 23 overarching categories. These categories are presented in the graphic displayed in Appendix E. These categories were then grouped by similarity. Some of the elements of different categories overlap. For instance, *intervention*, *child focus*, *placement*, and *data* are grouped together to form a theme. However, *intervention* overlaps in both the “*I&RS strengths*” category and the “*I&RS areas for improvement*” categories. Some interviews discussed the success of the present interventions while some discussed the need for additional interventions for struggling students. In fact, each category that has been grouped contains elements that overlap in either the “*I&RS strengths*”, “*I&RS weaknesses*”, and/or “*I&RS areas of improvement*” categories.

**Themes.** The core categories that lead to the grounded theory are the categories dealing with whether a child struggles in school due to language acquisition or a disability, and the I&RS process as a change process. The categories were grouped together based on similarities, and then the proposed themes of the data that are relevant for this study were created. The next section will discuss each research question and the themes that appropriately respond to the question with interview excerpts to support this response. The following table presents the themes for this study.

Table 6

## Qualitative themes

Theme one	The debate between determining whether an ELL struggles due to a learning disability, or they are acquiring language and its relationship to disproportionate representation of minority students in all special education categories.
Theme two	The relationship between top-down and bottom-up factors that are both within and out

	of control of school personnel and its translation to differences among the four elementary schools in terms of the I&RS process and procedures.
Theme three	The importance of appropriately matched intervention and data collection that is focused on the need of the individual child and its impact on placement decisions.
Theme four	The logistics of the I&RS process and the consistent implementation of it between schools.
Theme five	The role of culture, family involvement, and language when discussing the progress of ELLs.
Theme six	The importance of collaboration and teacher understanding of the goals of the I&RS process and how this affects teacher frustration during the I&RS process.
Theme seven	The I&RS as a change process through the comparison of the old I&RS process to the new I&RS process and suggestions for improvement that would continue the change process.

---

The seven themes relate to overarching categories that discuss the strengths and weaknesses of the I&RS process as well as areas and specific suggestions for improvement of the process in Gardenia School District.

## **Results**

This section presents the demographic data for the participants in this study. Then, this section discusses each research question with the quantitative and qualitative components that most accurately represent the question. Qualitative components of research questions include themes drawn from coding categories for this study (Saldaña, 2013), and quantitative components consist of descriptive data analysis methods.

## **Descriptive statistics**

**Personnel position and number of I&RS referrals.** Appendix F lists the tables with the descriptive statistics for this study. A range of 180 to 182 people responded to the descriptive survey questions. This includes some participants who felt they were unable to answer certain survey items. This excludes participants who only included descriptive information because they did not feel comfortable or did not have experience with the questions included on the survey. One hundred eighty participants responded to the question that indicated their position in the school. One hundred thirty participants were general education teachers, 20 were special education teachers, six were administrators, three were members of the child study team, four were school counselors, there were two related service providers, and thirteen chose the “other” category. Some participants who checked “other,” wrote in “behaviorist” or “academic support teacher.” One hundred eighty one participants responded with the number of students they had referred to the I&RS process. Twenty-five participants had not referred any students to the process, 102 participants referred one to five students, 38 participants referred six to ten students, 10 participants referred 10-15 students, and six participants referred over 15 students.

**Elementary school, gender, language.** One hundred eighty two participants responded to the question indicating which school they work. Thirty-five participants work at Tangerine School, 52 work at Lavender School, 47 work at Magenta School, and 47 work at Sapphire School. Of these participants, there were 166 females and 13 males. One hundred eighty-two participants responded to the question about their primary language. One hundred seventy nine participants reported English as their primary language, one participant reported Spanish as the primary language, one participant reported Hindi as the primary language, and one participant reported “other” as the primary language.

**College degree level and area of certification.** One hundred eighty-one participants responded to the question asking about their college degree level and their area of certification. One hundred participants hold Bachelor's degree, 60 have Master's degrees, 14 participants have a Master's+30 credits degree, and seven participants have a degree that is higher than a Master's degree. One hundred thirty-five participants have an elementary degree certification, 22 participants have a special education certification, five participants reported having an ESL certification, one person reported having an administrative certification, three participants reported having a principal certification, two people reported having a Supervisor certification, 13 people reported having "Other" certifications. It is important to note that some participants may have multiple certifications.

**Research question one.** What are teacher and administrator perceptions of the I&RS process at the four elementary schools in Gardenia School District?

**Quantitative data.** The following survey questions, which are Likert rating scale questions, are the independent variables that relate to teacher and administrator perceptions about the I&RS process:

8. "Our team develops well-matched academic interventions to student needs."
9. "Our team develops social/emotional/behavioral interventions well-matched to student needs."
10. "Our team develops manageable interventions for students in the classroom."
11. "I encourage fellow educators to use our team when they realize they need more support to effectively help a student."
20. "How adequately did the I&RS team complete short-term follow-up procedures?"
21. "How adequately did the I&RS team complete long-term follow-up procedures?"

Table 7 presents the overall descriptive information for Gardenia School District and Table 8 presents this information in terms of combined positive and negative responses.

Table 7

*Independent variables for research question one*

	Team develops well matched academic interventions	Team develops well-matched behavioral interventions	Team develops manageable interventions	Encourage educators use our team	How adequately I&RS completed short-term follow up	How adequately I&RS completed long-term follow up
Mean	4.01	4.02	3.89	4.08	2.79	2.82
Standard Deviation	1.13	1.08	1.04	1.28	1.13	1.07
Median	4.00	4.00	4.00	4.00	3.00	3.00
Responses	179	178	179	178	171	169
Non- Responses	3	4	3	4	11	13
Number Responded 1 or 2 (%)	10.9	11.5	11.5	13.2	33.5	31.8
Number Responded 5 or 6 (%)	35.7	36.3	29.7	43.4	28.5	26.3

Table 8

Findings Research Question 1: What are teacher and administrator perceptions of the I&RS process at the four elementary schools in Gardenia School District?

Independent variables	Combined Responses-agree/strong agree	Combined responses Disagree/strongly disagree
	Somewhat agree/agree/strongly agree	Somewhat disagree/disagree/strongly disagree
There are well-matched academic interventions	POSITIVE 35.7% *74.2% (include somewhat)	NEGATIVE 10.9% *24.1% (include somewhat)
There are well-matched behavioral interventions	POSITIVE 36.3% *72.8% (include somewhat)	NEGATIVE 11.5% *24.7% (include somewhat)



There are manageable interventions	POSITIVE 29.7% agree *70.4% (include somewhat)	NEGATIVE 11.5% *28% (include somewhat)
Participants encourage fellow educators to use the process	POSITIVE 43.3% agree *70.9% (include somewhat)	NEGATIVE 13.2% *26.9% (include somewhat)
I&RS team short-term follow-up	POSITIVE 28.5%	NEGATIVE 33.5%
I&RS long-term follow-up	POSITIVE 26.3%	NEGATIVE 31.8%

---

As evidenced by Table 8, the first four independent variables consisted of stronger positive responses throughout the district. More participants agreed that the I&RS process provides well-matched academic and behavioral interventions, manageable interventions, and they would encourage fellow educators to use the I&RS process. However, in terms of follow-up, responses were more evenly split among participants. While results indicate that participants' range of responses is divided, when asked about the effectiveness of short-term follow-up, a greater number of participants felt that the process was either somewhat adequate or inadequate in this area. Similarly, long-term follow-up consisted of a stronger negative response, indicating that the process is either somewhat adequate or inadequate in terms of long-term follow-up. Thus, follow-up is an area for improvement. The following section details responses for each independent variable applicable to research question one.

*Survey question eight.* Each survey question presented in this table was presented with a Likert scale ranging from either 1-6 or 1-5. Survey question eight contained a Likert scale ranging from 1-6. The means were similar for each of the first four survey questions in terms of I&RS team interventions. The mean for survey question eight is 4.08 with a standard deviation of 1.13. This response indicates that on average, participants somewhat agree that the team

develops well-matched academic interventions. When analyzing frequency of responses in all four elementary schools, 20 (10.9%) participants disagreed and strongly disagreed, and 44 (24.1%) of participants strongly disagreed, disagreed, and somewhat disagreed with this statement. The combined response of participants that agreed and strongly agreed was 65 (35.7%) participants, and 135 (74.2%) participants strongly agreed, agreed, and somewhat agreed with this survey question.

*Survey question nine.* The overall mean and median for this question for all four schools indicate that participants somewhat agreed that the I&RS process provides well-matched behavioral interventions. The mean is 4.02 with a standard deviation of 1.08. The combined response of participants who strongly disagreed and disagreed with this question included 21 (11.5%) participants. Forty-five (24.7%) participants somewhat disagreed, disagreed, or strongly disagreed with this question. Sixty-six (36.3%) participants agreed and strongly agreed with this question. One hundred thirty-three (72.8%) participants had a response of somewhat agree, agree, and/or strongly agree. This is important to note because according to combined responses, more personnel agreed to a degree that the I&RS process provides well-matched behavioral interventions for students.

*Survey question ten.* According to the overall mean for the district, which is 3.89 with a standard deviation of 1.04, participants somewhat agreed that the I&RS provided manageable interventions for students in the classroom. However, this mean was slightly lower than the previous two survey questions, with a mean of 3.89. The combined response of participants who disagree and strongly disagree is 21 participants, representing 11.5% of the participants. The combined response of participants who somewhat disagree, disagree, and strongly disagree is 51 (28%) participants. Meanwhile, 54 (29.7%) participants strongly agree and agree, and the

combined response of participants who strongly agree, agree, and somewhat agree is 128 (70.4%) participants. According to the combined responses, the majority of participants agree that the I&RS provides manageable interventions.

*Survey question eleven.* Participants somewhat agreed that they encourage fellow educators to use the I&RS process across all four elementary schools. The frequency scores for this question reflect this overall mean. When asked whether or not participants encourage educators to use the I&RS team, the combined response of participants who strongly disagreed and disagreed was 23 (13.2%) participants, and the combined response of participants who somewhat disagree, disagree, and strongly disagree is 49 (26.9%) participants. Seventy-nine (43.3%) participants strongly agreed and agreed. The combined response of participants who somewhat agreed, agreed, and strongly agreed consisted of 129 (70.9%) participants. These results indicate the majority of the total participants agreed to some extent that they would encourage fellow educators to use the I&RS team to help a student. The next two survey questions address short-term and long-term follow-up. Both of these questions contain a Likert scale that ranges from 1-5, and 2 indicates “Somewhat Adequate” while 3 indicates “Neutral.”

*Survey question twenty.* Overall, participants rated the scale for research question twenty lower than the previous four survey questions, with an the average of 2.79, indicating a neutral score. The frequency for how adequately the I&RS team completed short-term follow-up is more evenly distributed. The combined response of participants who felt that there was inadequate or somewhat inadequate short-term follow-up was 61 (33.5%) participants, and the combined response of participants who felt that the process had adequate or very adequate short-term follow-up was 52 (28.5%) participants. Combined responses in both the negative and the positive direction were very similar indicating a fairly even split, with slightly more negative

responses, between participants who view the process as inadequate or somewhat inadequate and participants who view the process as adequate or very adequate.

*Survey question 21.* Participants rated how adequately the I&RS team completed long-term follow up. The overall mean was 2.82, which is similar to the overall mean for short-term follow-up, indicating a neutral response. The combined response of participants who felt that the process was inadequate or somewhat adequate was 58 participants, which is 31.8%. Forty-eight (26.3%) participants felt the process was adequate or very adequate was 48 participants. Thus, slightly fewer participants felt that the process was adequate or very adequate as compared to participants who felt that the process was somewhat adequate or inadequate in terms of long-term follow-up procedures.

The dependent variable for this research question includes survey questions 12) “I am satisfied with our intervention process and question” and 14) “Overall, I think our team is effective in meeting the needs of referred students.” The combined positive and negative responses are presented in the following table. Detailed descriptive statistical information is reported in the appendix.

Table 9

Dependent variables research question 1: What are teacher and administrator perceptions of the I&RS process at the four elementary schools in Gardenia School District?		
Dependent Variables	Combined Responses-agree/strong agree	Combined responses Disagree/strongly disagree
Overall satisfaction with the team	POSITIVE 24.1%	NEGATIVE 21.9%
Team is effective in meeting the needs of referred students	POSITIVE 23.6% agree	NEGATIVE 15.9%

According to Table 9, participant responses were split in terms of strongly agreeing or agreeing and strongly disagreeing/disagreeing that they were overall satisfied with the I&RS process. However, a slightly greater number of participants agreed with this statement. More participants agreed that the team is effective in meeting the needs of referred students. The following section details this information further.

*Survey question twelve.* According to this information, overall satisfaction with the team was rated with a mean of 3.52 and a standard deviation of 1.27. The median for this question is 4.0. This question contains a Likert scale ranging from 1-6, where “3” indicates “Somewhat Disagree” and “4” indicates “Somewhat Agree.” Participants somewhat agreed that they are satisfied with the overall I&RS process.

*Survey question fourteen.* The effectiveness of the team members in meeting the needs of referred students was reported as having a mean of 3.65 with a standard deviation of 1.15. The median is 4.0. This question also contains a Likert scale with the same ratings. This question indicates that participants “Somewhat Agree” that the process is effective in meeting the needs of struggling students.

**Regression.** Regression statistics were performed on each independent variable to predict the relationship between the independent variable and the dependent variables for this study. This is important because it helps the study focus on which elements of the I&RS process relate to overall satisfaction with the I&RS process and whether or not the process is meeting the needs of referred students.

Well-matched academic interventions, well-matched behavioral interventions, and manageable interventions were grouped together when being compared with the overall satisfaction with the process. The adjusted R-square value is .528, which means that 52.8% of

variation in responses could be explained by the relationship between these three independent variables and overall satisfaction with the I&RS team. When well-matched academic interventions, well-matched behavioral interventions, and manageable interventions were measured in terms of the overall effectiveness of the process in meeting the needs of referred students as the dependent variable, there was a higher adjusted R-square value, .628. This indicates that 62.8% of the variation in responses could be explained by this relationship.

These variables are highly correlated with each other, so separate regression tests have been conducted for each independent variable as well. This table is represented in the appendix and detailed below. All three of these independent variables are statistically significant when compared to the dependent variable addressing overall satisfaction with the I&RS process. According to this information, well-matched academic interventions increase the likelihood of agreeing that participants are overall satisfied with the I&RS process 3.8 times. Well-matched behavioral interventions increase participants overall satisfaction 5.2 times, and manageable interventions increase the likelihood of participant satisfaction 3.4 times. Therefore, it is evident that these variables are factors that affect participants' overall satisfaction with the I&RS process.

Regression diagnostics have been conducted on the residual patterns of this analysis to test its assumptions. Results from the Durbin-Watson test indicate that its value is 1.836, which is greater than the cut-off point 1 so it is assumed that the residuals are independent. The collinearity statistics, which determines if there is a high level of correlation between variables, have been examined, and there is no multicollinearity since none of the independent variables are correlated with an R-square value greater than .90; therefore, this test met the assumption that the independent variables are not highly correlated. The Mahalanobis distance (*mah\_1*) showed a

very high value at 31.908, which may indicate the presence of outliers. This number was checked against the Chi-square distribution table with three degrees of freedom, and this critical value was 12.838. Therefore, there are outliers in this data. After re-running the multiple regression test without these outlier cases, the new adjusted R-square value was .552. Removing these individual cases has helped to show that the assumptions of regression have been met. Cook's distance gives an indication of extreme values in the data, and the maximum value is .331, which is less than one. Thus, this assumption has been met. The leverage value test was also used with this data set. The critical value determined was .033, which is less than the maximum number, which is .183. Finally, the normal p-plot of the residual standardized regression was examined, and the samples cluster around the line of regression. This suggests that the assumption of normality has been met.

**Qualitative data.** While perceptions of the process varied among all participants throughout the interviews, there were some common categories and themes that emerged after analysis of their responses pertaining to research question one.

**Theme seven.** During the interviews, many participants discussed the differences between the older I&RS process and the newer I&RS process in Gardenia School District. Throughout these discussions, participants mentioned some of the improvements to the I&RS process, and most participants focused these conversations on the logistics of the process. Both teachers and administrators discussed the improvements in logistics of the process in terms of more frequent team meetings and the inclusion of fewer, but more measurable goals to monitor a student's progress.

*Meetings.* Some participants talked about the additional meetings that are a part of the newer I&RS process, which include strategy meetings. These meetings allow the team to better

monitor a student's level of success pertaining to a specific skill. This is also an opportunity to discuss the lack of success with the referred student. Participants presented strategy meetings as a way to talk about the student and implement interventions prior to the official I&RS process. After a strategy meeting, a teacher may have more information about a student, including essential data to discuss during the I&RS meeting.

*Measurable goals.* Approximately half of the participants discussed the introduction of measurable goals as a key component of new I&RS process; the participants referred to the addition of specific goals as a strength of the process.

“I think this year the focus is let's not overwhelm the process with so many suggestions, let's figure out which interventions will best serve the student, and let's just focus on one at a time, and I think that is probably a step in the right direction.”

Focusing on more specific goals as well as interventions to meet these goals encourages both the teachers and the team to focus on certain aspects of the child's performance and work to help a child improve in specific areas. Participants further discussed their experiences with creating measurable and attainable goals by providing specific examples of goals for particular students. They explained the student's progress toward the goal, their measurement method of the student's performance, and their discussions with the I&RS team regarding the student's progress.

***Theme three.*** The importance of appropriately matched intervention and data collection that is focused on the need of the individual child and its impact on placement decisions.

Throughout the interviews, participants explained the interventions from the I&RS process and their importance. This refers back to survey responses that indicated interventions were well matched to student academic and behavioral needs. Some participants explained that they already knew many interventions or were already implementing interventions. Other



participants discussed some interventions they had learned from the I&RS process. Most participants talked about the academic interventions used through the process, with behavioral interventions being secondary.

“Through the team, they’ve given...different ideas and different ways... the team has definitely given me like things I’ve never thought of to help those students.”

Participants discussed monitoring student progress in terms of measurable goals to determine whether or not a student is progressing and if the intervention is well matched to the student’s goal. While there are still improvements to be made, the district is moving in the right direction in terms of matching interventions to students’ needs in the classroom, which is evidenced from the survey responses in this area. Survey responses tended to be more positive when discussing well-matched and manageable interventions for students.

“So, it has certainly evolved. Right now, we try as much as we can to...follow the RTI model.”

***Theme four.*** The logistics of the I&RS process and the consistent implementation of the I&RS structure.

***Lack of follow-up.*** Follow-up is an important part of the I&RS process, and while some participants have had positive follow-up experiences, others have not had many follow-up experiences. The survey data supports this divide in the presence and degree of satisfaction with I&RS follow-up. Survey responses generally rate this area lower, indicating it to be either somewhat adequate or neutral. Participants explained the importance of follow-up in terms of teacher accountability during the I&RS process. Many participants discussed time constraints as a factor affecting the amount of follow-up from the I&RS team. Many participants identified follow-up as an important component of the I&RS process that offers teachers support and additional help in the classroom.

“Well, sometimes they meet, I think they could meet more frequently... If they want to have three meetings before they make a decision, I think they should have three meetings within six months.”

Follow-up is further discussed in the section on research question five, which discusses suggested improvements to the I&RS process.

**Research question two.** To what degree and in what ways do teachers and administrators perceive the I&RS process to be providing appropriate interventions for struggling learners, especially those who are ELL students?

**Quantitative data.** The following descriptive tables display the survey questions that are the independent variables for research question two. These questions include survey questions 8, 9, 24, 25. Table 10 presents the descriptive information for these variables and Table 11 represents the combined responses of participants.

Table 10

Research question two independent variables

	Team develops well matched academic interventions	Team develops well- matched behavioral interventions	I&RS meets the needs of ELLs in the classroom by providing helpful solutions.	I&RS distinguishes if a student has LD or is acquiring language
Mean	4.01	4.02	3.41	3.52
Standard Deviation	1.13	1.08	.92	.967
Median	4.00	4.00	3.00	4.0
Responses	179	178	158	159
Non-responses	3	4	24	23
Number Responded 1 or 2 (%)	10.9	11.5	14.2	12.6
Number Responded 5 or 6 (%)	35.7	36.3	39.6	44.5

Table 11

Combined response independent variables research question two		
Independent Variables	Combined Responses-agree/strong agree	Combined responses Disagree/strongly disagree
	Somewhat agree/agree/strongly agree	Somewhat disagree/disagree/strongly disagree
There are well-matched academic interventions	POSITIVE 35.7% *74.2% (include somewhat)	NEGATIVE 10.9% *24.1% (include somewhat)
There are well-matched behavioral interventions	POSITIVE 36.3% *72.8% (include somewhat)	NEGATIVE 11.5% *24.7% (include somewhat)
Effectiveness of process to meet the needs of ELLs in the classroom	POSITIVE 39.6%	NEGATIVE 14.2%
Effectiveness of the process to determine whether a student is struggling due to a disability of language acquisition	POSITIVE 44.5%	NEGATIVE 12.6%

Combined responses indicate that a greater number of participants agreed that the process provides well-matched academic and behavioral interventions, is effective in meeting the needs of ELLs in the classroom, and is effective when distinguishing whether a student struggles academically due to language acquisition or a disability. The following section details the responses to each survey question.

*Survey question eight and nine.* These survey questions have been discussed under the section for research question one. After examining the overall descriptive information for survey question 8 which asks about well-matched academic interventions and survey question 9, which asks about well-matched behavioral interventions, the results indicate that on average, participants somewhat agreed that the I&RS team develops well-matched academic and behavioral interventions for struggling students. The frequencies of responses for survey questions 8 and 9 have been previously discussed under the subheading research question one,

and they indicate that the majority of participants either somewhat agreed or agreed that the process provided well-matched academic interventions for students and well-matched behavioral interventions for students.

*Survey question 24.* This survey question discusses the effectiveness of the process in meeting the needs of ELLs by providing helpful solutions in the classroom. For survey question 24, participants rated the effectiveness of the process in meeting the needs of ELLs in the classroom as neutral, with a mean of 3.4 and a standard deviation of .925.

Survey question 24 addresses participants' perceptions about helpful solutions for ELLs in the classroom. The combined response of participants who disagreed and strongly disagreed that the I&RS process provided helpful solutions in the classroom to meet the needs of ELLs was 26 (14.2%) participants. Seventy-two participants (39.6%) agreed and strongly agreed. It is important to note that 24 (13.6%) participants did not respond to this question. So, more participants who completed this question agreed that the I&RS process provides solutions to meet the needs of ELLs in the classroom.

*Survey question 25.* This survey question addresses the effectiveness of the process in determining if a student is struggling due to a learning disability or language acquisition. The overall mean for this question is 3.52 with a standard deviation of .967. The combined responses of participants who strongly disagreed and disagreed consisted of 23 (12.6%) participants. The combined response of participants who agreed and strongly agreed was 81 (44.5%) participants.

The combined responses for dependent variables for this research question are presented in the following table. Detailed descriptions of these variables are available in the appendix.

Table 12

Combined response dependent variables research question two		
Dependent Variables	Combined Responses-agree/strong agree	Combined responses Disagree/strongly disagree
	Somewhat agree/agree/strongly agree	Somewhat disagree/disagree/strongly disagree
Effectiveness of the process to meet the needs of ELLs	POSITIVE 27.1% *46.1% (including somewhat)	NEGATIVE 24.7% *46.1% (including somewhat)
Overall effectiveness of the process in meeting the needs of referred students	POSITIVE 23.6% *61.5% (including somewhat)	NEGATIVE 15.9% *36.8% (include somewhat)

Participant responses about the effectiveness of the process to meet the needs of ELLs were fairly evenly divided according to combined responses strongly agree/agree versus strongly disagree/disagree, with slightly more participants responding positively. However, when somewhat agree/agree/strongly agree and somewhat disagree/disagree/strongly disagree were calculated, participants' responses were evenly split, thus indicating this is an area of improvement for the district. The combined responses regarding the effectiveness of the overall process to meet the needs of referred students consisted of more positive responses than negative responses. The following section presents this information in greater detail.

*Survey question thirteen.* The mean of this question is 3.27 with a standard deviation of 1.23. So, on average participants somewhat disagreed that the process is effective in meeting the needs of ELLs. Participants rated the effectiveness of the process to meet the needs of ELL students as slightly lower than the effectiveness of the process to meet the needs of all referred students.

The frequency of responses for the effectiveness of the process to meet the needs of ELLs is similar to the independent variable (survey question 24) that addresses this question.

Participants seem to be fairly evenly split in terms of degrees of disagreeing and agreeing to this survey question. It is important to note that this question contains a 6-point Likert scale instead of a 5-point Likert scale. The combined response of participants who disagree and strongly disagree is 45 (24.7%) participants, and the combined response of participants who somewhat disagree, disagree, and strongly disagree is 84 (46.1%) participants. Twenty-four (27.1%) participants agreed and strongly agreed. The combined response of participants who somewhat agreed, agreed, and strongly agreed was 84 (46.1%) participants. It is important to note that 14 (7.7%) participants did not respond to this question. Thus, when responses included somewhat agree and somewhat disagree, the participants were evenly split for this question. However, when combined responses for strongly agree and agree are compared to responses for disagree and strongly disagree, more participants disagree with this statement.

*Survey question fourteen.* When looking at the frequency of responses for question 14, which asks participants their perceptions of the overall effectiveness of the process in meeting the needs of referred students, only 3 participants did not respond to this question. The overall statistics indicate that there is a mean of 3.65 with a standard deviation of 1.15, which indicates that overall participants somewhat agree with this statement.

The combined response of participants who disagreed and strongly disagreed with this survey question was 29 (15.9%) participants. Sixty-seven (36.8%) participants somewhat disagreed, disagreed, and strongly disagreed. The combined response of participants who agreed and strongly agreed with this statement was 43 (23.6%) participants. The combined response of participants who somewhat agreed, agreed, and strongly agreed was 112 participants, which is 61.5% of the participants.

**Regression.** The relationships between independent and dependent variables were analyzed for research question two. Survey questions eight, nine, and twenty-four were grouped together as the independent variable and compared with survey questions thirteen and fourteen separately.

When the relationship was examined between the independent variables and survey question thirteen, which measures perceptions regarding the effectiveness of the process to meet the needs of ELLs, the adjusted R-square value was .538. This indicates that there is a relatively strong relationship between these variables, and 53.8% of variation in responses could be explained by this relationship. However, it is important to note the nonsignificant Beta coefficient of -.002 for the team develops well-matched academic interventions as a predictor of meeting the needs of ELLs, while there is a significant correlation between those variables. This may have occurred because there were many variables included in this model. Additionally, outliers in the data may have contributed to this inconsistency. Further, it is possible that some participants interpreted well-matched academic interventions to mean broader interventions for all referred students while others responded in terms of meeting the needs of English Language Learners.

Separate regression tests were conducted with these independent variables and survey question 13, which asks participants to rate the effectiveness of the I&RS process to meet the needs of ELLs. The table detailing these tests is presented in the appendix. According to this information, well matched academic interventions increase the likelihood that participants will agree that the team meets the needs of ELLs 3.4 times, but these results are not statistically significant. Well-matched behavioral interventions increase the likelihood that participants will

agree that the team meets the needs of ELLs 2.8 times. Therefore, these factors have less of an impact on whether participants believe that the I&RS process meets the needs of ELLs.

The relationship between these independent variables was examined in relation to survey question fourteen, which measures participants' perceptions about the effectiveness of the I&RS process in meeting the needs of referred students. The adjusted R-squared value for this relationship is higher at .609. This indicates a stronger relationship between these independent variables and participant perceptions of the effectiveness of the I&RS process to meet the needs of referred students.

Separate regression tests were conducted with the independent variables and survey question 14, which asks whether the team is effective in meeting the needs of referred students. This table is further detailed in the appendix. According to this information, well-matched academic interventions increase the likelihood that participants will agree with this statement 4.7 times and well-matched behavioral interventions increase the likelihood that participants will agree with this statement 2.7 times. Therefore, both well-matched academic and well-matched behavioral interventions are significant factors that increase the likelihood that participants will agree the I&RS process meets the needs of referred students.

It is important to note the negative moderate correlation of -0.497 between the I&RS process distinguishing if a student has LD or is acquiring language and the effectiveness of the team in meeting the needs of referred students. This occurs as well with the survey question about the effectiveness of the team to meet the needs of ELLs, with a negative correlation of -0.564. This would indicate that the better the I&RS team is at distinguishing whether a student is struggling academically because of a disability or language acquisition, the less effective the process is at meeting the needs of referred students to the process. This relationship is not the



case; however, this interesting finding could have occurred due to the great diversity in survey responses across the district. Another factor to consider is whether the participants are relying heavily on experiences with the older I&RS process or the newer I&RS process, which may have also impacted the variation in survey responses. An additional reason for this correlation may be explained by I&RS placement. Survey responses indicated that many participants disagreed that the team contributes to appropriate placement of students referred to the process. Thus, when looking at meeting the needs of referred students, this variable may have impacted the relationship between the aforementioned variables. The expected correlation between these two variables would be a positive one: the better the team is at distinguishing whether a student is struggling due to a disability or language acquisition the better the team is at meeting the needs of referred students. However, the confounding factors discussed may have impacted the data, thus resulting in a negative correlation between variables.

Regression diagnostics were also run to test the assumptions for this data when looking at the aforementioned independent variables and the dependent variable survey question number 13. After running the Durbin-Watson test, the results are 1.985, which is above the cut-off point of 1, so it could be assumed that the residuals for this test are independent. Collinearity statistics show that none of the independent variables have an R greater than .9, so it has met the assumption that the independent variable is not highly correlated. Variance proportions show that multicollinearity or singularity did not occur with this data set. Mahalanobis distance (*mah\_1*) maximum value is 33.638. According to the chi-square distribution table, the critical value is 7.81, so this information suggests the presence of outliers in the data. The Cook's distance maximum value is .143, which is not greater than one, and this does not indicate extreme values in the data. Then, the Centered Leverage test has been conducted, and its value is

.093, which is higher than the critical value for this analysis, which is .032. According to the normal p-chart, the values cluster along the line, which indicates the assumptions of normality have been met.

Since the Mahalanobis distance (*mah\_1*) maximum value is larger than the critical value, outliers suggested have been removed from the data. When regression tests were conducted again, the new adjusted R-square value was .562, which is larger than the previous adjusted R-square of .538, thus suggesting that extreme data may have influenced the regression tests, and assumptions for this regression analysis have been met.

Regression diagnostics were also run to test the residual patterns for the aforementioned independent variables, and survey question 14 as the dependent variable. The result of the Durbin-Watson test is 1.836, which is above the cut-off point of 1, so it could be assumed that the residuals are independent. When the collinearity statistics were conducted, none of the independent variables had an R-value greater than .9, so it has met the assumption that the independent variable is not highly correlated. Also, variance proportions indicated that multicollinearity or singularity did not occur. However, survey questions eight and nine do have high values for dimension four, which is indicated on the statistical chart. Mahalanobis distance (*mah\_1*) maximum value is 9.839, and the chi-square table indicates the critical value to be 7.82, so this suggests outliers. The Cook's distance maximum value is .057, which is less than one and indicates that there are no extreme values in the data, and the Centered Leverage value is .067, which is higher than the critical value of .032 for this analysis. According to the normal p-chart, the values cluster along the line, which indicates the assumptions of normality have been met.

Since the Mahalanobis distance (*mah\_1*) maximum value is larger than the critical value, outliers suggested have been removed from the data. When regression tests were run again without the outliers, the new adjusted R-square value was .623, which may suggest that extreme data may have influenced the regression tests, and the assumptions have been met for this statistical test.

**Qualitative data.** The following section presents qualitative data for this research question.

**Theme three:** There was greater variation among interview responses for research question two than research question one. A major theme addressing research question two is the importance of appropriately matched intervention and data collection that is focused on the need of the individual child, and its impact on placement decisions. This corresponds to survey questions about well-matched interventions.

*Effective matching and data collection.* The code “effective matching” was discussed frequently throughout the interviews. This code refers to whether or not interventions are matched to a student’s actual need in a specific academic and/or behavioral area. While participants discussed improvements in this area, participants discussed the need for continued improvement when teams match an intervention to a student’s area of weakness. When the intervention presented was appropriately matched to the child’s area of weakness, interventions tended to be more successful. This is an area discussed on the survey. It is important to note that while the district has a large amount of intervention resources, varied participant responses could reflect some interventions not being correctly matched to student needs.

Effective matching depends on accurate diagnosis data and frequent progress monitoring, which will allow the team to determine the specific areas of weakness for a student and appropriately match an intervention to meet a student's needs.

"We do see growth when we get the program, the intervention to match the problem and when that's done well...it's effective. When it's just every struggling learner gets academic support, that's not as effective because what is the academic support teacher doing with them? That's not the intervention. Although small group instruction is helpful of course, what they're doing during that small group instruction is more important."

Accurate progress monitoring of a child who is receiving an appropriately matched intervention could help the team determine better placement decisions for a student. Additionally, if the student's primary language is not English, the process should monitor the student's language acquisition to provide the appropriate type and amount of support.

"There's certain guidelines that you would probably expect that within a year or maybe two years, children should be proficient in... the new language, depending on first when they arrive, but we should probably watch that more closely, and maybe we should test them more often."

If a student receives many interventions, but he/she is not showing much progress, the team may refer the student to the child study team. Many participants discussed placement in terms of the supports students received in each placement. For instance, participants discussed the importance of interventions and ESL supports in general education for students referred to the I&RS process. While many different placements were discussed in different cases, participants most frequently discussed the interventions and support that students received in the various placements as being an important factor affecting their success. They mentioned specific programs or strategies that have been successful in different placements. If a student does not progress with these interventions, then a student may be referred to the child study team.

"(There are) some academic support students who... are getting... the modifications in the classroom, they're getting a pull out here... the academic support language arts

program is a pull out program where (the teachers) do concentrate on OG...(the teachers) concentrate on LLI and (the teachers) also concentrate on guided reading... So, because they're getting already so many interventions that way...if (there is not) much progress...but if there's no progress, then those students tend to be the ones... that (teachers) send to the child study team then for testing."

**Theme one:** Theme one relates to this research question since it refers to the debate between determining whether an ELL is acquiring language or is struggling due to a learning disability, and its relationship to disproportionate representation of minority students in all special education categories. Some participants discussed interventions that would be appropriate for all struggling students, including those that are ELLs, while others made a distinction between interventions that would be most appropriate specifically for ELLs. Survey responses indicate that many participants feel the process is helpful when distinguishing between a disability and language acquisition; however, combined responses in survey data indicate more participants disagree that the process provides helpful solutions to meet the needs of ELLs in the classroom. Thus, this information shows that there are a variety of important factors that affect the degree to which the I&RS process meets the needs of ELLs in the classroom.

**Interventions.** Participants discussed examples of interventions for different students. Interventions ranged from suggestions such as highlighter tape to supplemental programs. Interventions also were discussed in terms of time; participants discussed morning programs as an intervention for struggling students. Participants' opinions varied in terms of the appropriateness and usefulness of the interventions discussed during I&RS meetings. All participants who discussed interventions talked about them as a component of the I&RS meetings, indicating they play a major role and are present throughout the district.

**ELLs.** Determining the root of a student's struggles is important for intervention and placement decisions, especially for ELLs. Participants discussed ELLs and the debate regarding

the reason that some students are performing below grade level. Participants refer to the question of whether a student's performance in school is due to language acquisition or a learning disability.

“Is it because they haven't learned the English language or is it a fact that they have a learning disability? So, that's the piece that we're looking at all the time... Very often what happens with kids is when they come in it takes a good, they say, seven years before you can really kind of get yourself involved in the language.”

Some participants discussed language as a reason for teachers, teams, and administration to keep ELL students in general education without referring them to special education, even if a student is struggling academically. Participants discussed that many students are exposed to English in school and sometimes at home. Even if a child is acquiring language, they should still show some progress in school. When a student who is an ELL is not progressing with the English language, there is often a discussion about whether or not to refer a student for special education testing. There are some students who are not referred and may not receive additional help and interventions necessary to progress academically. Yet, it is also important to note that it is difficult to assess a student's level in terms of his/her language development, especially when a student can speak the language but struggles with reading and writing.

“You get these kids that are kind of like on the fine line and people don't know...what to do. Is it the language? Is it the actual disability? And I think in many cases, it was language.”

The debate between language and disability was prevalent in many interviews, and while there may not be a clear explanation for certain students, participants expressed the importance of focusing on the child by examining his/her strengths and weaknesses in order to track progress and help the student achieve in school. They also expressed the importance of additional training for the I&RS team to more effectively determine the reason a child may struggle in school. This information also reflects survey data indicating that many participants disagree that the process is

effective in meeting the needs of ELLs; however, more participants agreed that it is effective in meeting the needs of all referred students.

*Disproportionality.* Some participants discussed the concepts of language acquisition, minority representation, and disabilities in relation to disproportionate representation of minority students in special education. Participants discussed the influence of disproportionality on the I&RS process in terms of referrals, especially of students who are ELLs. Even though teams try to ensure that decisions do not contribute to the disproportionate representation of minority students in special education, this may influence I&RS team decisions.

While some participants discussed the influence of disproportionality on the I&RS process, most participants who discussed ELLs talked about the importance of effective interventions, specifically language-based and vocabulary-based interventions to help meet the needs of ELLs in both general education and special education placements.

“Is it the language or is it special education? Their inability to understand. It was very clear in, when we researching it, it’s really the vocabulary that’s so critically important.”

Throughout the interviews, it was evident that types of interventions and programs varied among schools. Yet, teams have improved in meeting the needs of referred students, but they should focus more on strategies to help teachers meet the needs of ELLs in the classroom, which is supported by survey responses as well.

**Research question three.** To what extent do teachers and administrators believe that the I&RS process leads to appropriate classifications for ELLs?

*Quantitative data.* The following tables display survey questions 23, 24, and 25, which are independent variables for this research question. Table 13 presents descriptive details for these questions and Table 14 represents combined responses for each survey question respectively.

Table 13

Independent variables for research question three

	I&RS's usefulness in providing sped placement	I&RS meets the needs of ELLs	I&RS distinguishes if a student has LD or is acquiring language
Mean	2.74	3.41	3.52
Standard Deviation	1.06	.925	.967
Median	3.00	3.00	4.00
Responses	168	158	159
Non-responses	14	24	23
Number Responded 1 or 2 (%)	42.9	14.2	12.6
Number Responded 5 or 6 (%)	24.2	39.6	44.5

Table 14

Combined response independent variables research question three

Independent Variables	Combined Responses-agree/strong agree	Combined responses Disagree/strongly disagree
I&RS process usefulness in providing sped placement	POSITIVE 24.2%	NEGATIVE 42.9%
I&RS process effectiveness in meeting the needs of referred ELLs	POSITIVE 39.6%	NEGATIVE 14.2%
Distinguishing whether a student is struggling academically due to language acquisition or a learning disability	POSITIVE 44.5%	NEGATIVE 12.6%

While a greater number of participants agreed that the I&RS process is effective in meeting the needs of referred ELLs and distinguishing whether a student is struggling academically in school due to language acquisition or the presence of a disability, more participants disagreed that the process is effective in determining appropriate special education



placements. This is an interesting finding since it would be expected that more participants would agree that students are placed in special education effectively as a result of the process. Thus, using the data from I&RS meetings to determine appropriate special education placement is an important area for reform. The next section details these independent variables further.

*Survey question twenty-three.* This question contains a 5-point Likert scale. The mean for the usefulness of the I&RS process in determining appropriate special education placement is 2.74 with a standard deviation of 1.06, which falls between the ratings of “somewhat effective” and “neutral,” but is closer to a “neutral” rating. The median is 3.0, which is neutral.

The frequency distribution for participants’ perception of the degree to which the I&RS process provides information useful to making special education placement decisions are presented in this paragraph. The combined response of participants who believed the process to be ineffective or somewhat effective was 78 (42.9%) participants. Forty-four (24.2%) participants rated the process to be effective or highly effective. It is important to note that 14 (7.7%) participants did not respond to this question. Of the participants that responded to this question, combined responses indicate that participants think the process is ineffective or somewhat effective in its usefulness to make special education placement decisions.

*Survey question twenty-four.* The ratings addressing whether or not the I&RS process is effective in meeting the needs of referred ELLs is rated slightly higher than survey question 23, at 3.41 with a standard deviation of .924, which is between “neutral” and “somewhat agree,” but falls closer to a neutral rating; the median is 3.0 as well, which indicates a neutral rating.

The frequency distribution for the effectiveness of the I&RS process to provide helpful solutions to meet the needs of ELLs in the classroom has been previously discussed. The

majority of participants agreed to some degree, as evidenced by combined responses, that the process provides helpful solutions to meet the needs of ELL students in the classroom.

*Survey question twenty-five.* This question discusses the effectiveness of the I&RS process in distinguishing whether or not an ELL student is struggling due to language acquisition or LD. The overall mean for this question indicate is 3.52 with a standard deviation of .967, which is slightly above neutral. The median for this question was 3.5. This indicates that participants somewhat agree that the I&RS process is effective when distinguishing whether or not an ELL is struggling due to language acquisition or a disability.

When looking at the frequencies for participants' perceptions about whether or not the team is able to distinguish whether an ELL struggles because they are acquiring language or they may have a disability or serious learning problem, more participants agreed with this statement. Twenty-three (12.6%) participants disagreed or strongly disagreed. The combined response of participants who agreed or strongly agreed with this statement was 81 (44.5%) participants. It is important to note that 23 (12.6%) participants did not respond to this question. So, the majority of participants who completed this question agreed that the I&RS process helps to distinguish whether a child is struggling because of a disability or because he/she is acquiring language.

***Dependent variables.*** The following survey questions are dependent variables for this research question.

*Survey questions thirteen and fourteen.* The dependent variables for this question consist of survey questions thirteen and fourteen. Survey question thirteen addresses the effectiveness of the process in meeting the needs of ELLs and survey question fourteen addresses overall perceptions of the I&RS process in meeting the needs of referred students, both ELL and non-ELL. According to the median for these two questions, participants rate the effectiveness of the

I&RS in this area at 3.5 and 4.0, which indicates “Somewhat Agree.” The means for these two questions are slightly lower, with the effectiveness of the team meeting the needs of ELL students being closer to neutral. These two questions are discussed in greater depth in the section responding to Research question two.

**Regression.** Survey questions twenty-three, twenty-four, and twenty-five were grouped together to determine the relationship between these three independent variables and each dependent variable for this question. These questions ask participants about the effectiveness of the I&RS process to provide data to determine appropriate special education placement, the effectiveness of the process to meet the needs of ELLs, and the effectiveness of the process to distinguish whether a student is struggling because of language acquisition or a possible disability.

These independent variables were first compared with survey question thirteen as the dependent variable, which asks participants about their perceptions about the ability of the I&RS process to meet the needs of ELLs. The adjusted R-square value for this regression analysis is .514, which indicates that 51.4% of the variation in responses could be explained by the relationship between these three independent variables and the perceptions about the team meeting the needs of ELLs. Then, the relationship of these variables with survey question fourteen was explored. Survey question fourteen asks about the effectiveness of the process to meet the needs of all referred students. The adjusted R-square value for this relationship is .419, which indicates that 41.9% of the variation in responses could be explained by the relationship between the three independent variables and survey question fourteen as the dependent variables.

**Qualitative data.** The following section presents qualitative data for this research question.

*Theme one:* Theme one is prevalent throughout the responses to this question. Theme one addresses the debate regarding whether an ELL who is struggling in school is still acquiring language or has a disability, and its relationship to disproportionate representation of minority students in all special education categories. While there have been reforms to the new I&RS process, the district should continue to work to improve in this area. Language acquisition is often discussed when ELLs are referred to the I&RS team. Throughout the interviews, participants talked about the difficulty of determining whether a student is acquiring language or has a disability and should be referred to the child study team for testing. This determination affects student classifications. Survey responses indicate that more participants agree to a degree that the process helps distinguish whether a student is struggling due to language acquisition or a disability; however participants discussed the difficulties involved in these decisions. Interestingly, combined survey responses indicate that participants disagree that the I&RS is effective in providing appropriate student placement whether it be in general education or special education. Thus, while the process may determine the reason a student is having difficulties, perceptions show that placement may not be effective to meet the students' needs.

*Multi-disciplinary team.* Many participants discussed the expertise of the I&RS team and the importance of a multi-disciplinary team with experts in a variety of areas. This was a common theme that occurred during almost every interview. Participants expressed the value of a multi-disciplinary team where the expertise of the team members is applicable to a particular student's case. So, in a case where an ELL is referred, including a speech therapist and an ESL teacher as well as a person who speaks the child's primary language would enhance the team and the team would be better able to determine the reason a student may be struggling in a specific area.

“You have to have someone with a strong ELL background to know what’s typical second language development. If that person’s not at that table to know what’s typical second language development, then you’re not going to be able to decipher that information at all. If you have someone at the table with a strong ELL background and they are there to speak to the developmental milestones...besides the language that is delayed, that gives you a better idea, but it’s very difficult.”

“I think there should be different expertise sitting on that committee, depending on what their reason for referral is.”

None of the participants discussed misclassification; however, many discussed the language barrier, and language acquisition being a reason for the team’s reluctance to refer a student to the child study team for special education testing. The interviews suggest that there are many factors that contribute to whether or not the team is effective in determining accurate classifications for ELLs. Some of the contributing factors include language acquisition and the expertise of the I&RS team members in terms of each student case discussed. This variability may have contributed to the range of survey responses in this area.

***Theme five:*** Participants discussed the role of culture, family involvement, and language in terms of the progress of ELLs. Working with student families was an area referenced when discussing whether or not the I&RS leads to appropriate classification of ELLs. In order to determine an appropriate classification and placement decisions, it is important for the I&RS team to work with and support student families by embracing cultural differences.

***Language.*** Language and its role in the classification of ELLs was a major topic discussed throughout the interviews, as well. Some participants discussed language proficiency in English while others discussed language proficiency in both the primary and secondary language. Participants also discussed how many students may lack proficiency in both the primary and the secondary language. Language is a major component that affects student classifications, testing, and placement; participants discussed different elements of language.

Participants discussed cases where team uncertainty about a child's language development could prevent referrals.

“When we see the failure in the classroom, that they're not...progressing like they should, but the excuse is the language barrier, and then later on we find out they're not even... that successful in their own native language.”

Students who are ELLs and are struggling academically in school may not get referred for special education testing after interventions have been tried through ESL support and general education testing. Discussions about these cases center around language as the reason a student should not be referred. However, in some cases, after many interventions have been implemented, the teams decide to refer the student for special education testing later on in the student's schooling experience and the student may be classified with a disability. At this point, it is determined that some students struggle academically with their primary language as well. When participants discuss this as an “excuse,” they refer to insufficient support for students early on in their schooling experience because the student is acquiring language. This complexity relates to the difficulty of determining the reason for a student's academic struggles. Therefore, there are many factors contributing toward participants' perceptions about the I&RS process meeting the needs of ELLs and providing appropriate information for accurate classifications, when applicable. While Gardenia School District is improving in this area, there is still a great deal to learn when it comes to meeting the needs of ELLs in the classroom and understanding language acquisition.

**Research question four.** What do teachers and administrators perceive to be the strengths and weaknesses of I&RS at their school in Gardenia School District?

*Qualitative data.* Each of the seven themes in this study has aspects that apply to this research question. Many of the subcodes under “*I&RS strengths*” and subcodes under “*I&RS*

*weaknesses*” are reflective of the themes that have surfaced in this study. This section will discuss the themes that apply to this question as well as the subcodes that occurred most frequently under the code “*I&RS strengths*” and the code “*I&RS weaknesses*.”

**I&RS Strengths.** The following themes apply to the code I&RS strengths.

**Theme three:** Theme three discusses the importance of appropriately matched intervention, and data collection that is focused on the need of the individual child and its impact on placement decisions.

**Goals.** Creating fewer measurable, attainable goals is a positive reform of the new I&RS process that participants discussed throughout the interviews. This practice helps the team focus on specific areas of improvement for a student, and it is a way to better measure progress using data based methods. Also, it encourages the teacher and the team to focus on specific areas for improvement for a student, determine how a child learns, and which intervention methods are most successful. If a student does not progress with a specific goal, the team could discuss additional interventions and/or a possible child study team evaluation.

**Interventions.** Participants discussed I&RS interventions as a strength of the process. Gardenia School District has worked to include more supplemental intervention programs and educate I&RS teams with intervention strategies. Thus, when a team is discussing a specific student, team members are more knowledgeable about possible interventions. While this is an area of strength in some schools, all elementary schools could use additional I&RS training and expertise to introduce more interventions for a greater variety of learning needs. The I&RS teams continue to work on child-focused interventions and data collection as well as changing the environment to meet the child’s needs, which is an important component of the process.

“We have the capacity to really educate and care for kids. Not care about kids... but for kids, and we really gotta believe it and we hope the interventions we have in place now are helping people see that it’s possible.”

*Suggestions.* Suggestions during the I&RS process are an interesting area of strength because some participants viewed it as a strength while other participants perceived them as a weakness of the I&RS process.

“So, in the realm of interventions, (the I&RS team) sort of combines the RTI model with DI, learning styles, learning modalities. So (the I&RS team) ranges from suggesting simple classroom environmental changes all the way up to alternate program changes.”

Some participants explained that they received helpful suggestions from the I&RS team, and they implemented these strategies with success. Other participants explained that there were some good suggestions, but they would have liked additional intervention suggestions. Meanwhile, some participants talked about the difference between suggestions and collaboration, and the importance of collaborative ideas for interventions rather than suggestions based on expertise. Participants discussed ownership of the interventions, and that teachers have more ownership in an I&RS process when there is a collaborative effort between the referring teacher and the I&RS team.

“I think the first thing would be really going through a process where it’s collaboration, kind of changing the mindset... telling people when you bring your student to I&RS, be ready to collaborate more, it’s not going to be a 45 minute meeting and then a suggestion, it’s going to be a collaboration and it may take longer than you anticipate and that we’re going to sit and really talk about the information and then come up with a decision together to help the child.”

It is evident from the interviews that there are varying views on the roles of suggestions in the I&RS team; however, it is important that I&RS team members are knowledgeable about interventions, so they could work with teachers in a collaborative manner to do what is best for the specific student.



**Theme four.** The logistics of the I&RS process and the consistent implementation of them between schools.

*Strategy meetings-preparedness.* Strategy meetings were described as a strength of the I&RS process because they allow for more frequent meetings, and additional data based instruction. These meetings are typically held prior to I&RS meetings, and strategies are implemented based on the child's need. After analyzing the child's progress or lack thereof, the team leaders could decide whether or not the I&RS process is appropriate and would be helpful for the particular student. From the positive response of participants involved in strategy meetings, it is evident that strategy meetings are a strength of the reformed I&RS process and should be implemented more consistently.

"The strategy groups really help because we're more focused."

*Accountability.* Since I&RS meetings are structured and meet more frequently, there is greater accountability for the teachers, family, and the I&RS team.

"It just lays out all those interventions that are being done, and it sets those goals and holds people accountable, you know, for it, and obviously, it's great paperwork if you go forward with the child study team."

In cases where there is consistent follow-up, teachers are held accountable for implementing a specific intervention, families are responsible for reinforcing the intervention at home, and the team is accountable for supporting the teacher and helping them to measure the student's progress and implement an intervention with fidelity. This is certainly a strength of the process since it ensures that interventions are implemented with the purpose of helping a student to succeed in general education prior to a possible special education referral.

**Theme six.** The importance of collaboration and teacher understanding of I&RS process goals and how this affects teacher frustration during the I&RS process.

*Collaboration.* Most of the participants discussed collaboration as a strength of the I&RS process. With more meetings and additional team members, there could be even more collaboration during the process. Collaborating is a strength of the process because it helps personnel explore a student's progress by combining expertise to determine the most appropriate interventions for a child. While this is an area of strength, schools could further work to enhance collaboration during I&RS meetings.

“I think it's bringing different specialists together that (personnel) don't normally get in touch with, otherwise... that is a strength because that is how I kind of learned about things that I wasn't aware of... listening to the child study team speak, or talking to people like speech therapists, who come together at these I&RS meetings sometimes to discuss things. I'm more aware, and I learn techniques from them as well. I think that's a strength. I think we're getting better at it... I think we're getting better educated.”

*Communication.* As a result of I&RS meetings, participants discussed an increase of communication between the student's families and their families. In some cases, there was an increased level of communication between I&RS team members and the referring teacher as well.

**I&RS weaknesses.** The following section describes codes and themes that address the weaknesses of the I&RS process.

***Theme three.*** The importance of appropriately matched intervention and data collection that is focused on the need of the individual child and its impact on placement decisions.

*Lack of strategy knowledge.* Many participants mentioned that they already use strategies, modifications, accommodations, supplemental programs, etc. in the classroom and expressed that they would like more strategy options because these strategies were not successful. Many teachers already have their “bag of tricks,” but would like additional strategies; however, it is important to note that in many cases, there is not one solution that will solve a student's problem.

“Sometimes looking for a silver bullet when you go to that meeting could be really, um, not existent. Because many people in there may not have enough information or background”

While the team may know more about one type of student’s struggle, they may be less knowledgeable about other students. Thus, it is important to have personnel with different areas of expertise and their expertise should be matched to each student’s needs.

*Lack of resources.* Resources discussed throughout interviews referred to materials and personnel. Participants did not explicitly mention other types of resources such as building space or contracted services; however, these would be important to discuss in follow-up research. With additional resources, the I&RS process could be implemented more consistently and successfully. While this topic was discussed, participants recognize the difficulty of providing more resources, especially in terms of personnel. Some participants discussed some additional resources given to the I&RS team to distribute to teachers during the I&RS meetings that will hopefully help with the interventions suggested during the meeting. However, this is an area that is a relative weakness of the I&RS process for some student cases.

“I think they try but I don’t think that there’s enough tools put out for that. I feel like that when you’re bringing a student to the I&RS process, which maybe you need to change the perspective, it’s you’re at rock bottom and feel like you’ve tried everything you possibly can.”

*Time.* Time is an essential component of the I&RS meetings, and this topic was previously discussed as an area for improvement in terms of the I&RS process. Better utilizing time could entail more frequent meetings. It could also refer to less time between a student’s referral and a determination regarding the student’s progress in general education, and if he/she should be referred for special education testing. Time also refers to scheduling of the actual I&RS meetings, so the meetings could include more team members with different areas of expertise. More efficient use of time could help to improve the process.

**Theme six.** The importance of collaboration and teacher understanding of the goals of the I&RS process and how this affects teacher frustration during the I&RS process.

*Teacher frustration.* Participants discussed teacher frustration with the process. There were different reasons for frustration including confusion about the I&RS process purpose. Also, many participants discussed the benefit of additional I&RS training for teachers to better meet the needs of struggling students, both general education and special education ELLs and non-ELLs. More training could alleviate teacher frustration, so that there is a better understanding of the purpose of the I&RS process. Teachers need to understand that the process is a way to intervene, not necessarily to refer students for special education testing. The I&RS process is also a means for teachers to receive support in the classroom; with follow-up and support, some of this frustration may be alleviated.

“Some people shy away from the process because it’s more work.”

“Maybe our...staff development might have to have some of these other educational opportunities for teachers to come on board, so that we understand what all these things are. I mean, everyone has a dabbling of something...but we’re not all on the same page with that.”

**Research question five.** What do teachers and administrators believe should be done to improve the I&RS process for ELL students in their respective schools in Gardenia School District?

*Qualitative data.* While Gardenia School District has made improvements to the I&RS process, there have been improvements suggested to better meet the needs of the students.

**Theme three:** The importance of appropriately matched intervention and data collection that is focused on the need of the individual child and its impact on placement decisions should continue to be a focus in Gardenia School District.

*Data.* The district has made improvements in this area in some schools by including many different types of interventions. Data should be collected to determine a student's specific area of struggle, and this should be used to more effectively match interventions.

“How to look at essential data, I mean essential data for students like, can they read, in what part of reading are they struggling with, can they write and what part of writing are they struggling with. Do they have the math facts they need to have and then how do we go about creatively getting them that information and still not preventing them from being part of the current academic content they need to follow.”

*Child-centered.* Additionally, the whole child should be discussed, which includes both strengths and weaknesses. Participants discussed the need to get to know the whole child in order to effectively plan interventions. Many participants spoke at length about certain cases where they discussed many aspects of a student's academic and social/emotional/behavioral experience in school and at home. Thus, creating and maintaining a multi-disciplinary I&RS team will help the team to gain more information on a variety of aspects of the child's life. This will also contribute to more appropriate matching of intervention programs with a child's needs. Measuring a child's progress or lack thereof in a specific area will help the I&RS team make better judgments in terms of placements for students, especially ELLs. Taking the time to learn more about a child, with different perspectives could help improve the process.

“I would love to have more learning involved, learning about the child who is in front of us, their culture, their strengths, what they may need some help in, increase the need in, and how, what are we doing now and how do we intensify it if this is helping us at all and if we can't intensify it, then is there something that we should be doing differently.”

***Theme four:*** Theme four explores the logistics of the I&RS process and the consistent implementation of these logistics between schools. This is an area for improvement.

*Logistics.* Logistics in terms of this study includes certain areas of the I&RS process; these include time, follow-up, personnel, and resources. Time is a significant factor that impacts the I&RS process, and time refers to many aspects of the process. These include time between

meetings, times of specific meetings, time between a student's referral and potential classification, time it takes to implement an intervention with fidelity, and the time it takes a student to acquire language. A common suggestion for improvement was to better utilize time consistently in the I&RS process. Many participants recognized the challenge involved in using time efficiently in terms of the I&RS process.

"The time, it's such a lengthy process that it's really hard to really get things going sometimes."

"Time. Time. I truly believe that if you really wanted to make a difference, it would be a full time job."

*Follow-up.* An additional area for reform is consistent follow-up between the I&RS team and the teachers referring students. Participants discussed follow-up in terms of more frequent meetings in a shorter period of time, shorter periods of time between the set meetings, or working with the teacher and discussing the proposed interventions to better help the student in the general education classroom. This need for more follow-up has been reflected through survey responses as well. Further, follow-up is important when discussing both students whose primary language is English and ELLs. Follow-up was also discussed as a way to support teachers and share the responsibility of intervening for a student. This could help the teachers effectively implement and measure the strategies suggested during the I&RS meeting.

"What's happening in between the meeting and the next meeting? When someone comes to your classroom and says, 'How's that going? Let me look at the work, did you do that assessment?' Let me see how they did, let me see how the incident reports, talk to the mentor, whatever it is that you're doing, monitoring it, discussing it, providing support."

*Personnel and Resources.* Personnel and resources are essential components that relate to the logistics of the I&RS process. Although this has been an area of focus with the addition of

new strategy materials for the use of the I&RS team, this is an area that still needs improvement as well.

*Consistency.* The final logistical factor that has been suggested as an area of improvement is consistency in terms of the expectations, structure, and follow-up across schools. While the district has improved in this area, as many participants discussed the improvements in the new I&RS process, this is still an area where the district should work to improve. Participants expressed the importance of continuing to unify procedures in terms of the types of I&RS documentation, frequency of I&RS meetings, types of follow-up, and procedures within the meeting. It is evident that some components such as measurable goals, are consistently used throughout I&RS meetings, so all aspects of the process should be implemented with similar consistency for each referred student.

**Theme six:** The importance of collaboration and teacher understanding of the goals of the I&RS process and how this affects teacher frustration during the I&RS process has been discussed in response to this research question.

*Collaboration.* Many participants discussed the value of a collaborative effort during the I&RS process, and suggested that all I&RS teams maintain and improve collaborative efforts.

“So really the learning from the I&RS process comes from us, we have to learn first and then move forward, particularly about the student’s life, culture, where they are academically, what are the best practices out there...that inform what we should do, and inform how we should collaborate with each other.”

In order for team members to effectively collaborate with teachers, teachers need to understand the purpose of the I&RS process; many teachers may misinterpret it as a process for students to be classified. Along these lines, teacher training is an important component that could contribute to improving the process. Many participants talked about teacher training in terms of interventions, the learning styles of ELLs, as well as the actual structure of the I&RS

process. Teacher education and training could contribute to a more effective, collaborative I&RS process.

“I think there has to be a professional development surrounding I&RS... I think that it’s really important especially in the world of, of the diverse population... I think we need coaches.”

**Theme seven** The I&RS as a change process through the comparison of the old I&RS process to the new I&RS process and suggestions for improvement that would continue the change process. This theme is relevant to this question because Gardenia School District has already begun reforms for the I&RS process.

*New I&RS process.* Many participants discussed elements of the new process and how it has improved. Additionally, participants discussed the change process that Gardenia School District needs to undergo in order to see improvement, and discussed how the district is already in the change process. Some reforms that have been a successful part of the new process include more frequent meetings, measurable goals, accountability, and increased communication. Few participants explicitly discussed the change process surrounding I&RS and the necessary paradigm shift in order to help students through this process. This is an important component of the old process versus the new process because Gardenia School District is currently changing.

“As much as the school itself is a community, this (I&RS) has to be part of the community of the school and the culture of the school and the bigger, broader culture of the district.”

*Personnel training.* Participants discussed the importance of professional development and additional opportunities for ELL training. Both teachers and team members should participate in training about educating ELLs, second language acquisition, and culturally responsive teaching. This could help to improve supports provided for ELLs. It could also help



the team to decide appropriate placement, whether it be in general education or special education, for ELLs.

“If we do more to train teachers, I think it would be a much better process.”

Participants discussed the importance of both ELL training and training with the actual I&RS process. This could help the team more effectively help students and teachers. Additional training could influence satisfaction ratings of the I&RS process, its effectiveness in meeting the needs of referred students, and its effectiveness in meeting the needs of ELLs, which are referenced in the survey.

**Research question six.** What additional factors and/or issues may be influencing the provision of an appropriate I&RS process, and in what ways?

***Qualitative data.*** The following section presents qualitative data that responds to this research question.

***Theme two:*** The relationship between top-down and bottom-up factors that are both within and out of control of school personnel and its translation to differences among the four elementary schools in terms of the I&RS process and procedures.

***Consistency.*** Some participants discussed the importance of consistency between top-down reforms and bottom-up reforms. Additional communication could help to ensure consistency in terms of I&RS reforms, which could improve the process.

***Home life.*** Some additional factors discussed that are out of control of school personnel include a student’s home life. Some participants did mention this factor, but also discussed the role the school plays in helping to educate families and bring them into the school community.

“I see this school probably as the center of the community.... I guess adults look to the school, and to teachers, and they probably think that, you know, we’re more knowledgeable about those things, so I think in terms of being inviting, and that, if it’s

held in the school even... equate them to their community, but starting at the school being sort of the center, you know, the spoke in the wheel is probably the beginning.”

Some participants further discussed the importance of embracing a student’s culture, and working to include the student and the student’s family in the school in order to encourage success. This notion of supporting and accepting student culture should be encouraged throughout Gardenia School District. Some participants recognize there are many things that schools could do to help students achieve academically, socially, emotionally, and behaviorally.

“When they believe you care about them, give them all the extra help in the world, wonders can happen.”

### **Evidence of Trustworthiness**

**Reliability.** In order to assess the reliability and credibility of this survey, the survey items have been tested for analysis using the Cronbach’s alpha. I also tested the internal consistency of each section on the survey using the same procedures. The survey for this study was created based on an existing survey and was intended to measure underlying constructs. All survey items were not used for analysis. The total questions used for analysis consisted of 12 of the 25 survey questions. The items used for analysis consisted of items 8 through 14 of the team effectiveness scale, items 20 and 21 in Follow Up, item 23 in Views on Professional Issues, and Items 24 and 25 under Section 7: English Language Learners. These questions had a high level of internal consistency, as determined by Cronbach’s alpha of .827.

**Credibility.** To assess the validity of the research, I used triangulation mechanisms with multiple types of data collection. I triangulated information from surveys and interviews by exploring the relationship between responses as well as the inconsistencies among the different types of data collection.

**Transferability.** After coding the data using Dedoose statistical software, I categorized data to create themes. In order to support transferability, I supported these themes with thick descriptions from the interviews. Additionally, I included multiple perspectives of participants, which related to the codes, themes, categories, and research questions. These excerpts and descriptions help the reader to comprehend the findings of the study and make “transferability judgments possible” (Lincoln & Guba, 1985, p. 316).

**Dependability and confirmability.** This relates to the credibility or validity and reliability of the study. Dependability is important to ensure both of these components for the study. I established the dependability for this study by triangulating data. I used both interviews and surveys to determine responses to the research questions that are thick, robust, and detailed. In order to establish validity, I used multiple perspectives in terms of data collection methods and types of participants when analyzing each research question. To ensure confirmability, I used triangulation and kept a reflexive journal throughout data collection and analysis. I wrote notes after interviews, created logic models, categorized codes, established themes, and kept general notes about my ideas, thoughts, and questions throughout both the data collection and analysis process. This helped to maintain focus and improve the validity of the study, so that it accurately reflects the findings.

## **Summary**

This section will summarize the results for each research question to provide an advance organizer before transitioning to a further discussion of these results and implications.

There were many variables that were a part of research question one, which asked about administrator and teacher perceptions of the I&RS process; they focused mainly on types of interventions, and whether or not they were well-matched to a student’s need, and manageable in

the classroom. Participants were also asked if they would encourage fellow educators to use the process, and after analyzing combined responses of participants, more participants agreed to a degree that they would encourage educators to use this process. This section also discussed short-term and long-term follow-up needs in Gardenia School District, as well as satisfaction with the process in meeting the needs of referred students. Satisfaction is related to the presence of well-matched academic and behavioral interventions as well as manageable interventions. There is a relatively strong relationship between these variables and meeting the needs of referred students, as well. Overall, participants somewhat agree that the team is developing appropriate and manageable academic and behavioral interventions for students. Combined responses of participants who agree and strongly agree are greater than participants who strongly disagree and disagree, 29.7% versus 11.5% respectively. Participants discussed changes to the process in terms of structure that help teachers to focus on specific, measurable goals and match the interventions to these goals. Many participants somewhat agreed that the process is providing interventions to meet the needs of students.

Follow-up is an area of weakness; it is also discussed in research question three and research question five. Ratings were slightly lower, and participants explained the importance of consistent follow-up for every case, as well as some factors that may be impeding follow-up. Even though ratings were generally lower, when examining combined responses, there was a fairly even split between participants who felt that the process was either inadequate or somewhat effective in short-term follow-up procedures and participants who felt the team followed up adequately or very adequately in the short-term. Combined responses of long-term follow-up indicate that 31.8% of participants feel that long-term follow-up is either inadequate or somewhat adequate, while 26.3% of participants consider the process to be adequate or very

adequate in this area. Thus, while both short and long-term follow-up procedures are components for improvement, long-term follow-up should be used more frequently.

Research question two focused on interventions that are matched appropriately to meet the needs of struggling students, especially ELLs. Participants expressed that the district has improved in terms of developing well-matched academic and behavioral interventions for referred students. Also, when discussing referred students, participants somewhat agreed that the I&RS process is effective in meeting their needs. The number of combined responses of participants who agree and strongly agree that the process meets the needs of referred students is greater than the number of participants who disagree and strongly disagree with this statement. This trend continues with participants who somewhat agree, agree, and strongly agree with this statement and participants who somewhat disagree, disagree, and strongly disagree with this statement.

However, scores indicate that many participants disagree that the I&RS team is effective in meeting the needs of ELLs. Some participants somewhat agree with this statement. Yet, when examining combined responses of participants who somewhat disagree, disagree, and strongly disagree and the combined responses of participants who somewhat agree, agree, and strongly agree, there is an even split between participants who responded to this question. It is important to note that some participants did not respond to this question. Perceptions of well-matched academic and behavioral interventions, as well as perceptions about the process meeting the needs of referred students are related to participants' perceptions about the effectiveness of the process to meet the needs of referred students as well as ELLs. Participants discussed the importance of additional ELL training as well as a multi-disciplinary I&RS team in order to better distinguish whether or not a student is struggling due to language acquisition or a learning

disability. This would also help the team to better help teachers meet the needs of students in the classroom.

Research question three discusses whether or not participants perceive the I&RS process to lead to appropriate classifications for ELLs. Overall, participants were either neutral or provided suggestions for improvement in this area. According to combined responses for the effectiveness of the I&RS process to determine special education placement, 42.9% of participants believed the process to be ineffective or somewhat effective and 24.2% of the participants believed the process to be effective or highly effective. Thus, a greater number of participants disagree that the process is a means to determine appropriate placement. There are many factors that could be affecting these perceptions. During interviews, participants discussed the debate over determining whether or not a student is acquiring language or if they have a learning disability, as well as interventions to meet the needs of ELLs. Many participants discussed the importance of creating a multi-disciplinary team in order to better meet the needs of students, provide better information about the student's area of weaknesses, and collect more meaningful information to determine whether or not a student should be referred to the child study team for special education testing. Participants also discussed the importance of language and understanding language acquisition to better meet the needs of ELLs in the classroom. With a better understanding of language needs in the classroom, decisions regarding placement may be more successful for individual student cases.

Research question four discusses the strengths and weaknesses of the I&RS process. Participants discussed elements of the process that are its strengths. Many of these elements are strengths because of the reforms of the new I&RS process. These include more interventions, strategy meetings, more collaboration, and greater degree of accountability. Participants

discussed these elements as being helpful when working with and helping referred students.

Participants also discussed weaknesses of the process. Some of the themes discussed include lack of follow-up by the I&RS team, issues of time, and lack of resources. In this section, participants discussed some suggestions that would help the team improve in these areas, which are addressed through research question five.

Research question five discusses improvements to the I&RS process. There were several areas of the process that could be improved. Participants discussed the importance of essential data that allows the team to figure out exactly the areas where a child may be struggling, as well as shifting toward a child-centered mindset, to help the child through getting to know the whole child. While collaboration is evident in some cases, participants discussed the importance of maintaining and increasing collaborative relationships between teachers, members of the I&RS team, members of the CST, administration, etc. Participants also discussed areas of logistics that could be improved, which include elements such as better use of time and a consistent structure for the I&RS process. Finally, participants recognized the change from the older I&RS process to the newer process and discussed many of the positive aspects of the new process. They discussed ways that Gardenia School District could continue to improve in these areas, which will help the team better meet the needs of referred students, especially ELLs.

Research question six discusses the additional factors and/or issues that may be influencing the provision of an appropriate I&RS process. Some participants were unsure about how to answer this question. Other participants discussed the home life of students as a factor that is out of the school's control. Participants discussed the importance of embracing students' culture and creating a sense of community in the school to help foster relationships between the school and students' families. They discussed this as an important component in the I&RS

process because team members would have a better understanding of the whole child. Also, families would have a clearer understanding of the purpose of the I&RS process, and collaboration between team members, the general education teacher, and students' families could be strengthened, which in turn, could better help the referred student academically, socially, and emotionally. Additionally, participants discussed the importance of consistency within the I&RS process for each student case. This is a difficult topic because it is challenging to standardize a process that is individualized for each student. Consistent structural guidelines have been implemented in the district to help ease this tension; however, participants express frustration with the time aspect of the process while individualizing the process to meet student needs. While participants talked about a need for individualization, they also discussed additional structural guidelines that would be helpful throughout the I&RS process. This is an enduring tension of the process. Implementing the I&RS process more consistently and collaboratively could help improve its effectiveness and reduce teacher frustration because it would be more structured and there would be additional opportunities for follow-up.

Chapter 5 provides a discussion of these findings through interpretation, and discusses some of the implications of these findings.



## CHAPTER FIVE-DISCUSSION

### **Introduction**

#### **Purpose**

The purpose of this study is to explore the Intervention and Referral process in Gardenia School District to determine the strengths and areas for improvement that could meet the needs of all referred students, including students who are ELLs in general education and special education. This study is exploratory in nature and is based on perceptions of personnel who have been involved in the process. The format of this study is a qualitative case study approach with mixed methods data analyses, specifically concurrent mixed methodology, since both survey and interview data were analyzed and collected concurrently. These different types of methodologies informed each other and contributed toward greater themes and understanding for the study. Improving the I&RS process could help to better meet the academic, social, and emotional needs of referred students, especially ELLs. Thus, the process could help the team determine appropriate placements for all students in either general education or special education.

#### **Findings and Interpretations**

**Research question one.** What are teacher and administrator perceptions of the I&RS process at the four elementary schools in Gardenia School District?

***Interventions and strategy meetings.*** Many participants agreed that the team develops well-matched academic and behavioral interventions. Interventions are an important component of the I&RS process, and findings from participant surveys and interviews indicate that Gardenia School District has made reforms in this area and has shown improvement. While participants' responses vary regarding whether or not the interventions are well matched to student needs,

many participants somewhat agree that both behavioral and academic interventions are well matched. Combined responses for survey question eight, relating to well-matched academic interventions and survey question nine, which inquires about well-matched behavioral interventions, indicate that the majority of participants agree that the process provides interventions for students that are appropriate and well-matched. This indicates that Gardenia School District is progressing in terms of providing interventions for students.

Participants discussed types of interventions that ranged from strategies for classroom accommodations to supplemental, evidence-based programs. Many of the supplemental programs focused on phonics; programs such as these are important since phonological awareness is a major component of reading and a predictor of future reading success (Fielding-Barnsley & Hay, 2012). All participants discussed some aspect of interventions, indicating that interventions are available, suggested, and used as part of the I&RS process throughout the district.

Further, participants also discussed the improvements in terms of interventions by mentioning strategy meetings, which is a component of the new I&RS process. Many participants discussed strategy meetings as a positive aspect of the I&RS process. This may contribute to the overall satisfaction rating across the district, which indicates that participants somewhat agree that the process is effective. Strategy meetings help participants to discuss and try strategies with a student prior to an I&RS meeting, and consequently, teachers have additional opportunities to collect and monitor this data. The presence of these meetings and interventions could be contributing factors toward participants' ratings regarding whether they encourage colleagues to use the I&RS process to help students as well. While ratings varied among participants, many participants agreed or partially agreed that they would recommend the

process to their colleagues. When examining combined responses, more participants indicated that they would encourage colleagues to use the I&RS process than participants who expressed they would not recommend this process.

***Measurable goals.*** Additionally, many participants discussed measurable goals as a component of the I&RS process. Measurable goals help teachers to hone in on specific skills with focused interventions to measure a student's growth. Some participants discussed this focus on fewer goals to be somewhat limited while others positively discussed this new reform. Measurable goals are reflective of progress monitoring strategies, which are important because they inform the team of a student's responsiveness to a particular intervention. Progress monitoring strategies are based on a Response-to-Intervention model, which is designed to help students by measuring their responsiveness to an intervention and adjusting the learning environment to meet their needs. RTI is supported by research as a way to measure student's performance in general education because it is assumed that a student without a disability will make progress with evidence-based, high quality intervention and instructions (NJCLD, 2005). Thus, if a student is not responding to an intervention, then discussions about potential referral to the child study team for special education testing will most likely occur. With this RTI mentality, participants discussed measurable goals as a positive change to the process.

***Follow-up.*** Finally, participants discussed the importance of follow-up after a meeting as well as the benefit of more frequent I&RS meetings. Follow-up was reflected in the survey through questions where participants rated short-term and long-term follow-up as either somewhat adequate or neutral. Frequencies of responses varied for these two questions, but many responses rated the process lower than previous questions. According to combined responses for both short-term and long-term follow-up questions, more participants rated this

part of the process as being inadequate or somewhat adequate. Long-term follow-up was rated slightly lower than short-term follow-up with more participants expressing that this process was inadequate or somewhat adequate. Improving follow-up will help the team better assess a student's progress, and it will provide support for the teacher as he/she is implementing an intervention. Also, it will allow for additional collaborative opportunities among professionals. Consistency in terms of the type of follow-up is very important and beneficial to the I&RS process. Research supports the benefits of follow-up during the I&RS process. Team members should agree on the nature of the problem, develop interventions or strategies to address the problem, and establish a plan for follow-up, so they can measure progress (Ortiz et al., 2006). Follow-up meetings allow team members and the referring teacher to review progress and explore the data, determine what is essential, and assess the student's response to the intervention. It is important to note that this process may be repeated multiple times with additional team members with different types of expertise (Ortiz et al., 2006). Both short-term and long-term follow-up are important, and they should be implemented as a part of the I&RS process.

As evidenced by the findings, administrators and teachers recognize improvements to the I&RS process, influencing their perceptions of the process. Participants have also had more experience with interventions throughout the I&RS process. Gardenia School District has been working on providing resources for appropriate interventions, so continually working in this area will contribute positively to the I&RS process. Further, follow-up is not occurring as frequently as it could be, which could be attributed to scheduling and time constraints and are discussed in greater depth in subsequent research questions. Allotting times for follow-up opportunities in addition to meetings could help team members better follow-up with teachers and vice versa.

These findings have implications for the immediate trajectories of students in the process as well as the long-term trajectories of students. By utilizing measurable goals that are linked to specific academic and behavioral interventions, students are able to improve a certain area of weakness. Also, teachers could more efficiently monitor a student's progress, which would help them better determine strategies to help students. Immediate follow-up will help teachers work with students more effectively and efficiently since team members will have the opportunity to assist teachers in regards to implementing interventions, administering assessments, measuring student progress, and adjusting interventions to better meet the goals for the student.

Long-term follow-up will help student trajectories significantly since their progress could be monitored over a longer period of time. This component of the process is difficult due to logistics; however, it is extremely important when examining student progress. Even though the process has shown some improvements with methods to help students in the short-term, long-term placement and progress could be measured more frequently. Further, while there are many interventions in Gardenia School District, continuing to refine matching appropriate academic and behavioral interventions to students' needs could improve their long-term academic and/or behavioral trajectories in school.

**Research question two.** To what degree and in what ways do teachers and administrators perceive the I&RS process to be providing appropriate interventions for struggling learners, especially those who are ELL students? This research question overlaps with the first research question in terms of interventions, which have been discussed in the previous section.

***Effective intervention matching.*** Many participants discussed the presence and importance of better data use, which helps teams accurately target a student's area of weakness

and appropriately match the intervention. It is difficult to measure the amount of effective matching in every student's case. However, according to participant interviews, some cases consist of better-matched interventions, which are often attributed to the success of the referred students. Yet, there are still cases where interventions are not well matched. Participants discussed both types of cases. The team should continue to work on effectively matching interventions to a child's area of weakness, so that they are more successful. As the district improves with data analysis methods to examine essential data, interventions could be matched more appropriately to areas of student need. Gardenia School District has already begun this initiative and continues to communicate ways to share student data through the use of technology. Research suggests that developing easily accessible ways to share student data, such as common forms and technology, could improve data based decision-making (Ortiz et al., 2006).

While the survey did not contain a specific question that asked participants whether or not interventions were well matched for ELLs, there were two survey questions that address this topic in terms of meeting the needs of ELLs. Survey question thirteen asked participants to rate the effectiveness of the team in meeting the needs of ELLs. Average ratings ranged from somewhat disagree to somewhat agree, and survey question twenty-four indicates that the average response of participants is that they disagree the I&RS process provides helpful solutions for ELLs in the classroom, which shows that this is an area for improvement. When examining combined responses for survey question thirteen, participant perceptions were evenly split in terms of strongly disagreeing and disagreeing and participants who agreed and strongly agreed that the I&RS process is effective in meeting the needs of ELLs.

Thus, while overall ratings for these questions are lower than questions about interventions, there are many factors that may contribute to these ratings, which include the demographics of the schools and experiences of the participants. These findings also support the tension reflected in the interviews between implementing strategies to meet the needs of ELLs in the classroom and determining when to refer students to the I&RS process and/or potentially to the child study team for special education testing. Since there is not a set formula to determine whether or not a student who is an ELL is acquiring language or he/she has a disability, this is very difficult for teachers. Further, there is a conflict between knowing when to refer a student and when to wait since teachers do not want to contribute to the “wait to fail model.” Gardenia School District has begun to address tensions such as these through mandatory cultural responsiveness training; however, additional opportunities for professional development would be helpful. These findings indicate that additional professional development with strategies to support student language-learning needs and increase cultural awareness in the classroom could be beneficial for every teacher in the district.

Participants discussed many areas related to language and education. Participants discussed the importance of being able to distinguish whether a student who is an ELL may be struggling due to language acquisition or a disability. Some mentioned specific cases of students while others talked about this phenomenon in relation to the entire I&RS process. Few participants discussed the time it takes an ELL to acquire academic language, which is approximately five to seven years (Quirk & Beem 2012). Some participants acknowledged that it takes time to acquire language, but they expressed the problems associated when there is a lack of interventions during this time period. Students may fall behind their grade level peers, so participants stressed the importance of early intervention practices. Utilizing research-based

early intervention practices are important to help students achieve and catch up to grade-level peers (Ortiz & Yates, 2001). Also, making these intervention practices available through general education could potentially prevent the “wait-to-fail” model from occurring. Gardenia School District has begun to build a repertoire of interventions; however, teachers and administration should receive opportunities for professional development and training with these programs, so they could implement them with fidelity. While average survey responses tended to be more neutral in terms of the effectiveness of the process to determine the reason a student struggles, combined responses indicate that more participants agreed that the process is able to distinguish whether a child is struggling due to language acquisition or a disability. Many participants discussed the factors that contribute to this debate at length.

Taking into account contextual factors such as culture, school experiences, and language exposure could help the team understand a student’s learning progress and help students succeed in school. Participants recognized the impact of culture on student achievement, and some expressed the importance of the team members to understand and embrace diverse cultures. While some participants discussed aspects of culture positively such as the importance of embracing students’ cultures, some participants reflected frustration and a need for additional resources to help meet the needs of ELLs. More specifically, participants discussed the linguistic aspect of culture when talking about helping students progress with English academic language. Participants who discussed frustration with meeting the language learning needs of students did not discuss culturally responsive strategies; however, language is an aspect of culture and understanding a student’s culture paired with knowledge about language learning strategies, could help teachers immensely. Thus, it is important to train teachers to employ culturally responsive strategies to foster student empowerment, which acknowledges differences in student



backgrounds in terms of culture, language, and experience. Research suggests implementing strategies such as journal writing, literature discussion groups, and peer-mediated instructional approaches (Salend & Duhaney 2005). Incorporating culturally responsive instructional practices while diversifying and individualizing the curriculum based on the needs of each student could help meet the needs of all students in the classroom.

Even though participants did not discuss culturally responsive teaching directly, they discussed the roles of both culture and students' home lives in school. Even though some discussions of culture were positive, some participants expressed frustration when talking about students' home lives. While participants may have knowledge about diverse cultures, it is important to see how this is reflected in student home lives by embracing students' cultural backgrounds and upbringing. Therefore, additional cultural awareness training and experiences could help teachers and administrators in Gardenia School District better meet the needs of both ELLs and non-ELLs during classroom instruction and through the I&RS process. Literature supports the importance of being knowledgeable about student cultures when making decisions regarding interventions, accommodations, placement, diagnosis, etc. of referred students (Ortiz et al., 2006). Opportunities for training in culturally responsive teaching and learning could help personnel involved in the I&RS process as well as classroom teachers. An understanding of diverse cultures and ways to embrace and integrate culture into the classroom could help teachers better meet the needs of learners in the classroom. This knowledge could also help teachers decide if a student may be struggling with the academic English language because they are still acquiring language, or they may have a disability. With a greater depth of knowledge about students and their cultures paired with language learning strategies, teachers could make informed decisions about students' abilities since they would have a better understanding of

students' performance linguistically in the context of school-specific tasks. They would also be able to work with families to gain knowledge about the student and their capabilities out of the school context. This information could help teachers determine how to meet students' needs in the classroom as well as whether or not a student should be referred for special education testing, which could affect their educational placement.

Additional training about strategies to meet the needs of ELLs by understanding language acquisition and assessing language proficiency more accurately in addition to a better understanding about their cultural experiences would be helpful for all teachers. Understanding the complexity of language acquisition is useful for teachers and I&RS team members who work with ELLs, especially when working with academic language. Participants discussed the "language barrier," however, with additional knowledge about language and language acquisition; participant perceptions may not focus on the "barrier." Rather, teachers and administrators could begin to understand the stages of language acquisition and the connections between languages and ways to communicate through classroom instruction. These perceptions could impact teacher referrals to the I&RS process as well as the types of interventions that the I&RS process suggests. It seems that the I&RS process is improving in terms of general intervention strategies and programs, but it needs to further develop supports that help students acquire both academic and conversational language.

This relates to disproportionality because determining the reason a student struggles in school could directly affect a student's educational placement. Some participants discussed disproportionate representation of Black and Hispanic students in special education as a contributing factor that affects the I&RS in the district. This relates to the literature because literature explains how disproportionate representation of minority students in special education

may have problematic effects in terms of access to educational programs in the general education setting (Garcia Fierros & Conroy, 2002).

Inappropriate placement of minority students in special education is restrictive since students may not have exposure to a large amount of the general education curriculum, and findings express that participants acknowledge this concept when deciding whether a student is struggling due to language acquisition or a disability. Awareness of disproportionality may impact the team's decisions because discussions about language affects whether or not a student is referred to the child study team. The team is careful to avoid referring students to the child study team unnecessarily because minority students in separate special education systems may experience greater negative consequences (Losen & Orfield, 2002). Further, Gardenia School District has been cited by the State of New Jersey for overrepresentation of Hispanic and Black students in all disability categories, and the teams are cognizant of this citation. There are also concerns concerning effects of inappropriately placing minority students in special education because it limits their access to the general education curriculum (Salend & Duhaney, 2005).

Even though problems surrounding misdiagnosis and inappropriate placement are prevalent in the literature, participants did not discuss these topics. This could have occurred because participants may not be familiar with the concept of inappropriate placement because I&RS teams are very cautious when referring students to the child study team. Actually, a greater number of participants discussed the students who are not referred for special education services rather than the students who are referred and those who are classified. Participants' discussions also focused on the time it may take to help referred students, especially if the student is considered an ELL, while they are acquiring language. In many cases, the team waits to determine if the student will acquire the English language with some interventions. Yet,

participants talked about the problems associated with this model as well because some students may not receive appropriate interventions during this time. Judging by the conversations about this topic, it is evident that participants continue to experience a tension between modifying the classroom environment and knowing when to refer a student to the I&RS team. This tension is recognized in Gardenia School District because there have been additional resources dedicated to intervention programs to help students who are struggling, though not specifically with language. Teachers are encouraged to implement various strategies and supplemental programs in the general education classroom or the academic support classroom. Thus, it is apparent that the district recognizes the importance of including more interventions available through general education services. “General education, not special education, should be primarily responsible for the education of students with special learning needs that cannot be attributed to disabilities” (Ortiz, 2001, p. 3). Further, the district could enhance professional development opportunities that focus on second language acquisition and culturally responsive teaching for all teachers and administrators; this would add to the repertoire of strategies and knowledge available. While language and disability were discussed extensively throughout the interviews, it was surprising that inappropriate placement was not a prevalent topic of discussion during the interviews even though it is an influential factor in terms of the context of the I&RS process.

Implementing language supports and training teachers with strategies to help ELLs in the classroom could improve both the short-term and long-term trajectories of students referred to the I&RS process. These strategies could have short-term effects on student performance in the classroom, especially with literacy. Students may experience more success with additional language and differentiated instruction in the classroom. These successes could affect these students long-term in a variety of ways. Students may be more appropriately placed in either

general education or special education because language may not be such a significant contributing factor that affects their academic achievement and consequently their placement. Thus, improvements that include preparing teachers with culturally responsive strategies and language supports could potentially improve students' short-term and long-term trajectories, which could ultimately enhance the usefulness of the I&RS process.

**Research question three.** To what extent do teachers and administrators believe that the I&RS process leads to appropriate classifications for ELLs?

*Language acquisition or disability?* This is a difficult debate, and it is prevalent throughout Gardenia School District. There are many factors influencing language acquisition such as language exposure, time, and knowledge of students' primary language. Primary language learning experiences for ELLs influences second language acquisition, and there are various types of cognitive and academic demands involved when learning an additional language (Graves, August, & Mancilla-Martinez, 2013). Forty-four and one half percent of participants agreed to a degree that the process is effective in distinguishing whether a student is acquiring language or has a disability. When examining the combined responses of participants, more participants agreed than disagreed that the process is effective in distinguishing whether a student struggles because he/she is acquiring language or has a disability. Yet, it is important to think about reasons for the divide in responses when analyzing combined responses as well.

The effectiveness of the team in this area seems to be dependent on the student's individual case and the team members involved. Participants discussed some examples of cases that have been successful and other students that have not had as much success with the process. There is clearly an enduring tension among teachers in this area in terms of concerns about not having a sufficient knowledge base to appropriately determine the reason a student, especially an

ELL student, may be struggling academically in the classroom. Time seems to be a factor that affects many of the team's decisions. It is difficult to wait to determine whether or not a student is acquiring language when they could receive early intervention services through special education, this contributes to the pressure to identify the reason a student may be working below grade level in the classroom.

Providing interventions to meet students' needs through general education services is a solution to this problem, and it is a key component of the I&RS process. These would be considered prereferral strategies, which are used to identify and implement interventions that match a student's strengths and needs while addressing contextual issues such as social or medical issues and/or linguistic background. Success of the interventions is evaluated to determine whether or not the student should be referred for special education services (Salend & Duhaney, 2005). If the referred ELL student is unresponsive to interventions, that could be indicative of a possible disability. Gardenia School District is beginning to implement some prereferral strategies as more supplemental programs and strategies become available. As team members and general education teachers expand their knowledge base, prereferral strategies will improve.

***Placement.*** Placement effectiveness was measured using a survey question about placement decisions. Twenty-four and two tenths percent of the sample rated this question in a form of agreement while 9.9% rated it as somewhat effective. According to combined responses, more participants disagreed than agreed that the process makes appropriate placement decisions for referred students. There are many contributing factors that could affect these ratings including varied participant experiences and demographics of ELLs in each school. Placement directly relates to a student's classification, so if a student is classified with a

disability, then he/she would be placed in a special education setting. The team has a general awareness regarding inappropriate placements and takes precautions to try to avoid inappropriate placement, which was reflected throughout participant interviews. Inappropriate student placement may lead to unfavorable outcomes for the students (Arnold & Lassmann, 2003). Participants discussed the importance of appropriate placement, but discussed concepts related to underrepresentation rather than overrepresentation of minority students in special education. They discussed the importance of ensuring a student's educational needs are met whether it is through general education or special education placement. Participants discussed time as a factor that influences placement in terms of special education assessment and referral for special education testing.

Placement is affected by Gardenia School District's citation for overrepresentation of Hispanic and Black students in all special education categories because teams seem to be careful not to over refer students who are in minority categories, many of whom are ELLs. This is positive for some cases, but there are some students in these categories that should be referred for special education testing. Even though a comparison between a general education student and a student in special education may reveal a gap between their respective performances, it is important to note that the student in special education may have a higher performance than if he/she were placed in general education with no supports (Feldman, 2012). Participants continually expressed views that were focused on the child and getting the referred student the help that he/she needs.

So, integrating knowledge of various cultures and second language acquisition could help the team make placement decisions. Additionally, applying knowledge of cultural processes where people interact with each other in various cultural communities will contribute to a better

understanding of the student referred to the process (Gutiérrez & Rogoff, 2003). Including experts on ELLs could help ensure that data, eligibility, and placement issues are interpreted accurately. Based on the study's findings, it seems that the district has made some improvements in this area, but should continue to work on the logistics of the process and including additional ELL and cultural responsiveness training and interventions to help teachers and the team make decisions regarding student placements.

Further, multi-disciplinary teams are important and affect classification decisions. Multi-disciplinary teams will be discussed in greater depth under research question five; it is an aspect of the process that affects whether or not the team makes an appropriate decision regarding student placement. When there are people with different types of expertise on the team, they can better contribute knowledge and suggestions to help students and determine whether or not an ELL is acquiring language or should be referred for special education testing. Many of these topics will be further discussed in response to research question five, which asks participants for suggestions regarding improvement of the I&RS process.

Student classification and placement affects students' short-term and long-term trajectories, thus it is important to make informed, data based decisions to help these students. When students are receiving appropriate supports, whether they are in general education or special education, they will most likely progress and have better trajectories in terms of their academic, social, and emotional success. Thus, improving the I&RS process to provide better supports in terms of useful data that could help the child study team make accurate classification determinations and appropriate placement decisions will help students referred to the process and the child study team. Using data based decisions will help students because interventions would



match information gathered in the classroom and ideally will help students improve in specific areas of weakness.

**Research question four.** What do teachers and administrators perceive to be the strengths and weaknesses of I&RS at their school in Gardenia School District?

*Strengths of the I&RS process.* The following information was discussed as strengths of the I&RS process.

*Interventions.* Teachers and administrators discussed various areas of strength and weaknesses of the I&RS process. One of the major topics discussed included effective matching of interventions to a child's strengths and weaknesses. While the district has many interventions available, teams need to be able to examine and distinguish essential data to determine which interventions would be most effective for a particular student. Teams could gather essential data by encouraging teachers to use clinical teaching strategies where teachers monitor student performance using informal, curriculum-based assessment strategies such as observations or work samples. Then, the teacher would provide differentiated instruction based on these assessments and continue to monitor the student's progress (Ortiz et al., 2006).

Data based instructional strategies such as these could help inform a team's decision about interventions and/or placement for a referred student. Teams have been working on data based decision-making through the development of specific goals for students. Teachers work with the teams to create a few, attainable goals, which are based on information that represents the referred student's areas of weakness and strength. This concept was discussed in greater detail in the section for research question two.

As previously discussed, one of the strengths of the process is the presence of different types of interventions. Interventions range from tools to accommodate learners to supplemental

programs. Participants discussed the existence and importance of many of these interventions with examples of ways they have been implemented. Focusing these interventions on the needs of the child by gathering data about the whole child may help improve the effectiveness of these strategies and/or programs.

It is important to note that while interventions mentioned may focus on specific skills, there were few language interventions discussed. Scarcella (2003) explains some important components of language intervention programs that help students acquire a better understanding of academic language such as vocabulary and grammatical components. Even though there are some interventions that contain these elements, participants mentioned the importance of increasing vocabulary instruction. Vocabulary instruction could help increase language acquisition for many ELLs when it is integrated into the classroom with instruction that enhances other aspects of academic language as well (WWC, 2007). Thus, adding strategies that help improve students' vocabulary knowledge in context may be helpful to meet the needs of referred students, especially ELLs.

*Collaboration.* Even though collaboration is an area of strength, this practice should occur more frequently throughout the I&RS process. This is a collaborative process, and it should consist of equal team members sharing knowledge and expertise to help a particular student. When collaboration occurs between team members, the referring teacher, and families, it is a strength of the process and could significantly help the student.

*Strategy meetings.* Strategy meetings are an additional area of strength and relate to the logistics of the I&RS process. Strategy meetings occur prior to the official I&RS meeting and help prepare the teacher with initial interventions and plans to implement with the student. This also assists the teacher to better assess the student's areas of strengths and weaknesses.

Additionally, the teacher has more data to bring to the I&RS meeting, which could help the team to better match interventions to the student's needs. Participants discussed examples of topics talked about during strategy meetings and ways that strategy meetings have been helpful when working with the referred student.

*Accountability.* With the changes to the process, teachers are more accountable for implementing interventions, the team is responsible for providing interventions and following-up with teachers, and students are held more accountable in terms of their performance with the interventions. Participants discussed the importance of scheduling meetings in advance to ensure they are implementing interventions consistently and with fidelity, since they will bring this data to present at the next meeting. More frequent meetings will help further improve accountability for teachers, the team, and students.

***Weaknesses of the I&RS process.*** The following information was discussed as weaknesses of the I&RS process.

*Lack of strategy knowledge and time.* Participant responses regarding this topic were inconsistent since some participants discussed a lack of knowledge in terms of the I&RS process while others discussed an abundance of knowledge regarding the I&RS process. Knowledge refers to both the team's knowledge as well as the knowledge of the referring teacher. Even though there were inconsistencies in responses, this topic is still important to discuss. Some participants talked about the availability of interventions and strategy knowledge as a weakness, but mostly in terms of meeting the needs of ELLs. While there are some strategies and resources for working with ELLs, there is a need for additional knowledge in this area to support ELLs. This was also reflected in the survey since participants rated the effectiveness of the process in meeting the needs of ELLs as slightly lower than the effectiveness of the process to meet the

needs of all referred students. This phenomenon occurred when examining frequencies of combined responses for this question as well. Training and professional development opportunities are important to ensure that all participants involved in the I&RS process are on the same page in terms of ELL support and intervention recommendations (Ortiz et al., 2006).

Lack of time was frequently discussed throughout the interviews. Time was discussed in various contexts, which include the specific I&RS meetings, the time between meetings, the time it takes an ELL to receive services, and the time it takes to determine whether an ELL student is struggling due to language acquisition or a disability. There is not enough time to involve all applicable personnel to provide input for every referred student, and to hold frequent meetings within a shorter time frame, which may cause teacher frustration.

*Teacher frustration.* Teacher frustration with the process is an area of weakness. Teacher frustration may occur for many reasons; one of the main reasons is time. It is difficult to schedule time to implement and measure the interventions while working collaboratively with the team in a timely manner. It is also difficult for the team to adequately provide meaningful short- and long-term follow-up for every referred case. However, in order to alleviate teacher frustration, reforms to the I&RS process should focus on adequate follow-up procedures, more training on the structure of the I&RS process, and strategies for better understanding and meeting the academic language needs of ELLs.

**Research question five.** What do teachers and administrators believe should be done to improve the I&RS process for ELL students in their respective schools in Gardenia School District?

*Data.* As previously discussed, data is an important component of the I&RS process and should be used meaningfully to help meet the needs of all students. Examining essential data

that indicate areas of weakness and appropriately matching interventions is an area that has improved in Gardenia School District, but still needs development. For instance, if a student is having trouble with fluency, then a program needs to be implemented that has a strong fluency component instead of just an overall phonics program. As the district has gathered more resources, there have been a greater variety of interventions available. The next step is for teams to be able to analyze data and match interventions effectively. Teams should work together to better examine essential data that could be used to determine the best interventions for a student.

***Child-focused.*** Essential data-collection directly relates to maintaining a child-focused mindset. Instead of looking more broadly at numbers, disability categories, minority categories, etc., the team should continue to use a whole child mindset and focus on each child individually. The team can use this information to make decisions about interventions. Discussing ways to foster a child's areas of strength in conjunction with interventions to improve areas of weakness is important to better the short-term and long-term trajectory of the referred student. Consequently, interventions should be based on data and focused on the needs of the particular student (Ortiz et al., 2006). Combining perspectives of family members and various professionals could also help the team develop knowledge about different aspects of the child's life and allow them to focus on the whole child. This could help the teachers and the teams identify interventions geared toward the individual's areas of weaknesses instead of apparent weaknesses when the student is compared to his/her grade level peers.

***Logistics.*** Many participants discussed the importance of improving the I&RS process logistics in terms of time, which directly relates to both short-term and long-term follow-up. Time was identified as an area of weakness and was also discussed in relation to research question three. It is important to note that time is a consistent area for improvement in schools,

and it is relevant to the I&RS process in a variety of ways. During this study, time was discussed in terms of the actual length of time for each meeting and its role in maintaining a consistent structure during the meetings while discussing all pertinent areas to help the student.

Additionally, participants talked about minimizing the amount of time between meetings while allowing a student sufficient time to respond to a particular intervention, which is very difficult to accomplish due to scheduling conflicts. Time also refers to the amount of time it takes an ELL to acquire language and the balance between being sensitive to this time period while preventing the student from falling behind grade-level peers because they are acquiring language.

Participants discussed some suggestions to improve logistics, which include a more concrete schedule of meetings, additional I&RS structure, and further knowledge about language acquisition and ELLs. Furthermore, incorporating more personnel in the process is a way to help manage time and follow-up procedures while augmenting the process with more expertise.

***Follow-up.*** Research question one addresses follow-up more extensively. Time directly relates to follow-up because it is a factor that affects when and how members of the team follow-up and collaborate with the referring teachers. Better managing time for follow-up could help teachers feel supported when they adjust interventions to more effectively meet the needs of students instead of waiting until the next official I&RS meeting. It seems that the team tries to follow-up in some ways whether it be written follow-up or classroom visits, but time impacts the amount and frequency of team follow-up, which is an aspect of the process that can benefit from improvement. Both short- and long-term follow-up contribute to an effective I&RS process, and should be more consistently included in the process for each student case.

***Collaboration.*** While collaboration has been described as a strength of the process, it is simultaneously an area for improvement because it should be maintained and increased.

Collaboration helps both the team and the referred students because all members of the team are combining their expertise to better meet the student's needs. By participating in collaborative team models, teachers are able to gain strategies and apply them when teaching students with similar difficulties. Also, when teachers are trained with strategies to meet the needs of diverse learners, culturally responsive teaching, language acquisition, and so forth, they could share this knowledge with the team and expand the knowledge base. So, if a teacher has an ELL student in his/her classroom, the I&RS team could help prepare him/her with strategies that may be applicable to other ELL students as well (Ortiz et al., 2006). It is important to note that this repertoire of strategies may not be applicable to every student that is an ELL, but it may help meet the needs of some students acquiring English. Additionally, the team could learn from the expertise of the teacher, and it would be a mutually beneficial relationship. Collaboration and problem solving between members of the team and the general education teacher helps the teacher to incorporate new routines and strategies into the general education classroom (Kovaleski & Glew, 2006). Some participants supported this notion when they discussed the importance of enhancing collaboration within the process. Teachers would be more empowered and they would continue to implement interventions in the classroom, which would ultimately help the referred student as well as future students.

***Multi-disciplinary team.*** Creating a multi-disciplinary team with experts in language, such as ESL teachers could help teachers better meet the needs of ELL students referred to the process. The process is collaborative, where the expertise of team members is necessary to help the referred student. Participants talked about the benefits of including different people on the

I&RS team, depending on the student. So, if a student is struggling with phonemic and phonological awareness skills, including a reading specialist or a Learning Disabilities Teaching Consultant (LDTC) who has a great depth of knowledge in this area of reading could be helpful to determine strategies that would help this student. It is important to note that this person may not be included on every meeting for each student. However, applying a professional's expertise with specific strategies and interventions to the student's struggle could benefit the student and enhance a referral team

This concept is supported by research, especially when working to meet the needs of ELLs. Ortiz et al., (2006) discuss teacher assistance teams as a separate type of team than student assistance teams. When teachers initially refer a student, they would be referred to a teacher assistance team. If an ELL is referred, then this team should include teachers with expertise relating to ELLs in addition to family members, who could contribute meaningfully to group discussions. Student assistance teams offer more specialists when discussing a student, and specialists should have various areas of expertise; these meetings consist of conversations regarding interventions, assessment, and/or a possible diagnosis (Ortiz et al., 2006). Participants discussed assessments in terms of data collection as well as modifications. This suggests that the I&RS team is presenting participants with alternate types of assessments for referred students. Research supports alternate types of assessments for struggling students, including ELLs because they help a teacher inform instruction, and it is important information for future decision-making (Ortiz & Yates, 2001). Participants discussed a need for a similar model for the team, and as explained previously, they stressed that the same team members do not need to be included for each case. Teacher expertise should be matched to the student, so if an ELL student is referred



to the I&RS team, then an ESL teacher or a specialist with knowledge of ELL instruction and knowledge of the student's cultural community should be included on the team.

***Teacher training.*** Participants discussed the importance of additional training about the I&RS process and training on education strategies for ELLs. More opportunities for training could influence teacher perceptions, especially when working with ELLs and second language acquisition. Teacher views are important when they refer students to the I&RS team since this information assists the process to determine whether or not a student has a disability (Sideridis, Antoniou, & Padelida, 2008). Trainings could also focus on second language acquisition and culturally responsive teaching to help foster teacher expertise in these areas, and consequently enable them to help all students succeed more frequently. Research supports this notion and recognizes that all team members will not have expert training on ELLs, so professional development should be provided that includes topics such as second-language acquisition, assessment of language proficiency in both the primary language and the secondary language, instructional methodologies, and progress monitoring strategies (Ortiz et al., 2006). This would contribute to a shared knowledge base among team members and general education teachers.

***The new I&RS process.*** Finally, it is important to note the reforms that have already been implemented in Gardenia School District. The new I&RS process contains many of the reforms suggested and as it is implemented more frequently and consistently, teachers and students will experience more success from the process. Reforms in the areas of interventions, resources, and additional structures have already been implemented in the district. As they are utilized more consistently and more frequently, it is likely that more participants will express positive experiences with the process.

**Research question six.** What additional factors and/or issues may be influencing the provision of an appropriate I&RS process, and in what ways? This research question was an interesting one because participants had various interpretations of it, and some participants did not answer this question.

**Consistency.** One of the major factors that influence the I&RS process is consistency. Consistency refers to how the I&RS process is conducted. Participants discussed a need for a more consistent structure in terms of logistics, times of meetings, types of interventions, and multi-disciplinary teams. Research discusses the importance of clear, referral policies to help teams make better decisions (Klinger et al., 2006). While there is a general structure of the I&RS process that may be based on the NJ state model, it may be applied differently when working with various student cases and needs, resulting in different styles of implementation. I&RS teams in the schools may also interpret aspects of the I&RS process differently. Thus, consistency could affect the I&RS process, and while there are uniform procedures in place, further consistency could help improve the process.

**Home life.** The other factor discussed that is out of control of district personnel is the home life of a child. Participants explained that a student's upbringing, exposure to language, and cultural influences are not in control of school personnel. Further, a student's socioeconomic status (SES) is not in control of personnel and this is important to consider because SES predicts, in part, cognitive and academic outcomes in children (Graves, August, & Mancilla-Martinez, 2013). With that said, there are numerous ways that school personnel may provide needed supports for families such as providing community-based family support resources, discussing support group resources, language class assistance, and access to parenting

and financial supports. Even though SES is not in direct control of school personnel, there are ways for the school to help families gain access to supportive resources.

Regardless of this notion, some participants discussed the need to embrace student's culture and language and integrate them into the school. Differences in culture and language should be viewed as an asset, and the school needs to change to adapt students not vice versa. Participants discussed this important paradigm shift that is occurring throughout the country. Gardenia School District seems to be presently in the midst of this paradigm shift, and has made great strides to incorporate student culture in the schools and involve families. For instance, schools have events where they host families and engage in literacy-related activities. Consistently implementing these events with additional activities to empower families could further improve this initiative. Also, different schools have events where students receive help with homework while their families are able to participate in ESL classes and activities. Additional expansion of the scope and duration of these activities could also help schools to embrace students' cultures. As these programs expand and more teachers are involved, these events could further empower and encourage families to be a part of the school culture while embracing their home culture.

The district should continue these efforts to better meet the needs of students, both ELLs and non-ELLs, part of the process or outside of the process, and both classified and non-classified. An enhanced I&RS process could help improve intervention implementation, classification and placement decisions, and could ultimately contribute to significant improvements in the short-term and long-term trajectories of all students.

**Limitations of the Study**

This study holds some limitations in terms of the generalizability of the findings. The findings of this study are limited to Gardenia School District since the research was conducted locally; however, recommendations based on research could be utilized in other school districts. Further, this study is limited in that it is solely based on participant perceptions of the process without taking into account actual student placement data and information that reflects student responsiveness to the process. In addition, the study intended to include teachers, administrators, and related-service providers; however, scheduling conflicts prevented related-service providers from being included in the interview section of the study. Also, while some related-service providers were present during faculty meetings in some schools to complete survey responses, some related service providers attended separate meetings, and they were not present to complete the surveys. Thus, while some related-service providers were included in this research study, many were excluded due to contextual factors. It is also important to note that the district has recently implemented reforms to the I&RS process, so perceptions may reflect sentiments about the older I&RS process as well, which are informative in terms of recommendations for improvement. These limitations regarding participants and perceptions are important to note because adjusting these areas could potentially impact the study and its outcomes. Also, an adjustment such as examining student data in addition to participant perceptions may provide more in depth knowledge about the effects of the process on students, which could consequently help improvement efforts.

Methodology limitations pertain to data collection and the survey used for this study. Even though triangulation between data collection methods was utilized, including additional sources of data such as student performance information, observation data, and/or data that

tracks the progress of students within the process could improve both the reliability and validity of the study. As explained previously, the survey was not pilot tested, it was modified based on expert knowledge. Pilot testing the survey could have improved its reliability and validity, which could have impacted the study's outcomes. These limitations in methodology are noteworthy because additional data such as observation data of an I&RS meeting could help validate some of the topics discussed during interviews and expressed through the survey, and pilot-testing the survey may have improved its reliability and validity.

Moreover, research that includes information about students' families, home lives, and family views of the I&RS process and its relation to ELLs would have informed the cultural components of this study. This information is important because it could have added depth and additional perspective to the information gathered. Further, including student families in this type of research could help explore the role of culture and its relation to referral processes, which could inform reform efforts to the process. These limitations are important to note in order to recommend further research on this topic.

### **Recommendations for Future Research**

This study provides an overview about the essential components of the I&RS process and their perceived effectiveness according to school personnel. Future exploratory or action research could apply this information and measure student responsiveness throughout the I&RS process, which could determine whether student performance aligns with perceptions of participants.

A long-term examination of student placement and experiences in the process could also help assess the effectiveness of the I&RS process. Further research could focus on I&RS student outcomes and the relation to disproportionality data, thus exploring the connections between

disproportionate representation and referral process effectiveness. Studies addressing these topics may include multiple school districts in order to further analyze effects of the I&RS process in districts with varied populations. This would add depth to this research because strengths, weaknesses, and areas of improvement would be based on a greater number of participants, and results could potentially be more generalizable among school districts.

Additionally, areas of future research could focus on the role and perceptions of students' families regarding the I&RS process, with a focus on families of minority students and ELLs. Families are an important component of the I&RS process, and should be included in future research to further refine and improve the I&RS process. Therefore, the information gained from this study regarding stakeholder perceptions of effectiveness of the I&RS process could be used as a catalyst for future studies that aim to explore, assess, and improve referral processes locally and nationally.

### **Implications**

This research has implications for best practices that focus on the I&RS process and resources to best meet the needs of both students who are ELLs and students who are not ELLs in the classroom while providing effective data to help contribute to placement in either general education or special education settings. The I&RS process has the potential to contribute to a positive social change because more students would receive effectively-matched interventions, and teams would be better able to measure a student's progress; this data could help contribute to student placement decisions.

Gardenia School District has already begun I&RS reforms, and these reforms have been reflected throughout this case study. The newer I&RS process reflects participant recommendations, and the survey indicates results that average more positively in specific areas

such as well-matched academic and behavioral interventions. It is important to continue tailoring and matching interventions to the needs of the referred student as well as ensuring that I&RS meetings remain child-focused. As teachers and administrators become more familiar with interventions, they will be better able to target the interventions for specific learners. Furthermore, meetings should provide opportunities for the whole child to be discussed, which includes their emotional, social, and academic capabilities as well as valuable family input. With this information, general education teachers along with the I&RS team could better match intervention strategies and programs to the needs of the student.

Additionally, Gardenia School District is improving the process by ensuring that teams develop measurable, attainable goals for each referred student. Thus, teachers are engaging in progress monitoring strategies that are similar to those recommended in a Response-to-Intervention model. This practice should continue throughout the district to measure student's responsiveness to specific interventions. Further, teams have shown improvement when employing data based decisions about interventions and referrals to the child study team. Teams continue to examine "essential data," which reveals more information about a specific student's capabilities in a particular area. Therefore, teams should continue to use measurable goals and effective data based decision practices.

While there have been improvements in terms of interventions, participants suggested providing more opportunities for professional development and resources regarding language-based interventions, students who are ELLs, and cultural responsiveness and awareness. Educating students who are ELLs through language-focused strategies, differentiated instruction, and culturally responsive teaching methods is important to help them to acquire language simultaneously with an academic skill-set. In order to accomplish these goals, general education

teachers could receive training with sheltered instruction strategies that will help support students who are learning English in a variety of settings. This type of instruction could help them transition and achieve success with learning language and content since students would be interacting in English with meaningful, relevant material. Through these instructional methods, language and content objectives are included in the curriculum within a subject area (Echevarria & Short, 1999). Teachers should also have more opportunities for culturally responsive strategy training, so they could develop a better understanding of diverse cultures and integrate this knowledge into classroom instruction. This would help the I&RS process meet the needs of referred students since teachers and administrators would have a greater knowledge base in terms of culture and its relationship with classroom instruction. With this knowledge, interventions could be better matched to the individual student's needs, and hopefully the student would experience greater success throughout the process. Additional training in these areas could help both teachers and the I&RS team members make decisions regarding whether a referred ELL is struggling with academic instruction or behavioral expectations due to language acquisition or a disability. Even though there is not a clear answer for every student, expanding informational knowledge about language and culture will certainly help both administrators and teachers to make informed decisions for students.

Further, increasing the amount of supports in general education will ensure that referred students receive early intervention instruction, so they do not fall behind grade-level peers. "Because achievement can be influenced by educators, it provides a logical place to start developing interventions that educators can implement that may reduce disproportionate representation. This may be accomplished through prevention or early intervention" (Hosp & Reschly, 2004, p.195). The district has introduced supplemental program supports available



through general education. Within an RTI model, these supports would be considered Tier 2 interventions. While this is a major improvement and is helping more students, including both ELL and non-ELLs that are in general education, the next steps would include integrating supplemental supports into the general education classroom. The caveat in this case is that teachers would need training and professional development that would help them integrate these intervention strategies into instruction and supplement the district curriculum. While the I&RS team has recommended such interventions, in order for them to be implemented with fidelity, teachers need to have a strong knowledge base, and interventions should be feasible and manageable for teachers in the context of the classroom and existing curricula. Thus, early intervention through general education could potentially help close the achievement gap between all students in the classroom since some instruction would be individualized to meet the needs of all learners, which include both modifications and enrichment of the curricula.

Additionally, ensuring appropriate breadth and depth of expertise on the I&RS team based on the needs of the referred student could potentially help them to determine appropriate interventions and make placement recommendations. Multi-disciplinary teams are supported by research and are an extremely important component of the I&RS team. While it is difficult to maintain a multi-disciplinary team due to scheduling and additional instructional responsibilities of team members, including as many applicable personnel as possible with expertise in a specific area of need could be helpful for a student. Some people who should be on the team include personnel who have expertise in learning and development such as a Learning Disability Teacher Consultant (LDTC), special education teachers who have knowledge of supplemental supports, behaviorists for students who are demonstrating extreme behaviors, and experts in language acquisition and language learning. Also, involving people who are familiar and understand the

cultural communities of students referred to the process would be valuable as well. For instance, when teachers refer ELL students, including ESL teachers and/or speech therapists could help the team ensure that the intervention is appropriately matched to the student's need, and that the team is making appropriate recommendations that align with language acquisition theories. The key to the multi-disciplinary team would be to vary the team members based on the needs of the student. So, if the student is not demonstrating extreme behaviors and the concern is solely academic, then the behaviorist would not be included on this team meeting. Diversifying the team based on the student will ensure that team members are able to effectively participate on the I&RS team while fulfilling the duties of their position. Most likely, the person facilitating the process would need to be present at each meeting; however, other team members would vary based on the student needs. Student needs would be established through strategy meetings with the person coordinating the I&RS process, and then this person would seek the expertise of other personnel and include people that would be most knowledgeable for this particular student. This would be a great help in terms of the logistics of the meetings.

Another important component of the I&RS process is follow-up. Follow-up practices should be improved throughout the district so team members could support the referring teacher and other teachers involved as they implement and measure a specific intervention. Follow-up could take many forms, it could be written, verbal, or may consist of classroom visits. As evidenced by both surveys and interviews, follow-up is a great area of need for the process and ensures that the process remains collaborative among the team members and the referring teacher. Short-term and long-term follow-up with teachers could help inform team members of a student's progress prior to the next I&RS meeting, and could help them to adjust interventions, suggest alternate interventions, or examine data more closely.

It is important to note the dramatic differences in results between participants who agreed and strongly agreed and participants who strongly disagreed and disagreed for questions about the effectiveness of the process in meeting the needs of referred students and ELLs. This suggests a divide between the participants regarding their perceptions and experiences with the process, which is expected since each student brought to the process has a unique case. However, it also implies the importance for additional communication and consistency among team members involved in the I&RS process throughout the district. Interestingly, when somewhat agreed and somewhat disagreed was included with these numbers respectively for many survey questions, there was a fairly even split in the data for many of the aforementioned survey questions. A majority of the survey questions analyzed indicated that many participants agreed/strongly agreed with the responses indicators, except for questions about ELLs, which ended up leaning more toward neutral results or disagree/strongly disagree. This supports interview information that reflects a need for additional learning and professional development in areas regarding ELL learning, cultural awareness, and second language acquisition.

With a greater knowledge base of culture, language acquisition, sheltered instruction, and students who are considered ELLs, teachers and administrators will be better able to distinguish whether a student may be struggling academically or behaviorally in the classroom due to language acquisition or a disability. Thus, they would be better able to match interventions, refer a student to the child study team for special education testing when appropriate, and determine the placement where the student would be most successful.

Gardenia School District is already in a change process, and as the focus shifts to child-centered data-collection methods and interventions, ELLs and non-ELLs will receive more individualized general education services aside from special education services. Teachers and

administrators who are more knowledgeable about interventions and meeting the needs of diverse students will ultimately help close the achievement gap in general education and meet the academic language needs of ELLs. Further, diversifying the team and improving follow-up practices will result in a more collaborative I&RS, which would better support the student in general education and special education. Consequently, students could experience a greater amount of progress, teachers would have more knowledge about ELLs and second-language acquisition, and these elements could better inform student placement. Ultimately, as reforms continue in Gardenia School District and the I&RS process improves, students will be placed and serviced more appropriately. Therefore, changes to this process have the potential to reduce disproportionate representation of minority students in special education in Gardenia School District and better meet the needs of students in general education. Additionally, the reforms suggested could help prevent the “wait-to-fail” model from occurring. The I&RS process in Gardenia School District is a potential change agent, and as reforms evolve, students could benefit greatly from the expertise and collaboration of those involved in this process.

## REFERENCES

- Abedi, J. (2007). Part I: Language factors in the assessment of English language learners: The theory and principles underlying the linguistic modification approach. In J. Abedi, & E. Sato (Eds.), *Linguistic Modification* (pp. 1-51). Washington, DC: U.S.
- Abedi, J. & Linquanti, R. (n.d.) Issues and Opportunities in Improving the Quality of Large Scale Assessment Systems for English Language Learners. Retrieved from Stanford University, Understanding Language Webpage, <http://ell.stanford.edu/papers>
- Department of Education, LEP Partnership.American Institutes of Research (2010). *Common Assumptions vs. The Evidence: English Language Learners in the United States*, Washington, D.C., 2010.  
[http://www.air.org/files/ELL\\_Assumptions\\_and\\_Evidence.pdf](http://www.air.org/files/ELL_Assumptions_and_Evidence.pdf)
- Amendum, S., & Fitzgerald, J. (2011). Reading instruction research for english-language learners in kindergarten through sixth grade. In A. McGill-Franzen & R.L. Allington (Eds.), *Handbook of reading disability research* (373-391). New York, NY: Taylor & Francis Group.
- Arnold, M. & Lassmann, M.E. (2003). Overrepresentation of minority students in special education. *Education. Vol. 124*, 230-236.
- Artiles, A. J., Rueda, R., & Salazar, J. J. (2005). Within-group diversity in minority disproportionate representation: English language learners in urban school districts. *Exceptional Children*, 71(3), 283-300.
- Baquedano-López, P., Alexander, R. A., & Hernandez, S. J. (2013). Equity issues in

- parental and community involvement in schools: What teacher educators need to know. *Review of Research in Education*, 37(1), 149-182.
- Brooks, K., Adams, S. R., & Morita-Mullaney, T. (2010). Creating inclusive learning communities for ELL students: Transforming school principals' perspectives. *Theory into Practice*, 49(2), 145-51.
- Bursuck, B., & Blanks, B. (2010). Evidence-based early reading practices within a response to intervention system. *Psychology in the Schools*, 47(5), 421-431.
- Celic, C. & Seltzer, K. (2011). *Translanguaging: A CUNY-NYSIEB guide for educators*. New York: Cuny-NYS Initiative on Emergent Bilinguals
- Cho, S., & Reich, G. A. (2008). New immigrants, new challenges: High school social studies teachers and english language learner instruction. *Social Studies*, 99(6), 235-242.
- Chu, S. (2011). Teacher perceptions of their efficacy for special education referral of students from culturally and linguistically diverse backgrounds. *Education*, 132(1), 3.
- Coutinho, M. J., & Oswald, D. P. (2000). Disproportionate representation in special education: A synthesis and recommendations. *Journal of Child & Family Studies*, 9(2), 135-156.
- Creswell, J. W. (2009). *Research design, qualitative, quantitative, and mixed methods approaches*. (3 ed.). London, England: Sage Publications, Inc.
- Data Accountability Center (October, 2011). *Methods for Assessing Racial/Ethnic*

- Disproportionality in Special Education: A Technical Assistance Guide (Revised)*, Westat, Rockville, MD, Julie Bollmer, Jim Bethel, Tom Munk, and Amy Bitterman.
- Driscoll, D.L., Appiah-Yeboah, A., Salib, P., & Rupert, D.J. (2007). Merging qualitative and quantitative data in mixed methods research: How to and why not. *Ecological and Environmental Anthropology*, 3(1), 19-28.
- Echevarria, J. & Short, D. (1999). The sheltered instruction Observation Protocol: A Tool for Teacher-Researcher Collaboration and Professional development. ERIC Digest EDO-FL-99.
- Erickson, F. (1984). *School literacy, reasoning, and civility: An anthropologist's perspective* American Educational Research Association.
- Espinosa, L. M. (2005). Curriculum and assessment considerations for young children from culturally, linguistically, and economically diverse backgrounds. *Psychology in the Schools*, 42(8), 837-853.
- Figueroa & Newsome. (2006). The diagnosis of LD in english language learners: Is it nondiscriminatory? *Journal of Learning Disabilities.*, 39(3), 206-214.
- Fielding-Barnsley, R., & Hay, I. (2012). Comparative effectiveness of phonological awareness and oral language intervention for children with low emergent literacy skills. *Australian Journal of Language & Literacy*, 35(3), 271-286.
- Fletcher, T. V. N., Lori 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.

- Fránquiz, M. E. 1. (2012). Key concepts in bilingual education: Identity texts, cultural citizenship, and humanizing pedagogy. *New England Reading Association Journal*, 48(1), 32-42.
- Fuchs, D., Mock, D., Morgan, P., & Young, C., (2003). Responsiveness- To- intervention: Definitions, evidence, and implications for the learning disabilities construct. *Learning Disabilities Research & Practice*, 18 (3), 157-171.
- Gándara, P. & Rumberger, R. (2008). *Defining an Adequate Education for English Learners*. Education Finance and Policy.
- Garcia Fierros, E. & Conroy, J.W. (2002). Double jeopardy: An exploration of Restrictiveness and race in special education. In D.J. (Losen) & G. Orfield (Eds.), *Racial inequity in special education* (39-70). Massachusetts: Harvard Education Press.
- Garcia, O., & Wei, L. (2014). *Translanguaging: Language, bilingualism, and education*. New York, NY: Palgrave Macmillan.
- Goldenberg, C. (2008). Teaching english language learners: What the research does—and does not say. *American Educator*. 8-23.  
<http://www.aft.org/pdfs/americaneducator/summer2008/goldenberg.pdf>
- Gorman, B., K. (2012). Relationships between vocabulary size, working memory, and phonological awareness in spanish-speaking english language learners. *American Journal of Speech-Language Pathology*, 21(2), 109-123.
- Gunderson, L., D'Silva, R., & Chen, L. Second language reading disability. In A. McGill-Franzen & R.L. Allington (Eds.), *Handbook of reading disability research* (373-391). New York, NY: Taylor & Francis Group.



- Gutiérrez, K.D. & Rogoff, B. (2003). Cultural ways of learning: Individual traits or Repertoires of practice. *Educational Researcher*, 32(5), 19-25.
- Huang, J., Clarke, K., Milczarski, E., & Raby, C. (2011). The assessment of english language learners with learning disabilities: Issues, concerns, and implications. *Education*, 131(4), 732.
- Hernández Finch, M. E. (2012). Special considerations with response to intervention and instruction for students with diverse backgrounds. *Psychology in the Schools*, 49(3), 285-296.
- Kieffer, M., Lesaux, N., and Snow, C. (2006). Promises and pitfalls: Implications of no Child left behind for defining, assessing, and serving english language learners. Presented at: Key Reforms Under the No Child Left Behind Act: The Civil Rights Perspective. Berkely, CA: University of California, Berkely. Available at [http://www.law.berkeley.edu/files/NCLB\\_ELLs\\_Final.pdf](http://www.law.berkeley.edu/files/NCLB_ELLs_Final.pdf)
- Klinger, J.K., Artiles, A.J. & Barletta, L.M. (2006). English language learners who struggle with reading: Language acquisition or LD. *Journal of Learning Disabilities*. 39(2), 108- 128.
- Klinger, J.K. & Harry, B. (2006). The special education referral and decision-making process for English language learners: Child study team meetings and placement conferences. *Teacher College Record*, 108(11), 2247-2280.
- Kovaleski, J. F., & Glew, M. C. (2006). Bringing instructional support teams to scale: Implications of the pennsylvania experience. *Remedial & Special Education*, 27(1), 16-25.

- Lincoln, Y.S. & Guba, E.G. (1985). *Naturalistic inquiry*. California: Sage Publications, Inc.
- Lincoln, Y.S. and W.G. Tierney. 2004. Qualitative Research and Institutional Review Boards. *Qualitative Inquiry* 10: 219-234.
- Losen, D.J. & Orfield, G. (2002). *Racial Inequity in Special Education*. Massachusetts: Harvard Education Press
- Mayer, M. (2012, October). *Racial disproportionality in special education*. (PowerPoint Slides) Paper presented at the 9<sup>th</sup> Annual GSAPP Cultural Conference: Cultural Awareness and Action in Clinics and Schools, New Brunswick, New Jersey.
- Menken, K. (2008). High-stakes tests as de facto language polices in education. *In Encyclopedia of Language and Education*. (Vol. 7, pp. 1-13). New York, NY.
- Miles, M.B. & Huberman, A.M. (1994). *An expanded sourcebook: Qualitative data Analysis*. California: Sage Publications, Inc.
- Miramontes, O.B., Nadeau, A., & Commins, N.L. (1997). *Restructuring schools for linguistic diversity*. New York, NY: Teachers College Columbia University.
- Morgan, P.L., Farkas, G., Hillemeier, M.M., & Maczuga, S. (2012). Are minority children disproportionately represented in early intervention and early childhood special education? *Educational Researcher*, 41(9), 339-351.
- National Joint Committee on Learning Disabilities. (2005). *Responsiveness to intervention and learning disabilities*. Available from <http://www.ldonline.org>.
- Donovan, S.M & Cross, C.T. (2014). *Minority students in special and gifted education*. Division of Social Sciences and Education National Research Council.

[http://www.nap.edu/openbook.php?record\\_id=10128&page=R1](http://www.nap.edu/openbook.php?record_id=10128&page=R1)

- Obiakor, F. E., & Wilder, L. K. (2003). Disproportionate representation in special education. *Principal Leadership: High School Edition*, 4(2), 16-21.
- O'Bryon, E.C. & Rogers, M.R. (2010). Bilingual school psychologists' assessment Practices with english language learners. *Psychology in Schools*. 47(10). 1018-1034.
- O'Donnell, P.S., & Miller, D.N. (2011). Identifying students with specific learning disabilities: School psychologists' acceptability of the discrepancy model versus response to intervention. *Journal of Disability Policy Studies*, 22(2), 83-94.
- Orosco, M. J., & Klingner, J. (2010). One school's implementation of RTI with english language learners: "referring into RTI". *Journal of Learning Disabilities*, 43(3), 269.
- Ortiz, A. A., Wilkinson, C. Y., Robertson-Courtney, P., & Kushner, M. I. (2006). Considerations in implementing intervention assistance teams to support english language learners. *Remedial & Special Education*, 27(1), 53.
- Ortiz, A.A., & Yates, J.R. (2001). A framework for serving English language learners with disabilities. *Journal of Special Education Leadership*, 14, 72-80.
- Patton, M. Q. (2008). *Utilization-focused evaluation*. Sage Publications, Inc.
- Pearson, R.W. (2010). *Statistical persuasion*. California: Sage Publications, Inc.
- Prater, M. A., & Devereaux, T. H. (2009). Culturally responsive training of teacher educators. *Action in Teacher Education*, 31(3), 19-27.
- Quirk, M. & Beem, S. (2012). Examining relations between reading fluency and

Reading comprehension for english language learners. *Psychology in the Schools*. 49(6), 539-553.

Saldaña, J. (2013). *The coding manual for qualitative researchers*. London: Sage.

Salend, S. J., & Duhaney, L. M. G. (2005). Understanding and addressing the disproportionate representation of students of color in special education. *Intervention in School & Clinic*, 40(4), 213.

Sideridis GD, Antoniou F, & Padeliadu, S. (2008). Teacher biases in the identification Of learning disabilities: An application of the logistic multilevel model. *Learning Disability Quarterly*, 31(4), 199-209.

Scanlon, D.M. & Sweeney, J.M. (2010). Response to Intervention: An Overview: New Hope For Struggling Learners. In P.H. Johnston (Ed.), *RTI in Literacy Responsive and Comprehensive*. (pp. 13-25). Newark, DE: International Reading Association.

Scarcella, R. (2003). Academic English: A Conceptual Framework. The University of California Linguistic Minority Research Institute. Technical Report 2003-1, 1-47.

Shaywitz, S. (2003). Overcoming dyslexia: A new and complete science-based Program for reading problems at any level. New York: Vintage Books.

Skiba, R., Poloni-Staudinger, L., Simmons, A., Feggins-Azziz, R., & Chung, C. (2005). Unproven links: Can poverty explain disproportionality in special education. *Journal of Special Education*. 39(3), 130-144.

Solari, E. J. ( . 1. ), Petscher, Y. ( . 2. ), & Folsom, J. S. ( . 2. ). (2014). Differentiating

- literacy growth of ELL students with LD from other high-risk subgroups and general education peers: Evidence from grades 3–10. *Journal of Learning Disabilities*, 47(4), 329-348.
- Sotelo-Dynega, M., Ortiz, S.O., Flanagan, D.P., & Chaplin, W.F. (2013). English Language proficiency and test performance: An evaluation of bilingual students with the woodcock-johnson III tests. *Psychology in Schools*. 50(8). 781-797.
- State of New Jersey, Department of Education (1996-2010), *Bilingual Education*. Retrieved from <http://www.state.nj.us/education/bilingual/ells/>.
- State of New Jersey Office of Special Education Programs (FFY 2011: July 1, 2011-June 30, 2012). *Part B Annual Report #7*. Retrieved from: <http://www.nj.gov/education/specialed/info/spp/apr/report7.pdf>
- Ullucci, K. (2011). Culturally relevant teaching: Lessons from elementary classrooms. *Action in Teacher Education*, 33, 389-405.
- U.S. Department of Education (2007), Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, What Works Clearinghouse.
- U.S. Department of Education (2007). *Appendix A. Revisions to the standards for the classification of federal data on race and ethnicity*.
- U.S. Department of Education, Office of Special Education Programs, 2012 IDEA Leadership Conference. *Strategies to Address Issues of Disproportionality in Special Education by Race/Ethnicity: New York State*. <http://leadership-2012.events.tadnet.org/uploads/906/download>
- Vaughn, S., Linan-Thompson, S., Mathes, P. G., Cirino, P. T., & et al. (2006).

Effectiveness of spanish intervention for first-grade english language learners at risk for reading difficulties. *Journal of Learning Disabilities*, 39(1), 56-73.

Walqui, A., Koelsch, N., & Schmida, M. (n.d.). Persuasion Across Time and Space: Analyzing and Producing Complex Texts A Unit Developed for the Understanding Language Initiative by WestEd's Teacher Professional Development Program. Retrieved November 28, 2014, from [http://ell.stanford.edu/sites/default/files/ela\\_pdf/ELA Unit Introduction\\_0.pdf](http://ell.stanford.edu/sites/default/files/ela_pdf/ELA%20Unit%20Introduction_0.pdf)

Wilkinson, C. Y., Ortiz, A. A., & Robertson, P. M. (2006). English language learners with reading-related LD: Linking data from multiple sources to make eligibility determinations. *Journal of Learning Disabilities*, 39(2), 129-41.

Zehr, M. A. (2007). Missouri seeks to aid ELLs now overlooked: Those with disabilities. *Education Week*, 26(34), 7.

Zetlin, A., Beltran, D., Salcido, P., Gonzalez, T., & Reyes, T. (2011). Building a pathway of optimal support for english language learners in special education. *Teacher Education and Special Education*, 34(1), 59-70.

Zhang, D., Katsiyannis, A., Ju, S., & Roberts, E. (2014). Minority representation in special education: 5-year trends. *Journal of Child & Family Studies*, 23(1), 118-127.



## APPENDICES

## Appendix A

## Data Collection Timeline

Timeline	Paper Based Survey	Interviews	Document Review
February 2014-April 2014	Administered to four elementary schools in Gardenia School District		
February 2014-April 2014		10 semi-structured qualitative interviews	Documents pertaining to district demographics and disproportionality in Gardenia School District will be collected and analyzed

Data Analysis  
Survey Data

Research Question	Statistical Analyses	Quant./Qual./Type
1) What are teacher and administrative perceptions of the I&RS process at the four elementary schools in Gardenia School District?	<p>Applied survey items: questions #8, 9, 10, 20, 21, 12, and 14, to analyze this research question</p> <p><b>Independent Variable Overall Quality Score: 26-28</b></p> <p><b>Dependent Variable Overall Quality Score: 10-12</b></p> <p><b>Descriptive measures:</b> mean, median, standard deviations  <b>Inferential measures:</b> Multiple Regression: measures the relationship between the independent variables and the dependent variables.</p>	<p><b><u>Quantitative</u></b>  <b>Descriptive and Inferential</b>  <b>Independent Variable:</b>  <b>Quality of I&amp;RS process</b>  <b>Indicators</b></p> <p>1) the I&amp;RS team develops appropriate student interventions that are manageable for students  2) The team develops well-matched academic interventions;  3) The team develops well-matched behavioral interventions  4) and how adequately the I&amp;RS team followed up with personnel after team meetings</p> <p><b>1. Dependent Variable:</b>  perceptions of the I&amp;RS process</p>
2) To what degree do teachers and administrators	Applied survey items: specifically questions #8,9, 24, 25, 13, and 14	<p><b><u>Quantitative</u></b>  <b>Descriptive and Inferential</b></p>



perceive the I&RS process to be providing appropriate interventions for struggling learners, especially those who are ELL students?	<p>to address this research question</p> <p><b>Descriptive:</b> mean, median, standard deviations</p> <p><b>Independent Variable Overall Quality Score:</b> 18-22</p> <p><b>Dependent Variable Overall Quality Score:</b> 10-12</p> <p><b>Inferential:</b> Linear Regression Analysis: The relationships between variables for each survey item within each school will be</p>	<p><b>Independent Variable:</b> Quality of the I&amp;RS program</p> <p>Indicators:</p> <ol style="list-style-type: none"> <li>1) Uses data-based assessment to determine strategies for the classroom;(i.e. well matched academic and behavioral strategies to meet the student's needs)</li> <li>2) Uses data-based assessment to determine strategies for ELLs in the classroom;</li> <li>3) the team's ability to distinguish a student's struggles (due to language acquisition or a disability).</li> </ol> <p>These quality indicators are based on the literature and the State of New Jersey's Resource Manual for the I&amp;RS process</p> <p><b>Dependent Variable:</b> Teacher and administrator perceptions of the process in terms of appropriate interventions for struggling learners and ELL students</p>
3) To what extent do teachers and administrators believe that the I&RS process leads to appropriate classifications for ELLs?	<p>Applied survey items # 23 and 24</p> <p><b>Independent Variable Overall Quality Score:</b> 8-10</p> <p><b>Dependent Variable Overall Quality Score:</b> 10-12</p> <p><b>Descriptive:</b> mean, median, standard deviations</p> <p><b>Inferential:</b> Linear Regression</p>	<p><b>Quantitative</b></p> <p><b>Descriptive and Inferential Independent Variable:</b> Quality of I&amp;RS process in terms of appropriate classifications for ELLs</p> <p>Indicators</p> <ol style="list-style-type: none"> <li>1) The degree to which the process places students correctly in special education or general education</li> <li>2) The degree to which the I&amp;RS process meets the needs of ELLs.</li> </ol> <p><b>Dependent Variable:</b> Perceptions of the quality of</p>

		the I&RS process in terms of appropriate classifications
--	--	--

### Interview Data

Research Question	Data Analysis	
1) What are teacher and administrative perceptions of the I&RS process at the four elementary schools in Gardenia School District?	<b>CODING</b>	<b><u>Qualitative</u></b>
2) To what degree do teachers and administrators perceive the I&RS process to be providing appropriate interventions for struggling learners, especially those who are ELL students?	<b>CODING</b>	<b><u>Qualitative</u></b>
3) To what extent do teachers and administrators believe that the I&RS process leads to appropriate classifications for ELLs?	<b>CODING</b>	<b><u>Qualitative</u></b>
4) What do teachers and administrators perceive to be the strengths and weaknesses of I&RS at their school in Gardenia School District?	<b>CODING</b>	<b><u>Qualitative</u></b>
5) What do teachers and administrators believe should be done to improve the I&RS process for ELL students in their respective schools in Gardenia School District?	<b>CODING</b>	<b><u>Qualitative</u></b>
6) What additional factors and/or issues may be influencing the provision of an appropriate I&RS process, and in what ways?	<b>CODING</b>	<b><u>Qualitative</u></b>

### Document Review Data

	Statistical Test	Quant./Qual./Type
1) The extent of the overrepresentation of minority, especially ELL, students in special education in Gardenia School District and the ways it varies by grade level at each of the four elementary schools.	<b>Descriptive Statistics:</b> mean, median, standard deviations	<b>Quantitative/Descriptive Statistics-Reporting Data</b>  Determining Disproportionality:

Appendix B

Survey Instrument  
Intervention and Referral Process (I&RS) Survey

---

**Thank you for taking the time to complete this survey! This survey will be completely anonymous. This survey will be used to better assess the Intervention and Referral Process (I&RS) at the elementary level. The survey is comprised of 7 short sections that include directions for each question. This survey contains 25 total questions.**

**If you have any questions please feel free to contact:  
Alexis Rich: arich@nbtschools.org**

**Section 1: Demographic Information**

1. Indicate your position at Gardenia School District:
  - a. General education teacher
  - b. Special education teacher
  - c. Instructional assistant
  - d. Administrator
  - e. Child study team member
  - f. School Counselor
  - g. Related Services Provider
  - h. Other
2. At which elementary school in Gardenia School District do you work? \_\_\_\_\_
3. Please identify your gender
  - a. Male
  - b. Female
4. Identify your college degree level.
  - a. Bachelor's Degree
  - b. Master's Degree
  - c. Master's +30 credits
  - d. Higher than Master's degree
5. Please identify your primary language (If other, please indicate your primary language).
  - a. English
  - b. Spanish
  - c. Hindi
  - d. Other: \_\_\_\_\_

## 6. Identify your primary level of certification

- a. Elementary Education
- b. Special Education
- c. English as a Second Language
- d. Administrative
- e. Principal
- f. Supervisor
- g. Other

7. Approximately how many students have you referred to the I&RS team or been otherwise involved in a student's Intervention and Referral process within the last three years?

- a. 0
- b. 1-5
- c. 6-10
- d. 10-15
- e. 15+

**Section 2: Team Effectiveness Scale**

Please rate the following questions based on the following scale: 1= Strongly Disagree, 2=Disagree, 3=Somewhat Disagree, 4= Somewhat Agree, 5= Agree, 6=Strongly agree

8. Our team develops interventions well-matched academic interventions to student needs.

1	2	3	4	5	6
Strongly	Disagree	Somewhat	Somewhat	Agree	Strongly
Disagree		Disagree	Agree		Agree

9. Our team develops social/emotional/behavioral interventions well matched to student needs.

1	2	3	4	5	6
Strongly	Disagree	Somewhat	Somewhat	Agree	Strongly
Disagree		Disagree	Agree		Agree

10. Our team develops manageable interventions for students in the classroom

1	2	3	4	5	6
Strongly	Disagree	Somewhat	Somewhat	Agree	Strongly
Disagree		Disagree	Agree		Agree

11. I encourage fellow educators to use our team when they realize they need more support to effectively help a student.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

12. I am satisfied with our intervention team process.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

13. Our team is effective in meeting the needs of English Language Learners (ELLs). (ELLs will be defined as students whose primary language is not English and/or students who struggle with English in academic learning contexts)

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

14. Overall, I think our team is effective in meeting the needs of referred students.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

### **Section 3: Team Personnel**

For the next group of questions, you may choose more than one answer. Identify the person(s) who completed the following activities during the Intervention and Referral Meetings.

15. Led Team meetings

- ☐ School psychologist
- ☐ Social worker
- ☐ School counselor
- ☐ Learning Disabilities Teaching Consultant (LDTC)
- ☐ Parent
- ☐ General Education Teacher
- ☐ Special Education Teacher
- ☐ Physical Therapist
- ☐ Occupational Therapist
- ☐ Speech Therapist
- ☐ Administrator
- ☐ Other

16. Communicated most effectively

- ☐ School psychologist
- ☐ Social worker
- ☐ School counselor
- ☐ Learning Disabilities Teaching Consultant (LDTC)
- ☐ Parent
- ☐ General Education Teacher
- ☐ Special Education Teacher
- ☐ Physical Therapist
- ☐ Occupational Therapist
- ☐ Speech Therapist
- ☐ Administrator
- ☐ Other

17. Were most knowledgeable about intervention for academic or behavior problems

- ☐ School psychologist
- ☐ Social worker
- ☐ School counselor
- ☐ Learning Disabilities Teaching Consultant
- ☐ Parent
- ☐ General Education Teacher
- ☐ Special Education Teacher
- ☐ Physical Therapist
- ☐ Occupational Therapist
- ☐ Speech Therapist
- ☐ Administrator
- ☐ Other

18. Contributed most significantly to team effectiveness

- ☐ School psychologist
- ☐ Social worker
- ☐ School counselor
- ☐ Learning Disabilities Teaching Consultant
- ☐ Parent
- ☐ General Education Teacher
- ☐ Special Education Teacher
- ☐ Physical Therapist
- ☐ Occupational Therapist
- ☐ Speech Therapist
- ☐ Administrator
- ☐ Other

**Section 4: Follow Up**

19. Which, if any, follow-up activities are conducted by the Intervention and Referral team at your school? You can check as many as five activities.

- a. ☐ Individual verbal contact with the referring teacher
- b. ☐ A follow-up visit with the team and the referring teacher.
- c. ☐ Individual written contact between the team and the referring teacher.
- d. ☐ Written follow-up from the team to the referring teacher.
- e. ☐ Other
- f. ☐ No follow-up is done

20. How adequately did the I&RS team complete short-term follow-up procedures?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Inadequate	Somewhat	Neutral	Adequate	Very adequate
	Adequate			

21. How adequately did the I&RS team complete long-term follow-up procedures?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Inadequate	Somewhat	Neutral	Adequate	Very adequate
	Adequate			

**Section 5: Quality Indices**

22. Please rate the statements about your school's I&RS process using the following scale:

**1=unfamiliar (you do not know about this item), 2=Familiar (you know about this item), 3=Use (your team uses this item).** Please complete each blank for sections A and B.

A) Our team:

- ☐ Develops a step-by-step plan for the intervention.
- ☐ Assigns responsibilities to individuals who will assist with the intervention.
- ☐ Defines problems in observable, measurable terms.
- ☐ Assesses problems with an objective measure.
- ☐ Collects pre-intervention (or baseline) data
- ☐ Collects multi-faceted assessment data

B) To determine intervention effectiveness, our team (consisting of teachers and family members):

- ☐ Assesses whether the intervention was implemented as planned.
- ☐ Graphs results of the intervention
- ☐ Compares pre-intervention (or baseline) data with post-intervention data.
- ☐ Uses systematic classroom observation
- ☐ Uses teacher judgments
- ☐ Inspects samples of the student's academic work.
- ☐ Uses standardized tests.
- ☐ Uses curriculum-based assessment.
- ☐ Collects multi-faceted assessment data

### **Section 6: Views on Professional Issues**

Please respond to the following questions about professional issues that currently impact the practice of I&RS teams.

23. How effective is the I&RS process in providing useful information to make special education placement decisions later on?

- a. Ineffective
- b. Somewhat effective
- c. Neutral (neither effective nor ineffective)
- d. Effective
- e. Highly effective

### **Section 7: English Language Learners**

**The next set of questions relates to English Language Learners and the I&RS process.**

24. The I&RS process meets the needs of English Language Learners (ELLs) in the classroom by providing helpful solutions to meet students' learning needs in the classroom.

- a) Strongly agree
- b) Agree
- c) Neutral (neither agree nor disagree)
- d) Disagree
- e) Strongly disagree

25. Our team is able to distinguish the degree to which an ELL struggles due to a learning disability/serious language problem or language acquisition.

- a) Strongly agree
- b) Agree
- c) Neutral (neither agree nor disagree)
- d) Disagree
- e) Strongly disagree

**\*\*This survey is adapted from the following research study:**



Bahr, M. W., Whitten, E., & Dieker, L. A. (1999). A comparison of school-based intervention teams: Implications for educational and legal reform. *Exceptional Children*, 66(1), 67-83.

## Appendix C

### Interview Instrument

**This interview will be used to better assess the Intervention and Referral Process (I&RS) at the elementary level. This interview consists of questions about your feelings and opinions of the I&RS process.**

1. Tell me about your experience with the I&RS process including your role in the process and approximately how many years you have been involved in the process.
2. What types of interventions have you suggested, tried, or observed as a result of the I&RS process? Were these interventions effective for those particular students? Why or why not?
3. Approximately how many cases have you been involved in where the I&RS process resulted in special education placement? In general education placement?
4. In your experience, has the I&RS team provided helpful academic solutions in the classroom? Has the I&RS team provided helpful social/emotional/behavioral solutions in the classroom?
5. What is the extent of your experience working with English Language Learners (ELLs)?
6. How would you describe the effectiveness of the I&RS process to distinguish whether a child is struggling because of language acquisition or a learning disability/serious learning problem?
7. How would you describe the effectiveness of the I&RS process in providing support for ELLs in the general education setting?
8. What are the strengths of the I&RS process?
9. What are the weaknesses or drawbacks of the I&RS process?
10. How could the district or your school improve the I&RS process? What type of reforms would need to be put in place?
11. What additional factors and/or issues may be influencing the outcomes of the I&RS process? Which of these are within control of school personnel? Which of these are not in the control of school/personnel?

## Appendix D

### Letters of Permission from Gardenia School District

To Whom It May Concern:

I grant permission for Alexis Rich to conduct research at \_\_\_\_\_ Elementary School. She is proposing to conduct a study focusing on the Intervention and Referral process at the elementary level in our district.

The main research questions of this study address the extent of overrepresentation of minority students in special education in Gardenia School District, and the perceptions of Gardenia School District administrators and teachers regarding the I&RS process. This research aims to explore the perceptions of the personnel involved in the process along with recommendations to improve the process.

Alexis plans to implement a qualitative case study approach. She intends to employ survey and interview methodology with teachers and administrators at the four elementary schools in Gardenia School District. She also plans to work with the Director of Special Education and the Supervisor of Special Education to inform this research throughout the duration of this study. She will use document review to further explore data in this study, as well.

Employees will be granted time during the work day to participate in the interviews and the Principal Investigator, Alexis Rich, will be granted time during the workday to conduct the interviews. Participation is completely voluntary and participants are required to sign a letter of informed consent prior to participation. Additionally, this research is confidential, which means no information will be reported which identifies participating individuals. This research will be conducted with Rutgers Institutional Review Board (IRB) approval.

Gardenia school district will not ask about the data or findings, nor require any disclosure on the part of the Principal Investigator, Alexis Rich.

I grant permission for Alexis Rich to conduct research that examines the Intervention and Referral process at the elementary level in Gardenia School District.

Sincerely,

---

Principal Name

---

Principal Signature

Superintendent Consent for Dissertation Study

I \_\_\_\_\_, Superintendent of \_\_\_\_\_ give permission for Alexis A. Rich, doctoral student at Rutgers University to interview and survey staff members and administrators in my school district. I understand that the data collected is in the area of the Intervention and Referral process (I&RS), special education referral, and English Language Learners (ELLs) at the elementary level. I understand that the data collected for the study will be completely confidential and no information will be reported which identifies participating individuals. Participation is completely voluntary and participants are required to sign a letter of informed consent prior to participation. Additionally, this research is confidential, which means participant names will not be reported or linked to findings. This research will be conducted with Rutgers Institutional Review Board (IRB) approval.

Research Title: The Intervention and Referral Process: Purpose, Uses, and Implications

Superintendent name: \_\_\_\_\_

Superintendent signature of Approval: \_\_\_\_\_

Date: \_\_\_\_\_

### Staff Member/Administrator Informed Consent Form

My name is Alexis A. Rich. I am an employee at Gardenia School District and a graduate student at Rutgers University. This survey is part of a research study to explore the Intervention and Referral Process (I&RS) at the elementary level. I will also interview selected participants as part of this study. Thank you for your willingness to participate.

#### **Participation in this study will involve the following:**

- There is Gardenia School District and building level support for surveys and interviews to be collected during school time
- During this study I will distribute a paper survey to elementary teachers and administrators in the Gardenia School District.
- I will conduct 10 interviews with selected participants about the I&RS process.
- The survey should take approximately 15 minutes and the interview will last for approximately 45 minutes to 1 hour.
- This informed consent form pertains to both the interview and the survey.

#### **Confidentiality**

This research is confidential. Confidential means that your identity will not be revealed in any report of this study. This means that I will not report information that could identify you such as your name, address, phone number, date of birth, etc. If you agree to take part in this study, your information will be assigned a code, and a “master list” that links the code to your identity will be maintained in a secure location. The only identifiable information that you will be asked to provide is the name of the school where you work and your position. You will not be asked to provide your name. Therefore, data collection is confidential.

During interviews, while all attempts at confidentiality will be made, it is possible that the position of the individual in the Gardenia School District and schools might allow for an inference about the source of a particular anonymous statement.

The Principal Researcher and the Institutional Review Board at Rutgers University are the only parties that will be allowed to see the data, except as may be required by law. A published report of this study will not contain identifiable information. All study data will be kept in complete confidence for three years from the time of this study.

#### **Risks/Benefits**

There are no foreseeable reasonable risks to participate in this study as long as confidentiality is maintained and its benefits are to the field of elementary education and special education. Participation in this study will pose no risks to you or your job. Participation may not benefit you directly. For participating in this study, you will receive no monetary compensation. However, I will provide food while you complete this survey.

#### **Alternatives to Participation**

Participation in this study is voluntary. You may choose not to participate, and you may withdraw at any time during the study procedures without penalty to you. In addition, you may choose not to answer any questions with which you are not comfortable. If you withdraw from the study before data collection is completed your data will be removed from the data set and destroyed.

“Subject’s Initials \_\_\_\_\_”

If you have any questions about the study or study procedures, you may contact Alexis A. Rich (732) 614-5515, or you can contact my professor advisor Dr. Bruce Baker (732) 932-7496 x8232.

If you have any questions about the study or study procedures, you may contact the IRB Administrator at Rutgers University

Rutgers, the State University of New Jersey Institutional Review Board  
For the Protection of Human Subjects Office of Research and  
Sponsored Programs  
3 Rutgers Plaza  
New Brunswick, NJ 08901-8559  
Tel. 848 932-0150.  
Email: [humansubjects@orsp.rutgers.edu](mailto:humansubjects@orsp.rutgers.edu)

Please check below that you have read and understand this consent form

I have read the above consent form and am willing to continue with this research project.

I am not willing to continue as a participant in this research project.

Sign below if you agree to participate in this research study. You will be given a copy of this form to keep.

Subject’s Signature \_\_\_\_\_ Date \_\_\_\_\_

Investigator’s Signature \_\_\_\_\_ Date \_\_\_\_\_

With your permission, your interview will be audio-recorded, which allows the interviewer to listen carefully and keep accurate records. The audio files are kept confidential and will be destroyed after transcription. Sign below if you agree to have the interview audio-recorded.

Subject’s Signature \_\_\_\_\_ Date \_\_\_\_\_  
“Subject’s Initials \_\_\_\_\_”

## Appendix E

## Coding Organization

Codes	Sub-Codes	Explanation	Frequency
Data			23
	Analyzing Data		6
	Data-based Decision Making		9
Disproportionality			8
ELLs			19
Environment v. Child Based deficit			7
Experience			20
Gen. Ed Placement			9
I&RS Improvements			61
	Consistent time frames		9
	Coaching		3
	Follow-up		10
	Resources		7
	Teacher training		14
I&RS strengths			45
	Collaboration		8
	Goals		6
	Strategy meetings		6
I&RS weaknesses			35
	Lack of resources		4
	Lack of strategy knowledge		7
	Teacher frustration		4
	Time		5
Intervention			55
	RTI		6
	Resources		6
	Effective Matching		8
	Progress monitoring		5
	reading interventions		12
Language acquisition vs. disability			25
Old I&RS vs. New I&RS process			50
	New process has different paperwork		5
	New process has more meetings		9
	New process involves		8

	measurable goals		
	New process more successful		12
Purpose of I&RS			10
	Teachers need to understand the purpose		5
Special Education placement vs. general education placement			14
Suggestions v. Collaboration			24
	Effective collaboration		11
	Suggestions are ineffective		8
	Teacher view suggestions positively		4
Time			12
Child Focus			11
Multi-disciplinary team			23
Top-down restrictions			6
Language			19
	Language issues		14





## Appendix G

## Descriptive Statistics

## Descriptive information for independent variables

	Team develops well matched academic interventions	Team develops well-matched behavioral interventions	Team develops manageable interventions	Encourage educators use our team	How adequately I&RS completed short-term follow up	How adequately I&RS completed long-term follow up
Number Responded	179	178	179	178	171	169
Non-responders	3	4	3	4	11	13
Mean	4.01	4.02	3.89	4.08	2.80	2.82
Median	4.00	4.00	4.00	4.00	3.00	3.00
Mode	4.000	4.00	4.00	5.00	3.00	3.00
Standard Deviation	1.13	1.08	1.04	1.28	1.13	1.07

## Team develops well-matched academic interventions

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	7	3.8	3.9	3.9
Disagree	13	7.1	7.3	11.2
Somewhat Disagree	24	13.2	13.4	24.6
Somewhat Agree	70	38.5	39.1	63.7
Agree	57	31.3	31.8	95.5
Strongly Agree	8	4.4	4.5	100.0
Total	179	98.4	100.0	
Missing (99.000)	3	1.6		
Total	182	100.0		

## Team develops well-behavioral interventions

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	3	1.6	1.7	1.7
Disagree	18	9.9	10.1	11.8
Somewhat Disagree	24	13.2	13.5	25.3
Somewhat Agree	67	36.8	37.6	62.9
Agree	60	33.0	33.7	96.6
Strongly Agree	6	3.3	3.4	100.0
Total	178	97.8	100.0	
Missing (99.000)	4	2.2		
Total	182	100.0		

## Team develops manageable interventions

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	4	2.2	2.2	2.2
Disagree	17	9.3	9.5	11.7
Somewhat Disagree	30	16.5	16.8	28.5
Somewhat Agree	74	40.7	41.3	69.8
Agree	52	28.6	29.1	98.9
Strongly Agree	2	1.1	1.1	100.0
Total	179	98.4	100.0	
Missing (99.000)	3	1.6		
Total	182	100.0		

## Encourage educators to use our team

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	8	4.4	4.5	4.5
Disagree	16	8.8	9.0	13.5
Somewhat Disagree	25	13.7	14.0	27.5
Somewhat Agree	50	27.5	28.1	55.6
Agree	62	34.1	34.8	90.4
Strongly Agree	17	9.3	9.6	100.0
Total	178	97.8	100.0	
Missing	4	2.2		
Total	182	100.0		

## How adequately I&amp;RS completed short-term follow-up

	Frequency	Percent	Valid Percent	Cumulative Percent
Inadequate	32	17.6	18.7	18.7
Somewhat Adequate	29	15.9	17.0	35.7
Neutral	58	31.9	33.9	69.6
Adequate	47	25.8	27.5	97.1
Very Adequate	5	2.7	2.9	100.0
Total	171	94.0	100.0	
Missing	11	6.0		
Total	182	100.0		

## How adequately I&amp;RS completed long-term follow-up

	Frequency	Percent	Valid Percent	Cumulative Percent
Inadequate	25	13.7	14.8	14.8
Somewhat Adequate	33	18.1	19.5	34.3
Neutral	63	34.6	37.3	71.6
Adequate	43	23.6	25.4	97.0
Very Adequate	5	2.7	3.0	100.0
Total	169	92.9	100.0	
Missing	13	7.1		
Total	182	100.0		

Survey questions			
	I&RS meets the needs of ELLs		I&RS distinguishes if a student has LD or is acquiring language
Responders	158		159
Non-responders	24		23
Mean	3.41		3.52
Median	3.00		4.00
Mode	3.00		3.00

I&RS meets the needs of ELLs by providing helpful solutions in the classroom (survey question 24)				
	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	1	.5	.6	.6
Disagree	25	13.7	15.8	16.5
Neutral	60	33.0	28.0	54.4
Agree	52	28.6	32.9	87.3
Strongly Agree	20	11.0	12.7	100.0
Total	158	86.8	100.0	
Missing	24	13.2		
Total	182	100.0		

I&RS distinguishes if a student has LD or is acquiring language				
	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	2	1.1	1.3	1.3
Disagree	21	11.5	13.2	14.5
Neutral	55	30.2	34.6	49.1
Agree	54	29.7	34.0	83.0
Strongly Agree	27	14.8	17.0	100.0
Total	159	87.4	100.0	
Missing	23	12.6		
Total	182	100.0		

Dependent variable survey questions			
	Satisfaction with the team		Our team is effective in meeting the needs of referred students
Mean	3.52		3.65
Standard Deviation	1.27		1.15
Median	4.00		4.00
Responses	176		179
Non-responses	6		3
Number	21.9		15.9
Responded 1 or 2 (%)			
Number	24.1		23.6
Responded			
5 or 6 (%)			

Descriptive Statistics		
	Satisfaction with the Team	Our team is effective in meeting the needs of referred students
Valid	176	179
Missing	6	3
Mean	3.52	3.65
Median	4.00	4.00
Mode	4.00	4.00

Std. Deviation

1.27

1.15

*Research question two dependent variables*

	Our team meets the needs of ELLs	Our team is effective in meeting the needs of referred students
Mean	3.27	3.65
Standard Deviation	1.23	1.15
Median	3.50	4.00
Responses	168	179
Non-responses	14	3
Number	24.7	15.9
Responded 1 or 2 (%)	13.1	23.6
Number Responded 5 or 6 (%)		

## Satisfaction with team

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	15	8.2	8.5	8.5
Disagree	25	13.7	14.2	22.7
Somewhat Disagree	37	20.3	21.0	43.8
Somewhat Agree	55	30.2	31.3	75.0
Agree	41	22.5	23.3	98.3
Strongly agree	3	1.6	1.7	100.0
Total	176	96.7	100.0	
Missing	6	3.3		
Total	182	100.0		

## Our team is effective in meeting the needs of referred students

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	11	6.0	6.1	6.1
Disagree	18	9.9	10.1	16.2
Somewhat Disagree	38	20.9	21.2	37.4
Somewhat Agree	69	37.9	38.5	76.0
Agree	41	22.5	22.9	98.9
Strongly agree	2	1.1	1.1	100.0
Total	179	98.4	100.0	
Missing	3	1.6		
Total	182			

## Descriptive Statistics

	Our team meets the needs of ELLs	I&RS distinguishes if a student has LD or is acquiring language
Valid	168	159
Missing	14	23
Mean	3.27	3.52
Median	3.50	4.00
Mode	4.00	3.00
Std. Deviation	1.23	.967

## Our team meets the needs of ELLs

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	19	10.4	11.3	11.3
Disagree	26	14.3	15.5	26.8
Somewhat Disagree	39	21.4	23.2	50.0
Somewhat Agree	60	33.0	35.7	85.7
Agree	23	12.6	.6	99.4
Strongly agree	1	.5	100.0	100.0
Total	168	92.3		
Missing	14	7.7		
Total	182	100.0		

## Descriptive Statistics

	I&RS's usefulness in providing sped placement	I&RS meets the needs of ELLs
Valid	168	158
Missing	14	24
Mean	2.74	3.41
Median	3.00	3.00
Mode	2.00	3.00
Std. Deviation	1.06	.925

## I&amp;RS's usefulness in providing sped placement

	Frequency	Percent	Valid Percent	Cumulative Percent
Ineffective	18	9.9	10.7	10.7
Somewhat effective	60	33.0	35.7	46.4
Neutral	46	25.3	27.4	73.8
Effective	36	19.8	21.4	95.2
Highly effective	8	4.4	4.8	100.0
Total	168	92.3	100.0	
Missing (99.0)	14	7.7		
Total	182	100.0		

## Appendix H

## Inferential Statistics

## Descriptive Statistics

	Mean	Std. Deviation	N
Our team meets the needs of ELLs	3.27	1.23	168
Team develops well matched academic interventions	4.01	1.13	179
I&RS meets the needs of ELLs	3.41	.925	158
I&RS distinguishes if a student has LD or is acquiring language	3.52	.967	159
Team develops well-matched behavioral interventions	4.02	1.08	178

## Correlations

		Our team meets the needs of ELLs	Team develops well matched academic interventions	I&RS meets the needs of ELLs	I&RS distinguishes if a student has LD or is acquiring language
Pearson Correlation	Our team meets the needs of ELLs	1.00	.517	-.707	-.562
	Team develops well matched academic interventions	.517	1.00	-.488	-.409
	I&RS meets the needs of ELLs	-.707	-.488	1.00	.639
	I&RS distinguishes if a student has LD or is acquiring language	-.562	-.409	.639	1.00
	Team develops well-matched behavioral interventions	.522	.796	-.404	-.363
Sig. (1-tailed)					
	Our team meets the needs of	.	.000	.000	.000

N	ELLs				
	Team develops				
	well matched				
	academic	.000	.	.000	.000
	interventions				
	I&RS meets the				
	needs of ELLs	.000	.000	.	.000
	I&RS				
	distinguishes if a				
	student has LD or	.000	.000	.000	.
	is acquiring				
	language				
	Team develops				
	well-matched				
	behavioral	.000	.000	.000	.000
	interventions				
	Our team meets				
	the needs of	168	167	155	155
	ELLs				
	Team develops				
	well matched	167	179	157	158
	academic				
	interventions				
	I&RS meets the	155	157	158	158
	needs of ELLs				
	I&RS				
	distinguishes if a				
	student has LD or	155	158	158	159
	is acquiring				
	language				
	Team develops				
	well-matched	166	178	156	157
	behavioral				
	interventions				

---



Correlations		Team develops well-matched behavioral interventions
Pearson Correlation	Our team meets the needs of ELLs	.522
	Team develops well matched academic interventions	.796
	I&RS meets the needs of ELLs	-.404
	I&RS distinguishes if a student has LD or is acquiring language	-.363
	Team develops well-matched behavioral interventions	1.00
Sig. (1-tailed)	Our team meets the needs of ELLs	.000
	Team develops well matched academic interventions	.000
	I&RS meets the needs of ELLs	.000
	I&RS distinguishes if a student has LD or is acquiring language	.000
	Team develops well-matched behavioral interventions	.
N	Our team meets the needs of ELLs	166
	Team develops well matched academic interventions	178
	I&RS meets the needs of ELLs	156
	I&RS distinguishes if a student has LD or is acquiring language	157
	Team develops well-matched behavioral interventions	178

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.760 <sup>a</sup>	.578	.566	.807

Predictors: (Constant), Team develops well-matched behavioral interventions, I&RS distinguishes if a student has LD or is acquiring language, I&RS meets the needs of ELLs, Team develops well matched academic interventions

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B

1		B	Std. Error	Beta		Lower Bound
	(Constant	4.994	.513	9.740	9.740	3.981
	(Team develops well matched academic interventions	-.002	.100	-.002	-.024	-.200
	I&RS meets the needs of ELLs	-.676	.097	-.510	-7.000	-.867
	I&RS distinguishes if a student has LD or is acquiring language	-.178	.089	-.140	-2.006	-.353
	Team develops well-matched behavioral interventions	.303	.100	.267	3.037	.106

ANOVA <sup>a</sup>						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	133.649	4	33.412	51.265	.000 <sup>b</sup>
	Residual	97.763	150	.652		
	Total	231.412	154			

a. Dependent Variable: Our team meets the needs of ELLs

b. Predictors: (Constant), Team develops well-matched behavioral interventions, I&RS distinguishes if a student has LD or is acquiring language, I&RS meets the needs of ELLs, Team develops well matched academic interventions

Coefficients <sup>a</sup>		
Model	95.0%	Correlations

1	Confidence			
	Interval for B			
	Upper Bound	Zero-order	Partial	Part
(Constant)	6.007			
Team develops well matched academic interventions	.195	.517	-.002	-.001
I&RS meets the needs of ELLs	-.485	-.707	-.496	-.371
I&RS distinguishes if a student has LD or is acquiring language	-.003	-.562	-.162	-.106
Team develops well-matched behavioral interventions	.500	.522	.241	.161

a. Dependent Variable: Our team meets the needs of ELLs

Descriptive Statistics			
	Mean	Std. Deviation	N
Our team meets the needs of ELLs	3.2679	1.22584	168
Team develops well matched academic interventions	4.01117	1.131713	179
I&RS meets the needs of ELLs	3.4114	.92475	158
I&RS distinguishes if a student has LD or is acquiring language	3.5220	.96677	159
Team develops well-matched behavioral interventions	4.0169	1.08130	178

Correlations		Our team meets the needs of ELLs	Team develops well matched academic interventions	I&RS meets the needs of ELLs	I&RS distinguishes if a student has LD or is acquiring language
Pearson Correlation	Our team meets the needs of ELLs	1.000	.517	-.707	-.562
	Team develops well matched academic interventions	.517	1.000	-.488	-.409
	I&RS meets the needs of ELLs	-.707	-.488	1.000	.639
	I&RS distinguishes if a student has LD or is acquiring language	-.562	-.409	.639	1.000
Sig. (1-tailed)	Team develops well-matched behavioral interventions	.522	.796	-.404	-.363
	Our team meets the needs of ELLs	.	.000	.000	.000
	Team develops well matched academic interventions	.000	.	.000	.000
	I&RS meets the needs of ELLs	.000	.000	.	.000
	I&RS distinguishes if a student has LD or is acquiring language	.000	.000	.000	.
	Team develops well-matched	.000	.000	.000	.000

N	behavioral interventions				
	Our team meets the needs of ELLs	168	167	155	155
	Team develops well matched academic interventions	167	179	157	158
	I&RS meets the needs of ELLs	155	157	158	158
	I&RS distinguishes if a student has LD or is acquiring language	155	158	158	159
	Team develops well-matched behavioral interventions	166	178	156	157

Correlations		Team develops well-matched behavioral interventions
Pearson Correlation	Our team meets the needs of ELLs	.522
	Team develops well matched academic interventions	.796
	I&RS meets the needs of ELLs	-.404
	I&RS distinguishes if a student has LD or is acquiring language	-.363
	Team develops well-matched behavioral interventions	1.000
Sig. (1-tailed)	Our team meets the needs of ELLs	.000
	Team develops well matched academic interventions	.000
	I&RS meets the needs of ELLs	.000
	I&RS distinguishes if a student has LD or is acquiring language	.000
	Team develops well-matched behavioral interventions	.

N	Our team meets the needs of ELLs	166
	Team develops well matched academic interventions	178
	I&RS meets the needs of ELLs	156
	I&RS distinguishes if a student has LD or is acquiring language	157
	Team develops well-matched behavioral interventions	178

## Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.760 <sup>a</sup>	.578	.566	.80731

a. Predictors: (Constant), Team develops well-matched behavioral interventions, I&RS distinguishes if a student has LD or is acquiring language, I&RS meets the needs of ELLs, Team develops well matched academic interventions

ANOVA<sup>a</sup>

Model	Sum of Squares	df	Mean Square	F	Sig.
1	133.649	4	33.412	51.265	.000 <sup>b</sup>
2	97.763	150	.652		
3	231.412	154			

a. Dependent Variable: Our team meets the needs of ELLs

b. Predictors: (Constant), Team develops well-matched behavioral interventions, I&RS distinguishes if a student has LD or is acquiring language, I&RS meets the needs of ELLs, Team develops well matched academic interventions

Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B
	B	Std.	Beta			Lower Bound

		Error					
1	(Constant)	4.994	.513		9.740	.000	3.981
	Team develops well-matched academic interventions						
	I&RS meets the needs of ELLs	-.676	.097	-.510	-7.000	.000	-.867
	I&RS distinguishes if a student has LD or is acquiring language	-.178	.089	-.140	-2.006	.047	-.353
	Team develops well-matched behavioral interventions	.303	.100	.267	3.037	.003	.106

Coefficients <sup>a</sup>					
Model		95.0% Confidence Interval for B	Correlations		
1		Upper Bound	Zero-order	Partial	Part
	(Constant)	6.007			
	Team develops well matched academic interventions	.195	.517	-.002	-.001
	I&RS meets the needs of ELLs	-.485	-.707	-.496	-.371
	I&RS	-.003	-.562	-.162	-.106

	distinguishes if a student has LD or is acquiring language				
	Team develops well-matched behavioral interventions	.500	.522	.241	.161

a. Dependent Variable: Our team meets the needs of ELLs

### Regression

Descriptive Statistics			
	Mean	Std. Deviation	N
Our team is effective in meeting the needs of referred students	3.6536	1.15273	179
Team develops well matched academic interventions	4.01117	1.131713	179
I&RS meets the needs of ELLs	3.4114	.92475	158
I&RS distinguishes if a student has LD or is acquiring language	3.5220	.96677	159
Team develops well-matched behavioral interventions	4.0169	1.08130	178

### Correlations

		Our team is effective in meeting the needs of referred students	Team develops well matched academic interventions	I&RS meets the needs of ELLs	I&RS distinguishes if a student has LD or is acquiring language
Pearson Correlation	Our team is effective in meeting the	1.000	.745	-.571	-.466



	needs of referred students				
	Team develops well matched academic interventions	.745	1.000	-.488	-.409
	I&RS meets the needs of ELLs	-.571	-.488	1.000	.639
	I&RS distinguishes if a student has LD or is acquiring language	-.466	-.409	.639	1.000
	Team develops well-matched behavioral interventions	.697	.796	-.404	-.363
	Our team is effective in meeting the needs of referred students	.	.000	.000	.000
	Team develops well matched academic interventions	.000	.	.000	.000
Sig. (1-tailed)	I&RS meets the needs of ELLs	.000	.000	.	.000
	I&RS distinguishes if a student has LD or is acquiring language	.000	.000	.000	.
	Team develops well-matched behavioral interventions	.000	.000	.000	.000
N	Our team is effective in meeting the	179	178	158	159

needs of referred students				
Team develops well matched academic interventions	178	179	157	158
I&RS meets the needs of ELLs	158	157	158	158
I&RS distinguishes if a student has LD or is acquiring language	159	158	158	159
Team develops well-matched behavioral interventions	177	178	156	157

## Correlations

		Team develops well-matched behavioral interventions
Pearson Correlation	Our team is effective in meeting the needs of referred students	.697
	Team develops well matched academic interventions	.796
	I&RS meets the needs of ELLs	-.404
	I&RS distinguishes if a student has LD or is acquiring language	-.363
	Team develops well-matched behavioral interventions	1.000
Sig. (1-tailed)	Our team is effective in meeting the needs of referred students	.000
	Team develops well matched academic interventions	.000
	I&RS meets the needs of ELLs	.000
	I&RS distinguishes if a student has LD or is acquiring language	.000
	Team develops well-matched behavioral interventions	.

N	Our team is effective in meeting the needs of referred students	177
	Team develops well matched academic interventions	178
	I&RS meets the needs of ELLs	156
	I&RS distinguishes if a student has LD or is acquiring language	157
	Team develops well-matched behavioral interventions	178

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.800 <sup>a</sup>	.640	.631	.70047

a. Predictors: (Constant), Team develops well-matched behavioral interventions, I&RS distinguishes if a student has LD or is acquiring language, I&RS meets the needs of ELLs, Team develops well matched academic interventions

ANOVA <sup>a</sup>					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	131.873	4	32.968	67.191	.000 <sup>b</sup>
Residual	74.090	151	.491		
Total	205.963	155			

a. Dependent Variable: Our team is effective in meeting the needs of referred students

b. Predictors: (Constant), Team develops well-matched behavioral interventions, I&RS distinguishes if a student has LD or is acquiring language, I&RS meets the needs of ELLs, Team develops well matched academic interventions

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B
	B	Std. Beta			Lower Bound

1		Error					
	(Constant)	2.138	.443		4.821	.000	1.262
	Team develops well matched academic interventions	.400	.086	.393	4.633	.000	.229
	I&RS meets the needs of ELLs	-.290	.084	-.232	-3.467	.001	-.455
	I&RS distinguishes if a student has LD or is acquiring language	-.071	.077	-.060	-.931	.353	-.223
	Team develops well-matched behavioral interventions	.287	.086	.269	3.325	.001	.116

Coefficients <sup>a</sup>		Correlations			
Model		95.0% Confidence Interval for B			
		Upper Bound	Zero-order	Partial	Part
1	(Constant)	3.014			
	Team develops well matched academic interventions	.570	.745	.353	.226
	I&RS meets the needs of ELLs	-.125	-.571	-.272	-.169
	I&RS distinguishes if a student has LD or is acquiring language	.080	-.466	-.076	-.045

Team develops well-matched behavioral interventions	.457	.697	.261	.162
--	------	------	------	------

a. Dependent Variable: Our team is effective in meeting the needs of referred students  
**Regression**

	Descriptive Statistics		
	Mean	Std. Deviation	N
Our team meets the needs of ELLs	3.2338	1.21962	154
I&RS's usefulness in providing sped placement	2.7078	1.05363	154
I&RS meets the needs of ELLs	3.4091	.92612	154
I&RS distinguishes if a student has LD or is acquiring language	3.5325	.96453	154

**Correlations**

		Our team meets the needs of ELLs	I&RS's usefulness in providing sped placement	I&RS meets the needs of ELLs	I&RS distinguishes if a student has LD or is acquiring language
Pearson Correlation	Our team meets the needs of ELLs	1.000	.430	-.704	-.579
	I&RS's usefulness in providing sped placement	.430	1.000	-.480	-.393
	I&RS meets the needs of ELLs	-.704	-.480	1.000	.676
	I&RS distinguishes if a student has LD or is acquiring language	-.579	-.393	.676	1.000

Sig. (1-tailed)	Our team meets the needs of ELLs	.	.000	.000	.000
	I&RS's usefulness in providing sped placement	.000	.	.000	.000
	I&RS meets the needs of ELLs	.000	.000	.	.000
	I&RS distinguishes if a student has LD or is acquiring language	.000	.000	.000	.
N	Our team meets the needs of ELLs	154	154	154	154
	I&RS's usefulness in providing sped placement	154	154	154	154
	I&RS meets the needs of ELLs	154	154	154	154
	I&RS distinguishes if a student has LD or is acquiring language	154	154	154	154

Model Summary								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2
1	.724 <sup>a</sup>	.524	.514	.85011	.524	54.972	3	150

---

Model Summary

---

Model	Change Statistics
	Sig. F Change
1	.000 <sup>a</sup>

a. Predictors: (Constant), I&RS distinguishes if a student has LD or is acquiring language, I&RS's usefulness in providing sped placement, I&RS meets the needs of ELLs

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	119.182	3	39.727	54.972	.000 <sup>b</sup>
	Residual	108.403	150	.723		
	Total	227.584	153			

a. Dependent Variable: Our team meets the needs of ELLs

b. Predictors: (Constant), I&RS distinguishes if a student has LD or is acquiring language, I&RS's usefulness in providing sped placement, I&RS meets the needs of ELLs

Coefficients <sup>a</sup>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	6.097	.453		13.455	.000		
	I&RS's usefulness in providing sped placement	.120	.075	.104	1.612	.109	.761	1.313
	I&RS meets the needs of ELLs	-.706	.106	-.536	-6.643	.000	.488	2.048
	I&RS distinguishes if a student has LD or is acquiring language	-.222	.097	-.175	-2.281	.024	.536	1.865

a. Dependent Variable: Our team meets the needs of ELLs

Collinearity Diagnostics <sup>a</sup>							
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	I&RS's usefulness in providing sped placement	I&RS meets the needs of ELLs	I&RS distinguishes if a student has LD or is acquiring language
1	1	3.780	1.000	.00	.01	.00	.00
	2	.181	4.576	.00	.37	.03	.03
	3	.023	12.887	.08	.03	.47	.96
	4	.016	15.195	.92	.60	.50	.00

a. Dependent Variable: Our team meets the needs of ELLs

Descriptive Statistics			
	Mean	Std. Deviation	N
Our team is effective in meeting the needs of referred students	3.6624	1.14665	157
I&RS's usefulness in providing sped placement	2.7006	1.04676	157
I&RS meets the needs of ELLs	3.4013	.91889	157
I&RS distinguishes if a student has LD or is acquiring language	3.5350	.96429	157

Correlations					
		Our team is effective in meeting the needs of referred students	I&RS's usefulness in providing sped placement	I&RS meets the needs of ELLs	I&RS distinguishes if a student has LD or is acquiring language
Pearson	Our team is	1.000	.540	-.564	-.497



Correlation	effective in meeting the needs of referred students I&RS's usefulness in providing sped placement	1.000	.540	-.564	-.497
	I&RS meets the needs of ELLs	.540	1.000	-.474	-.393
	I&RS distinguishes if a student has LD or is acquiring language	-.564	-.474	1.000	.668
	Our team is effective in meeting the needs of referred students I&RS's usefulness in providing sped placement	-.497	-.393	.668	1.000
Sig. (1-tailed)	I&RS meets the needs of ELLs	.	.000	.000	.000
	I&RS distinguishes if a student has LD or is acquiring language	.000	.	.000	.000
	Our team is effective in meeting the needs of referred students	.000	.000	.	.000
	Our team is effective in meeting the needs of referred students I&RS's usefulness in providing sped placement	.000	.000	.000	.
N	Our team is effective in meeting the needs of referred students	157	157	157	157

students				
I&RS's				
usefulness in	157	157	157	157
providing sped				
placement				
I&RS meets the	157	157	157	157
needs of ELLs				
I&RS				
distinguishes if				
a student has	157	157	157	157
LD or is				
acquiring				
language				

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	
1	.656 <sup>a</sup>	.430	.419	.87414	.430	38.475	3	153	

Model Summary
Change Statistics
Sig. F Change
.000 <sup>a</sup>

- a. Predictors: (Constant), I&RS distinguishes if a student has LD or is acquiring language, I&RS's usefulness in providing sped placement, I&RS meets the needs of ELLs

ANOVA <sup>a</sup>						
		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	88.198	3	29.399	38.475	.000 <sup>b</sup>
	Residual	116.911	153	.764		
	Total	205.108	156			

- a. Dependent Variable: Our team is effective in meeting the needs of referred students
- b. Predictors: (Constant), I&RS distinguishes if a student has LD or is acquiring language, I&RS's usefulness in providing sped placement, I&RS meets the needs of ELLs

Coefficients <sup>a</sup>								
Model		Unstandardized		Standardized	t	Sig.	Collinearity Statistics	
		Coefficients		Coefficients			Tolerance	VIF
		B	Std. Error	Beta				
1	(Constant)	4.625	.463		9.992	.000		
	I&RS's usefulness in providing sped placement	.367	.076	.335	4.799	.000	.765	1.308
	I&RS meets the needs of ELLs	-.364	.108	-.292	-3.384	.001	.501	1.995
	I&RS distinguishes if a student has LD or is acquiring language	-.202	.098	-.170	-2.061	.041	.547	1.829

a. Dependent Variable: Our team is effective in meeting the needs of referred students

Collinearity Diagnostics <sup>a</sup>							
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	I&RS's usefulness in providing sped placement	I&RS meets the needs of ELLs	I&RS distinguishes if a student has LD or is acquiring language
1	1	3.782	1.000	.00	.01	.00	.00
	2	.179	4.598	.00	.37	.03	.03

3	.023	12.776	.06	.02	.50	.96
4	.016	15.207	.94	.60	.47	.01

a. Dependent Variable: Our team is effective in meeting the needs of referred students
--

## Regression

### Descriptive Statistics

	Mean	Std. Deviation	N
Satisfaction with the team	3.5145	1.27410	173
Team develops well matched academic interventions	4.02890	1.107206	173
Team develops well-matched behavioral interventions	4.0405	1.06944	173
Team develops manageable interventions	3.8844	1.04461	173

### Correlations

		Satisfaction with the team	Team develops well matched academic interventions	Team develops well-matched behavioral interventions	Team develops manageable interventions
Pearson Correlation	Satisfaction with the team	1.000	.719	.676	.591
	Team develops well matched academic interventions	.719	1.000	.834	.631
	Team develops well-matched behavioral interventions	.676	.834	1.000	.608
	Team develops manageable interventions	.591	.631	.608	1.000

	behavioral interventions				
	Team develops manageable interventions	.591	.631	.608	1.000
	Satisfaction with the team	.	.000	.000	.000
	Team develops well matched academic interventions	.000	.	.000	.000
Sig. (1-tailed)	Team develops well-matched behavioral interventions	.000	.000	.	.000
	Team develops manageable interventions	.000	.000	.000	.
	Satisfaction with the team	173	173	173	173
	Team develops well matched academic interventions	173	173	173	173
N	Team develops well-matched behavioral interventions	173	173	173	173
	Team develops manageable interventions	173	173	173	173

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.748 <sup>a</sup>	.559	.552	.85311	1.866

- a. Predictors: (Constant), Team develops manageable interventions, Team develops well-matched behavioral interventions, Team develops well matched academic interventions  
 b. Dependent Variable: Satisfaction with the team

ANOVA<sup>a</sup>

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	156.217	3	52.072	71.548	.000 <sup>b</sup>
Residual	122.997	169	.728		
Total	279.214	172			

- a. Dependent Variable: Satisfaction with the team  
 b. Predictors: (Constant), Team develops manageable interventions, Team develops well-matched behavioral interventions, Team develops well matched academic interventions

Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B
	B	Std. Error	Beta			Lower Bound
1						
(Constant)	-.370	.281		-1.318	.189	-.924
Team develops well matched academic interventions	.492	.111	.427	4.433	.000	.273
Team develops well-matched behavioral interventions	.235	.112	.197	2.093	.038	.013
Team develops manageable interventions	.246	.082	.201	3.002	.003	.084

Coefficients<sup>a</sup>

Model	95.0% Confidence	Collinearity Statistics
-------	------------------	-------------------------

		Interval for B		
		Upper Bound	Tolerance	VIF
1	(Constant)	.184		
	Team develops well matched academic interventions	.711	.280	3.567
	Team develops well-matched behavioral interventions	.456	.294	3.403
	Team develops manageable interventions	.407	.580	1.725

## a. Dependent Variable: Satisfaction with the team

Collinearity Diagnostics <sup>a</sup>							
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	Team develops well matched academic interventions	Team develops well-matched behavioral interventions	Team develops manageable interventions
1	1	3.917	1.000	.00	.00	.00	.00
	2	.042	9.649	.88	.08	.06	.00
	3	.029	11.555	.11	.05	.08	.99
	4	.011	18.744	.01	.86	.86	.01

## a. Dependent Variable: Satisfaction with the team

Residuals Statistics <sup>a</sup>					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.6023	5.2289	3.5145	.95302	173
Std. Predicted Value	-3.056	1.799	.000	1.000	173

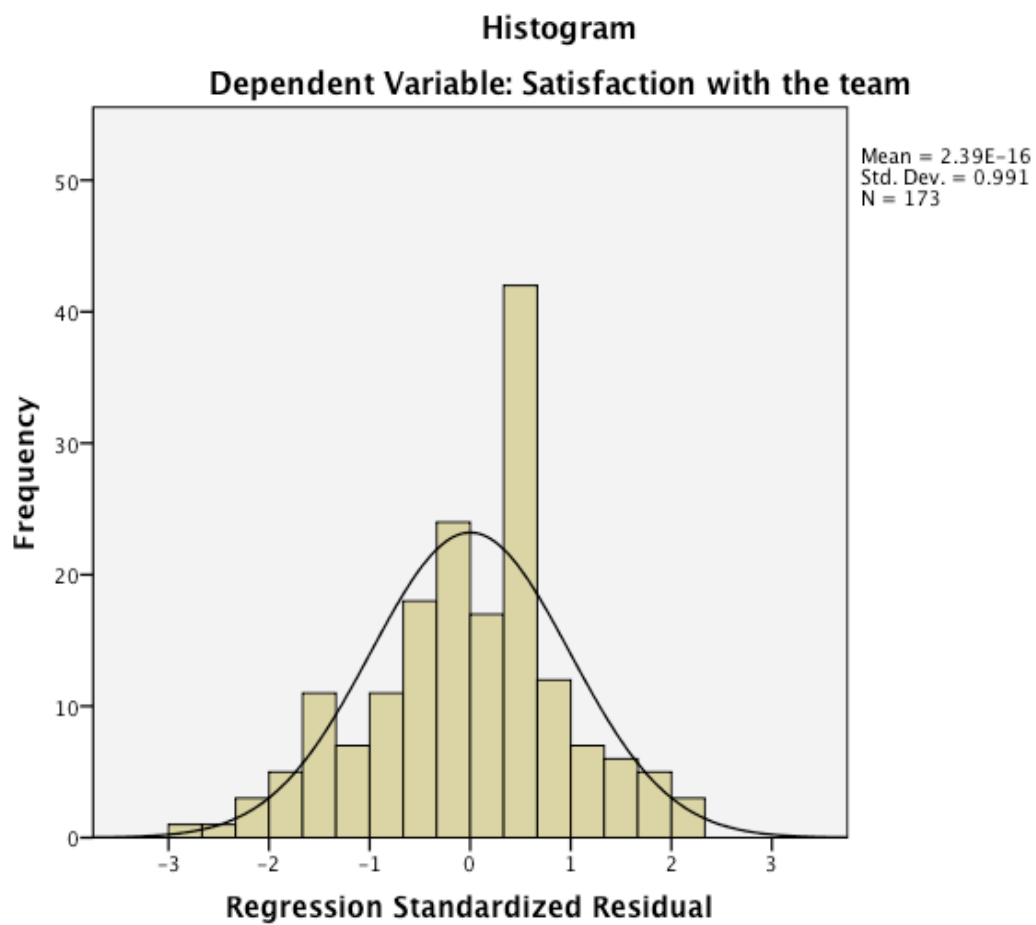
Standard Error of Predicted Value	.066	.256	.123	.042	173
Adjusted Predicted Value	.5081	5.2516	3.5145	.95393	173
Residual	-2.51912	1.97200	.00000	.84564	173
Std. Residual	-2.953	2.312	.000	.991	173
Stud. Residual	-2.962	2.356	.000	1.004	173
Deleted Residual	-2.53423	2.04921	.00000	.86794	173
Stud. Deleted Residual	-3.033	2.389	-.001	1.010	173
Mahal. Distance	.031	14.506	2.983	2.868	173
Cook's Distance	.000	.091	.007	.013	173
Centered Leverage Value	.000	.084	.017	.017	173

---

a. Dependent Variable: Satisfaction with the team

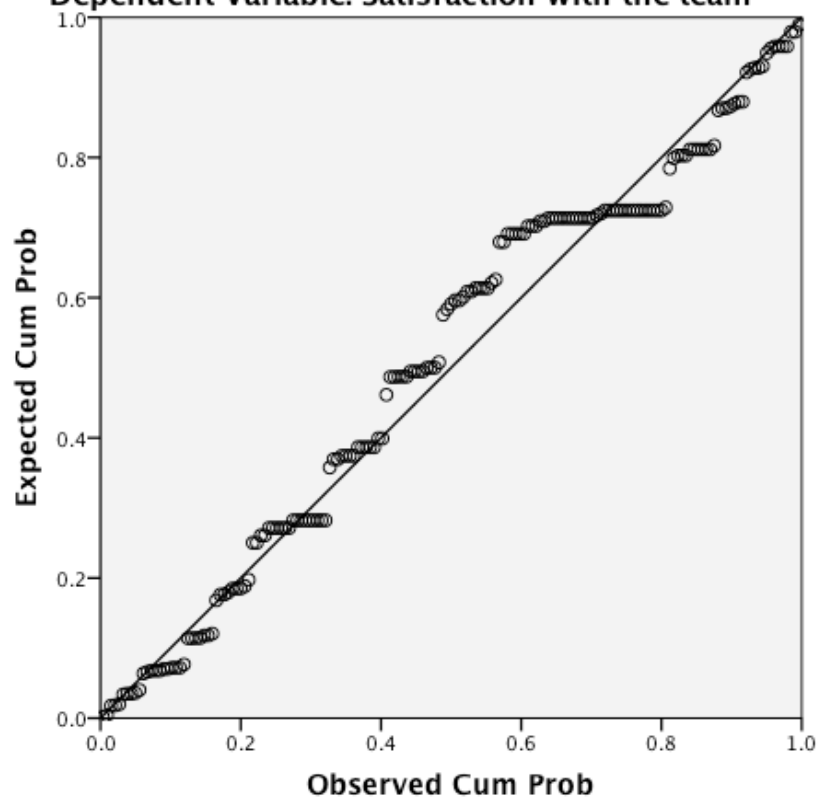


## Charts



# **Normal P-P Plot of Regression Standardized Residual**

**Dependent Variable: Satisfaction with the team**



**Regression on residual pattern research question two****Regression**

<b>Model Summary<sup>b</sup></b>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.740 <sup>a</sup>	.547	.538	.83163	2.077

a. Predictors: (Constant), I&RS meets the needs of ELLs, Team develops well-matched behavioral interventions, Team develops well matched academic interventions

b. Dependent Variable: Our team meets the needs of ELLs

<b>ANOVA<sup>a</sup></b>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	124.479	3	41.493	59.995	.000 <sup>b</sup>
	Residual	103.050	149	.692		
	Total	227.529	152			

a. Dependent Variable: Our team meets the needs of ELLs

b. Predictors: (Constant), I&RS meets the needs of ELLs, Team develops well-matched behavioral interventions, Team develops well matched academic interventions

Coefficients <sup>a</sup>							
Model		Unstandardized Coefficient		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B
1	(Constant)	B	Std. Error	Beta			Lower Bound
	Team develops well-matched behavioral interventions	4.797	.500		9.596	.000	3.809
	Team develops well matched academic interventions	.291	.107	.249	2.713	.007	.079
	I&RS meets the needs of ELLs	-.004	.102	-.004	-.038	.970	-.206
		-.798	.083	-.605	-9.583	.000	-.963

Coefficients <sup>a</sup>		95.0% Confidence Interval for B		Collinearity Statistics
Model		Upper Bound	Tolerance	VIF
1	(Constant)	5.784		
	Team develops well-matched behavioral interventions	.502	.361	2.768
	Team develops well matched academic interventions	.198	.330	3.030
	I&RS meets the needs of ELLs	-.634	.762	1.313

a. Dependent Variable: Our team meets the needs of ELLs

Collinearity Diagnostics <sup>a</sup>							
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Team develops well-matched behavioral interventions	Team develops well matched academic interventions	I&RS meets the needs of ELLs
1	1	3.841	1.000	.00	.00	.00	.00
	2	.132	5.392	.00	.03	.05	.23
	3	.014	16.610	.33	.86	.32	.16
	4	.013	17.437	.67	.11	.64	.61

a. Dependent Variable: Our team meets the needs of ELLs

	Residuals Statistics <sup>a</sup>				
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.0929	5.7228	3.2353	.90495	153
Std. Predicted Value	-2.367	2.749	.000	1.000	153
Standard Error of Predicted Value	.076	.397	.127	.044	153
Adjusted Predicted Value	1.0994	5.7821	3.2336	.90780	153
Residual	-1.97582	2.16793	.00000	.82338	153
Std. Residual	-2.376	2.607	.000	.990	153
Stud. Residual	-2.434	2.649	.001	1.006	153
Deleted Residual	-2.07335	2.26143	.00167	.84979	153
Stud. Deleted Residual	-2.475	2.704	.001	1.012	153
Mahal. Distance	.259	33.638	2.980	3.430	153
Cook's Distance	.000	.149	.008	.019	153
Centered Leverage Value	.002	.221	.020	.023	153

a. Dependent Variable: Our team meets the needs of ELLs

## Regression

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.756 <sup>a</sup>	.572	.562	.79798	2.062

- a. Predictors: (Constant), I&RS meets the needs of ELLs, Team develops well-matched behavioral interventions, Team develops well matched academic interventions
- b. Dependent Variable: Our team meets the needs of ELLs

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	119.774	3	39.925	62.699	.000 <sup>b</sup>
	Residual	89.784	141	.637		
	Total	209.559	144			

- a. Dependent Variable: Our team meets the needs of ELLs
- b. Predictors: (Constant), I&RS meets the needs of ELLs, Team develops well-matched behavioral interventions, Team develops well matched academic interventions

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B Lower Bound
		B	Std. Error	Beta			
1	(Constant)	4.355	.512		8.504	.000	3.343
	Team develops well-matched behavioral interventions	.277	.132	.214	2.093	.038	.015
	Team develops well matched academic interventions	.098	.125	.084	.783	.435	-.150
	I&RS meets the needs of ELLs	-.776	.083	-.589	-9.407	.000	-.939

Coefficients <sup>a</sup>		95.0% Confidence Interval for B			Collinearity Statistics	
Model		Upper Bound			Tolerance	VIF
1	(Constant)	5.368				
	Team develops well-matched behavioral interventions	.539			.291	3.439
	Team develops well matched academic interventions	.346			.262	3.814
	I&RS meets the needs of ELLs	-.613			.774	1.292

a. Dependent Variable: Our team meets the needs of ELLs

Collinearity Diagnostics <sup>a</sup>							
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Team develops well-matched behavioral intervention s	Team develops well matched academic intervention s	I&RS meets the needs of ELLs
1	1	3.865	1.000	.00	.00	.00	.00
	2	.115	5.800	.00	.02	.03	.27
	3	.012	17.719	.98	.11	.03	.65
	4	.008	21.776	.02	.87	.93	.08

a. Dependent Variable: Our team meets the needs of ELLs

Residuals Statistics <sup>a</sup>					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.1260	5.0537	3.2552	.91201	145

Std. Predicted Value	-2.335	1.972	.000	1.000	145
Standard Error of Predicted Value	.075	.217	.127	.038	145
Adjusted Predicted Value	1.0606	5.0978	3.2547	.91255	145
Residual	-1.90229	1.99953	.00000	.78962	145
Std. Residual	-2.384	2.506	.000	.990	145
Stud. Residual	-2.400	2.561	.000	1.004	145
Deleted Residual	-1.93304	2.08907	.00045	.81219	145
Stud. Deleted Residual	-2.442	2.614	.000	1.010	145
Mahal. Distance	.295	9.653	2.979	2.266	145
Cook's Distance	.000	.082	.007	.012	145
Centered Leverage Value	.002	.067	.021	.016	145

a. Dependent Variable: Our team meets the needs of ELLs

**Regression  
Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.794 <sup>a</sup>	.630	.623	.67987	1.836

a. Predictors: (Constant), I&RS meets the needs of ELLs, Team develops well-matched behavioral interventions, Team develops well matched academic interventions

b. Dependent Variable: Our team is effective in meeting the needs of referred students

**ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	113.513	3	37.838	81.860	.000 <sup>b</sup>



Residual	66.561	144	.462
Total	180.074	147	

- a. Dependent Variable: Our team is effective in meeting the needs of referred students  
b. Predictors: (Constant), I&RS meets the needs of ELLs, Team develops well-matched behavioral interventions, Team develops well matched academic interventions

Coefficients <sup>a</sup>							
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B
		B	Std. Error	Beta			Lower Bound
1	(Constant)	1.758	.434		4.049	.000	.900
	Team develops well-matched behavioral interventions	.158	.111	.133	1.423	.157	-.061
	Team develops well matched academic interventions	.568	.106	.529	5.360	.000	.359
	I&RS meets the needs of ELLs	-.307	.070	-.252	-4.367	.000	-.446

Coefficients <sup>a</sup>					
Model		95.0% Confidence		Collinearity Statistics	
		Interval for B			
		Upper Bound		Tolerance	VIF
1	(Constant)		2.616		
	Team develops well-matched behavioral interventions		.377	.294	3.406
	Team develops well matched academic		.778	.264	3.795

interventions			
I&RS meets the			
needs of ELLs	-168	.772	1.295

a. Dependent Variable: Our team is effective in meeting the needs of referred students

Collinearity Diagnostics<sup>a</sup>

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	Team develops well-matched behavioral interventions	Team develops well matched academic interventions	I&RS meets the needs of ELLs
1	1	3.866	1.000	.00	.00	.00	.00
	2	.114	5.832	.00	.02	.03	.27
	3	.012	17.775	.97	.14	.02	.63
	4	.008	21.804	.03	.84	.94	.10

a. Dependent Variable: Our team is effective in meeting the needs of referred students

Residuals Statistics<sup>a</sup>

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.1077	5.5000	3.6824	.87875	148
Std. Predicted Value	-2.930	2.068	.000	1.000	148
Standard Error of Predicted Value	.064	.185	.107	.032	148
Adjusted Predicted Value	1.0411	5.5204	3.6823	.87824	148
Residual	-1.74126	1.41664	.00000	.67290	148
Std. Residual	-2.561	2.084	.000	.990	148

Residual					
Stud.					
Residual	-2.572	2.124	.000	1.003	148
Deleted					
Residual	-1.75665	1.47264	.00013	.69117	148
Stud.					
Deleted	-2.625	2.151	-.001	1.011	148
Residual					
Mahal.					
Distance	.295	9.839	2.980	2.280	148
Cook's					
Distance	.000	.057	.007	.012	148
Centered					
Leverage	.002	.067	.020	.016	148
Value					

a. Dependent Variable: Our team is effective in meeting the needs of referred students

### Logistic Regression-Research Question 1

The relationship between independent variables and survey question 12: overall satisfaction with the I&RS process

Independent Variable	Odds Ratio	Significance
		P>  z
Survey question 8: Well matched academic interventions	3.813977	0.000 *
Survey question 9 Well matched behavioral interventions	5.160637	0.000 *
Survey question 10: manageable interventions	3.448823	0.000 *

### Logistic Regression-Research Question 2

The relationship between independent variables and survey question 13

Independent variable	Odds Ratio	Significance
Survey question 8	3.432468	.013
Survey question 24	.1568041	0.000*
Survey question 9	2.842372	0.051
Survey question 24	.1614644	0.000*

## Logistic Regression-Research Question 2

The relationship between independent variables and survey question 14

Independent variable	Odds Ratio	Significance
Survey question 8	4.74403	0.000*
Survey question 24	.4336264	0.008*
Survey question 9	2.678363	0.003*
Survey question 24	.3703963	0.001*

## Logistic Regression

Number of obs = 174

LR chi2(4) = 45.20

Prob &gt; chi2 = 0.0000

Log likelihood = -75.793224

Pseudo R2 = 0.2297

-----

q12_agree	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
-----------	------------	-----------	---	------	----------------------

-----+-----

q8intervene	3.813977	1.118153	4.57	0.000	2.146986 6.775275
_Iq2elem_1	.5894538	.4169408	-0.75	0.455	.1473553 2.357945
_Iq2elem_3	1.141289	.6582379	0.23	0.819	.368524 3.534481
_Iq2elem_4	2.389307	1.284659	1.62	0.105	.832926 6.853897

-----

Iteration 0: log likelihood = -98.3918

Iteration 1: log likelihood = -76.462154

Iteration 2: log likelihood = -72.854794

Iteration 3: log likelihood = -72.432171

Iteration 4: log likelihood = -72.424042

Iteration 5: log likelihood = -72.424038

#### Logistic regression

Number of obs = 174

LR chi2(4) = 51.94

Prob > chi2 = 0.0000

Log likelihood = -72.424038      Pseudo R2 = 0.2639

q12_agree	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
-----+-----						
q9interevene	5.160637	1.744023	4.86	0.000	2.660983	10.0084
_Iq2elem_1	.6681079	.4818481	-0.56	0.576	.1625358	2.746276
_Iq2elem_3	.7918946	.4638474	-0.40	0.690	.2512357	2.496051
_Iq2elem_4	1.739572	.9568635	1.01	0.314	.5918796	5.112716

Iteration 0: log likelihood = -98.3918

Iteration 1: log likelihood = -81.202203

Iteration 2: log likelihood = -79.038063

Iteration 3: log likelihood = -78.906029

Iteration 4: log likelihood = -78.905302

Iteration 5: log likelihood = -78.905302

Logistic regression

Number of obs = 174

LR chi2(4) = 38.97

Prob > chi2 = 0.0000

Log likelihood = -78.905302

Pseudo R2 = 0.1981

-----						
q12_agree	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
-----+-----						
q10manage	3.448823	1.000526	4.27	0.000	1.953133	6.089899
_Iq2elem_1	.3048089	.214463	-1.69	0.091	.0767581	1.210407
_Iq2elem_3	1.35674	.756689	0.55	0.584	.4547365	4.047937
_Iq2elem_4	2.744304	1.421616	1.95	0.051	.9942357	7.57487

Iteration 0: log likelihood = -59.18534

Iteration 1: log likelihood = -42.880063

Iteration 2: log likelihood = -37.528342

Iteration 3: log likelihood = -36.069957

Iteration 4: log likelihood = -35.843072

Iteration 5: log likelihood = -35.836941

Iteration 6: log likelihood = -35.836936

#### Logistic regression

Number of obs = 152

LR chi2(5) = 46.70

Prob > chi2 = 0.0000

Log likelihood = -35.836936

Pseudo R2 = 0.3945

-----						
q13_agree	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
-----+-----						
q8intervene	3.432468	1.705482	2.48	0.013	1.2962	9.089517
q24ellirs	.1568041	.0804042	-3.61	0.000	.0573968	.4283776
_Iq2elem_1	2.982973	3.287912	0.99	0.321	.3439003	25.87415
_Iq2elem_3	2.008265	2.144948	0.65	0.514	.2475634	16.29129
Iq2elem_4	5.060904	4.659848	1.76	0.078	.8326853	30.75922

Iteration 0: log likelihood = -59.18534

Iteration 1: log likelihood = -43.180184

Iteration 2: log likelihood = -38.456446

Iteration 3: log likelihood = -37.470331

Iteration 4: log likelihood = -37.352672

Iteration 5: log likelihood = -37.350667

Iteration 6: log likelihood = -37.350667

#### Logistic regression

Number of obs = 152

LR chi2(5) = 43.67

Prob > chi2 = 0.0000

Log likelihood = -37.350667      Pseudo R2 = 0.3689

---

q13_agree	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
<hr/>					
q9interevene	2.842372	1.522169	1.95	0.051	.9950363 8.11938
q24ellirs	.1614644	.0773767	-3.81	0.000	.0631198 .4130361
_Iq2elem_1	2.10661	2.237722	0.70	0.483	.2626671 16.89518
_Iq2elem_3	1.238305	1.270194	0.21	0.835	.1658464 9.245906
_Iq2elem_4	3.370999	2.96369	1.38	0.167	.6017353 18.88477

---

Iteration 0: log likelihood = -84.008516

Iteration 1: log likelihood = -64.319616

Iteration 2: log likelihood = -59.963958

Iteration 3: log likelihood = -59.147943



Iteration 4: log likelihood = -59.112807

Iteration 5: log likelihood = -59.112729

Iteration 6: log likelihood = -59.112729

#### Logistic regression

Number of obs = 155

LR chi2(5) = 49.79

Prob > chi2 = 0.0000

Log likelihood = -59.112729

Pseudo R2 = 0.2963

q14_agree	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
-----+-----						
q8intervene	4.74403	1.820022	4.06	0.000	2.236601	10.06251
q24ellirs	.4336264	.1355736	-2.67	0.008	.2349562	.8002847
_Iq2elem_1	1.010771	.7556867	0.01	0.989	.2334887	4.375623
_Iq2elem_3	1.379082	.9590042	0.46	0.644	.3529152	5.38902
_Iq2elem_4	.8079493	.5504293	-0.31	0.754	.2125634	3.070999

Iteration 0: log likelihood = -84.008516

Iteration 1: log likelihood = -68.086367

Iteration 2: log likelihood = -65.983401

Iteration 3: log likelihood = -65.806788

Iteration 4: log likelihood = -65.804785

Iteration 5: log likelihood = -65.804784

### Logistic regression

Number of obs = 155

LR chi2(5) = 36.41

Prob > chi2 = 0.0000

Log likelihood = -65.804784

Pseudo R2 = 0.2167

q14_agree	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
-----+-----						
q9interevene	2.678368	.8971892	2.94	0.003	1.389115	5.164192
q24ellirs	.3703963	.1081243	-3.40	0.001	.2090201	.6563649
_Iq2elem_1	.7587142	.5295816	-0.40	0.692	.1931704	2.979998
_Iq2elem_3	.8667506	.5528067	-0.22	0.823	.2483159	3.025407
_Iq2elem_4	.609978	.3973125	-0.76	0.448	.1701686	2.186497