EARLY IDENTIFICATION OF HISPANIC ENGLISH LANGUAGE LEARNERS FOR GIFTED AND TALENTED PROGRAMS

A Dissertation

by

JENNIFER JOY ESQUIERDO

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2006

Major Subject: Educational Psychology

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ABSTRACT

Early Identification of Hispanic English Language Learners for

Gifted and Talented Programs. (May 2006)

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The exponential growth of the Hispanic student population and the controversial educational issue surrounding the assessment of English language learners are the two fundamental topics of this study. Due to the uncertainty and ambiguity surrounding the assessment of the escalating Hispanic student population, the underrepresentation of Hispanics in gifted and talented (GT) programs has developed into a critical educational concern (Bernal, 2002; Irby & Lara-Alecio, 1996; Ortiz & Gonzalez, 1998).

The research questions that guided this study focused on finding validated assessments for early identification of the gifted Hispanic English language learners (ELLs) in kindergarten. The first research question aimed to determine the concurrent validity of the Hispanic Bilingual Gifted Screening Instrument (HBGSI) using the Naglieri Nonverbal Abilities Test (NNAT) and Wookcock Language Proficient Battery-Revised (WLPB-R) selected three subtests, administered in English and Spanish. This study found a positive statistically significant correlation between the HBGSI, the NNAT, and WLPB-R subtests. The second question focused on the correlation between language proficiency as measured by the WLPB-R subtests and nonverbal intelligence

measured using the NNAT. This analysis found that there was a statistically significant correlation between the NNAT and the WLPB-R subtests.

The third question concentrated on the difference in performance on the NNAT and WLPB-R subtests by two student groups, those identified and those not identified GT using the HBGSI. The study determined that the students identified GT performed statistically significantly different on the NNAT than those not identified GT. The fourth question centered on the difference in performance on the HBGSI of students enrolled in a transitional bilingual education (TBE) and those enrolled in an English as a second language (ESL) classroom. The results of my study showed that students in a TBE classroom performed statistically significantly different on five HBGSI clusters (Social & Academic Language, Familial, Collaboration, Imagery, and Creative Performance) than students in ESL classroom. The study's results were analyzed, interpreted and discussed in this dissertation.

DEDICATION

This dissertation is amorously dedicated to my family; with their loving support, all dreams seem possible. It was written in loving memory of Guadalupe Ramos Isquierdo.

ACKNOWLEDGEMENTS

The completion of this academic journey would have not been possible without God, my Provider and Strength. I give Him all the glory and honor.

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Finally, I would like to thank all the administrators, teachers, paraprofessionals and especially the students that participated in Project ELLA. Their dedication and hard work helped make this study possible.

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CHAPTER I

INTRODUCTION

Education is one of the government's most important responsibilities. With the nation's concern over the quality of public school education, much attention has been given to the *No Child Left Behind* Act (NCLB), which advocates educational reform. NCLB, implemented in 2001, requires states to enforce standards for student performance and teacher quality. In an effort to improve the extensiveness of American education, the law considers states accountable for student results (U.S. Department of Education, 2004). Prior to NCLB, schools could report standardized test scores without including the results of many minority groups allowing the achievement gaps between mainstream and minority students to go unrecognized. Under NCLB, schools are held accountable for reporting the progress of all students (Texas Education Agency, 2005). Therefore, one of its main focuses has been to ensure educational equity by addressing the achievement gaps between student groups. According to the report issued by the U.S. Department of Education (2004), NCLB was designed to promote an educational system that is more inclusive, proactive, and just.

The nation's educational reformation has prompted school leaders to evaluate student support programs, such as those that serve gifted and talented (GT) students. GT programs in Texas provide service to students who perform or show the potential to perform at an extraordinarily high level of accomplishment in relation to students of

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This dissertation follows the format of *American Educational Research Journal.*

similar age, experience, or environment (Texas Education Agency, 2000). Before NCLB, the Texas Education Agency (TEA) had increased the performance standards of GT programs for all public schools (Bernal, 2000). Accordingly, TEA has been analyzing school districts' data regarding their identified GT student population. A district's GT program design may be ranked "Acceptable" if all student groups have access to the GT assessments and identification process. However, in order to be ranked "Recognized" or "Exemplary," the ratio of minority GT students needs to be in proportion to the total student population (TEA, 2000). Schools are advised to have an equal representation of all diverse groups identified for GT services by TEA. The State recognizes the need to serve a diverse student population in special programs. As a result, school districts are required to demonstrate their efforts at identifying students of linguistically and culturally diverse populations for GT services.

As more culturally and linguistically diverse students enroll in our nation's public schools, local programs must be prepared to identify and educate the GT among them (Castellano, 1998). The English language learner (ELL) should not be required to exit language development programs in order to be placed in gifted classrooms; they should remain in the programs as they master the English language, and receive gifted and talented services as well (Lara-Alecio & Irby, 2000). Additionally, school districts need to comprehend that addressing the issue of underrepresentation will require more than one or two simple adjustments to their current policies and procedures. The restructuring of the GT program will call for a strong focus on educating and informing teachers,

parents and the community about the characteristics and identification process of gifted ELLs (Grantham, 2002).

The demographic makeup of the United States population has been changing dramatically over recent years. The Hispanic population is growing at such high rates that by the year 2030, Hispanics will contribute to 45% of the nation's population growth (Day, 2001). According to the U. S. Census Bureau (2002), Hispanics accounted for 40% of the population growth between 1990 and 2000. In addition, the Census found that 28 million U. S. residents age five and older spoke Spanish at home. Many school districts that formerly had lower numbers of Hispanics in their schools have had to reevaluate their services and programs in order to accommodate the changes in student population. As the growth of the Hispanic population continues to grow, the population of ELLs increases. ELLs are students that have a home language other than English, and are learning English in the school environment. When ELLs enter public schools in America, they are either enrolled in a transitional bilingual education (TBE) program or English as a Second Language (ESL) program. Most TBE programs are designed to educate ELLs by using their native language for a limited amount of time, to teach English content. The ESL programs strictly use English instruction in the classroom. In this type of language program, different language strategies are used to ensure comprehension of the academic curriculum.

Many public schools are primarily concerned with teaching ELLs English, neglecting other academic areas of need. One area in need of attention within this unique student population is the gifted and talented subgroup. While revamping their academic

services to this growing minority population, public school districts need to evaluate their identification and assessment of English language learners for the gifted and talented programs. As public schools aim to teach basic English skills to ELLs, their natural talents are often overlooked and may even deteriorate (Bernal, 2002). Therefore, the educational institution must address all the academic needs of ELLs to ensure that their talents are fostered.

Statement of the Problem

As the Hispanic student population has increased, the number of identified gifted and talented students has often remained stagnant, if not decreased (Brown, 1997). It is apparent that the identification and assessment process for ELLs has not been effective in pairing students with the appropriate curriculum. In order to assure academic success, the instruments used to assess the ELLs need to be appropriate and effective. Galbraith and Delisle (1996) stated that students from a minority group are oftentimes overlooked because the standard tests used to measure giftedness are frequently biased to favor majority students.

Most methods for identifying gifted students in public schools have been mainly developed for middle-class native English speakers (Cohen, 1988). These types of identification procedures have led to an underrepresentation of ELLs in gifted programs. Castellano (1998) asserted that children with different linguistic and cultural backgrounds have historically not been included in gifted programs. Moreover, under representation of minority groups, including Hispanic, African-American and Native American, in gifted education has been as high as 70% (Lara-Alecio, Irby, & Walker,

1997). In addition, Hispanics are four times less likely to be enrolled in a gifted program (Associated Press, 1996). These studies show that the current system of identification of gifted ELLs in public schools needs to be reevaluated, so that equal access to these special programs is provided.

One of the major issues of underrepresentation of ELLs in gifted programs is test bias. Test bias means that the testing instrument used to identify giftedness is designed to reflect the language and experiences of middle-class Anglo-American students (Strip & Hirsch, 2000). Therefore, using standardized assessments based on mainstream society may not be valid. Test bias prevents gifted ELLs from being placed in gifted education classes because they do not qualify, according to the school districts' criteria (Bernal, 2000).

Significance of the Study

The exponential growth of the Hispanic student population and the controversial educational issue surrounding the assessment of English language learners are the two fundamental topics of this study. Due to the uncertainty and ambiguity surrounding how to assess the escalating Hispanic student population, the underrepresentation of Hispanics in GT programs has developed into a critical educational concern (Bernal, 2002; Irby & Lara-Alecio, 1996; Ortiz & Gonzalez, 1998). There exists a necessity to address and improve the identification process for gifted Hispanic students in today's public schools.

Definitions

The following are key terminology and subsequent definitions used in this study. For the objective of this study, selected definitions have been modified to apply specifically to this study, and are not intended to be generalized to other settings, populations, and/or situations.

Validity: the degree to which a test measures what it is designed to measure. A test is only valid for a particular purpose and a particular group. Validity evidence can come from different sources, such as theory, research or statistical analyses (Anastasi & Urbina, 1997).

Correlation coefficient: statistical measure of the linear or curvilinear relationship between two variables, scores, or assessments. The correlation coefficient ranges from -1.0 to +1.0. However, when there is no relationship between two variables, it equals zero (Hinkle, Wiersma, & Jurs, 2003). Correlation is used when analyzing test reliability and validity.

Concurrent validity: the degree to which the scores on a test are related to the scores on another already established test, administered at the same time, or to some other valid criterion available at the same time. The relationship method of determining concurrent validity involves determining the relationship between scores on the test and scores on some other established test or criterion. The discrimination method of establishing concurrent validity involves determining whether test scores can be used to discriminate between persons who possess a certain characteristic, and those who do not, or those

who possess it to a greater degree. This type of validity is sometimes referred to as criterion-related validity (Anastasi, 1988).

Reliability: the degree to which a test or assessment consistently measures what it is intended to measure. It is expressed numerically, usually as a correlation coefficient (Anastasi & Urbina, 1997; Hinkle, Wiersma, & Jurs, 2003).

Language proficiency: language usage (i.e., language proficiency) as dynamic and contextually-based (varies depending upon the situation, status of the speakers, and the topic), and discursive (requires connected speech). In order to achieve communicative competence, the use of integrative skills is required (Canales, 1994).

Limited English proficient (LEP): individuals who do not speak English as their primary language and who have a limited ability to read, speak, write, or understand English. In the state of Texas, a kindergarten student shall be identified as LEP and qualify for entry into a TBE or ESL program by scoring below the designated level on the English oral language proficiency test (TEC §89.1225 (f), 2002).

Gifted and Talented (GT): a person who performs at or shows the potential for performing at a extraordinarily high level of achievement when compared to others of the same age, experience, or environment and who exhibits high competence in an intellectual, creative, or artistic field; possesses an uncommon ability for leadership; and exceeds in a specific academic field (Texas Education Code 29.121, 2005).

Hispanic gifted and talented students: Hispanic students who possess above average intelligence, task commitment, and creativity, considering the socio-linguistic-cultural context (Lara-Alecio & Irby, 2000).

Hispanic Bilingual Gifted Screening Instrument (HBGSI): a teacher administered screening inventory of characteristics that are centered within the Hispanic culture, based on research that has been conducted solely within this cultural group. It is designed for use with Hispanic bilingual students in grades Kindergarten through grade four, for the specific purpose of screening students who will enter into the pool of potentially gifted students to be referred for further testing (Irby & Lara-Alecio, 1996).

Naglieri Nonverbal Ability Test (NNAT): designed to provide a brief but highly reliable and valid nonverbal evaluation of general ability. To ensure that the measures are appropriate for students from diverse backgrounds, the content of the test is entirely nonverbal. The instructions are very concise and the questions can be solved using only the information offered in each diagram. This method of measuring ability without the use of language, math, or reading skills, and with limited motor requirements, allows for a fair evaluation of cognitive ability for children from various cultural and linguistic backgrounds, as well as those with motor or communication challenges (Naglieri, 1999).

Woodcock Language Proficiency Battery-Revised (WLPB-R): an overall measure of language proficiency and an expansive assessment of oral language, reading, and written language, in both English and Spanish. The *WLPB-R* English Form and Spanish Form are equivalent versions, which support the comparison between the languages (Woodcock & Muñoz-Sandoval, 2004).

Purpose of the Study

The primary purpose of my study was to investigate the correlation between kindergarten students' performances on language proficiency batteries, nonverbal ability

assessments, and the HBGSI. First, the focus centered on the concurrent validity of the assessments utilized in this study, which was established through the correlation between HBGSI, NNAT, and WLPB-R. Second, a correlation between language proficiency and performance on intelligence tests was analyzed. Thirdly, a contrast of performance on the NNAT and WLPB-R between the students referred to GT using the HBGSI was conducted. Finally, a comparison of performance on the HBGSI between students enrolled in a TBE and ESL classroom was analyzed.

Research Questions

The four research questions that guided mytudy were as follows:

1. What is the concurrent validity of the HBGSI using the NNAT and WLPB-R at the kindergarten level?

2. Is there a correlation between language proficiency in English and Spanish as measured by the WLPB-R and nonverbal cognitive skills measured by the NNAT in kindergarten English language learners?

3. Is there a statistical significant difference in performance of Hispanic kindergarten English language learners on the WLPB-R and NNAT by student groups, those identified as GT using the HBGSI and those not identified?

4. Is there a statistical significant difference in performance of Hispanic kindergarten English language learners on the HBGSI by educational placement those who are served in transitional bilingual education program versus those who are served in an English as a Second Language program?

Limitations

As with all research, there are limitations to the interpretation of the results and other issues that needed to be considered when trying to generalize the analyses from this study to broader issues of interest. The following is a discussion of some of these limitations:

1. The sample consists of only Hispanic kindergarten ELLs. The sample was solely comprised of kindergarten students identified as Hispanic and limited English proficient. Therefore, generalizations will be limited to that specific population.

2. The sample was selected from a school district located in the metropolitan region of Houston, Texas where the majority of the Hispanic student population was from Mexican descent. The sample does not encompass the diversity found in the Hispanic population in the United States.

3. The instruments utilized in this study were used with students of various English and Spanish proficiency levels. The various levels of English and Spanish proficiency represented in the sample may limit the degree to which findings can be generalized.

Although there are several limitations of my study, some of the findings may be generalized, depending on the specifics of the population.

CHAPTER II

REVIEW OF RELATED LITERATURE

In this chapter I present the empirical studies found in various bodies of literature regarding the identification of minority GT students, particularly Hispanic ELLs. In addition, research on intelligence and linguistic assessments were included.

A number of data-bases were explored for the purposes of this literature review: EBSCOhost, Educational Resources Information Center (ERIC), Elsevier SD JAI, Gale Group database, Linguistic and Language Behavior Abstracts, Metapress Routledge, PsycINFO, WilsonWeb, and World *Cat.*

The Population Addressed

The demographic makeup of the United States population has been changing dramatically over recent years. The Hispanic population is growing at such high rates that by the year 2030, Hispanics will contribute to 45% of the Nation's population growth (Day, 2001). According to the U.S. Census Bureau (2002), Hispanics accounted for 40% of the population growth between the 1990 and 2000. As the growth of Hispanic students continues, the population of English language learners (ELLs) will increase. The Census found that 28 million U.S. residents age five and older spoke Spanish at home. More specifically, Chamness and Endo (2004) reported that at a minimum of 3.5 million ELLs attend public schools in America. Moreover, Fernandez, Gay, and Lucky (1998) predicted that by the year 2050, Hispanic students will represent over 26% of all the student population, making them the second largest student ethnic group in public schools.

Therrien and Ramirez (2001) reported that in the year 2000, 35.7% of Hispanics were less than 18 years of age, compared with 23.5% non-Hispanics. Hispanics are a young subpopulation that continues to increase in numbers. In addition, 30.6% of Hispanic family households consist of more than five people; in contrast, 11.8% of non-Hispanic families were this large (Therrien & Ramirez, 2001). These data supports the projection that the Hispanic student population will continue to increase in extraordinary increments. School administrators and teachers are witnessing the increase of student diversity in the classroom; within the next forty years, ELLs are expected to be the majority in the classrooms (Elhoweris, Mutua, & Asheikh, 2005).

Table 1 illustrates the distribution of the total U.S. population as reported by the U.S. Census Bureau (2000). In 2000, the Hispanic population only represented 12.4% of the total population. However, the Hispanic population is forecasted to increase up to 15.5% by the year 2010 (U.S. Census Bureau, 2004).

Table 1

U.S. Population in 2000

Total Population	White	African-American	Hispanic	Other
282,125,000	195,729,000	35,818,000	35,622,000	17,759,000
100%	69.2%	12.5%	12.4%	6.1%

Note. From the U.S. Census Bureau website report of 2000, http:www.quickfacts.census.gov/qfd/states/48000.html

Table 2 shows the U.S. projected population categorized by race as reported by the U.S. Census Bureau (2004). According to these predictions, the Hispanic population will continue to increase by at least 2% every ten years, while the white population will decrease by an average of 4% during the same time frame.

Table 2

U. S. Projected Population by Race: 2000-2050

Race	2000	2010	2020	2030	2040	2050
White, non-Hispanic	69.2%	65.1%	61.3%	57.5%	53.7%	50.1%
African-American	12.5%	13.1%	13.5%	13.9%	14.3%	14.6%
Hispanic (of any race)	12.5%	15.5%	17.8%	20.1%	22.3%	24.4%
Asian	3.5%	4.6%	5.4%	6.2%	7.1%	8.0%
Other races	2.6%	3.0%	3.5%	4.1%	4.7%	5.3%

Note. From the U.S. Census Bureau website report of 2004, http:www.census.gov/ipc/www/usinterimproj

Table 3 compares the population growth, subgroups, and home language between the total U.S. population and the Texas population. The percent change for the U.S. population between the years 2000 and 2004 was reported at 4.3%, whereas the change for the Texas population was 7.9% (U.S. Census Bureau, 2004). The Hispanic population in Texas is more than double what it is in the U.S. Plus, the percentage of people speaking a language other than English at home is significantly higher in Texas than in the U.S.

Table 3

U. S. Demographics versus Texas Demographics

	Total population: 2000	Total population: 2004	Subgroup: White	Subgroup: Hispanic	Home language other than English
U. S.	282,125,000	293,655,404	69.9%	12.5%	17.9%
Texas	20,851,820	22,490,022	52.4%	32.0%	31.2%

Note. From the U.S. Census Bureau website report of 2004, http:www.census.gov/ipc/www/usinterimproj/

Bilingual Education

Due to the Hispanic population growth, many school districts with traditionally lower numbers of Hispanics have needed to reevaluate their academic services and various educational programs in order to accommodate the change in student population. Many of the ELLs may enter school with an array of academic skills, for example proficiency in a language other than English. Various sections of legislation oblige schools to evaluate the level of proficiency a child has in English, as well as in their native language. A major reason for this type of assessment is to decide whether the student needs the services of a bilingual education program.

In the United States, bilingual programs respond primarily to the academic and linguistic needs of ELLs who are continuously arriving in this country (Baker, 1993; Crawford, 1991; Kloosterman, 1998). Overall, numerous studies have suggested that bilingual education is effective with assisting ELLs in acquiring English when the programs are well-designed and properly implemented (Cummins, 1989; Krashen, 1996;

Krashen, 1997). The most effective bilingual programs have these common characteristics: English language instruction, sheltered content area teaching, and instruction in the ELLs' native language (Krashen, 1997).

Evolution of Bilingual Education

Bilingual education has a deeply rooted history in the United States. A variety of civil rights movements influenced the progress and evolution of bilingual education. Baker (1996) noted that bilingual education directly and indirectly connects to the politics of the country. Throughout the last century, bilingual education has been modified to reflect the current thoughts and beliefs of American society. Bilingualism "is studied in relationship to power structures and political systems in society" (Baker, 1996, p. 352). While exploring the transformations of bilingual education policy, one can notice a parallel between political powers and educational reform. Society's views on race, ethnicity, and racism influence the structure of bilingual education (Moses, 2002). Therefore, as society's views and values oscillate along with national politics, bilingual education reform changes direction.

The origin of bilingual education began with two significant pieces of federal legislation, *Title VI of the Civil Rights Act of 1964* and the *Elementary and Secondary Education Act of 1965*. *Title VI of the Civil Rights Act* prohibits the discrimination of all students who are enrolled in educational programs receiving federal funding (NCBE, 1998). The *Elementary and Secondary Act* establishes the standard for federal involvement in aid to impoverished and educationally deprived students. Later in 1968, the *Elementary and Secondary Education Act* became the channel by which Congress

funded bilingual education for ELLs with the amendment of Title VII (Crawford, 1999). Furthermore, court cases, including *Brown v. Topeka, Kansas, Board of Education* (1954) and *Larry P. v. Riles* (1972, 1979) addressed the inherent inequities in the educational system (Elhoweris, Mutua, & Alsheikh, 2005).

Title VI provided funding for bilingual education to school districts with a significant population of ELLs residing in economically disadvantaged areas. Then, the *Bilingual Education Act* shaped a framework for federal aid to schools that utilized ELLs' native language during instruction (NCBE, 1998). However, this act did not clarify the goal of the language program, whether to transition to instruction in English or maintain the students' native language. This vague stipulation for funding led to reauthorizations in 1972 and 1974 that expanded the scope of the legislation and provided additional language programs, none with a defined goal (Crawford, 1999). The ambiguous legislation led to the use of educational practices that sometimes disabled ELLs (Cummins, 1994). In 1974, the Supreme Court ruled in *Lau v. Nichols* that school districts with a substantial number of ELLs must construct instructional modifications to meet the educational and language needs of the students. The court ruling required schools to provide ELLs with instruction in a language that best fit their educational needs. In addition, the Supreme Court ruled that delivering instruction solely in English to ELLs violated their civil rights. This court case provided the Office of Civil Rights the legal support to oblige school districts to initiate bilingual education programs where needed. Therefore, schools began to provide bilingual education to ELLs that qualified for the service. Title VII of the *Improving American's Schools Act of 1994* supplied a

significant amount of federal funding for the development of bilingual education programs.

Currently, under *No Child Left Behind Act of 2000* (NCLB), bilingual educational programs are held accountable for ELLs' academic progress. NCLB, implemented by the Bush Administration in January 2001, integrates the principles and strategies that intensify accountability for states, school districts, and schools. In addition, NCLB provides choice for parents and students, specifically those attending low-performing schools. This Act also grants more flexibility for states and local educational agencies in the management of federal education dollars and accentuates reading, especially for students in primary grades (U.S. Department of Education, 2005). The U.S. Department of Education reported that NCLB simplified federal support for English language instruction by merging categorical bilingual and immigrant education grants that benefited a small percentage of ELLs in relatively few schools into a state formula program. This state formula facilitates the compendious planning by states and school districts needed to support the implementation of programs that benefit all ELLs. These programs primarily focus on helping ELLs learn English and meet the same high academic standards as mainstream students (U.S. Department of Education, 2005).

Identification of Limited English Proficient Students

In the state of Texas, the Texas Education Code (TEC) mandates all educational policy, including bilingual education. The state of Texas provides clear guidelines on how to identify students with a limited English proficiency. Chapter 29 of the TEC outlines to the school districts how to identify and service ELLs. In order for a student to

qualify for services in a bilingual program, a student needs to first be identified as LEP. When students enroll in a public school in Texas, parents must complete a Home Language Survey. This survey determines whether the child speaks a language other than English at home. If it is indicated that the child does speak a language other than English, the school then precedes with language proficiency assessments. The school district administers Texas Education Association (TEA) approved language proficiency assessments in order to measure the level of English proficiency. In view of the fact that Spanish is the second most spoken language in Texas, the state also provides language assessments that measure the student's Spanish proficiency, if that is the language the student speaks at home.

According to Chapter 29 of the TEC, school districts that have more than 20 students in one grade level classified as LEP must offer bilingual education or a special language development program for that particular group. The two most common bilingual programs in Texas are the Transitional Bilingual Education (TBE) and English as a Second Language Program (ESL). Once the school identifies the student as LEP, he/she generally enrolls in either a TBE or ESL program (Bernal, 2000). Most TBE programs are designed to educate ELLs using their native language for a limited amount of time to teach the different content areas like Science, Math, and Social Studies. The ESL Programs strictly use English instruction in the classroom. In this type of language program, different second language development strategies are used in order to reinforce comprehension within the academic curriculum. Generally, all bilingual programs are transitional in format, where the ELL is moved through the language development

program as quickly as possible and into the mainstream classroom without maintaining the child's native language (Kloosterman, 1998).

Table 4 shows the growth of ELLs in Texas public schools. The number of identified ELLs increased from 13.4% to 15.3% in seven years. In addition, the number of students receiving bilingual or ESL services increased almost 3%.

Table 4

Texas Growth of ELLs

	1996-1997	2003-2004
Number of ELLs	514,139	660,308
	13.4%	15.3%

Note. From the Texas Academic Excellence Indicator System website report 2003-2004, Texas Education Agency (2004)

Bilingualism

Studies of bilingual education propose that bilingualism consists of multifaceted phenomenon involving personal and socio-cultural dimensions (Baker, 1996; Cummins, 1991; Kloosterman, 1998; Snow, 1992). Hence, bilingualism is not a simple concept. Kloosterman (1998) found that ELLs may develop two languages at various proficiency levels, at different development stages, and in formal and/or informal settings. Therefore, the array of proficiency abilities in the two languages can fluctuate extensively, from fluent bilingualism to limited communicative skills in either one or both of the languages.

Lambert (1974) differentiated between "additive" and "subtractive" bilingualism. Additive bilingualism suggests that the individual maintains and develops the native language while acquiring the second language. Subtractive bilingualism denotes that the individual loses the native language while learning English. Most bilingual programs in the United States are subtractive in nature.

Gifted and Talented Education

Giftedness has been assigned a variety of definitions throughout the years. The majority of the definitions are centered on the middle-class, Anglo-American population. An example of a definition of a "typical", mainstream gifted child is a student that has a supportive home environment that offers verbal enhancement opportunities that nourish his/her natural abilities in ways that allow him/her to be highly successful on standardized tests (Castellano, 1998). According to this definition of giftedness, a child must be raised in a home that provides a safe learning environment. This type of definition of giftedness does not apply to all children enrolled today in American public schools. In addition, Grantham (2002) wrote that the mainstream society believes giftedness is being Anglo-American with two college-educated parents and a house in the suburbs. With any one of those factors missing, it is very difficult for society to understand the concept of giftedness in other groups.

Definitions of Giftedness

Educators, policy makers, and researchers continue to debate the definition of giftedness (Ford & Grantham, 2003; Irby & Lara-Alecio, 1996; Valdés, 2003). The method by which schools identify potentially gifted students centers on of the definition

of giftedness adopted by that educational institution. Ford & Grantham (2003) reported that the federal government has used numerous definitions of giftedness throughout the years. In addition, the federal definition of giftedness utilized throughout the years has affected the identification of minority gifted students (Ford & Trotman, 2001).

The *Jacob K. Javits Gifted and Talented Students Act of 1988* asserted that "outstanding talents are present in children and youth from all cultural groups, across all economic strata, and in all areas of human endeavor" (U.S. Department of Education, 1993, p. 26). The Department of Education (1993) defined gifted and talented in National Excellence: The Case for Developing America's Talent in 1993 as

> children and youth with outstanding talent performance or show the potential for performing at remarkably high levels of accomplishment when compared with others of their age, experience, or environment. These children and youth exhibit high performance capability in intellectual, creative, and/or artistic areas, possess an unusual leadership capacity, or excel in specific academic fields (p. 26).

Even though most definitions involve the concept intelligence determined by IQ scores, the above definition centers on talent and the potential to have talent. This definition incorporates a new element of giftedness, the identification and nutriment of potential talent.

In the educational field of giftedness, there are two main schools of thought: the conservatives and the liberals (Robinson, 1998; Valdés, 2003). The conservative group defines giftedness based mainly on IQ testing. Therefore, students that score in the top 1% on IQ tests are believed to be gifted. This group equates giftedness with intelligence.

McClellan (1985) found that this type of determination of giftedness dates back to the beginning of the twentieth century, when psychologists used IQ testing to confirm the superiority of some racial groups over others. This conservative group's definition of giftedness narrows the identification possibilities for other diverse groups (Ford & Grantham, 2003). One noted conservative scholar was Terman, who believed that gifted students tested in the top 1% on IQ assessments (Renzulli, 1999). In addition to claiming that giftedness can be measured solely by IQ, the conservatives support the notion that giftedness is genetically inherent and can not be nourished (Renzulli, 1977). The conservative view of giftedness influenced the educational field for decades (McClellan, 1985).

On the other side of the debate, the liberals define giftedness in a more contemporary, inclusive manner. Valdés (2003) found that the liberal group uses a more flexible definition of giftedness that includes factors such as creativity, memory, motivation, and talent. These factors are not considered by the conservative group to be valid indicators of giftedness (McClellan, 1985). A strong supporter of the liberal definition of giftedness is Renzulli (1977) who claimed that the identification of giftedness is a complex and problematic process. He also supported the conception that schools need to offer academic environments that are conducive to the development of students' talents and offer opportunities for them to utilize these talents (Renzulli, 1999). Scholars on this side of the debate, such as Renzulli, Tannerbaum, and Sternberg, argue that giftedness cannot be easily measured with IQ tests. They claim that giftedness is not static, but an involving process (Valdés, 2003).

Renzulli offered a definition of giftedness that reflects his liberal views. He defined gifted children as those that have or have the potential to have three distinguished traits: above average ability, task commitment and creativity (Renzulli, 1999). He explained his definition by demonstrating its main components with a Venn diagram. This figure displayed the dynamics, change, and interaction between the identifiable three components. Renzulli (1999) explained that individuals do not need to simultaneously exhibit these three traits, but more readily have the capability of fostering these characteristics. Although these characteristics are distinct, they overlap and interact with each other. Additionally, Renzulli (1999) classified gifted children into two groups: schoolhouse gifted and creative productive gifted. He further explained that the schoolhouse gifted is more general and stable, whereas the creative productive gifted is more domain, or content, specific. The instrument used in my study, the HBGSI, may be reflective of Renzulli's definition of giftedness; however, Lara-Alecio and Irby (2000) expanded this definition to include socio-linguistic characteristics.

Models of GT Programs

There are a variety of models of GT programs found American schools. Although each model focuses on the academic talents of the identified student, each implements unique teaching strategies and instructional programs based on different theories of learning and cognition. This review of literature describes the following models of GT programs: the Taxonomy of Educational Objectives, the Structure of Intellect Model, the Multiple Talent Approach, Renzulli's Enrichment Model, the Autonomous Learner Model, and Gardner's Multiple Intelligence Model.

The Taxonomy of Educational Objectives, designed by Bloom and Krathwohl (1956), connects thinking and behavior skills into a hierarchy generally used in mainstream education. This model type incorporates two separate but related taxonomies: cognitive (knowledge, comprehension, application, analysis, synthesis, and evaluation) and affective (receiving, responding, valuing, organization, and characterization by value). In this GT model, cognitive and affective goals can be achieved by connecting the identified cognitive levels and affective levels at specific points (Krathwohl, Bloom, & Masia, 1964).

Guilford (1959) created the Structure of Intellect Model (SOI) that portrays intelligence as a multidimensional trait consisting of three interacting dimensions: an operation, specific content, and type of product. Basically, intelligence is displayed by an operation that is performed on a particular kind of content, yielding a certain type of product. A cube-shaped model represents the relationship of these three dimensions and their various subcomponents with potentially 120 independent abilities. The model characterizes fully developed adult intelligence; children are typically not expected to exhibit all these abilities. However, gifted children would possess a greater number of abilities (Guilford, 1959).

Certain aspects of the SOI Model influenced the creation of the Multiple Talent Approach (MTA) (Taylor, 1988). This creative thinking model defines five talent areas: productive thinking, communication, planning, decision-making, and forecasting. The MTA Model incorporates both the critical and creative elements of thinking. Although MTA is based on SOI, it is not hypothetically limited to children who are gifted. In fact,

MTA is suggested for developing a variety of talents in all students (Taylor, 1988). The Talents Unlimited Model demonstrates the application of the MTA in mainstream education and teaching strategies (Bain, Bourgeois, & Pappas, 2003). Talents Unlimited is an instructional program designed to improve students' critical thinking skills within the context of classroom curriculum. This program aims to increase the students' metacognitive capacities in specific work-related thought processes. Talents Unlimited offers a practical structure for teachers to assist students' application of these high-level processes to academic content (Sternberg & Grigorenko, 2002).

Renzulli's (1977) Enrichment Model describes three levels of enhancements that can be addressed to meet the needs of identified gifted children. Type I Enrichment concentrates on general exploratory activities that primarily expose students to an assortment of topics not ordinarily found in the regular classroom. Type II Enrichment centers on activities aimed to develop group training in cognitive and affective processes while incorporating communication skills through several formats. Renzulli (1999) stated that both Type I and II Enrichment activities can be integrated into the regular classroom. However, Type III Enrichment activities are specifically for identified gifted students. Type III Enrichment activities allow opportunities for students to develop research skills by having them investigate real life problems and producing a creative product for a specific audience (Renzulli, 1999). Gifted students benefit from Type III Enrichment activities given that they center on student interests, learning styles, and positive relationships (Baum, Renzulli, & Hebert, 1995).

The Autonomous Learner Model (ALM) focuses on the development of interpersonal skills, intrapersonal skills, critical thinking skills, and responsibility. Betts (1986) described the ALM model as highlighting five dimensions: orientation, individual development, enrichment activities, seminar, and in-depth study. Although the ALM model centers on developing life-long skills, it is more conducive for GT pull-out programs. Therefore, it does not integrate the regular classroom curriculum (Bain, Bourgeois, & Pappas, 2003).

Gardner's (1983) Multiple Intelligence Model (MI) was conceived out of his disagreement of one single definition of intelligence. The MI Model outlines eight kinds of intelligence, including linguistic, logicomathematical, spatial, musical, intrapersonal, interpersonal, bodily-kinesthetic, and naturalistic (Gardner, 1983; 1999). Gardner (1983) stated that a student's intellectual profile can be identified at a young age, mainly by using his intelligence survey. Therefore, academic opportunities need to be tailored to the student's specific intellectual profile.

Although a variety of GT program models have been designed for school implementation, national, state, and district research surveys have rarely explored the relation between theory and practice (Bain, Bourgeois, & Pappas, 2003). Moreover, Kloosterman (1998) found that very few GT program models were developed to specifically identify and develop the talents in linguistically and culturally diverse students. In general, GT program models focus on the talents of mainstream gifted students. Barkan and Bernal (1991) reported that while some researchers in gifted education support new paradigms for identifying and serving culturally diverse students,

researchers in bilingual education are making strides to connect the field with programs for gifted to meet the academic and linguistic needs of gifted ELLs.

Minority GT Students

In the recent years, different researchers have extensively studied the minority populations in terms of giftedness. A variety of studies have been conducted to determine the unique characteristics of gifted minority children. Harris and Ford (1999) defined giftedness as "children and youth with outstanding talent to perform or show the potential for performing at remarkably high levels of accomplishment when compared with others of their age, experience, or environment" (p. 2). This definition applies to most minority students from different races and ethnicity. The key point in Ford and Harris' definition is that students may have the potential to be gifted when compared to other children in their own environment.

Vanderslice (1998) found that most states formally claim to exercise the comprehensive federal definition of giftedness; yet in practice, local school districts tend to search and identify white, middle-class students. However, gifted students exist at all levels of society, regardless of sex, race, socioeconomic, or ethnic origin. These students' exceptional intellectual capabilities, academic aptitudes, and/or creativity must be used to identify their giftedness (Brown, 1997). There exists a need to steer away from stereotypes and focus on strengths some minority students bring to school in order to adequately identify their giftedness.

Four major problems in the identification of minority gifted students have been noted by Lara-Alecio and Irby (2000) and Vanderslice (1998): vague definition of

giftedness; educational equity; misuse of identification instruments; and testing during inappropriate stages of the identification process. The definition of giftedness varies within the realm of researchers: the liberals and the conservatives. Therefore, when schools begin the identification process, their first challenge is selecting a definition to use as a guide.

GT Hispanic ELLs

However, giftedness in ELLs needs a unique definition that is specific to the population's characteristics. Lara-Alecio and Irby (2000) defined gifted Hispanic students as those who possess above average intelligence, task commitment, and creativity, considering the socio-linguistic-cultural context. They referenced Renzulli on this portion of their definition, remarking that this broader definition was more inclusive for Hispanic gifted ELLs, but also needed additional consideration more specific to their realities. There are some commonalties between these last two definitions; both make reference to comparing the child to others in the surrounding environment.

Castellano (1998) similarly described gifted Hispanic children as students who can easily acquire English and use it expressively, are leaders in their group, have older playmates, are dramatic, imaginative, responsible, and street wise. Many of these characteristics are similar in nature. Likewise, these gifted traits correspond to the cultural background of most ELLs. Educational researchers have made connections between gifted traits and those valued by that particular culture. Attentive educators who observe any of these characteristics in students may want to refer them for GT testing.

It is essential that educators understand the specific traits of gifted ELLs, since a number of them contradict the characteristics of mainstream giftedness. For example, the attribute of having a strong family relationship and respect for authority figures is not typically considered a "gifted" trait. This is because most "gifted" checklists include non-conformity as characteristics of giftedness (Lara-Alecio, Irby, & Walker, 1997). Therefore, most teachers who observe ELLs with strong family ties do not consider them gifted since it goes against the "norm" of giftedness. Moreover, if educators do not comprehend the characteristics of gifted SSLs, they are likely to regard them as less gifted (Strip & Hirsch, 2000).

Ford and Trotman (2000) revealed that very few teachers receive academic preparation to work with culturally diverse gifted students. In addition, Lara-Alecio and Irby (1996) stated that most teachers who are certified in gifted education are English – only speakers who are not trained to work with ELLs. These circumstances place gifted ELLs in a double disadvantage in the school setting. Therefore, it is crucial that teachers become aware of the characteristics of gifted ELLs so that they can successfully serve them in the classroom (Lara-Alecio, Irby & Walker, 1997). It is vital that educators understand these attributes since they are the ones that begin the identification process for most gifted programs. Many ELLs' are not nominated for gifted programs because their abilities are not recognized by school personnel (Bernal, 2002).

Underrepresentation of GT Hispanic ELLs

Most methods for identifying gifted students in public schools have been developed mainly for middle-class native English speakers (Cohen, 1988). These types of

identification procedures have led to an underrepresentation of ELLs in gifted programs. Castellano (1998) asserted that cultural and linguistic children have historically not been included in gifted programs. Moreover, underrepresentation of minority groups, Hispanic, African-American and Native American, in gifted education has been as high as 70% (Lara-Alecio, Irby & Walker, 1997). In addition, Hispanics are four times less likely to be enrolled in a gifted program (Associated Press, 1996). These studies show that the current system of identification of gifted ELLs in public schools needs to be reevaluated to provide equal access to these special programs.

Reports released from government institutions, media agencies, and academic researchers denote that public school teachers are not identifying ELLs, especially those from low socio-economic status (Bernal, 2002; Castellano, 1998; Lara-Alecio & Irby, 2000). State and district level administrators responsible for recommending and monitoring the identification procedures need to be cognizant of the possible reasons for the underidentification of gifted Hispanic ELLs (Fernandez, Gay, & Lucky, 1998). In order to effectively identify GT Hispanic ELLs, these administrators need to acknowledge the traditional perceptions of giftedness and the biases that can exist in the nominations.

Many school administrators and educators are re-examining their gifted identification process to gifted programs to ensure that potential imparities are addressed. As a result, public school officials are analyzing the current testing instruments, as well as practices and policies, to make sure they are in compliance with non-discriminatory laws (Ford & Trotman, 2000). Past research studies have noted that

the testing instruments used to identify the gifted do not equitably recognize ELLs' talented capacities.

One of the major issues of underrepresentation of ELLs in gifted programs is test bias. Test bias means that the testing instrument used to identify giftedness is designed to reflect the language and experiences of middle-class Anglo-American students (Strip & Hirsch, 2000). Because many identification assessments have test bias, ELLs from low socio-economic environments are excluded from such programs. Simply because a child has acquired English does not mean that he/she had shares a common background knowledge and set of experiences with a mainstream child (Lara-Alecio & Irby, 2001). Therefore, using standardized assessments based on mainstream society may not be a valid form of assessment.

Test bias prevents gifted ELLs from being placed in gifted education classes because they do not qualify, according to the school districts' criteria. Numerous school districts require students who are tested for GT programs to score a particular percentage on intelligence quotient (IQ) tests and standardized assessments. Too often ELLs are overlooked or fail to be identified for gifted programs because they are short a few points on the required IQ test and/or achievement tests (Bernal, 2002). Moreover, the over-reliance on standardized testing as the principal criterion for inclusion in gifted programs neglects to identify students who are not fluent in English and do not come from privileged backgrounds (Strip & Hirsch, 2000).

When ELLs are identified and placed in gifted programs, they have usually already acquired English and have exited a language development program (Barken & Bernal,

1991). This type of placement procedure reflects the ideology that in order to be "gifted" one must be fluent in English and function at a high academic level in an all-English classroom. Unfortunately, ELLs are not nominated for testing until they exit a second language program: either a transitional bilingual program or an English as a second language (ESL) program. Lara-Alecio and Irby (1996) referred to this type of placement process as linguistically biased. Linguistically biased is when a child's natural talents and high abilities are not considered gifted until they have acquired English.

In an attempt to reduce linguistic bias in the identification process of gifted programs, some schools utilize testing instruments that have been translated into the child's native language. Credence is given to translated standardized tests for the reason that it is written in the student's home language. However, the use of a test that has been translated to the student's first language does not mean that the child is being fairly tested. In fact, the translated standardized test is still designed for students who come from privileged families and backgrounds (Stansfield, 2000). School districts have the responsibility to make every effort to choose culturally sensitive testing instruments that justly assess students in their native language. This type of endeavor would help school administrators and teachers reexamine the testing instruments, policies and procedures that influence the inequities found in gifted educational programs (Ford & Trotman, 2000). The end results could help gifted ELLs be properly placed in advanced learning classrooms. Valid testing instruments are fundamental to the identification process of any special service educational program.

There are a variety of testing instruments that have been successful in identifying gifted ELLs. Therefore, cognitive giftedness can be identified in ELLs from low socio-economic status when a school employs testing instruments that measure cultural and linguistic developmental factors. Examples of these factors include parental influence, teacher's knowledge of gifted characteristics, and bilingual/bicultural evaluators as multiple determinants between home and school environment (Gonzalez, Clarke, & Bauerle, 2000).

Due to teacher and cultural bias, as well as the lack of proper tests, informed teachers need to advocate for gifted ELLs to ensure they are properly educated. Masten and Plata (2000) found that teachers rated high acculturated Hispanics higher on a gifted checklist compared to low acculturated Hispanics. This strengthens the argument that trained and informed teachers need to be the voice that helps gifted ELLs in the identification process.

As more culturally and linguistically diverse students enroll in our nation's public schools, it is essential to have local programs prepared to identify and educate the GT among them (Castellano, 1998). The ELL should not be required to exit language development programs in order to be placed in gifted classrooms: they should be enrolled in the programs as they master the English language. In addition, school districts need to comprehend that addressing the issue of underrepresentation will require more than one or two simple adjustments to their current policies and procedures. It will call for a strong focus on educating and informing teachers, parents and the community of the characteristics and identification process of gifted ELLs (Grantham, 2002).

Texas Education Agency (TEA) has increased the performance standards on GT programs for all public schools (Bernal, 2000). This means that TEA is analyzing school districts' data of their population in relation to the gifted. School districts are required to demonstrate their efforts toward identifying students of special populations in the GT programs. This move by TEA comes about because the state recognizes the need to serve a diverse student population in special programs.

Hispanic Bilingual Gifted Screening Instrument

As with the Renzulli-Hartman Scale for rating behavioral characteristics of superior students (Renzulli & Hartman, 1971), the HBGSI is centered in identifying a constellation of characteristics of giftedness but within a specific population, the Hispanic ELLs (Irby & Lara-Alecio, 2003b). In order to justly identify gifted ELLs, one must consider their distinctive characteristics. Educators need to have a clear understanding of the myriad gifted qualities that pertain to well-endowed ELLs. Eleven attributes or clusters of 76 characteristics of Hispanic bilingual gifted students have been identified by Lara-Alecio and Irby (1996). These characteristics drive the HBGSI screening instrument: motivation for learning, social and academic language, cultural sensitivity, familial, collaboration, imagery, achievement, creative performance, support, problem solving, and locus of control. Each characteristic ascribes to the description of potentially gifted ELLs. Irby and Lara-Alecio (1996) agreed with Renzulli's (1999) account that a child's single score on a test should not be used to identify giftedness, but rather, the intertwining of three critical characteristics that reflect gifted behaviors: above average ability, task commitment, and creativity (Renzulli, 1999).

For a person to show above average ability, one must have a talent for lesson learning and/or cognitive thinking. Task commitment is displayed by having motivation, determination, devoted practice, and self-assurance on the project he/she works on. Demonstrating techniques for problem solving or the ability to develop original ideas reflects creativity according to Renzulli (1999). Moreover, Lara-Alecio and Irby (2000) augmented a fourth dimension to Renzulli's definition, the socio-linguistic aspect of the gifted learner. Utilizing Renzulli's definition of giftedness provided the groundwork to establish the HBGSI and the opportunity to broaden the scope of its audience.

Relevant Studies on Hispanic GT Identification

Ford and Grantham (2003) reported that the identification of minority students into GT programs has been the subject of only a handful of empirical studies. There have been two key national studies funded by the U.S. Department of Education that concentrated on the topic of gifted education and mentioned the problem with minority GT identification: the Marland Report, 1972 and the National Excellence: The Case for Developing America's Talent, 1993 (Marland, 1972; Sherman, 1997; Valdés, 2003). These two studies examine the concerns over GT identification and educational services.

The Marland Report of 1972 was the first national study that revealed an absence of minority and disadvantaged students in GT programs (Marland, 1972). Sherman (1997) asserted that 60% of schools polled during this study answered that they had no minority students receiving GT services. Due to these results, the Marland Report extended the definition of giftedness to include those that are capable of high performance through their asset of exceptional abilities (Public Law 91-230, Section 806(c)). In addition, this

definition of giftedness encompassed a broader range of qualifying talents such as leadership ability, visual and performing arts, creative and productive ability, to name a few (Marland, 1972; Valdés, 2003). However, Valdés (2003) found that most schools opted to use more IQ measures for identifying giftedness; therefore, no significant changes occurred in the schools after this report.

The National Excellence: The Case for Developing America's Talent, 1993 confirmed the stagnation of GT education following the Marland Report. The National Excellence reported that schools continued to use the conservative definition of giftedness even after the Marland Report suggested more effective ways to identify students, especially minority students, for GT programs (Marland, 1972). Valdés (2003) found that in general, schools technically abided by the Marland Report's recommendations, but not in practice. The National Excellence study reestablished what was discovered in the Marland Report: schools did not have an equal representation of minority students in their GT programs. Moveover, schools practiced identification procedures that tended to favor mainstream students and exclude minority students (Sherman, 1997). Additionally, my study confirmed that giftedness can be found in all cultural groups and in all socio-economic levels (Valdés, 2003). Therefore, the National Excellence study proposed several initiatives that addressed the areas of concerns. Some of these recommendations included teacher training, more complex and challenging curriculum opportunities for minority students, and expanding the definition of giftedness in order to capture the students not meeting the previous conservative definition (Sherman, 1997).

Following the National Excellence report, another study led by Landrum, Katsiyannis, and DeWaard (1998) aimed to examine the progress of individual state regarding policies for gifted students. This study's objective was to provide an account of each state's implementation, if any, of the recommendations suggested by the National Excellence report. Forty-two state coordinators of gifted education responded to the survey. The result of the analysis was that some change did occur in the areas of teacher training and challenging curriculum (Landrum, Katsiyannis, & DeWaard, 1998). From the states that responded, data showed that teacher certification programs in the area of GT were available. In general, this teacher training focused on three major areas: nature and needs, assessment and identification, and affective characteristics of GT students. This study also reported a minute increase in minority GT identification, ranging from 1% to 5% across the 42 states. Landrum, Katsiyannis, and DeWaard (1998) summarized the states' responses to this concern as an effect of inadequate assessment tools and procedures.

The Office of Civil Rights National Research Council's Committee Survey, reported by Donovan and Cross (2002), showed a slight increase of minority students in GT programs over a 20 year period. The survey was first distributed and collected in 1976, and showed only 1% of students in GT programs were minorities. Then in 1998, the number increased to 6%. Despite the minor improvement, the report found that White students were twice more likely to be participating in GT programs than were minority students, excluding Asian-American students. Therefore, the increase in

participation was not representative of the population numbers (Donovan & Cross, 2002).

A twelve-year longitudinal study conducted by the National Center for Education Statistics in 1988 collected data on eighth grade students from different areas of the country. This study found remarkably low representation of minority students, in particular African-American and Hispanic, in GT programs. Cantu (1998) found that Hispanics represented only 6.7% of the GT population in the study.

A study conducted by Scott, Deuel, Jean-Francois and Urbano (1996) found that using non-verbal assessments to identify giftedness in minority students could address the issue of underrepresentation. The sample in this study involved over 400 kindergarten students from diverse backgrounds, some already identified as gifted. The students identified as gifted were used as the criterion reference group. The students completed a nine battery cognitive instrument, where most of the batteries were non-verbal. Seven out of eight scores in the top 2% were achieved by minority students. When compared to the criterion reference group of identified gifted students, the minority students scored within the same range. Therefore, Scott, Deuel, Jean-Francois and Urbano (1996) suggested further studies using non-verbal assessments for GT identification.

Naglieri and Ford (2003) conducted a study that examined the identification of minority students for giftedness using the Naglieri Nonverbal Ability Test (NNAT). The NNAT is not considered to be cultural-bias, mainly because it does not require the student to read, write, or speak during the examination (Naglieri, 1997). This recent

study measured the scores of over 20,000 students, with the majority of the sample being white. Naglieri and Ford (2003) found no statistically significant difference between the mean scores of the White and Hispanic students. The researchers concluded that the NNAT would be an effective assessment to identify gifted Hispanic students and address the concern of underrepresentation.

Another study that addressed the underrepresentation of minority students in GT programs was led by Cooper in 2000. She developed the Classroom Observation Instrument, designed to screen for gifted minority students. This screening instrument assisted teachers in identifying minority gifted students, particularly ELLs, in a non-traditional approach. The teachers were asked to complete a checklist that determined whether the student exhibited any of the gifted characteristics, such as adding details, comparing ideas and objects, demonstrating unexpected use of dimensions, and having nontraditional ideas. Her model stemmed from a constructivist philosophy, where creativity and productive thinking were key components in the instrument. However, this study has not yet reported any results (Cooper, 2000).

Acknowledging that teachers play a key role in identifying giftedness, Plata, Masten, and Trusty (1999) compared the teacher nomination process between White and Hispanic students. In this study, teachers were asked to rate 220 5th grade students, 106 Hispanic and 114 White, using the Scales for Rating the Behavioral Characteristics of Superior Students (SRBCSS) created by Renzulli, Hartman, and Callahan in 1971. The results of my study displayed a nomination conditional to ethnicity. In fact, a Chi square analysis showed that when teachers completed the screening instrument, white students

were three times more likely to be nominated than Hispanics (Plata, Masten, & Trusty, 1999). This research team concluded that teachers lacked training in the identification of Hispanic gifted students.

Although there have been a limited number of empirical studies on the identification of gifted Hispanic students, particularly ELLs, Castellao and Diaz (2002) found that schools appear to be more receptive to using alternative measures. Nonetheless, the critical issue of underrepresentation of Hispanic GT students remains constant. Current research has shown prospective instruments and more flexible methods that can be used to improve the identification process for minority students, especially Hispanic ELLs. Student portfolios, checklists, and student observations are some of the alternative assessments and procedures being considered in today's schools.

CHAPTER III

METHODOLOGY

In this chapter, I address the methodology used in this study. Herein I present the setting, participants, procedures, data collection, instrumentation, and data analysis.

Setting and Participants

The school district selected as the field-base for the collection of archived data for this study, referred to as District A, was located in a metropolitan area in Houston, Texas. This district was one of the largest school districts in Texas located in the Empowerment Zone that provides services to over 45% of students whose first language is Spanish (TEA, 2004). The school district's goal was to enhance student achievement and to provide a better educational opportunity for all students. It has earned various awards and special recognitions for its efforts to improve student achievements. For the past seven years, District A has earned the distinction of being a *Recognized District* by the Texas Education Agency (TEA).

The participants' data collected for this study were enrolled in 23 elementary campuses in this district. Archived data on a total of 778 native Spanish-speaking kindergarten students identified as LEP by the district were collected for this study. All the students were enrolled in either a late-exit transitional bilingual education (TBE) program or English as a Second Language (ESL) program in the academic school year of 2004-2005. They were males and females approximately 5-6 years old, all of Hispanic background. Purposeful selection was necessary in order to have a group of all Hispanic kindergarten ELLs. The criteria for selecting the elementary schools were as follows: a

large concentration of Hispanic kindergarten students and provided TBE and ESL programs for ELLs.

According to the Texas Education Agency, District A was rated as academically acceptable in the 2003-2004 Academic Excellence Indicator System (TEA, 2005). The district served 56,127 students, of which 32,565 were labeled Hispanic during the academic year of 2003-2004. Additionally, the district had an attendance rate of 96.1% for all students and 96.4% for all Hispanic students. All the elementary schools selected for this study offered TBE and ESL programs for their ELLs. The following tables summarize the demographic characteristics of this district.

Table 5 shows that District A had a large majority of Hispanic students at 58%. Although the majority of students enrolled in Texas schools are also Hispanic, District A's percentage is almost 15 points higher. Also, the percentage of White students in District A is minimal at 6.4%, compared to the state average of 38.7%. District A also had almost double the number of African-American students in 2003-2004 than the state in general.

Table 5

Ethnic Distribution of Students in District A and the State of Texas

Student Groups	District A	Texas
Hispanic	32,565	1,868,318
	58%	43.8%
African-American	18,573	614,714
	33.1%	14.3%
White	3,614	1,669,842
	6.4%	38.7%
Other groups	1,375	140,627
	2.5%	3.2%

Note. From the Texas Academic Excellence Indicator System website report 2003-2004, Texas Education Agency (2004)

Table 6 illustrates additional demographic characteristics of District A and the state of Texas. In District A, over three-fourths of the student population was coded as economically disadvantaged. In order to be coded as economically disadvantaged in the state of Texas, a student must come from a family with an annual income at or below the official federal poverty line, be eligible for Temporary Assistance to Needy Families (TANF) or other public assistance, receive a Pell Grant or comparable state program of need-based financial assistance, be eligible for programs assisted under Title II of the

Job Training Partnership Act (JTPA), be eligible for benefits under the Food Stamp Act of 1977, or be eligible for free or reduced-priced meals under the National School Lunch and Child Nutrition Program (TEA, 2005). Table 6 also demonstrates that District A had almost 10% more ELLs than average in the state of Texas.

Table 6

Demographic Characteristics in District A and the State of Texas

	District A	State of Texas
Economically Disadvantaged	43,011	2,277,901
	76.6%	52.8%
Limited English Proficient	13,956	660,308
	24.9%	15.3%

Note. From the Texas Academic Excellence Indicator System website report 2003-2004, Texas Education Agency (2004)

Table 7 displays the disproportion between the ethnic groups of teachers and the student groups. The large majority of students enrolled at District A are Hispanic; however, Table 7 shows that only 13.5% of the teachers are Hispanic. Although only 6.4% of the students in District A are White, 52.9% of the teachers are White. Table 7 also notes the disproportion between the ethnic groups of teachers and the student groups in the state of Texas. There is almost double the percentage of White teachers as there are White students.

Table 7

Ethnic Distribution of Teachers in District A and the State of Texas

Teacher Groups	District A	Texas
Hispanic	486.7	54,326.4
	13.5%	18.8%
African-American	1,157.9	25,577.5
	32%	8.8%
White	1,912.3	205,684.1
	52.9%	71.1%
Other groups	59.5	3,599.8
	1.7%	1.3%

Note. From the Texas Academic Excellence Indicator System website report 2003-2004, Texas Education Agency (2004)

The archived data used for this study were retrieved from a group of students participating in a federally funded grant in District A called Project ELLA: English Literacy and Language Acquisition, sponsored by the U.S. Department of Education. Project ELLA was in its first year of implementation. This grant is a five-year collaborative research project among Texas A&M University (TAMU), Sam Houston State University (SHSU), Southern Methodist University (SMU), and District A. The National Center for Education Evaluation and the United States Department of

Education's Institute of Education Sciences awarded this project with an estimated seven million dollar grant to implement a study on best practices to educate ELLs whose native language is Spanish. This national study is only one of three awarded by the federal government. All funding for personnel, teacher and paraprofessional training, and instructional materials will be provided by the grant.

Project ELLA's main purpose was to structure second language programs that would improve English proficiency and reading achievement. District A approved Project ELLA to evaluate the academic progress of 905 Hispanic kindergarten ELLs enrolled in a language development program. Project ELLA divided this large set of students into two groups: the control and the experimental. During the 2004-2005 academic school year, the control group consisted of 20 ESL and 12 TBE classrooms that deliver instruction under the typical guidelines and regulations of the district. The experimental group consisted of 14 ESL and 12 TBE classrooms that incorporated the instructional model interventions defined by the grant. These interventions were classified in two categories: Tier I Teacher Enhancement and Tier II: Student Intervention. Both experimental and control elementary campuses were randomly selected to participate in Project ELLA. The reason there were more ESL classes participating in Project ELLA was due to the small number of Hispanic ELLs in those classrooms. In District A, the ESL classroom typically consists of students that speak an array of different languages. Moreover, not all students in an ESL classroom may be labeled as LEP. On the other hand, the majority, if not all, of the students enrolled in a TBE classroom were Hispanic and LEP.

Table 8 shows the number of kindergarten Hispanic ELLs that participated in Project ELLA during the 2004-2005 academic school year. The reason for the inflated number of TBE experimental was that two experimental teachers delivered ESL instruction to three different groups of students enrolled in a TBE classroom. This situation added four extra groups of experimental TBE students.

Table 8

Kindergarten Hispanic ELLs Participating in Project ELLA, 2004-2005

	Control	Experimental
TBE	201	303
ESL	203	198
Total in each group	404	501

Table 9 illustrates the distribution of the students that participated in Project ELLA and whose data were selected for this study. Once more, the number of students in the experimental TBE group was the largest due to the four extra student groups that participated in the grant.

Table 9

Student Sample for This Study Selected from the Project ELLA Group

	Control	Experimental
TBE	149	298
ESL	170	161
Total in each group	319	459

Procedures

Data collection for this study was initiated after the Institutional Review Board of Texas A&M University granted permission. All the archived data used in this study were retrieved on students that participated in Project ELLA in District A.

The data collection was of quantitative method. The quantitative data were analyzed using a series of student assessments. The student assessment categories included oral language proficiency and literacy related skills.

Student consent forms were distributed in English and Spanish to both groups participating in Project ELLA during the first week of school to allow enough time for them to be returned and filed. The consent forms were printed on the District A's letterhead and signed by the participating school principal and grant's principal investigator. Teachers sent the consent forms home in the student's homework folder. This was done to help keep the school/classroom routine of having parents check homework folders for school/classroom announcements and other forms of communication.

After the consent forms were collected, students in the control and experimental groups were given a variety of assessments, in both English and Spanish. These assessments were administered by the bilingual paraprofessionals and approved district substitutes that received intensive on-going training on the different testing procedures for each assessment. The classroom paraprofessionals administered the Naglieri Nonverbal Ability Test (NNAT) to their respective classrooms. The Hispanic Bilingual Gifted Screening Instrument (HBGSI) was completed by the classroom teacher. Teachers received rigorous training on the instruments and testing procedures to ensure the quality of data.

The three-day tester training for the bilingual paraprofessionals and district substitutes centered on the selected instruments and assessment procedures. For this group of testers, this study only analyzed the WLPB-R scores. For this instrument, the testers were trained on the importance of following the testing manual, especially when establishing the basal and ceiling for each subsection of the test. Opportunities to practice the testing procedures specific to the WLPB-R allowed the testing trainer to monitor the progress of the testers. Testers participated in exercises that assisted them in establishing the basal and ceiling, which was a challenging area for them. After completing training, each tester participated in a required check-out with a program coordinator. The check-out process entailed administering the WLPB-R to the coordinator as the coordinator monitored the delivery of the instrument and recording of test scores.

Additionally, teachers in both the experimental and control groups attended a training session specifically for the HBGSI. During this two and a half-hour training session, teachers learned the purpose of each component of the screening instrument. A comprehensive explanation on the HBGSI components provided teachers with information needed to understand the instrument and its purpose. A brief history of the development of the HBGSI and the importance of the screening stage for giftedness was discussed during this training. Furthermore, teachers received training on how to complete the HBGSI online. The instrument was available for the teachers participating in Project ELLA to complete for each student with a signed consent form. A computer demonstration on how to input data provided assistance to teachers, especially those not comfortable with technology.

Two weeks after the HBGSI training, the classroom paraprofessionals attended a training session on the NNAT. They were provided with the testing manual and instructions on how to follow testing procedures. After an intensive presentation by the trainer, paraprofessionals had an opportunity to administer the testing directions to a small group of other paraprofessionals. This exercise checked the fidelity of the testing procedure. Paraprofessionals also received training on how to score the NNAT.

The test administration was done within the same time frame at all campuses. After the testing phases, District A kept copies of the teleforms with the students' responses on file in the Project ELLA district office. The data for this study were obtained from that archived file.

Instrumentation

HBGSI

The Hispanic Bilingual Gifted Screening Instrument, created by Irby and Lara-Alecio (1996), was designed to screen Hispanic students in grades Kindergarten through 4th grade for eligibility in GT programs. The primary purpose of the HBGSI is to determine if further testing for GT programs is required. The HBGSI resulted from a comprehensive study and review of literature on the unique characteristics of gifted Hispanic bilingual children. The outcome of such efforts by Irby and Lara-Alecio (1996) produced 76 characteristics of the Hispanic culture into 11 clusters: Social and Academic Language, Cultural Sensitivity, Familial, Motivation for Learning, Collaboration, Imagery, Achievement, Support, Creative Performance, Problem-solving, and Locus of Control.

The first cluster, Social and Academic Language, focuses on the student's ability to speak, listen, read, and write in his/her native language. The second cluster, Cultural Sensitivity, measures the students' appreciation of their culture and heritage. In addition, it assesses their sensitivity towards other's cultural attributes. Familial is the third cluster, and it shows the relationship between the students and their parents. In addition, it measures the students' views on parental roles, authority and respect. The fourth cluster focuses on the students' aspiration to learn and remain stimulated in school. This cluster is referred to as Motivation. Fifth, Collaboration measures the ability to work well with others. Teachers examine how effectively students work in a group or with a partner on school assignments, as well as in social settings. The sixth cluster, Imagery,

checks the students' verbal and written imagination. This is commonly expressed in storytelling. Achievement is the seventh cluster. This cluster examines the students' academic achievement in the school setting. The eighth cluster, Support, is explored by rating the students' language development and assessment. Ninth, Creative Performance measures the students' accomplishments in the visual and performing arts. Problem Solving is the tenth cluster. This cluster characterizes the students' cognitive thinking and processing of new information. Finally, the eleventh cluster is Locus of Control, which assesses the level of effort the students put forth without external motivation (Irby & Lara-Alecio, 1996).

Lara-Alecio and Irby (1993) adapted Renzulli's definition of giftedness to better suit Hispanic ELLs' unique characteristics. They defined giftedness for a Hispanic bilingual student as "one who has above average intelligence, task commitment, and creativity that is situated within socio-cultural-linguistic characteristics" (Lara-Alecio & Irby, 2000, p. 507). Two major studies influenced the development of the HBGSI. One study was directed by Marquez, Bermudez, and Rakow in 1992. They explained the distinctive characteristics of gifted Hispanic students. The other study, led by Bernal and Reyna (1974) discussed the perceptions of the Mexican-American community about the characteristics of Hispanic gifted children. They reported how the Mexican-American families viewed and valued the distinctive traits of their gifted children. Combining these studies along with an extensive review of literature, Irby and Lara-Alecio (1996) ran an agglomerative hierarchical cluster analysis that corroborated the eleven identified clusters used for the development of the HBGSI. An empirical study conducted by Irby

and Lara-Alecio (1996) showed a fairly high correlation between the characteristics described by the HBGSI and those considered as attributes of Hispanic gifted bilingual students according to classroom teachers. This particular study measured Cronbach's Alpha, with coefficients ranging between .62 and .91. This analysis supported the subject matter found in each individual cluster.

Another study conducted by Irby, Hernandez, Torres, and Gonzalez (1997) in a Houston area elementary school found that the HBGSI was an effective screening instrument that differentiated between students referred and those not referred to gifted programs. An exploratory and confirmatory factor analysis measured a *p*-value at less than .0001.

In addition, a correlational study between the HBGSI and the NNAT analyzed by Irby, Lara-Alecio, and Rodriguez (1999) found a high correlation between these two instruments. These researchers measured Pearson correlation coefficients as high as .50 with $p<.01$ indicating a positive correlation. The student sample used for this particular study consisted of ten bilingual classrooms, with students ranging from kindergarten to 4^{th} grade. A total of 175 students' scores were analyzed.

In a study conducted by Irby, Hernandez, Torres, and Gonzales (1997), the HBGSI was calculated to be significantly effective at $p<.0001$ for distinguishing between those students who would be referred to gifted education testing by their teachers and those who would not be referred to GT. In addition, a study conducted by Irby, Lara-Alecio, and Rodríguez (1999) reported Cronbach's Alpha, the reliability coefficient of the HBGSI, to be .99, based on 34 items of the instrument.

Moreover, a dissertation study conducted by Fultz (2004) analyzed the correlation between the HBGSI and the Bilingual Verbal Ability Test (BVAT). The BVAT is an instrument that measures the bilingual verbal ability in English and Spanish, plus the cognitive and academic language in ELLs. The BVAT measures three areas of verbal ability: picture vocabulary, oral vocabulary, and verbal analogies (Muñoz-Sandoval et al., 1998). Fultz (2004) found that the HBGSI showed evidence of a medium concurrent validity coefficient when compared with the BVAT. The Pearson correlation coefficient measured in this study was .39.

Administration procedures. This screening instrument, created for the classroom teacher to complete on each individual Hispanic child, consists of 77 items, reduced from the original 90 items after a number of revisions and investigations (Irby & Lara-Alecio, 2003a). Each item is measured using a 5-point scale (5-always exhibits the behavior/characteristic, 4-often exhibits the behavior/characteristic, 3-sometimes exhibits the behavior/characteristic, 2-seldom exhibits the behavior/characteristic, and 1-never exhibits the behavior/characteristic) (Irby & Lara-Alecio, 1996). The primary function of this screening instrument is its utilization during the first stage of the GT identification process. Irby, Lara-Alecio, and Rodriguez (2003) recommended that the HBGSI be used as a referral tool, or during the preliminary screening stage of GT identification.

Table 10 depicts the maximum scores for the HBGSI clusters and total score. Each cluster's score is a multiple of five given that the score is based on a 5-point scale.

Table 10

Maximum Scores for HBGSI

HBGSI Clusters	Points
C1: Social & Academic Language	20
C2: Cultural Sensitivity	15
C3: Familial	35
C4: Motivation for Learning	20
C5: Collaboration	70
C6: Imagery	15
C7: Achievement	75
C8: Support	25
C9: Creative Performance	25
C10: Problem Solving	50
C11: Locus of Control	40
Total score	385

In order to complete the screening instrument, teachers logged onto the website www.teachbilingual.com and signed in with a designated name and password. Once in the HBGSI screen, teachers first entered the student name and identification number for each student participating in Project ELLA. After the class roster was completed, the teacher selected one student at a time to complete the instrument. The teacher rated the student according to the items under the eleven clusters.

NNAT

The Naglieri Nonverbal Ability Test is an assessment designed to give a concise but reliable and valid nonverbal appraisal of general ability for children ages 5 to 17 years of age. The NNAT has been utilized as an identification of gifted children, especially those who are culturally and linguistically diverse (Naglieri, 1997). In addition, the NNAT was also intended to be used with students that are economically or socially disadvantaged (Naglieri, 1999). The NNAT comes in two different forms, Naglieri Nonverbal Ability Tests-the Multilevel (NNAT-MLF) and the Naglieri Nonverbal Ability Test-Individual (NNAT-I). The NNAT-I will be used for this study.

The NNAT-I has 75 items divided into four item types: Pattern Completion, Reasoning by Analogy, Serial Reasoning, and Spatial Visualization (Naglieri, 1997). The NNAT - MLF was standardized on a sample of 68,000 children in grades K to 12. This sample reflected the U.S. student population according to sex; geographic region, socioeconomic status, ethnicity, and type of school. In addition, the NNAT-I was normed using the NNAT-MLF sample. The NNAT-I yields standard scores with a mean of 100 and standard deviation of 15 (Naglieri, 2000). Instructions for the NNAT-I are available in different languages, including Italian, Spanish, and Russian. For this study, the students were instructed in both English and Spanish. The NNAT-I internal reliability averages in the mid .90s (Naglieri, 1997).

Administration procedures. NNAT is divided into seven levels. Each level contains 38 items selected on the grade-level appropriateness and is purposely designed for students from Kindergarten through twelfth grade. The test levels for Kindergarten

through second grade reflect the rapid development in ability in the early school years (Naglieri, 1997). Level A, which is assigned to Kindergarten, was utilized for this study. The following recommended clusters were administered to the students participating in the study: Pattern Completion, Reasoning by Analogy, and Spatial Visualization. All the test items have the similar requirement that the student analyze the associations among the parts of the divided matrix, the design, and determine which answer choice is correct based on the information in the item.

Before the NNAT administration, the Project ELLA office pre-labeled all the testing booklets with the students' assigned identification information and number. The booklets were sorted into class sets. The bilingual paraprofessionals participating in the grant were then trained on the testing manual and procedures by the Project ELLA Assessment Coordinator. Each paraprofessional administered the NNAT to assigned classrooms, both experimental and control, in a whole-class setting. Once the students completed the assessment, the paraprofessional collected the tests, completed the class summary sheet and submitted the test booklets to the Project ELLA office for process.

WLPB-R

The Woodcock Language Proficiency Battery-Revised (WLPB-R) is a collective set of individually administered assessments for quantifying abilities and progress in oral language, reading, and written language (Woodcock, 1991). The WLPB-R is a selected set of tests included in the Woodcock-Johnson Psycho-Educational Battery-Revised written in 1984. Overall, the basic characteristics of the original WLPB have been maintained, although modifications were done to increase the diagnostic applicability of

the updated WLPB-R. This assessment provides a method to assess the importance of an individual's oral language, reading, and written language ability level. The scores obtained by the test may be used to establish and explain the level of a student's language abilities and development in three areas of language: oral, reading, and writing. An inclusive measure of English language competence is therefore provided by the WLPB-R. For this study, three subtests that measure oral language will be used: Picture Vocabulary, Verbal Analogies, and Listening Comprehension.

The WLPB-R subtest *Picture Vocabulary* measures the student's ability to identify familiar and unfamiliar objects using pictures. The pictures become more unfamiliar as the test progresses. Word retrieval is a component in this subtest. *Verbal Analogies* measures the student's ability to understand and verbally complete a logical word association. The vocabulary words used in this subtest remain moderately simple; however, the relationship between the words becomes progressively more complex. In the subtest *Listening Comprehension* the students are asked to listen to a tape player and then complete an oral cloze statement. This subtest measures the student's ability to comprehend a short story and provide a single word answer that completes the cloze statement.

Norming data for the WLPB - R were collected and analyzed from 6,359 subjects in 100 diverse communities across the nation. Estimates of internal consistency for the 13 subtests were calculated in the .80s and .90s. Generally, test-retest reliability was in the .70s and .80s. Concurrent validity studies were measured with various levels of the test and several other instruments, such as Boehm Basic Concepts, Bracken Basic Concepts,

Stanford-Binet IV, and the WISC - R. Correlation coefficients varied between the .30s through the .70s, with individual coefficients for each subtest (Woodcock, 1991).

Administration procedures. Before the WLPB-R was administered, test booklets used to record the students' responses were pre-labeled with the assigned student identification number. These booklets were organized into class sets and assigned to the testers. The testers consisted of paraprofessionals from the Project ELLA grant and people outside the district, such as university students and substitute teachers. The district administration office screened the outside testers for security purposes. The testers participated in an intense three-day training that covered the testing process and procedures for the WLPB-R and other assessments. Each tester "checked out" to the Project ELLA Assessment Coordinator during the last day of training to ensure the fidelity of the test administration.

Prior arrangements were made with the administration team on each participating campus to coordinate an appropriate testing environment. Testers were assigned the testing manual, a tape player, and other basic materials needed to deliver the WLPB-R. Once testing began, the testers had to sign out the tests in the beginning of the day and sign in the completed tests at the end of the day. All tests had to be accounted for according to the test roster for each classroom. Each tester administered the WLPB-R to individual students in the designated areas on the campus. At completion of the testing phase, all test booklets were sent to Project ELLA's Data Center for scoring and analysis.

Data Collection Procedure

The archived data from kindergarten Transitional Bilingual Education (TBE) and English as a Second Language (ESL) classrooms were used for the purpose of data collection during this study. The data were collected during the 2004-2005 academic school year. During this time, the students participated in a national study called Project ELLA. The campuses which the students attended had been purposely selected by the research team and district personnel heading Project ELLA. The total number of students whose data were used for this study was 778.

The first part of collecting the archived data were to obtain access to the data collected during the spring of 2005 and saved in the Project ELLA district office in District A. All test scores from the NNAT and WLPB-R were stored in excel files. The HBGSI scores were kept in the Internet website (www.teachbilingual.com). Access to the archived data was permitted after the Institutional Review Board from Texas A&M University and District A approved the study.

Consent letters were sent to parents of students enrolled in the classroom selected to participate in Project ELLA. These letters were collected and filed in the district office. Project ELLA personnel supervised the administration of the NNAT in March 2005. After teachers attended training on the instrument, they administered the assessment to their students in a whole group setting. Teachers then submitted the test booklets to the Project ELLA office.

After a HBGSI training session in February 2005, teachers were given a time frame to complete the online instrument. Teachers had approximately two weeks from the

training session to complete the screening instrument. This was a very time consuming task. On average, each teacher had 14 students for which they needed to complete a 77-item comprehensive screening instrument. Most teachers completed the HBGSI before or after school. However, two teachers in the grant refused to complete the instrument. Therefore, the number of students with complete scores was reduced from 826 to 780.

Trained bilingual testers administered the WLPB-R in both English and Spanish in May 2005. Testers pulled the students out, one at a time, in 30-minute intervals, in order to administer the test more effectively. The WLPB-R test was part of Project ELLA's post-testing packet. All test packets were returned to the Project ELLA office, where they were then sent to the data center for scoring. All test scores were kept in the Project ELLA district office in District A. Teachers and testers adhered to the ethical code and guaranteed the anonymity of the test results at all times.

Data Analysis

The results of the HBGSI, NNAT, and WLPB-R were gathered, coded and entered into a microcomputer with SPSS version 12.0. However, before any data were entered, each student was assigned an identification number, and a master list was kept for verification. The student identification number was consistent for all three measuring instruments. Once the coding was complete for all instruments, data were analyzed using SPSS version 12.0, statistical software. Data were then copied into a designated Universal Serial Bus (USB) drive for the convenience of transporting it.

Descriptive statistics were completed first. The mean and standard deviation were calculated for the scores of the HBGSI (all 11 clusters and total score), NNAT, and

WLPB-R (three English scores, three Spanish scores). Research questions were then individually addressed by running specific analysis for each question. The first question measured the concurrent validity of the HBGSI using the NNAT and WLPB-R at the kindergarten level by calculating the Pearson Product moment correlation. The second question analyzed the correlation between language proficiency in English and Spanish as measured by the WLPB-R and nonverbal cognitive skills measured by the NNAT using canonical analysis. The third question tested the statistical significant difference in performance on the WLPB-R and NNAT by student groups, those identified as GT using the HBGSI and those not identified by running MANOVA. The fourth question analyzed the statistical significant difference in performance of students on the HBGSI by educational placement, those who are served in TBE versus those who are served in ESL programs. This difference was analyzed by running MANOVA and evaluating the tests of between-subjects effects.

CHAPTER IV

RESULTS

The primary purpose of my study was to analyze some of the psychometric properties of the HBGSI with the NNAT and WLPB-R in identifying gifted kindergarten Hispanic ELLs. First, I presented the concurrent validity of the HBGSI using the NNAT and WLPB-R. Second, a correlation between the WLPB-R and NNAT was calculated and reported. Thirdly, my study explored the difference in student performance on the WLPB-R and NNAT between the students identified as potentially gifted and those not identified using the HBGSI. Finally, my study tested for statistically significant difference in student performance on the HBGSI between the students served in a TBE versus an ESL program. In this chapter I present the results of this study for each of the research questions

The first test of the data consisted in a descriptive analysis of the test scores. Table 11 presents the mean and standard deviations for the scores on the clusters and total scores of the HBGSI and the NNAT scores. The standard deviation for the total score of the NNAT for students in kindergarten to twelfth grade is reported in the testing manual as SD=15 (Naglieri, 1997). Table 11 also depicts the six subtests of the WLPB-R administered to the sample in this study. The reported standard deviation for the WLPB-R in the testing manual is 15 with a mean of 100 for the total score (Woodcock & Muñoz-Sandoval, 2004). However, this study did not administer the complete WLPB-R battery only three selected subtests (Picture Vocabulary, Listening Comprehension, and Verbal Analogy).

Table 11

Descriptive Statistics of the Sample for the HBGSI, NNAT, and WLPB-R

n=778	M	SD
HBGSI Clusters		
C1: Social & Academic Language	13.18	4.84
C2: Cultural Sensitivity	10.45	4.01
C3: Familial	26.67	6.92
C4: Motivation for Learning	15.35	4.34
C5: Collaboration	44.94	12.79
C6: Imagery	8.50	3.95
C7: Achievement	46.97	16.13
C8: Support	16.98	4.37
C9: Creative Performance	13.30	5.44
C10: Problem Solving	30.51	9.85
C11: Locus of Control	27.99	7.49
Total score	254.70	69.77
NNAT Index	96.97	19.21
WLPB-R: English Subtests		
Picture Vocabulary	19.52	4.47
Listening Comprehension	6.17	5.03
Verbal Analogy	2.74	2.45
WLPB-R: Spanish Subtests		
Picture Vocabulary	18.34	4.89
Listening Comprehension	8.99	5.19
Verbal Analogy	4.82	2.65

All but two of the standard deviations in the study indicate lower variability among the scores. Most notable is the standard deviation of the HBGSI, which computed to be 69.77.

Research Questions

The four research questions that guided this study were as follows:

1. What is the concurrent validity of the HBGSI using the NNAT and WLPB-R at the kindergarten level?

2. Is there a correlation between language proficiency in English and Spanish as measured by the WLPB-R and nonverbal cognitive skills measured by the NNAT in kindergarten English language learners?

3. Is there a statistical significant difference in performance of Hispanic kindergarten English language learners on the WLPB-R and NNAT by student groups, those identified as GT using the HBGSI and those not identified?

4. Is there a statistical significant difference in performance of Hispanic kindergarten English language learners on the HBGSI by educational placement, those who are served in transitional bilingual education versus those who are served in ESL programs?

Results by Research Question

Question 1: Concurrent Validity

The first research question measured the concurrent validity of the HBGSI when correlated to the NNAT and WLPB-R (three English subtests; three Spanish subtests). Concurrent validity is defined as the degree to which the scores on a test are related to

the scores on another already established test, administered at the same time, or to some other valid criterion available at the same time. The relationship method of determining concurrent validity involves determining the relationship between scores on the test and scores on some other established test or criterion (Anastasi, 1988; Gall, Borg, & Gall, 2003). The discrimination method of establishing concurrent validity involves determining whether test scores can be used to discriminate between persons who possess a certain characteristic, and those who do not, or those who possess it to a greater degree. This type of validity is sometimes referred to as criterion-related validity (Anastasi, 1988).

The Pearson correlation coefficient (Pearson *r*), the most often correlation coefficient used in the behavioral sciences (Hinkle, Wiersma, & Jurs, 2003), was the selected statistical technique used to answer Research Question 1. The Pearson *r* is expressed as the sum of the cross-products of the *z* scores, standard scores, divided by *n*-1. In order to calculate the Pearson *r*, the test scores for the assessment and screening instrument were converted to *z* scores using the SPSS version 12.0 statistical software. The Pearson *r* was calculated for the individual HBGSI clusters and total score and the NNAT score. Then, the Pearson *r* was calculated for the HBGSI clusters and total score and NNAT scores.

Table 12 illustrates the correlation results of the HBGSI and the NNAT. There are statistically significant correlations between all 11 clusters and the total score of the HBGSI and the NNAT of $p < .01$. The range of the estimated correlation coefficients (r) was from .137 to .296. Overall, the correlation coefficients show a low, but statistically

significant, positive correlation. In addition, the strength of the correlation was measured through the correlation of determination, which is calculated by squaring *r*. The correlation of determination measures the proportion of the total variance in one score that can be related to the other score (Hinkle, Wiersma, & Jurs, 2003). The r^2 range for all 11 clusters and the total score of the HBGSI and the NNAT was estimated at .019 to .088. The variability between the HBGSI and the NNAT can be estimated to be, at maximum, 8.8%. These effect sizes are considered to be small (Cohen, 1965; Cohen, 1977). The large sample size may have been a reason for the statistically significant correlations (Kline, 2004). Nevertheless, Hinkle, Wiersma, and Jurs (2003) stated that research findings based on large sample sizes are more reliable.

Table 12

Correlation Coefficients and Effect Sizes for HBGSI and NNAT

n=778	NNAT	
	Pearson *r*	r^2
HBGSI Clusters		
C1: Social & Academic Language	.206**	.042
C2: Cultural Sensitivity	.138**	.019
C3: Familial	.226**	.051
C4: Motivation for Learning	.289**	.083
C5: Collaboration	.235**	.055
C6: Imagery	.216**	.047
C7: Achievement	.267**	.071
C8: Support	.189**	.036
C9: Creative Performance	.137**	.019
C10: Problem Solving	.226**	.051
C11: Locus of Control	.296**	.088
HBGSI Total Score	.273**	.075

**$p < 0.01$, two-tailed.

Table 13 shows the correlation coefficients for the 11 HBGSI clusters, total score and the WLPB-R subtests. The subtests, divided into two groups, English and Spanish included: Picture Vocabulary, Listening Comprehension, and Verbal Analogy. There was a statistically significant correlation between the English and Spanish WLPB-R subtests and seven clusters (C4: Motivation for Learning, C6: Imagery, C7: Achievement, C8: Support, C10: Problem Solving, and C11: Locus of Control) and the

total score of $p < .01$. The correlation of determination for these seven HBGSI scores, the total score and the WLPB-R English subtests ranged from .008-.060. This means that .8% to 6.0% of the variability in the seven clusters and the total score of the HBGSI can be explained by the English subtests in the WLPB-R. The correlation of determination for the same seven HBGSI clusters, the total score and the WLPB-R Spanish subtests ranged from .014 to .074.

Interestingly, cluster one had a low, statistically significant negative correlation with the English Picture Vocabulary and Listening Comprehension with a strong magnitude at $p<.05$. The r^2 was estimated to range from .003 to .007. This is considered a small correlation of determination. However, the analysis demonstrated a large positive correlation with the Spanish subtests that ranged from .347 to .450. Taking into account that the participants were native Spanish speakers, this correlation is coherent with the students' Spanish language development. The r^2 calculated for all three Spanish subtests and C1: Social and Academic Language ranged from .120-.203, which were the highest measured effect sizes for the first research question. Considering that this HBGSI cluster evaluates the students' development in language, having negative correlations with the English Picture Vocabulary and Listening Comprehension and higher correlations with the Spanish subtests is consistent with the students being English language learners.

Table 13

Correlation Coefficients and Effect Sizes for HBGSI and WLPB-R Subtests

n=778	Eng Pic.Voc		Eng ListComp		Eng VerAna		Sp PicVoc		Sp ListComp		Sp VerAna	
	r	r^2	*r*	r^2	*r*	r^2	*r*	r^2	*r*	r^2	*r*	r^2
C1: Social & Academic Language	-.088*	.008	-.059	.003	.034	.001	.450**	.203	.404**	.163	.347**	.120
C2: Cultural Sensitivity	.081*	.007	.058	.003	.081*	.007	.146**	.021	.176**	.031	.212**	.045
C3: Familial	.226**	.051	.213**	.045	.167**	.028	.062	.004	.088*	.008	.203**	.041
C4: Motivation for Learning	.171**	.029	.208**	.043	.197**	.039	.148**	.022	.197**	.039	.269**	.072
C5: Collaboration	.224**	.050	.244**	.060	.209**	.047	.072*	.005	.150**	.022	.213**	.045
C6: Imagery	.132**	.017	.132**	.017	.206**	.042	.235**	.055	.248**	.062	.256**	.066
C7: Achievement	.222**	.049	.224**	.050	.211**	.045	.154**	.024	.194**	.038	.251**	.063
C8: Support	.097**	.009	.094**	.009	.106**	.011	.143**	.020	.146**	.021	.190**	.036
C9: Creative Performance	.050	.003	.047	.002	.045	.002	.157**	.025	.178**	.032	.181**	.032
C10: Problem Solving	.193**	.037	.181**	.033	.182**	.033	.120**	.014	.139**	.019	.223**	.050
C11: Locus of Control	.225**	.051	.218**	.048	.231**	.053	.153**	.023	.192**	.037	.258**	.067
HBGSI Total Score	.193**	.037	.202**	.041	.195**	.038	.168**	.028	.209**	.044	.272**	.074

*$p < 0.05$, two-tailed.

** $p < 0.01$, two-tailed.

Question 2: Correlation Coefficients

The second research question measured the correlation between language proficiency in English and Spanish as determined by the six subtests of the WLPB-R and nonverbal intelligence measured by the NNAT. This was calculated by computing the correlation coefficient, Pearson *r*. The correlation coefficient provides a measure of the

relationship between variables, plus an index of the proportion of individual differences in one variable that can be connected to the individual differences in another variable (Hinkle, Wiersma, & Jurs, 2003). For this specific research question, the student's language proficiency in English and Spanish was measured using six subtests (Picture Vocabulary, Listening Comprehension, and Verbal Analogy in English and Spanish) from the WLPB-R. The selected WLPB-R subtests were correlated with the nonverbal intelligence test, NNAT to evaluate the relationship, if any, between language proficiency and nonverbal intelligence.

Table 14 contains the correlation coefficients between the NNAT and WLPB-R subtests. There was a statistically significant correlation between the NNAT and the WLPB-R subtests at $p < .01$, except for the Spanish Picture Vocabulary subtest which was statistically significantly correlated at $p < .05$. The r^2 for all six WLPB-R subtests and NNAT was estimated to range from .005 to .076. This can be interpreted as 0.5% to 7.6% of the NNAT variability can be explained by the WLPB-R subtests or vice versa. These effect sizes are considered to be small. Interestingly, the English WLPB-R subtests had higher correlation coefficients compared to the Spanish WLPB-R subtests. The reason for this could be that the NNAT's directions were written in English and then translated into Spanish and other languages (Naglieri, 1997). As Stansfield (2000) reported, translated testing instruments may not be valid for ELLs. Although the NNAT is a nonverbal assessment, the students needed to comprehend the directions of the test in order to complete it correctly. This is especially critical considering that no clarifications were allowed by the test administer once the timed test began.

Table 14

Correlation Coefficients and Effect Sizes for NNAT and WLPB-R Six Subtests

n=778	NNAT	
	Pearson *r*	r^2
WLPB-R: English Subtests		
Picture Vocabulary	.212**	.045
Listening Comprehension	.276**	.076
Verbal Analogy	.238**	.057
WLPB-R: Spanish Subtests		
Picture Vocabulary	.070*	.005
Listening Comprehension	.110**	.012
Verbal Analogy	.153**	.023

*$p < 0.05$, two-tailed.

**$p < 0.01$, two-tailed.

Question 3: Multiple Analysis of Variance (MANOVA)

To address the third research question, a MANOVA, multiple analysis of variance, was applied to measure the statistical significant difference in performance of Hispanic kindergarten ELLs on the WLPB-R and NNAT by student groups, those identified as GT and those not identified using the HBGSI. In this research question, the measurement of the difference of performance on the WLPB-R and NNAT between students identified and not identified GT using HBGSI was determined by analyzing the results on the MANOVA table. The HBGSI identified 438 students in the sample as potentially gifted and 340 as not potentially gifted using the teachers' ratings on the scales measured by

the instrument. The HBGSI distinguishes students as potentially gifted by measuring the individual class mean for each cluster and total score and identifying those students that scored above the class average. Through this method, the students are compared to others within their own class.

Table 15 illustrates the means and standard deviations for each group, those not identified potentially gifted and identified potentially gifted using the HBGSI, on the NNAT and WLPB-R six subtests. The results showed that the identified potentially gifted group performed higher on the NNAT and all administered subtests on the WLPB-R in both English and Spanish. The standard deviation on the NNAT was similar for both groups only varying by .28. The standard deviations on the WLPB-R subtests were also very comparable. The subtest with the greatest difference in standard deviation was the EngVerAna (English Verbal Analogy). Therefore, the means for each group has comparable variability.

Table 15

Descriptive Statistics Per Group on NNAT and WLPB-R Subtests

n per group Not Identified = 340 Identified = 438	HBGSI Results	M	SD
NNAT	Not Identified	90.25	18.45
	Identified	102.19	18.17
WLPB-R			
EngPicVoc	Not Identified	18.38	4.63
	Identified	20.40	4.13
EngListComp	Not Identified	4.51	4.41
	Identified	7.46	5.10
EngVerAna	Not Identified	2.00	1.86
	Identified	3.32	2.70
SpPicVoc	Not Identified	17.47	4.82
	Identified	19.02	4.83
SpListComp	Not Identified	7.74	4.95
	Identified	9.96	5.17
SpVerAna	Not Identified	3.96	2.57
	Identified	5.50	2.52

Table 16 shows the results of the MANOVA summary. After conducting MANOVA, it was determined that there was a statistically significant difference in the students' performance on the NNAT between the dichotomous groups, identified and not identified GT using the HBGSI. The effect size was then calculated by finding eta squared. Cohen (1977) defined effect size as the degree to which a phenomenon exists. The eta squared was calculated and estimated at .094. This is considered to be a small effect size (Cohen, 1965; Hinkle, Wiersma, & Jurs, 2003).

The analysis also found that there was a statistically significant difference in the students' performance on the WLPB-R subtests between the dichotomous groups of students identified and not identified as GT with the HBGSI. The eta squared for the WLBP-R subtest English Picture Vocabulary was estimated at .054. This is considered to be a small effect size. The eta squared for the subtest English Listening Comprehension was measured at .081. The effect size for this specific subtest is deemed small. The eta squared for the subtest English Verbal Analogy was calculated at .067, which is considered to be a small effect size. The eta squared for the Spanish subtest Picture Vocabulary estimated at .025, which is also reasoned to be a small effect size. The eta squared for the subtest Spanish Listening Comprehension was estimated at .04. This is considered a small size. The Spanish subtest for Verbal Analogy's eta squared measured at .085, which is considered a small effect size. Although the analysis showed the difference in scores to be statistically significant, the small effect sizes support that the statistical significant differences were due to the large sample size (Kline, 2004).

Table 16

MANOVA Table for NNAT and WLPB-R Six Subtests

n=778	df	MS	F	Sig.	Partial η^2	Adjusted η^2
NNAT	1	27320.682	81.666	.000	.095	.094
EngPictVoc	1	782.404	41.152	.000	.050	.049
EngListComp	1	1669.194	71.914	.000	.085	.084
EngVerAna	1	333.335	59.392	.000	.071	.070
SpPictVoc	1	458.884	19.696	.000	.025	.023
SpListComp	1	943.373	36.604	.000	.045	.044
SpVerAna	1	455.039	70.512	.000	.083	.082

Question 4: Multiple Analysis of Variance (MANOVA)

Research question four centered on the difference in performance of Hispanic kindergarten ELLs on the HBGSI by educational placement, students enrolled in a transitional bilingual education (TBE) classroom versus those who are enrolled in an English as a Second Language (ESL) classroom. MANOVA was used to answer this question. The analysis showed that six of the clusters (C1: Social & Academic Language, C3: Familial, C5: Collaboration, C6: Imagery, C8: Support, and C9: Creative

Performance) showed statistically significant difference in performance of the students enrolled in a TBE classroom versus those enrolled in an ESL classroom on the HBGSI at $p<.01$. The students in a TBE classroom where Spanish was used for the majority of content instruction appeared to outperform the students in an ESL classroom where English is the only language of instruction in three clusters (C1: Social and Academic Language, C8: Support, and C9: Creative Performance). These results support previous research findings on the positive impact of the development of the native language on ELLs' school performance and creative thinking (Baker, 1996; Crawford, 1999; Cummins, 1991).

Table 17 shows the means and standard deviations on the HBGSI for students in each language program, TBE and ESL. Both groups have parallel means in four clusters (C2: Cultural Sensitivity, C4: Motivation for Learning, C6: Imagery, and C10: Problem Solving) and the total score. The standard deviations for these four cluster and total score have range of variability from .2 to 10. Students in TBE classrooms had a higher mean on three clusters (C1: Social and Academic Language, C8: Support, and C9: Creative Performance). Students in ESL classroom scored higher on three clusters (C3: Familial, C5: Collaboration, and C7: Achievement). However, the total mean for each group was comparable with a standard deviation difference of 10.

Table 17

Descriptive Statistics Per Language Program on HBGSI

n per group TBE = 447 ESL = 331	Language Program	M	SD
C1: Social & Academic Language	TBE	14.85	4.48
	ESL	10.93	4.37
C2: Cultural Sensitivity	TBE	10.51	4.21
	ESL	10.38	3.73
C3: Familial	TBE	25.82	7.37
	ESL	27.83	6.09
C4: Motivation for Learning	TBE	16.26	19.65
	ESL	16.45	17.24
C5:Collaboration	TBE	43.74	13.49
	ESL	46.57	11.67
C6: Imagery	TBE	8.93	3.98
	ESL	8.27	7.51
C7: Achievement	TBE	46.54	16.28
	ESL	47.56	15.96
C8: Support	TBE	17.18	4.72
	ESL	16.74	3.93
C9: Creative Performance	TBE	13.79	5.48
	ESL	12.92	6.68
C10: Problem Solving	TBE	30.23	9.80
	ESL	30.89	9.92
C11: Locus of Control	TBE	28.04	9.33
	ESL	28.36	7.01
HBGSI Total Score	TBE	254.49	73.90
	ESL	255.08	63.90

Table 18 shows the MANOVA table for the 11 clusters and total score of the HBGSI for student groups, those in TBE and those in ESL. Eta squared for cluster one, Social and Academic Language, was estimated at .161 which is considered a large effect size. Cluster three, Familial, had an eta squared of .021. This is considered to be a small effect size. Eta squared for cluster five, Collaboration, was measured at .012, which is considered a small effect size. Imagery, cluster six, has an eta squared of .017. This result is deemed to be a small effect size. Cluster nine, Creative Performance, had an eta squared of .011, which is also considered a small effect size. Overall, cluster one, Social and Academic Language, had the largest measured effect size. All the other clusters and total score for the HBGSI did not show statistically significant difference in performance based on educational placement.

The eta squared for the HBGSI total score of .000 shows that HBGSI is a good screening instrument whether the students are in a TBE or ESL classroom. In other words, the students can be screened for GT effectively given that there is no difference between both groups. Therefore, whether the students are enrolled in a TBE or ESL classroom, the HBGSI can be used to screen for giftedness without discrimination of the second language development program.

Table 18

MANOVA Table for HBGSI Clusters and Total Score

n=778	df	MS	F	Sig.	Partial η^2	Adjusted η^2
C1: Social & Academic Language	1	2921.723	148.611	.000	.161	.160
C2: Cultural Sensitivity	1	3.223	.200	.655	.000	-.001
C3: Familial	1	773.908	16.477	.000	.021	.020
C4: Motivation for Learning	1	7.240	.021	.885	.000	-.001
C5: Collaboration	1	1528.465	9.440	.002	.012	.011
C6: Imagery	1	84.614	2.558	.110	.003	.002
C7: Achievement	1	197.204	.757	.385	.001	.000
C8: Support	1	37.366	1.928	.165	.002	.001
C9: Creative Performance	1	142.631	3.933	.048	.005	.004
C10: Problem Solving	1	84.173	.868	.352	.001	.000
C11: Locus of Control	1	19.559	.276	.600	.000	-.001
HBGSI Total Score	1	66.392	.014	.907	.000	-.001

In summary, results from these analyses presented the following answers to the research questions in this study. First, my study found a statistically significant correlation when analyzing the concurrent validity of the HBGSI to the NNAT and WLPB-R (three English subtests; three Spanish subtests). Secondly, my study found a statistically significant correlation between the NNAT and the WLPB-R subtests at $p<.01$, except for the Spanish Picture Vocabulary that was statistically significantly different at $p<.05$. The third question analyzed the difference in performance on the NNAT and WLPB-R between students identified and not identified GT using the HBGSI and found that there were statistically significant differences in performance. The effect sizes for this question were found to be small. The last question found that six of the clusters (C1: Social & Academic Language, C3: Familial, C5: Collaboration, C6: Imagery, C8: Support, and C9: Creative Performance) showed statistically significant difference in performance on the HBGSI when divided into two groups by educational placement, TBE and ESL. As noted earlier, although the calculations conducted in this study found statistically significant correlations (Research Questions 1 and 2) and differences (Research Questions 3 and 4), one must consider that a reason for those estimations are due to the large sample size. This conclusion is supported by the small effect sizes measured throughout the study.

CHAPTER V

DISCUSSION AND CONCLUSIONS

This chapter presents the conclusions and implications for practice derived from this study. The instruments utilized in this study were the Hispanic Bilingual Gifted Screening Instrument (HBGSI), the Naglieri Nonverbal Abilities Test (NNAT), and the Woodcock Language Proficiency Battery-Revised (WLPB-R). The sample consisted of 778 Hispanic native Spanish-speaking kindergarten students identified as limited English proficient (LEP) by the school district.

The research questions that guided this study focused on finding validated assessments for early identification of the gifted Hispanic ELL in kindergarten. The first research question aimed to find the concurrent validity of the HBGSI using the NNAT and WLPB-R. The second question focused on the correlation between language proficiency as measured by the WLPB-R and nonverbal intelligence measured using the NNAT. The third question concentrated on the difference in performance on the NNAT and WLPB-R by two student groups, those identified and those not identified GT using the HGBSI. The fourth question centered on the difference in performance on the HBGSI of two student groups, those enrolled in a TBE and those enrolled in an ESL classroom.

The primary purpose of my study was to examine the correlation between kindergarten students' performances on language proficiency batteries, nonverbal ability assessments, and the HBGSI. A highly culturally relevant instrument recommended to be administered by the classroom teacher was the HBGSI (Irby & Lara-Alecio, 2003a).

This appears as a valid recommendation since the administrator needs to base the student ratings on observations and not on inferences. Therefore, the teachers need to be aware of the gifted characteristics of the specific ethnic/language group before completing the screening instrument. Although the teachers received training on the theoretical base of the HBGSI, plus the utilization of the instrument, further training might have been beneficial. Lara-Alecio and Irby (2000) stated that the teachers' understanding of valid, defining characteristics with which to screen ELLs for giftedness is critical. Unfortunately, no empirical study has investigated the effect of the student's cultural background or language proficiency on the teacher's referral and placement decision in gifted programs although the literature has paid much attention to the role of the teacher in this process (Elhoweris, Mutua, & Alsheikh, 2005).

Discussion

The first research question was addressed by establishing the correlation between HBGSI, NNAT, and WLPB-R. This study found a low positive correlation, but statistically significant at $p < .01$, when analyzing the concurrent validity of the HBGSI to the NNAT and WLPB-R (three English subtests; three Spanish subtests). In addition, the strength of the correlation between the HBGSI and NNAT was measured through the correlation of determination (r^2) that ranged from .019 to .088. This means that, at most, 8.8% of the variability in the students' performance in the HBGSI can be explained by the NNAT or vice versa.

The NNAT had previously been reported to identify minority gifted students in a national sample of approximately 20,000 students (Naglieri, 1999). Another study found

a high correlation between the HBGSI and NNAT with ELLs enrolled in K through 4th grade (Irby, Lara-Alecio, & Rodriguez, 1999). The results of my study supported those findings by showing a statistically significant correlation with the HBGSI, a gifted screening instrument designed for Hispanic ELLs and the NNAT. Naglieri and Ford (2003) concluded that if the NNAT were to be included in the GT identification matrix for minorities, including ELLs, there would not be a large underrepresentation of minorities in GT programs.

Research Question 1 also found the r^2 for the correlation for the HBGSI and the three English subtests of the WLPB-R to range from .003 to .007 and the three Spanish subtests ranged from .347 to .450. The Spanish subtests had a stronger effect size than the English subtests. A possible reason for higher correlation could be that the students in the sample were native Spanish speakers and the majority of them were in their first formal year of English language development. Therefore, the students performed better on the Spanish subtests than in the English subtests.

The second research question was answered by analyzing the correlation between language proficiency and performance on the nonverbal intelligence test (NNAT). The results of my analysis found that there was a statistically significant correlation between the NNAT and the WLPB-R subtests at $p < .01$, except for the Spanish Picture Vocabulary that was statistically significant at $p < .05$. The findings that the NNAT was more correlated with the English WLPB-R subtests is noteworthy, especially when past studies have found that the NNAT did not discriminate between native English speakers

and ELLs (Naglieri, 1997; Naglieri, 1999; Naglieri & Ford, 2003). Further research concerning this finding is recommended.

Overall, the r^2 for all six WLPB-R subtests (Picture Vocabulary, Listening Comprehension, and Verbal Analogy) and NNAT was estimated to range from .005 to .076. This translates to 0.5% to 7.6% of the NNAT variability that can be explained by the WLPB-R subtests or vice versa. The data analysis for question two showed that the students' performance on a language proficiency test (WLPB-R subtests) is related to their performance on a nonverbal intelligence test (NNAT). The need to evaluate the data for Research Question 2 was to find whether language proficiency can be a factor in the screening process in identifying ELLs for GT programs. Gonzalez, Clark, and Bauerle (2000) conducted a series of studies with kindergarten students that concluded that regardless of degree of language proficiency in first-and-second language, ELLs, demonstrated advantages on how they construct verbal and non-verbal concepts. This evidence contributes to the need for developing valid and reliable alternative methods for the identification of cultural and linguistic giftedness in young, economically disadvantaged, Hispanic ELLs.

For the third question, MANOVA was used to analyze the data to find a difference in performance on the NNAT and WLPB-R between the students referred to GT using the HBGSI and those not referred. It was determined that there was a statistically significant difference in the students' performance on the NNAT between the dichotomous groups, identified and not identified GT using the HBGSI. The corrected effect sizes for the six subtests of the WLPB-R and NNAT ranged from .025 to .094,

which are considered small effect sizes. My study found that students identified GT using the HBGSI screening instrument performed better than those not identified. These results support the validity of the HBGSI given that students identified GT, on the whole, outperformed those not identified on the NNAT and WLPB-R subtests, both English and Spanish.

Finally, the fourth question was addressed using MANOVA in order to compare the teacher rating of the two student groups, those enrolled in a TBE and an ESL classroom, on the HBGSI. The outcome of the analysis concluded that students in a TBE classroom were rated statistically significantly different than those in ESL on six clusters (C1: Social and Academic Language, C3: Familial, C5: Collaboration, C6: Imagery, C8: Support, and C9: Creative Performance) with the effect sizes ranging from small to large, with cluster one, Social and Academic Language, measuring the largest effect size at .161. One reason for students in TBE to score higher on Cluster One: Social and Academic Language could be that they were receiving their primary instruction in Spanish along with structured ESL instruction. During the ESL instruction, students in TBE develop verbal and listening skills in English. In contrast students in an ESL classroom only receive instruction in English, with appropriate modifications. Cummins (1994) reported that students proficient in more than one language can show academic advantages. This study provides evidence that students in TBE benefit from their development in both languages. These benefits include academic achievement.

My study presented acuity and in-depth knowledge that can aid in improving the identification process for Hispanic kindergarten ELL students. The information gathered in this study can help improve the practice of screening gifted Hispanic Ells.

Limitations

There are several limitations to this study that the reader should consider. One of the limitations is the generalizability of the results beyond kindergarten. The sample was solely comprised of kindergarten students identified as Hispanic and limited English proficient. Results may vary if a sample were to be drawn that includes ELLs from different grade levels. Moreover, the sample was selected from a school district located in the metropolitan region of Houston, Texas where the majority of the Hispanic student population was from Mexican descent. Therefore, if another sample were to be drawn from a different geographical region the results may vary, possibly due to a more diverse Hispanic population that may include Hispanics from different educational and regional backgrounds.

Another limitation to consider is that kindergarten was the only grade level analyzed in this study. The conclusions of this study are based on a student population consisting of ELLs enrolled in a kindergarten TBE or ESL classrooms. Therefore, the results from this study may not be applicable to students from different grade levels. Moreover, the participants were drawn from a population that consisted mainly of students from a low socio-economic status. The majority of the students in my study received free or reduced lunch. Therefore, the outcome of my study may have produced different results if the student population consisted of students from various socio-economic backgrounds.

Implications for Practice

American school districts continue to face the challenge of effectively identifying gifted ELLs, especially those students from culturally and linguistic backgrounds that come from a low socio-economic status (Lara-Alecio & Irby, 2000). This study demonstrated that the HBGSI screening instrument can be utilized to distinguish between those that show potential to be gifted, whether the students are enrolled in a TBE or ESL classroom. Therefore, school districts that incorporate the HBGSI into their identification process of GT for ELLs may better distinguish the gifted from this population. Elhoweris, Mutua, and Alsheikh (2005) reported that there had been little, if any, empirical studies that have investigated the effect of the student's cultural or socio-economic background on the teacher's referral and placement decisions in GT programs. In this study the HBGSI, with the appropriate training, differentiated between potentially gifted and non-gifted ELLs that are economically disadvantaged using the input from the classroom teacher.

My study also illustrated that school districts may incorporate the HBGSI, in conjunction with the NNAT and WLPB-R, to more effectively identify gifted ELLs. Brown (1997) reported that gifted students can be found in all levels of society regardless of sex, race, socio-economic or cultural background. Their giftedness must be identified through their outstanding intellectual competence, academic aptitudes, and/or creative skills. The results of this study add validity to using the HBGSI, NNAT, and the six subtests of the WLPB-R to assist in identifying, in English and Spanish, potentially gifted Hispanic kindergarten ELLs and not gifted. Utilizing language proficiency

assessments in both English and Spanish with a nonverbal ability test in conjunction with a screening instrument designed specifically for Hispanic ELLs can better identify the potentially gifted in this student population.

The idea of using standard, traditional procedures to identify potential GT students is one of the reasons for the underrepresentation of minorities in such programs (Irby & Lara-Alecio, 1996). The sole use of IQ tests and academic achievement tests has not effectively identified students from diverse backgrounds. However, no significant changes in the identification process will occur in a traditional GT program unless valid research results can justify the significance of an alternative policy, process, and procedure (Bernal, 2002). This study demonstrated that including the HBGSI as a screening instrument for potentially gifted kindergarten Hispanic ELLs can improve the identification process for culturally and linguistically diverse students and attempt to rectify underrepresentation of minority students in GT programs.

In addition, classroom teachers screening the potential gifted Hispanic ELLs need to be adequately trained on the unique characteristics of this student population. Past studies on GT programs have found that teachers lack the necessary training to recognize the unique characteristics of giftedness for minority students (Elhoweris, Mutua, & Alsheikh, 2005; Irby & Lara-Alecio, 1996; Masten & Plata, 2000). Findings presented in my study demonstrated that when teachers are trained on how to identify giftedness in Hispanic ELLs, more students are recommended for further testing. This improvement in the gifted identification process may help address the underrepresentation of Hispanics in GT programs in school districts.

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