Evaluating the achievement of students who did or did not participate in a high ability learning program

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EVALUATING THE ACHIEVEMENT OF STUDENTS WHO DID OR DID NOT PARTICIPATE IN A HIGH ABILITY LEARNING PROGRAM

by

Elizabeth A. Fitzgerald

A DISSERTATION

Presented to the Faculty of

The Graduate College at the University of Nebraska

In Partial Fulfillment of Requirements

For the Degree of Doctor of Education

Major: Educational Administration

Under the Supervision of Dr. Kay A. Keiser

Omaha, NE

November, 2013

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Abstract

EVALUATING THE ACHIEVEMENT OF STUDENTS WHO DID OR DID NOT PARTICIPATE IN A HIGH ABILITY LEARNING PROGRAM

Elizabeth A. Fitzgerald, Ed.D.
University of Nebraska, 2013
Advisor: Dr. Kay A. Keiser

The purpose of this study is to determine whether or not students who had participated in a High Ability Learning Program performed at higher levels on a variety of achievement tests and overall grade point averages in the 12th grade than students who did not participate in the High Ability Learning Program. The data analyzed for this study included NeSA Reading, Math and Science scores, ACT scores, overall grade point averages, advanced placement grade point averages, and advanced placement participation frequencies. All participants in this study had ability scores within the 109 to 121 range.

The results of the study indicate that there is not a difference in the achievement of the students in daily academic performance as measured by grade point averages and advanced placement participation and achievement. There is, however, a significant difference between students’ performance on standardized tests. Overall, students who were selected for the High Ability Learning Program performed at a higher level than students who were not selected for the program. This raises questions of the reason behind the difference in achievement. It also calls for an examination of the types of programming that are offered to High Ability students.
Acknowledgements

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I would also like to thank the Papillion-LaVista School District for giving me such a wonderful place to educate children. Thank you also for being so helpful throughout this process. I would like to thank Dr. Melanie Mueller is particular for all of your assistance in helping to formulate my research study, gather data and offer advice and guidance. Your help has been invaluable.

Finally I would like to thank my family and friends. You have allowed me to be distracted by this process for such a long time and have been more supportive than I deserve. Thank you for listening, helping and being there for me, I am so lucky to have such incredible people in my life. I look forward to a lot more free time to spend with all of you.
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Chapter One

“There is nothing so unequal as the equal treatment of unequal people” – Thomas Jefferson. Gifted students in our country often do not receive the educational opportunities that they deserve. Most are given the same curricular options that are available for every student within the schools that they attend. There is no special consideration given to their unique gifts and talents. These students are in an educational situation that leaves them desperately searching for more and very little is being done to help them. Thomas Jefferson’s words ring true in the ears of these students in a way that most people do not understand. We live in a world with limited resources and many needs that must be met. It is a mistake for our schools to make the assumption that gifted and talented students will thrive on their own (Clark, 2008). Our schools must find a way to provide for the needs of this very special population.

Much of the controversy that surrounds gifted education is the word gifted and its use in describing students. When we label some students as being gifted, we are at the same time labeling the rest of the students as not gifted. Each student in our schools has unique talents and skills that are valuable. People are uncomfortable with the designation of some students’ gifts as being perceived as more valuable than others. This is a terrible problem for the field of gifted education. The reason gifted education exists is that some students’ needs are not met in the regular classroom. This is true on both ends of the spectrum, some students struggle to understand the basic information in the curriculum, while others have either already learned the information, or learn it very quickly and do not need as much time to master the content. This creates a need for them to have alternate learning experiences in order to make good use of their time in school (Borland,
Educators have not done a good job of making this distinction the focus of gifted education programs. Often the label of “gifted” is the ultimate goal of parents, students and teachers; it is not the programming that becomes available to the student. We have to find a way to remedy this dilemma. Otherwise, gifted education loses its importance and we will continue to perpetuate the negative image that it carries. The word gifted should be used as an adjective to describe programs, not as a noun to describe students (Renzulli, 2012).

Another problem that exists in the education of gifted students is that there is not a definition of what constitutes a gifted student that is agreed upon by researchers (Borland, 1989). The problem lies not in the categories of giftedness, but in how to measure them and with which tools we should use to measure. Each school, district, state, country, and so on has created a definition of what it means to be gifted in their system and uses different measurement tools. The criteria that is used to determine which students are included in these groups is the variable that is inconsistent among locations and the reason that a student may be considered gifted in one location and not in another depending on how giftedness is defined. This issue needs to be resolved (Clark, 2008).

A group of students exist in our schools that have been referred to in educational short-hand as “bubble kids”. These students academic and ability scores place them in a precarious position. The scores lie very close to the bottom edge of qualification criteria. The scores are above average, but may or may not qualify the students for gifted education services depending on the qualification process that is used by the student’s school district. The achievement of these students is very important to school districts.
Often these students are highly motivated and achieve at very high levels. The test-score driven world that we live in today relies heavily on these students to perform well. Would it be beneficial for these students to receive specialized instruction such as that which is provided by a gifted education program? Should we embrace a talent development model that is designed to enhance the performance of all students and could be highly beneficial to this group of students? It is the goal of this research study to find the answers to these questions.

**Purpose of the Study**

The purpose of this study is to determine the ending 12th-grade ACT scores, NeSA-Reading, NeSA-Math, and NeSA-Science scores, core academic GPA scores, Advanced Placement course completion frequencies, and Advanced Placement course GPA of students who were and were not selected for High Ability Learner status with ability level cut scores ranging from 109 to 121.

**Theoretical Foundation**

The theoretical underpinning of this research study is developmentalism. Developmental perspectives of gifted education have moved away from essentialism, the idea that general intellectual ability is fixed, to the idea that intelligence and ability can be developed through educational opportunities. Giftedness is dynamic rather than static. A combination of factors come together to determine whether students develop their giftedness or not (Dai, 2010).

There are six basic tenets of developmentalism. The first is that giftedness is diverse. There are many different ways to develop giftedness and each person develops individually. There is not a singular formula for determining giftedness. Nonuniversal
Development (Feldman, 1986) is very common in that gifted students develop a unique set of characteristics depending upon the environment in which they develop. Second, giftedness is a developmental state. Giftedness is dynamic, contextual and emergent. It is developed through interest and passion and the honing of advanced skills (Dai & Renzulli, 2008). The third tenet is that giftedness is a process and product of structural and functional changes through differentiation and integration. It is necessary to provide opportunities for giftedness to develop through a variety of instructional practices.

The fourth tenet states that giftedness is an interaction of affordances and effectivities (abilities). The abilities of the students must have opportunities to interact with learning opportunities. In order for giftedness to develop, the student must be exposed to learning situations that they are ready to learn from (Bloom & Sosniak, 1985). Fifth, giftedness is a time-sensitive, task-specific performance (not an absolute state of being). There are periods of time when giftedness is more pronounced. Present giftedness is not a guarantee of later success. And finally, the sixth tenet is that giftedness is an immediate phenomenology. Educators should focus on what the student is able to do at the present time and not focus on the predictive validity of intelligence tests (Dai, 2010).

Developmentalism shifts the focus from labeling the student to labeling the services that are provided to students. Giftedness is dynamic and will change over time. The opportunities that are provided for students will have an impact on the level of giftedness that is achieved by the student.
Research Questions

**Overarching Posttest Achievement Research Question #1.** Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have congruent or different ending 12th-grade ACT composite scores.

**Overarching Posttest Achievement Research Question #2.** Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have congruent or different ending 11th-grade NeSA Reading scores.

**Overarching Posttest Achievement Research Question #3.** Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 11th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range
of 115 to 121 and (c) 11th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have congruent or different ending 11th-grade NeSA Math scores.

**Overarching Posttest Achievement Research Question #4.** Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have congruent or different ending 11th-grade NeSA Science scores.

**Overarching Posttest Achievement Research Question #5.** Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have congruent or different ending 12th-grade core GPA scores.
Overarching Posttest Achievement Research Question #6. Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have congruent or different ending 12th-grade Advanced Placement course GPA scores.

Overarching Posttest Achievement Research Question #7. Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have congruent or different frequencies of Advanced Placement course completion.

Importance of the Study

The students who are represented in this research study are an underrepresented population. Much of the research that exists in the field of gifted education centers on the highly gifted student. The research subjects in this study fall into the above average range of ability. Some of these students have received specialized instruction through a
high ability learning program and some have not. The results of the study have the potential to support or dispel the need for these students to all have this type of instruction.

This research will also give the research school district a great deal of information about the overall success of the current high ability learning program. Is the program achieving its goal of raising the academic achievement of its participants? The design of the research study provides a direct comparison of similar students who have or have not received services.

**Assumptions of the Study**

This study has several strong features. The High Ability Learner Program has been in existence and continuously supported by the Papillion-LaVista Public School District for 29 years. All classroom teachers have access to professional development for strategies specifically linked to increasing High Ability Learner students’ achievement through the High Ability Learner Program. All of the participants in this study attended the same school district from elementary through high school. These students received the same standard curriculum that the district has adopted. All of the participants completed the Metropolitan Achievement Test in elementary school. This tool is used to determine High Ability Learner status. All of the participants completed the 11th-grade in research school district during the 2011-2012 school year. All of the study data collected will be from the 2012-2013 school year.

**Delimitations of the Study**

This study will be delimited to students who have been in the Papillion-LaVista School District from elementary school through the 12th-grade in the research school
Study findings were limited to the students from this group who were and were not selected for High Ability Learner status with ability level cut scores ranging from 109 to 121. Students were separated into four groups: students with scores between 115 and 121 who did qualify for High Ability Learner status ($n = 42$), students with scores between 115 and 121 who did not qualify for High Ability Learner status ($n = 31$), students with scores between 109 and 114 who did qualify for High Ability Learner status ($n = 9$), and students with scores between 109 and 114 who did not qualify for High Ability Learner status ($n = 57$). The students completed the 12th-grade at the research school district in the 2012-2013 school year.

Limitations of the Study

This study will be confined to those students who completed elementary school through the 12th-grade in the Papillion-LaVista school district. Study participants consisted of students with ability level cut scores ranging from 109 to 121. Changes to the guiding structure of the High Ability Learner program, new leadership, and continuous curriculum development over the past decade may limit the utility and generalizability of the study results and findings.

Definition of Terms

This section provides definitions of terms used in the study. This section seeks to limit any confusion and to inform the reader as to the context in which these terms are used in this research.

**Acceleration.** Increasing the pace in which educational material is taught to a student.
**Academic Achievement.** This study refers to academic achievement as how well students do in particular school-related subjects.

**ACT.** A college readiness assessment that is curriculum and standards-based educational and career planning that assesses students’ academic readiness for college. (www.act.org)

**Affordances.** Environmental and social circumstances that allow or invite living organisms to achieve certain goals and satisfy certain needs (Dai, 2010).

**Aptitude.** Aptitude is referred to in this study as whether one is prone or fit to benefit from an instructional situation.

**Curricular Complexity.** Broadening a students’ understanding of a concept by making connections with other ideas, seeing the relationship between concepts, and understanding perspectives other than their own (Clark, 2008).

**Constraints.** Conditions and requirements that need to be satisfied in order to achieve the desired goal.

**Curricular Depth.** Understanding the principals and facts that form generalizations and concepts which allows the learner to discover detail, patterns, and trends that can provide insights that lead to new ideas and products (Clark, 2008).

**Differentiation.** Any teaching practice that attempts to tailor educational provisions to the current needs of the students.

**Enrichment.** Adding disciplines or areas of learning not normally found in the regular curriculum, using more advanced or in-depth material to enhance the core curriculum, or expanding the teaching strategies used to present instruction.
**Essentialism.** The belief that for every discernible phenomenon or object, there is an underlying essence or deep structure that maintains its unity, identity and continuity (Dai, 2010).

**Expertise.** High-level proficiency in a particular human endeavor to professional standards.

**Gifted.** A general advantage or pervasive personal characteristic. This study focuses on giftedness in the school setting.

**GPA.** Grade Point Average, this is calculated by averaging the grades that are earned by a student over the course of their years within a school system.

**NeSA.** Nebraska State Accountability Testing: a series of tests that include mathematics, reading, writing, and science that are given each year to students in grades 3, 4, 5, 6, 7, 8, and 11.

**Pacing.** The speed at which educational material is taught to students.

**Talent.** An attribution people make that implies a superior quality in the person involved, thus implicating “natural endowment”.

**Significance of the Study**

The topic of identification of gifted students is emotionally charged and fiercely fought by many people. This study is an attempt to examine whether participation in a gifted program increases achievement within the academic areas. The implications of this research will enable school districts to make decisions regarding which students should participate in gifted programs and what types of programming should be available to the students who are identified. This research will help our school districts defend the programs that are available and the procedures that are used to determine which students will participate.
This research study is significant in its design. The comparison of groups of students who do or do not participate in gifted programs provides quantitative data that can be used to make the case for or against the current procedures. School districts can use the data to analyze their own procedures and make any needed adjustments.

**Contribution to research**

There is limited research available comparing groups of students who were or were not participants in a gifted program who are of equal ability. This unique perspective will benefit the gifted education community by providing a direct comparison of students of similar ability who have received different educational opportunities. Researchers can use this data and research design to conduct similar studies and gain further insight into identification procedures and gifted programming.

**Contribution to practice**

Based on the outcomes of this study, the research school district may decide to make adjustments to its identification procedures for its gifted program. It may also decide to adjust the programming options that are available for the participants in the gifted program.

**Contribution to policy**

Dependent upon the results of this study, discussions regarding the types of academic opportunities that are available for both participants in a gifted education program and nonparticipants should occur. Policy-makers need to reconsider the purpose of gifted education programs and examine their effectiveness over time.
Organization of the Study

The literature review relevant to this study is presented in Chapter 2. This chapter reviews professional literature on the importance of gifted education, alternate methods for identifying gifted students, and developmentalism and talent development. Chapter 3 describes the research design, methodology, and procedures that will be used to gather and analyze the data of the study. Chapter 4 reports the research results and findings—including data analysis, tables, and descriptive statistics. Chapter 5 provides conclusions and a discussion of the research findings.
Chapter Two

Literature Review

Why Gifted Education

Matthew is a child with a reputation. Teachers have said that he is very naughty and to keep a close eye on him. He has been known to crawl under tables and defy the teacher on a regular basis. What people do not always know about Matthew is that he is remarkably bright and has an insatiable appetite for learning. He understands, at a very young age, many of the concepts of the universe, understands word roots and origins, and has a special interest in microscopic medicine. This fourth grader requested assistance in finding resources for developing a website by writing code and has a business plan for launching it when it is complete. He is also known to cry easily and completely stop working when he feels like the work he is doing is not worth his time.

This child is in the High Ability Learning Program in his school. He may never have had the opportunity to show his talents if he had been left to fend for himself in the classroom.

Children like this exist in every school district, in every city, across the country; yet they are often left out of the discussions among teachers and administrators as a group that is in need of identification, resources, and most of all, attention. The initiatives that are designed to close the achievement gap have focused on struggling students. These efforts have left students who are already achieving above grade level to fend for themselves. “A similar focus must be placed on students whose initial performance is higher than other students. Without the same focus, these students’ achievement over time may suffer due to the little educational effort that historically has been placed on raising the achievement level of students who are outperforming their peers” (Hughes &
Rollins, 2009). Often these children do not have an outlet for their talents and are left to feel frustrated and alone. These children have a power that they are never allowed to use which can become traumatic and causes many to underachieve (Davidson & Davidson, 2004).

Data-driven school systems have not yet created a perfect system for identifying gifted students, and this is because there is little agreement on who and what is gifted, yet there is a wide range of children who could be classified as gifted or needing enrichment. “To help in this analysis, two broad categories of giftedness are described: high achieving or schoolhouse giftedness and creative-productive giftedness… we want to emphasize the following: 1. Both types are important. 2. There is usually an interaction between the two types. 3. Special programs should make appropriate provisions for encouraging both types of giftedness as well as the numerous occasions when the two types interact with each other” (Renzulli & Reis, 2008 pg. 16). Students do not fall neatly into these categories, and neither does the instruction they should receive. However, gifted students are being identified using various methods across the country and new models are emerging that are promising. The efficacy of these methods is still being determined.

The field of Gifted Education has gone through many incarnations. As research in the field has evolved, so too have the practices that occur. The foundation of modern gifted education began with the work of Lewis Terman and his colleagues. A longitudinal study was conducted beginning in 1921 of 1,528 students with IQs greater than 140. Terman created the Stanford Revision of the Binet Scale, which became known as the Stanford-Binet Intelligence Test while he worked at Stanford University. His scale became widely accepted as the best measure of intelligence available
throughout the United States. Terman used the Stanford-Binet Intelligence Test to measure what he believed to be innate, unchanging ability, or aptitude, in children. His longitudinal study utilized this tool to determine who to include in his sample.

Terman and his colleagues began following the group in 1921 and will continue to follow them until 2020, at which time most of the subjects will have died. The results of the study, referred to as the “study of genius” by Terman, thus far have shown that this group as a whole has been highly successful and motivated to succeed. Terman’s work has been published in a five volume series titled *Genetic Study of Genius*. The work of Terman and his colleagues laid the groundwork for the identification and nurture the gifted in schools. (Feldhusen, J.F, VanTassel-Baska, J., & Seeley, K., 1989; Yun Dai, 2010; Clark, 2008; Eby & Smutny, 1990)

This was the beginning of the emphasis on testing that is very much engrained in Gifted Education. The launch of Sputnik in 1957, the Marland Report of 1972 which encouraged schools to identify giftedness more broadly, *A Nation at Risk* in 1983 which reports the nation’s failure to educate the gifted population adequately, and the development of the Jacob Javits Gifted and Talented Students Education Act in 1988 are all major events in the development of what has become our Gifted Education system (“The History of Gifted Education”, n.d.). These and other events and initiatives have created a disjointed and chaotic system because the importance of the programming seems to mirror the events of the country.

The Marland Report (1972) was the first to define a multi-faceted definition of giftedness that encompasses a wider variety of students. The categories include: general intellectual ability, specific academic aptitude, creative or productive thinking, leadership
ability, visual and performing arts, and psychomotor ability. Using this criteria, schools should be able to identify 3-5% of students as gifted. Before this definition was written, IQ was the primary way students were identified as gifted. The Javits Act (1988) defines gifted students as those who require services or activities not ordinarily provided by the school in order to fully develop such capabilities. The students who are included in this group are those with high levels of intellectual, creative, artistic, leadership, or academic abilities. Each of these definitions, as well as many others, has similar components, but each attempts to improve upon the last. This constant change has created confusion and muddied the waters of making decisions about which children to include in gifted programs.

**Traditional Methods of Identification**

A major problem with educating gifted students is that there is not a consensus about which students should be included in this group. Researchers, administrators, teachers, and parents have not been able to agree about what constitutes a gifted child, so it is extraordinarily difficult to create identification procedures for this group of students. One of the greatest challenges that faces gifted education is that there is an unequal representation of students from various subgroups. Minority students and students from lower socioeconomic families have a much lower rate of participation in gifted education programs across the country. Although 40% of students in American schools qualify for free and reduced lunch in 2004, only 28% of students who achieve in the top quartile in first grade receive free and reduced priced lunch (Peters & Gentry, 2010). In 1992, 72.4% of students in gifted programs were Caucasian (Ford, 1998). This means that again, only 28% of students in gifted programs were a race other than Caucasian. This is
very disturbing because 40% of all students in American schools are described as being students of color. These disparities create a concern about the methods used for identifying gifted students and beg us to answer the question of whether an unbiased approach exists (Brown, et. al, 2005).

There are essentially two schools of thought on what criteria should be used to identify gifted learners: those who believe that students who participate in gifted programs should be academically gifted and those who believe that they should be intellectually gifted (Naglieri & Ford, 2005). The major difference between these two groups is achievement. Students who are academically gifted excel in school while those who are intellectually gifted may not. That is not to say that students who are intellectually gifted cannot excel in school, as many do, but there is the possibility that they will not. This difference in thinking creates a very different view of what methods should be used to identify students for gifted education programs.

This difference is significant for students who come from traditionally disadvantaged populations. Donna Ford (2003) discusses the differences in educational opportunities provided for minority students by citing legal cases and commissioned reports that provide evidence that these students often have less experienced and prepared teachers, fewer fiscal, physical and educational resources and lower levels of instruction. Another related problem is that teachers often have lower expectations for these students. All of these factors combine to create lower levels of academic achievement and motivation which, if schools utilize an academic achievement model for identifying gifted students, keeps many of these students from being identified.
Teacher attitudes are major factors in identification of gifted students, which is particularly problematic for students who come from groups that traditionally underachieve (Ford, 2003; Swanson, 2006). Teachers have a tremendous amount of power in this process because many programs rely on teacher recommendations as a starting point for identification. Decisions about changing identification criteria must be embraced by teachers who are often reluctant to make changes to existing programs. Some fears expressed by teachers are: programming will be less effective if more students are identified, testing should be consistent for all students in order to be fair, and students might not be able to handle the programming that is offered. These and other attitudes keep some students from being considered for participation in gifted education programs.

There is little consistency between states’ and school districts’ identification procedures. Some locations utilize mostly aptitude tests, while others use achievement tests. Some use a combination of both. Many school districts also rely heavily on teacher recommendations. Another discrepancy that exists is the difference in cut-off scores that districts use on their placement tests. The cut score in some districts is as high as 135 on an intelligence test, while in others it is much lower. There is also a very large range of achievement scores used for identification ranging from the 85th percentile all the way to the 99th percentile. This difference can be attributed to the different philosophies that exist regarding what constitutes a gifted individual. This type of discrepancy makes it very difficult to create procedures of identification that include more diverse students.
Most experts agree that the process of identifying gifted students should be multi-faceted. Brown, et al. (2005) have provided guidelines for creating an identification system. Systems should “apply multiple techniques over a long period of time; understand the individual, the cultural-experiential context, and the fields of activity in which the student performs; employ both self-chosen and required performances; reassess the adequacy of the identification program on a continuous basis; and use the identification data as the primary basis for programming experiences.” (pg. 52) These guidelines do not address the specifics of testing criteria or types of observations, but they do provide a working framework for the identification process.

There is currently a major debate between experts in the field of gifted education regarding testing procedures for identification. Testing students seems to be an inevitable component of the identification process for gifted education programs. Some experts believe that non-verbal tests provide the most unbiased platform for testing students’ abilities (Naglieri & Ford, 2005). Others believe that in order for testing to be unbiased, there needs to be multiple measures which include verbal, quantitative, and non-verbal components (Lohman, 2005).

Naglieri (2005) argues adamantly for the use of non-verbal testing as a means for identifying students. He argues that “nonverbal tests alone are advantageous in that they provide a more equitable evaluation of children from culturally and linguistically diverse populations” (pg. 32). He argues that non-verbal tests measure general ability so a wide variety of individuals can be tested using the same test questions. This provides better opportunities for those students with diverse cultural and linguistic backgrounds. He emphasizes the importance of testing ability rather than achievement and he strongly
believes that non-verbal testing is the best method for successfully accomplishing that task.

Lohman (2005) has a very different argument regarding student testing. He argues for the usage of verbal and quantitative measures as well as nonverbal measures when testing all students for gifted education. He states “if students have not had the opportunities to develop verbal or quantitative reasoning abilities in the same way that others have, then the solution is not to refrain from measuring these critical aptitudes, but rather to compare students’ test scores with others who have similar learning opportunities” (pg. 21). His belief is that the process of identifying gifted students should focus on readiness for particular academic experiences rather than innate ability.

Another suggestion that Lohman (2005) makes is to compare students within different cultural and ethnic backgrounds to the other students within the same group. This type of comparison will help educators make more sense of the test data. Different cultural groups tend to score very differently based on the type of question that is being asked. If we look within these groups of students rather than comparing the groups to one another, we will be able to recognize those students who are achieving above average. Lohman (2005) believes that removing test items that are traditional sources of difficulty for a particular group of students will give educators a clear picture of the abilities of their actual ability.

Observations constitute another very important part of the identification process. Not only do educators often begin the identification process by nominating students based on their observations, but students are also judged using specific observation procedures throughout the process. These formal observation methods are also hotly
debated. Some examples of forms that are used are: the Kingore Observation Inventory, (KOI; Kingore, 2001), the Traits, Attributes, and Behaviors Scale (TABS; Passow & Frasier, 1996; Frasier et al., 1995), the Kranz Talent Identification Instrument (KTII; Kranz, 1981), Gifted Rating Scales (GRS; Pfeiffer & Jarosewich, 2003) and the Scales for Rating the Behavioral Characteristics of Superior Students (SRBCSS; Renzulli et al., 2002). Experts agree that these formal observations are very important, but the methods that each uses is very different. Some of the instruments are exploratory while others are more rigorous and utilize a confirmatory factor analysis as well as exploratory methods (Peters & Gentry, 2010). The observations have the potential to help eliminate some of the problems with ability testing. However, in order for that to happen, it is essential that the format of the observations is free from bias and is comprehensive in nature.

Dr. Mary Frasier, a national expert in the field of gifted education, has focused on gifted minority and economically challenged students. She is quoted as saying “if you really want to look at the gifted potential in your school population, then some of the students who are in the program now will not be in it when we finish the identification process… I feel that advocacy cannot just be about increasing representation unless people clearly understand that the way they are now defining giftedness for participation and identifying some kids for programs is flawed” (Grantham, 2002). Her statement is very frightening for many educators and has prevented change in this area for a long time. However, in spite of the difficulty of the process, it is imperative that we continue to search for a solution to this problem.

Perhaps the solution lies somewhere other than traditional testing. In spite of efforts by many people to create testing procedures that eliminate bias, tests have been
proven time and time again to leave out students who may have the same ability and potential as the students that test well. The recent statistical reality confirms that only 28% of students who receive free and reduced priced lunch, or are a race other than Caucasian are identified as gifted students (Peters & Gentry, 2010; Ford, 1998). There are other options available aside from intelligence testing that need to be considered to help identify gifted students.

**Alternative Identification Methods**

*Mary was another third grade student in a local school. She was one of the hardest workers in her grade level. She was a member of a small group of students that worked on math enrichment activities. Mary completed every assignment that was given with so much intensity that her teachers could hardly keep up. She was begging for more challenges to take home and work on at night. Midway through the year, the aptitude and achievement tests were given that are used to place students in High Ability Learners. Mary scored well, but not high enough to qualify for services. She was absolutely devastated. The rules for identification are very strict in her school district, so there was nothing that could be done. This child, regardless of test scores, needed attention and to have her intense desire for learning nurtured just as much as the children who did qualify for services.*

There are several possible answers to this problem. A model developed by Reis and Renzulli (1985), the Schoolwide Enrichment Model, provides a structure for schools to help develop potential in students who do not currently meet the requirements for gifted programs. The Schoolwide Enrichment Model (SEM) identifies a talent pool of 15% to 20% of above average/high potential students. These students are identified using
a variety of measures including achievement tests, aptitude tests, teacher and parent nominations, assessment of potential and task commitment, and so on. Students with high achievement and aptitude test scores are automatically included in the talent pool. This type of identification is called the Revolving Door Identification Model (Renzulli and Reis, 2008).

After students are identified, a variety of services are provided. These are broken into three categories referred to as Type I, Type II, and Type III. The Type I enrichment category consists of general exploration activities. This provides students with the opportunity to explore many topics, disciplines, occupations, hobbies, people, places, and events that would not be covered in the regular classroom. This is accomplished by providing students with guest speakers, arranging mini courses, demonstrations, or performances. Teachers can also utilize films, slides, or other print or non-print media. To qualify as a Type I experience “any and all planned activities in this category must stimulate new or present interests that may lead to more intensive follow-up on the parts of individual students or small group of students (Rezulli & Reiz, 2008 pg. 107).” Enrichment learning is much more than presenting unusual topics. Students should be faced with problem-solving activities that force students to debate, confront, discuss, and personalize a topic.

Type II enrichment activities focus on group training. Type II training is general and has several areas of focus which include: creative thinking and problem solving, critical thinking, and affective processing, character development, reference materials training and written, oral, and visual communication skills. Students are taught how to learn. The level of information that is taught is dependent upon the level of the student.
For example, a student studying chemistry in fourth grade would receive different instruction than a student studying chemistry in eighth grade. Type II enrichment is designed to be flexible and dependent upon what each student needs as they move through the enrichment process (Rezulli & Reiz, 2008).

The final type of enrichment in the SEM is Type III. Type III enrichment is designed to allow students to work at an advanced level on a problem or subject that is highly interesting to them. Students are challenged to develop task-commitment and self-directed learning skills to complete research and develop an authentic product that is related to their topic of choice. Not every student that is part of the talent pool will participate in Type III activities. Students who show the capability for success throughout the exploration phase of the SEM will participate in Type III enrichment.

Typically underserved populations greatly benefit from the Schoolwide Enrichment Model. Minority and low socio-economic students very often are not taught to use higher order thinking skills. This lack of instruction and lower expectations makes it very difficult for these students to perform well on standardized achievement tests (Ford, 1999). Renzulli’s model makes it possible to nurture these students’ abilities and potential. Other students, such as Mary, will also be given the opportunity to develop their skills and feed their love of learning.

The Differentiated Model of Giftedness and Talent (DMGT) is another example of the talent development process. Gagne (2004) presents this process as transforming outstanding natural abilities into outstanding developed skills. Giftedness is defined as the possession and use of untrained and spontaneously expressed natural abilities in at least one ability domain. Talent designates the outstanding mastery of systematically
developed abilities. Natural abilities are categorized into four areas: intellectual, creative, socioaffective, and sensorimotor. These four domains can be broken down further to include many other subcategories.

According to the Differentiated Model of Giftedness and Talent, the natural abilities must be acted upon by catalysts which include interpersonal and environmental catalysts. There is also the idea of chance that must be taken into consideration. The catalysts such as motivation, volition, self-management, personality, home environment, financial comfort, etc. all have an impact on the level into which the natural abilities develop. Each catalyst works independently of the others and can greatly impact the end result. In order to develop gifts into talents, interpersonal and environmental catalysts must have a favorable impact (Gagne, 2004).

Educators can use this model to develop a systematic plan for the development of the gifts that are in their presence. It is necessary to take many factors into consideration when developing opportunities for learners with high potential. We must also be aware that there are students who possess gifts which we may not be aware because they have not been given the opportunity to develop. This supports the idea that talent development for all students is a moral imperative.

Meet Jane, a young girl who recently moved to a new state. Jane’s parents immediately requested that she be evaluated for Special Education services and to possibly hold her in the same grade she completed the year before. Jane has great difficulty reading passages at her grade level and using proper grammar and spelling when writing. However, when Jane speaks about her ideas her eyes sparkle and it is obvious that she is brimming with creativity, curiosity and intelligence. She is also very
adept at mathematics, except when she is asked to explain her thinking through the written word. Jane is twice-exceptional. This means that she has a documented learning disability, yet at the same time, she is a gifted learner. She recently qualified for the High Ability Learner program at her school because she scored very well on the aptitude test that was administered to all of the students in her grade level. Prior to this testing, Jane received a great deal of remedial instruction, but little to no enriched instruction. Her confidence level was extremely low and she did not like school. Now she is excited to come to school and has gained confidence in all areas of school.

Jane had to wait too long before she was able to explore her talents rather than her deficiencies. She is not alone in her plight. There are many children who, for various reasons, do not receive the enriched instruction that they desperately need. Some of the groups of students who fall into this gap in instruction are: twice exceptional students, low socio-economic students, minority students, and students with behavior issues. This list is not exhaustive, but includes groups of students that gifted education teachers have been trying with little success to include in their programming for many years. Response to Intervention (RtI) is a system that has shown promise in identifying and providing appropriate instruction for students with gifts and talents as well as those with learning disabilities. RtI focuses on learning behaviors, rather than overarching labels. This aids teachers in the problem-solving process of creating an educational plan for any student. It is a perfect fit for all types of gifted students, but particularly those with needs in addition to enrichment (Pereles, Omdal, & Baldwin, 2009).

Response to Intervention is a tiered intervention system that was originally designed to improve struggling readers’ achievement. The purpose of the intervention
was to help struggling students who did not qualify for Special Education services to improve their scores on required standardized tests. It was designed for general education teachers to incorporate progress monitoring into their daily lesson plans (Choice & Walker, 2010). Most RtI models have three tiers which are part of what is known as the Pyramid of Interventions: Tier I – the core curriculum, Tier II – supplemental instruction and intervention in addition to Tier I, and Tier III – intensive instructional interventions in addition to the core curriculum.

The first Tier of the Pyramid of Interventions, the core curriculum, encompasses 80 to 85% of all students. The RtI model assumes that most students work at grade level, so the core curriculum will be sufficient to meet their needs. The core curriculum is expected to incorporate high-end learning opportunities, dynamic assessments, and use standardized progress monitoring. The general education teacher is responsible for implementing both supports and differentiation (Coleman & Hughes, 2009). Tier two provides additional supports to students who struggle with the core curriculum. The general education teacher and specialists implement interventions that are designed to help students become successful in the core curriculum. Movement between levels is designed to be fluid, so students are able to move from one level to the next easily. The final tier, Tier III, provides intense, individualized services for students who need further support beyond Tier II.

Response to Intervention makes some assumptions about instruction within Tier I. The first assumption is that 80 to 85% of students will be successful in the core curriculum. “Does this seem to be a return to the ‘one size fits all’ approach to education?” (Choice & Walker, 2010 pg. 13). If schools assume that 80 to 85% of
students receive appropriate instruction from the core curriculum, they are assuming that these students need teacher support to master this content and need no further differentiation. This does not take into account the students who arrive in the classroom having already mastered, or nearly mastered the core curriculum. These students have needs beyond the core curriculum in a way that is similar to those who struggle. The second assumption is that differentiated practices are happening in all classrooms. Differentiation is difficult to implement when classrooms contain many students, sometimes more than thirty. Where does this leave the gifted students in these general education classrooms? The answer is that the gifted students’ needs should be closely monitored using RtI in the same way that the needs of struggling students are being monitored.

Response to Intervention is a promising approach for supporting not only struggling students, but with gifted students as well. Each of the tiers can be reworked to include interventions for high achieving students. Choice and Walker (2010) refer to this version of RtI as Response to Intelligence. Tier II and Tier III of the Response to Intelligence model are similar to the original RtI model. Tier II consists of individual or small groups of students who need extra support or challenge. Students show that they are ready for this tier by demonstrating mastery of the core curriculum. There are many formats that this tier can take, including cluster groups, cooperative learning, and cross-grade level instruction. Most students will show strength in some, but not all areas. A flexible style of intervention is necessary so that students receive the instruction that is appropriate for them in every curricular area. Tier III will consist of a very small group of students who need intensive intervention in some or all areas of the curriculum. These
students need to replace the core curriculum with more rigorous coursework that is far beyond that of their grade level peers (Choice & Walker, 2010).

Students are monitored early and often and move within levels of support as often as needed. This careful monitoring of all students, not just those at the lower end of the achievement spectrum, will bring attention to students who were previously overlooked. Teachers’ improved progress monitoring skills and consistent use of differentiation strategies will give students an opportunity to show their skills and remain appropriately challenged (Rollins, Mursky, Shah-Coltrane, & Johnson, 2009).

If Jane’s schools had utilized Response to Intervention, her unique needs might have been noticed sooner. She would not have had to wait for the universal screening for gifted students to receive the instruction that she needed. All of Jane’s needs are being addressed at this time, but the same cannot be said for all students like her. There are many students who have not been noticed and whose gifts and talents may never be nurtured. “This requires a move away from the silos of education into a more collaborative effort and a need to create an ‘every-ed’ approach” (Pereles, Omdal, & Baldwin, 2009). All of the professionals within each school need to work together to meet the needs of all students, including students who are gifted and talented.

**Developmentalism**

Talent Development models of gifted education including Renzulli’s (1977) triad model and the Study of Mathematically Precocious Youth (SMPY) (Stanley, 1996) which completely disregarded intelligence testing and instead utilized “out of level” testing in the selection process of its participants, has led to the emergence of a new perspective in identification of gifted students. Developmental perspectives of gifted education have
moved away from essentialism, the idea that general intellectual ability is fixed, to the idea that intelligence and ability can be developed through educational opportunities. Giftedness is dynamic rather than static. A combination of factors come together to determine whether students develop their giftedness or not.

There are six basic tenets of developmentalism. The first is that giftedness is diverse. There are many different ways to develop giftedness and each person develops individually. There is not a singular formula for determining giftedness. Second, giftedness is a developmental state. Giftedness is dynamic, contextual, and emergent. It is developed through interest and passion and the honing of advanced skills. The third tenet is that giftedness is a process and product of structural and functional changes through differentiation and integration. It is necessary to provide opportunities for giftedness to develop through a variety of instructional practices.

The fourth tenet states that giftedness is an interaction of affordances and effectivities (abilities). The abilities of the students must have opportunities to interact with learning opportunities. In order for giftedness to develop, the student must be exposed to learning situations that they are ready to learn from. Fifth, giftedness is a time-sensitive, task-specific performance (not an absolute state of being). There are periods of time when giftedness is more pronounced. Present giftedness is not a guarantee of later success. And finally, the sixth tenet is that giftedness is an immediate phenomenology. Educators should focus on what the student is able to do at the present time and not focus on the predictive validity of intelligence tests (Dai, 2010).

“The main difference between the more talented and less talented individuals are the rate at which they move toward the more advanced levels of a domain and the number
of such levels they eventually achieve” (Feldman, 2003). Giftedness is not consistent across domains or time. Individual giftedness is unique to each person and each person should be given the necessary support to develop their own talents, not a prescribed curriculum that is intended for general giftedness. Nonuniversal development refers to the development of attributes that are not spontaneous to all people such as sitting, eating, and standing. The process of becoming an expert in a domain requires intervention in order to be fulfilled and the potential for success in each domain is different for each individual person (Feldman, 2003). Distinguish gifted students horizontally by acknowledging the large diversity of gifts and talents as they manifest themselves in domains and subdomains (Gagne, 2007). It is important to precisely identify a person’s gifts and talents and provide services based upon the specific needs of each individual person.

Giftedness is a developmental state. Giftedness will manifest differently at different times within a person’s life. Each domain develops at a different rate and is greatly influenced by outside influences such as formal education and informal experiences. Our methods for educating gifted students need to associate different talent development needs with different levels of instruction (Gagne, 2007). Giftedness is not seen as an attribute, but rather as a critical aspect in the developmental process (Dai, 2010). Extraordinary achievement requires recognition, encouragement, and years of hard work (Shore & Kanevsky, 1993).

Dweck (2000) describes the Theory of Malleable Intelligence, otherwise known as a growth mindset, as an important aspect of developing talent. People can have either a fixed mindset, believing that intelligence and abilities are predetermined and set and
there is nothing that can be done to improve upon them, or a growth mindset and believe that intelligence and talent can be developed and change over time. Talent development requires that educators and students believe that talent can be developed over time and work towards improvement. Through the talent development process, students who are currently considered gifted may be surpassed by other students over time. This is related to the idea that giftedness is developmental and dynamic. This should be expected and not seen as something to fear by students or educators.

Giftedness is a process and product of structural and functional changes through differentiation and integration. Gifts are developed over time through a comprehensive program of services (Gagne, 2007). In order for giftedness to develop, challenges and skills must interact and must be practiced deliberately (Csikszentmihalyi, Rathunde, Whalen, & Wong, 1997; Ericsson, Krampe, & Tesch-Romer, 1993).

Giftedness is an interaction of affordances and effectivities. “Some [factors that influence giftedness] have to do with culture, for instance, the availability and diffusion of knowledge and expertise” (Csikszentmihalyi, 1997 pg. 38). Each individual has access to a unique circumstance that provides access to different types of experiences. The likelihood that a person will be considered gifted in a particular area relies greatly on the availability of resources that are available to that individual. Gladwell (2008) describes his “10,000 hour rule” as the threshold for expert performance. He proposes that people need to practice a skill for at least 10,000 hours in order to achieve extraordinary ability. The ability to spend that much time practicing a skill depends very greatly on what is immediately available. People who have a talent for the skills that are available to them are much more likely to be considered gifted than those who may
possess a talent for something that is not available to them often. The point where nature and nurture meet is the location of the development of exceptional talents (Papiero, Ceci, Makel, & Williams, 2005).

Giftedness is a time-sensitive, task-specific performance, a child’s sensitivity is not always the same; it changes with age. The favorable opportunities for the development of a child’s mind that are provided by sensitive periods can be seen clearly in the gifted. These periods of opportunity need to be taken advantage of because later such favorable possibilities for individual development will weaken at a fast or slow rate (Shavinina, 1999). Giftedness is an immediate phenomology. Borland (2003) suggests that educators take the gifted students out of gifted education, meaning that we should focus on developing talent in all students through carefully planned differentiated curriculum. Giftedness occurs in stages, beginning with potential, moving into achievement, and ending with eminence (Subotnik, Olszewski-Kubilius, & Worrell, 2012). We should focus less on the traditional testing measure that predict achievement and work with all students at their current level to help them achieve their greatest potential.

Developmentalism shifts the focus from labeling the student to labeling the services that are provided to students. Giftedness is dynamic and will change over time. The opportunities that are provided for students will have an impact on the level of giftedness that is achieved by the student.

“Works of genius from grand symphonies to mathematical proofs to speeding up a computer or slowing tumor growth do not just happen. Seeds grow on watered, tended ground” (Davidson & Davison, 2004 pg. 174). There is a wealth of potential talent that
has yet to be discovered in our country. We have many children who have the capability and desire to learn more than they are currently being asked to learn because we restrict opportunities for these students in so many ways. It is our duty to find ways to identify these students and give them the tools they need to flourish. Educators are the gardeners of the future; cultivate and prune wisely.

**Gifted practices of my school district**

The Papillion-LaVista School District uses a traditional identification process. Multiple criteria are used to determine which students will participate in the High Ability Learning program. Achievement testing as well as teacher rating scales each count toward qualification. Students with similar scores may or may not qualify for services because of the combination of factors that are used.

The services that are available for the students who qualify for services are multifaceted. Students participate in pull-out services such as meetings in the school buildings to complete enrichment activities and attending district-wide seminars designed to expose students to new information that is not typically taught in the regular curriculum. Students also received enriched curriculum in the regular classroom. Gifted facilitators assist classroom teachers in designing lessons to use with their students. Qualified students also have the opportunity to participate in enrichment clubs before and after school. All of these services are designed to give students multiple opportunities to participate in High Ability Learning activities.

The High Ability Learning Program has undergone many changes throughout its existence. As the gifted education community learns and grows, so too has the Papillion-LaVista School District. Identification procedures have changed many times, but have
always used the traditional testing model. The tests that are used have been adjusted several times, which causes the program to readjust its identification procedures. Throughout the changes, if a student qualifies for services under one system, they continue to qualify under the new procedures. This has meant that some students may not have qualified using one system, but do in another, or vice versa. The consistent changes have been controversial with parents and teachers as they struggle to understand the criteria.

It is necessary to determine if the qualification procedures are choosing the students who will benefit the most from the services that are provided. It is also necessary to evaluate the programming options that are available to students. The ultimate goal of a High Ability Learning Program is to increase the achievement of the students who participate in the program. This study is designed to use multiple sources of information to determine the impact that the identification and programming have had on the students in the High Ability Learning Program throughout their time in the Papillion-LaVista School District.
Chapter Three

Methodology

Purpose of the Study

The purpose of this study is to determine the ending 12th-grade ACT scores, NeSA-Reading, NeSA-Math, and NeSA-Science scores, core academic GPA scores, Advanced Placement course completion frequencies, and Advanced Placement course GPA of students who were and were not selected for High Ability Learner status with ability level cut scores ranging from 109 to 121.

Participants

Number of participants. The maximum accrual for this study will be \( N = 139 \) including a naturally formed group of 12th-grade students who were selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 \( (n = 42) \), a naturally formed group of 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 \( (n = 31) \), a naturally formed group of 12th-grade students who were selected for High Ability Learner status with a standard score confidence interval range of 109 to 114 \( (n = 9) \), and a naturally formed group of 12th-grade students who were not selected for High Ability Learner status in elementary school with a standard score confidence interval range of 109 to 114 \( (n = 57) \). In the proposed study with an \( n = 30 \) or greater in three of the four research arms, a set Alpha = .05 would give us a Power of .95 or 95% probability of rejecting a false null hypothesis thus not committing a Type I error with a corresponding Effect Size of 1.00 (Lipsey, 1990). The small number of study subjects \( (n = 9) \) in arm
three would not diminish the overall power of rejecting a false null hypothesis in the other arms.

**Gender of participants.** Of the total number of 12th-grade students who were selected for High Ability Learner status with a standard score confidence interval range of 115 to 121, \( n = 24 \) (57%) were males and \( n = 18 \) (43%) were females. Of the total number of 12th-grade students who were not selected for High Ability Learner status in elementary school with a confidence interval range of 115 to 121, \( n = 14 \) (45%) were males and \( n = 17 \) (55%) were females. Of the total number of 12th-grade students who were selected for High Ability Learner status in elementary school with a standard score confidence interval range of 109 to 115 \( n = 6 \) (67%) were males and \( n = 3 \) (33%) were females. Of the total number of 12th-grade students who were not selected for High Ability Learner status in elementary school with a standard score confidence interval range of 109 to 114 \( n = 33 \) (56%) were males and \( n = 24 \) (44%) were females.

**Age range of participants.** The age range for all study participants was from 17 years to 19 years. All participants completed elementary through 12th-grade in the research school district. The age range of the study participants is congruent with the school district age range demographics for traditional 12th-grade students.

**Racial and ethnic origin of participants.** Of the total number of 12th-grade students who were selected for High Ability Learner status with a standard score confidence interval range of 115 to 121, \( n = 4 \) (10%) were minority and \( n = 38 \) (90%) were majority. Of the total number of 12th-grade students who were not selected for High Ability Learner status in elementary school with a confidence interval range of 115 to 121, \( n = 0 \) (0%) were minority and \( n = 31 \) (100%) were majority. Of the total number
of 12th-grade students who were selected for High Ability Learner status in elementary school with a standard score confidence interval range of 109 to 115, \( n = 0 \) (%) were minority and 9 (100%) were majority. Of the total number of 12th-grade students who were not selected for High Ability Learner status in elementary school with a standard score confidence interval range of 109 to 114, \( n = 8 \) (14%) were minority and \( n = 49 \) (86%) were majority.

**Inclusion criteria of participants.** 12th-grade students attending the research school district from elementary school through the 12th-grade who were and were not selected for High Ability Learner status with ability level cut scores ranging from 109 to 121 and who completed all of the achievement measures were included in the study unit of analysis.

**Method of participant identification.** 12th-grade students who were or were not selected for High Ability Learner status were identified for participation after approval from the appropriate school district research personnel to access de-identified, archival available achievement, and engagement data and information.

**Research design.** The posttest, four-group comparative efficacy study design is displayed in the following notation.

Group 1 \( X_1 Y_1 O_1 \)
Group 2 \( X_1 Y_2 O_1 \)
Group 3 \( X_1 Y_3 O_1 \)
Group 4 \( X_1 Y_4 O_1 \)

**Group 1 = study participants #1.** Naturally formed group of 12th-grade students \( (n = 42) \).
Group 2 = study participants #2. Naturally formed group of 12th-grade students (n = 31).

Group 3 = study participants #3. Naturally formed group of 12th-grade students (n = 9).

Group 4 = study participants #4. Naturally formed group of 12th-grade students (n = 57).

X₁ = study constant. All participants completed elementary through 12th-grade in the research school district and were or were not selected for High Ability Learner status with ability level cut scores ranging from 109 to 121.

Y₁ = study independent variable, High Ability Learner status, condition #1. Twelfth-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121.

Y₂ = study independent variable, High Ability Learner status, condition #2. Twelfth-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121.

Y₃ = study independent variable, High Ability Learner status, condition #3. Twelfth-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114.

Y₄ = study independent variable, High Ability Learner status, condition #4. Twelfth-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114.

O₁ = study posttest-only dependent measures. (1) Achievement as measured by (a) ending 12-grade ACT scores, (b) NESA-Reading scores, (c) NESA-Math scores,
(d) NESA-Science scores, (e) core academic GPA scores, (f) Advanced Placement course completion frequencies, and (g) Advanced Placement course GPA.

Implementation of the Independent Variables

The independent variables for this study will be 12th-grade students who were selected for High Ability Learner status with a standard score confidence interval range of 115 to 121, 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121, 12th-grade students who were selected for High Ability Learner status with a standard score confidence interval range of 109 to 114, and 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 109 to 114. Each group of students took the Metropolitan Achievement Test and were students in the research school district elementary school through 12th-grade. These groups comprise the four research arms of the study. All groups of students were selected from the same student population and were in attendance in the same school district.

Dependent Measures

The study’s three dependent variables were (1) achievement as measured by (a) ending 12th-grade ACT scores, (b) NeSA-Reading scores, (c) NeSA-Math scores, (d) NeSA-Science scores, (e) core academic GPA scores, (f) Advanced Placement course completion frequencies, and (g) Advanced Placement course GPA.

Research Questions and Data Analysis

Overarching Posttest Achievement Research Question #1. Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not
selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have congruent or different ending 12th-grade ACT composite scores.

**Analysis.** Research Question #1 will be analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between all 12th-grade students ending 12th-grade ACT composite scores. An $F$ ratio will be calculated and an alpha level of .05 will be utilized to test the null hypothesis. Independent $t$ tests will be used for contrast analysis if a significant $F$ ratio is observed. Means and standard deviations will be displayed in tables.

**Overarching Posttest Achievement Research Question #2.** Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have congruent or different ending 12th-grade NeSA Reading scores.

**Analysis.** Research Question #2 will be analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference
between all 12th-grade students ending 12th-grade Nebraska State Accountability Reading scores. An $F$ ratio will be calculated and an alpha level of .05 will be utilized to test the null hypothesis. Independent $t$ tests will be used for contrast analysis if a significant $F$ ratio is observed. Means and standard deviations will be displayed in tables.

**Overarching Posttest Achievement Research Question #3.** Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have congruent or different ending 12th-grade NeSA Math scores.

**Analysis.** Research Question #3 will be analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between all 12th-grade students ending 12th-grade Nebraska State Accountability Math scores. An $F$ ratio will be calculated and an alpha level of .05 will be utilized to test the null hypothesis. Independent $t$ tests will be used for contrast analysis if a significant $F$ ratio is observed. Means and standard deviations will be displayed in tables.

**Overarching Posttest Achievement Research Question #4.** Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range
of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have congruent or different ending 12th-grade NeSA Science scores.

**Analysis.** Research Question #4 will be analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between all 12th-grade students ending 12th-grade Nebraska State Accountability Science scores. An $F$ ratio will be calculated and an alpha level of .05 will be utilized to test the null hypothesis. Independent $t$ tests will be used for contrast analysis if a significant $F$ ratio is observed. Means and standard deviations will be displayed in tables.

**Overarching Posttest Achievement Research Question #5.** Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) Twelfth-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have congruent or different have congruent or different ending 12th-grade core GPA scores.

**Analysis.** Research Question #5 will be analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between all 12th-grade students ending 12th-grade core GPA scores. An $F$ ratio will be
calculated and an alpha level of .05 will be utilized to test the null hypothesis. Independent $t$ tests will be used for contrast analysis if a significant $F$ ratio is observed. Means and standard deviations will be displayed in tables.

**Overarching Posttest Achievement Research Question #6.** Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have congruent or different ending 12th-grade Advanced Placement course GPA scores.

**Analysis.** Research Question #6 will be analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between all 12th-grade students ending 12th-grade Advanced Placement course GPA scores. An $F$ ratio will be calculated and an alpha level of .05 will be utilized to test the null hypothesis. Independent $t$ tests will be used for contrast analysis if a significant $F$ ratio is observed. Means and standard deviations will be displayed in tables.

**Overarching Posttest Achievement Research Question #7.** Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) Twelfth-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability
Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have congruent or different frequencies of Advanced Placement course completion.

**Analysis.** Research Question #7 will be analyzed utilizing a chi-square ($X^2$) test of significance to compare all students’ congruent or different Advanced Placement course completion frequencies. Because multiple statistical tests were conducted, a .01 alpha level was employed to help control for Type 1 errors. Frequencies and percentages will be displayed in tables.

**Data Collection Procedures**

All study achievement data will be retrospective, archival, and routinely collected school information. Permission from the appropriate school research personnel will be obtained. Achievement data will be obtained for a naturally formed group of 42 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114. Non-coded numbers will be used to display individual de-identified achievement data. Aggregate group data, descriptive statistics, and parametric statistical analysis will be utilized and reported with means and standard deviations on tables.
**Performance site.** The research will be conducted in the public school setting through normal educational practices. The study procedures will not interfere with the normal educational practices of the public school and will not involve coercion or discomfort of any kind. Data will be stored on spreadsheets and computer flash drives for statistical analysis in the office of the primary researcher and the dissertation chair. Data and computer files will be kept in locked file cabinets. No individual identifiers will be attached to the data.

**Institutional Review Board (IRB) for the protection of Human Subjects**

**Approval Category.** The exemption categories for this study were provided under 45CFR.101 (b) categories 1 and 4. The research was conducted using routinely collected archival data. A letter of support from the university was provided for IRB review.
Chapter Four

Purpose of the Study

The purpose of this study was to determine the ending 12th-grade ACT scores, NeSA-Reading, NeSA-Math, and NeSA-Science scores, core academic GPA scores, Advanced Placement course completion frequencies, and Advanced Placement course GPA of students who were and were not selected for High Ability Learner status with ability level cut scores ranging from 109 to 121.

For this project, achievement was measured in a variety of ways including: ACT Composite scores, NeSA Reading, Math and Science scores, ending 12th grade grade point average, advanced placement participation and advanced placement grade point average. All data related to each of the dependant variables were retrospective, archival, and routinely collected school information. The number of subjects for which data was collected was 136.

Research Questions

The following research questions were used to analyze the achievement outcomes of students who were or were not selected for participation in a high ability program.

Research Question 1

Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner
status with an ability level standard score confidence interval range of 109 to 114 have congruent or different ending 12th-grade ACT composite scores?

For the ACT Composite score, there was significant difference among the groups $F(3, 98) = 8.99, p < .01$. The Tukey post hoc test indicated group 1 ($M = 28.64, SD = 3.28$) and group 3 ($M = 26.17, SD = 3.54$) were significantly higher than group 4 ($M = 22.14, SD = 3.04$).

Table 1 displays means and standard deviations. The single classification Analysis of Variance (ANOVA) between the achievement groups for the 12th grade ACT Composite scores is displayed in Table 2.

**Research Question 2**

Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have congruent or different ending 12th grade NeSA Reading scores?

For the NeSA reading score, there was significant difference among the groups $F(3, 133) = 5.08, p < .002$. The Tukey post hoc test indicated group 1 ($M = 147.12, SD = 25.46$) was significantly higher than group 4 ($M = 124.93, SD = 29.40$). Table 3 displays means and standard deviations. The single classification Analysis of Variance (ANOVA)
between the achievement groups for the 12th grade NeSA Reading scores is displayed in Table 4.

**Research Question 3**

Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 109 to 114 have congruent or different ending 12th-grade NeSA Math scores?

For the NeSA Math score, there was significant difference among the groups $F(3, 133) = 8.9, p < .01$. The Tukey post hoc test indicated group 1 ($M = 139.48$, $SD = 32.61$) and group 3 ($M = 168.13$, $SD = 20.37$) was significantly higher than group 4 ($M = 115.48$, $SD = 28.93$). Group 3 was also significantly higher than group 2 ($M = 126.94$, $SD = 37.74$). Table 5 displays means and standard deviations. The single classification Analysis of Variance (ANOVA) between the achievement groups for the 12th grade NeSA Math scores is displayed in Table 6.

**Research Question 4**

Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for
High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have congruent or different ending 12th-grade NeSA Science scores?

For the NeSA Science score, there was significant difference among the groups $F(3, 133) = 9.75, p < .01$. The Tukey post hoc test indicated group 1 ($M = 130.76, SD = 28.08$) was significantly higher than group 2 ($M = 113.35, SD = 22.07$) and group 4 ($M = 106.39, SD = 22.29$). Table 7 displays means and standard deviations. The single classification Analysis of Variance (ANOVA) between the achievement groups for the 12th grade NeSA Science scores is displayed in Table 8.

**Research Question 5**

Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have congruent or different ending 12th-grade core GPA scores?

For the core GPA score, there was no significant difference among the groups $F(3, 135) = 1.19, p < .317$. Table 9 displays means and standard deviations. The single classification Analysis of Variance (ANOVA) between the achievement groups for the 12th grade core GPA scores is displayed in Table 10.
**Research Question 6**

Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have congruent or different ending 12th-grade Advanced Placement GPA scores?

For the Advanced Placement GPA score, there was no significant difference among the groups $F(3, 135) = 2.27, p < .08$. Table 11 displays means and standard deviations. The single classification Analysis of Variance (ANOVA) between the achievement groups for the 12th grade Advanced Placement GPA scores is displayed in Table 12.

**Research Question 7**

Do (a) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 115 to 121 and (b) 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 and (c) 12th-grade students who were selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 and (d) 12th-grade students who were not selected for High Ability Learner status with an ability level standard score confidence interval range of 109 to 114 have
congruent or different ending 12\textsuperscript{th}-grade Advanced Placement course completion frequencies?

For the Advanced Placement course completion frequencies, there was no significant difference among the groups \((df = 21) X^2 = 27.13, p < .17\). Table 13 displays cross tabulation of the Chi-Square tests.
Table 1

*Descriptive Statistics for ACT Scores*

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>28</td>
<td>25.64</td>
<td>3.28</td>
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<tr>
<td>Group 2</td>
<td>24</td>
<td>23.67</td>
<td>2.62</td>
</tr>
<tr>
<td>Group 3</td>
<td>6</td>
<td>26.17</td>
<td>3.54</td>
</tr>
<tr>
<td>Group 4</td>
<td>44</td>
<td>22.14</td>
<td>3.04</td>
</tr>
</tbody>
</table>

Note: Students are not required to take the ACT test which decreases the *N* in each group for this question.
Table 2

*ANOVA for ACT Scores*

<table>
<thead>
<tr>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
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</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>249.80</td>
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<td>83.27</td>
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<tr>
<td>Within Groups</td>
<td>907.77</td>
<td>98</td>
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<td>Total</td>
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<td></td>
</tr>
<tr>
<td>Group</td>
<td>N</td>
<td>Mean</td>
<td>Std. Deviation</td>
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</tr>
<tr>
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<td>-----</td>
<td>-------</td>
<td>----------------</td>
<td></td>
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<td>Group 1</td>
<td>42</td>
<td>147.12</td>
<td>25.46</td>
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</tr>
<tr>
<td>Group 2</td>
<td>31</td>
<td>134.65</td>
<td>26.21</td>
<td></td>
</tr>
<tr>
<td>Group 3</td>
<td>8</td>
<td>138.13</td>
<td>36.36</td>
<td></td>
</tr>
<tr>
<td>Group 4</td>
<td>56</td>
<td>124.93</td>
<td>29.40</td>
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</tbody>
</table>
Table 4

ANOVA for 11th Grade NeSA Reading Scores

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<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>11918.64</td>
<td>3</td>
<td>3972.88</td>
<td>5.08</td>
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<tr>
<td>Within Groups</td>
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<td>781.89</td>
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<tr>
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Table 5

**Descriptive Statistics for 11-grade NeSA Math scores**

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<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
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</thead>
<tbody>
<tr>
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<td>139.48</td>
<td>32.61</td>
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<tr>
<td>Group 2</td>
<td>31</td>
<td>126.94</td>
<td>37.74</td>
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<tr>
<td>Group 3</td>
<td>8</td>
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<tr>
<td>Group 4</td>
<td>56</td>
<td>115.48</td>
<td>28.93</td>
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Table 6

*ANOVA for 11th Grade NeSA Math Scores*

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<th>F</th>
<th>p</th>
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<tbody>
<tr>
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<td>Within Groups</td>
<td>135263.20</td>
<td>133</td>
<td>1017.02</td>
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<td>Total</td>
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Table 7

*Descriptive Statistics for 11-grade NeSA Science Scores*

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<th>Mean</th>
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<tr>
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<td>130.76</td>
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<tr>
<td>Group 2</td>
<td>31</td>
<td>113.35</td>
<td>22.07</td>
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<td>Group 3</td>
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<td>Group 4</td>
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### Table 8

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<td>3</td>
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<td><strong>Within Groups</strong></td>
<td>68554.07</td>
<td>133</td>
<td>515.44</td>
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<td><strong>Total</strong></td>
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Table 9

*Descriptive Statistics for Core GPA scores*

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<th>Group</th>
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</tr>
</thead>
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<td>3.32</td>
<td>.56</td>
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<tr>
<td>Group 2</td>
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<td>3.19</td>
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<tr>
<td>Group 3</td>
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<td>.61</td>
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<tr>
<td>Group 4</td>
<td>57</td>
<td>3.12</td>
<td>.49</td>
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Table 10

*ANOVA for Core GPA Scores*

<table>
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<th>p</th>
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<tbody>
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<td>Between Groups</td>
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<td>.350</td>
<td>1.189</td>
<td>.317</td>
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<td>Within Groups</td>
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<td>.295</td>
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<tr>
<td>Total</td>
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Table 11

<table>
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<tr>
<th>Group</th>
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</thead>
<tbody>
<tr>
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<td>3.77</td>
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<tr>
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<td>.74</td>
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<tr>
<td>Group 3</td>
<td>9</td>
<td>3.78</td>
<td>.80</td>
</tr>
<tr>
<td>Group 4</td>
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<td>3.44</td>
<td>.62</td>
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*Descriptive Statistics for Advanced Placement GPA*
Table 12

ANOVA for Advanced Placement GPA

<table>
<thead>
<tr>
<th></th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>3.113</td>
<td>3</td>
<td>1.038</td>
<td>2.274</td>
<td>0.083</td>
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<tr>
<td>Within Groups</td>
<td>61.60</td>
<td>135</td>
<td>0.456</td>
<td></td>
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<tr>
<td>Total</td>
<td>64.72</td>
<td>138</td>
<td></td>
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</tbody>
</table>
### Table 13

**Descriptive Statistics for Advanced Placement Course Completion Frequencies**

<table>
<thead>
<tr>
<th>AP Course Completion Frequency</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>11</td>
<td>8</td>
<td>3</td>
<td>27</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>11</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
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<td>8</td>
<td>1</td>
<td>0</td>
<td>0</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Value</strong></th>
<th><strong>df</strong></th>
<th><strong>Asymp. Sig.</strong></th>
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</thead>
<tbody>
<tr>
<td>Pearson Chi Square</td>
<td>27.13</td>
<td>21</td>
</tr>
</tbody>
</table>
Chapter Five

Conclusions and Discussion

Gifted education programs are designed to enhance the regular curriculum for the participants. A natural component of any program is that some students will be allowed to participate and some will not depending upon the qualification criteria that are decided upon by the school district. The result of such programs is that there will be a group of students with very similar attributes who are divided into qualifiers and non-qualifiers. This problem and its impact on achievement is the focus of the research in this study. Is the achievement of these students impacted by their inclusion or exclusion from the gifted program? Do school districts need to make adjustments to their identification process? Do school districts need to make adjustments to the gifted curriculum or the regular education curriculum in order to meet the needs of these students? These questions are important to ponder by the professionals who are charged with creating and managing gifted education programs.

The purpose of this study is to determine the ending 12th-grade ACT scores, NeSA-Reading, NeSA-Math, and NeSA-Science scores, core academic GPA scores, Advanced Placement course completion frequencies, and Advanced Placement course GPA of students who were and were not selected for High Ability Learner status with ability level cut scores ranging from 109 to 121.

The four research groups in this study consist of the following:

**Group One** - 12th-grade students who were selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 (N = 42)
**Group Two** - 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 115 to 121 ($N = 31$)

**Group Three** - 12th-grade students who were selected for High Ability Learner status with a standard score confidence interval range of 109 to 114 ($N = 8$)

**Group Four** - 12th-grade students who were not selected for High Ability Learner status with a standard score confidence interval range of 109 to 114 ($N = 56$).

**Conclusions**

The following conclusions can be drawn from the study for each of the research questions.

**Research Question #1 Conclusion**

The comparison of the achievement of the research groups indicated that there was a statistically significant difference between ACT composite scores. The students with achievement range 115 to 121 who were selected for High Ability Learner Status as well as the students with achievement range 109 to 114 who were selected for High Ability Learner Status had significantly higher achievement scores than the students with achievement range 109 to 114 and were not chosen for High Ability Learner status.

**Research Question #2 Conclusion**

The comparison of the achievement of the research groups indicated that there was a statistically significant difference between scores on the 11th NeSA Reading test. Students with achievement range 115 to 121 who were selected for High Ability Learner status had significantly higher achievement scores than students with achievement range 109 to 114 and were not selected for High Ability Learner status.

**Research Question #3 Conclusion**
The comparison of the achievement of the research groups indicated that there was a statistically significant difference between scores on the 11th NeSA Math test. Students with achievement range 115 to 121 who were selected for High Ability Learner status as well as students with achievement range 109 to 114 who were selected for High Ability Learner status had significantly higher achievement scores than students with achievement range 109 to 114 and were not selected for High Ability Learner status. Students with achievement range 109 to 114 who were selected for High Ability Learner status also had significantly higher achievement scores than students with achievement range 115 to 121 and were not selected for High Ability Learner status.

**Research Question #4**

The comparison of the achievement of the research groups indicated that there was a statistically significant difference between scores on the 11th NeSA Science test. Students with achievement range 115 to 121 who were selected for High Ability Learner status had significantly higher achievement scores than students with achievement range 109 to 114 and were not selected for High Ability Learner status as well as students with achievement range 115 to 121 and were not selected for High Ability Learner status.

**Research Question #5 Conclusion**

The comparison of the achievement of the research groups indicated that there was not a statistically significant difference between the 12th grade core grade point averages. Because no significant difference was found *post hoc*, contrast analysis for congruent or different core grade point averages between groups was not conducted. The grade point averages for all of the groups are above average when compared to the entire school district.
Research Question #6 Conclusion

The comparison of the achievement of the research groups indicated that there was not a statistically significant difference between the 12th grade Advanced Placement grade point averages. Because no significant difference was found post hoc, contrast analysis for congruent or different Advanced Placement grade point averages between groups was not conducted. The grade point averages for all of the groups are above average when compared to the entire school district.

Research Question #7 Conclusion

The comparison of the achievement of the research groups indicated that there was not a statistically significant difference between the Advanced Placement course completion frequencies.

Discussion

The results of this study show a clear division of achievement between the groups on all of the standardized tests that were analyzed. The students who were chosen for participation in the High Ability Learning program scored higher on standardized tests than the students who were not chosen for participation. There was no significant difference between the groups in Advanced Placement participation and achievement or overall grade point average. These results do not provide definitive answers to questions regarding gifted education and talent development, but there are several implications that can be made.

Developmentalism

The theory of developmentalism in gifted education serves as a guiding principle in this research study. A general developmental view of giftedness is that giftedness
results from an interaction between biological predispositions and environmental forces. It emerges through development (Coleman & Cross, 2005). Development of giftedness can occur in many different forms both through specialized instruction and regular classroom instruction. The participants in this study have received many different types of instruction. Some have received specialized instruction in the form of a high ability learning program, while others have not. It is apparent from the analysis of student data that the curriculum provided to all students was equally effective for all of the research groups because there was not a significant difference in achievement in student grade point averages and advanced placement course participation.

The results of this study indicate the need to develop the talents of students from a wide range of achievement levels. The cause of the difference in achievement between groups on standardized tests is unknown, but irrefutable. Would this difference exist if all of these students had received similar specialized instruction to develop talent? The results of this study provide evidence that the achievement levels of students in daily academic work are similar regardless of placement in the High Ability Learning Program. The high achievement of the students in this study indicates that there are rigorous opportunities currently available for all students. The school district should continue to provide High Ability Learning services to the current participants and consider expanding its services to include students similar to those from this study who did not participate in the program in order to further develop their talents and perhaps increase standardized test scores.

Another approach that is supported by Dai and Renzulli (2008) is to refrain from labeling students as gifted (or high ability). The process of identification is not to
determine whether a student is gifted or not, but to identify how subsequent opportunities can impact a students’ achievement in both self-selected activities and required activities. There is no need to provide a label to a student in order to provide those types of opportunities. The results of this study support this premise. Students performed equally well academically by utilizing the opportunities that were available to them from their schools. The High Ability Learning program is one component of the developmental opportunities that were available to these students. If the components of the program were extended to include more of the students who were not originally participants, perhaps the achievement levels would be even higher.

**Standardized Testing**

The results of this study support the premise that our identification procedures favor students who are able to score well on standardized tests. The students who qualify for the program showed significantly higher scores on the tests that were analyzed. However, the overall achievement of all the students in other areas was not significantly different. This information provides evidence that our High Ability Learning program is serving primarily academically gifted students who perform at high levels in a wide range of subject areas. This is evidenced by the students’ ability to score at a higher level than the comparison groups on standardized assessments that test a variety of subject matter.

Identification procedures for gifted and talented programs are required to be multi-faceted according to Rule 3 of Nebraska Department of Education. Quantitative and qualitative procedures should be utilized in order to identify students with a variety of strengths. In spite of this requirement, the majority of students who are identified for Gifted Education programs are intellectually or academically gifted according to
standardized test scores. Identification procedures need to reflect the diverse population of students who need to be served. This study reveals that students who achieve at higher levels on standardized test scores are more likely to participate in the high ability learning program than those who do not score as high. Giftedness that manifests in forms other than intellectual or academic such as creative, leadership, or specific academic giftedness are not as likely to participate in this high ability learning program. The likelihood of developing the talent of students who may increase their level of achievement through specialized services such as high ability learning programs is not possible if these students are not allowed to participate.

So, the question that needs to be asked after analyzing the results of this study is: are the students who have been labeled as high ability using our identification procedures actually high ability or are they skilled at taking standardized tests? Do higher test scores provide a better indication of success than high achievement in everyday work as measured by grade point averages and class selection? Sternberg (1986) believes that traditional tests benefit students who can quickly solve problems in the intermediate range of difficulty and penalize those who can solve very difficult problems, for such problems have been eliminated from traditional testing measures such as achievement and abilities tests. He also believes that the kind of preparation and planning that is needed for success in everyday life and school differs from the kind of evaluation assessed by traditional tests. Tzuriel (2000) writes that “standardized tests do not relate to non-intellective factors that can influence individuals’ cognitive performance, sometimes more than the “pure” cognitive factors, nonintellective factors (i.e., intrinsic motivations, need for mastery, locus of control, anxiety, frustration tolerance, self-
confidence, and accessibility to mediation) are no less important in determining children’s intellectual achievements than are the “pure” cognitive factors.” Standardized tests are not capable of providing a complete picture of student abilities and achievement. The tests only provide one view into the overall achievement of students. Students who do perform well on standardized achievement tests may or may not be actually considered high ability or gifted, but the testing alone is not the only factor that can be considered when making that determination.

All students have the opportunity to select from a wide variety of courses and extra-curricular activities that develop the gifts and talents of students in the chosen areas. Students are motivated to do well in activities that they have chosen themselves. This motivation has a direct impact on achievement, which is reported using grade point averages. This also impacts the choices by students regarding advanced placement frequencies. Students are able to choose from courses in many different subject areas. High achieving students are motivated to participate because they have confidence in their abilities within that subject (Dweck, 2000). This mindset may account for the lack of a significant difference of GPA and Advanced Course completion frequencies.

Implications for Further Research

There is limited research available for the students who fall into this range of achievement; the majority of research available is focused on highly gifted students. The achievement of this group of students can provide a great deal of insight into the impact that gifted programs can have on students. The cause of the difference in achievement between the groups in this study should continue to be investigated in order to find more ways to develop the talents of all students.
Conclusion

Students like Matthew, Mary and Jane exist in every school across this country. Each has unique learning needs, but a common thread unites them: they are high ability learners and are passionate about learning. These students need to be given opportunities every day to develop their individual talents through a challenging curriculum, staff members who understand these students and specialized experiences that allow them to explore their passion areas. Each school district has a plan to address these learners’ needs, but perhaps these plans need to be revisited by individuals who have a true understanding of the needs of high ability students in order to take what currently exists and make it that much better.
References


