THE UNDERPERFORMANCE OF GIFTED ELEMENTARY SCHOOL STUDENTS

by

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ABSTRACT

KIMBERLY L. CHINNIS. The underperformance of gifted elementary school students. (Under the direction of DR. CLAUDIA FLOWERS and DR. JIM WATSON)

There is much concern regarding the underachievement of gifted students. Gifted students have the potential to make outstanding contributions to society. The present study analyzed the perceptions of teachers, principals, and one director of gifted education of gifted 4th and 5th grade students in the area of reading and explored constructs of underachievement (goal valuation, self-efficacy, environmental perceptions, and self-regulation) to determine to what extent they are present in gifted reading students. Mixed methods research was used to examine the research questions. Qualitative data was gathered by conducting interviews with teachers of gifted students, elementary principals, and the director of a district's gifted program. The educators reported academic underachievement and associated several factors to this underachievement, with environmental perceptions and motivation being the major factors. Quantitative data in the form of student semester grades were collected to determine whether or not underachievement exists. Based on student data, there was underperformance in the gifted reading classes at each of the three schools in the study. This study linked the factors of underachievement and gifted students while adding to the body of research relating to gifted education in elementary schools. Implications for elementary school principal and teacher training are presented.

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CHAPTER 1: INTRODUCTION

The underachievement of gifted students is a baffling phenomenon for educators and parents. Underachievement is the discrepancy between a student's potential and his or her actual performance. Research suggested that approximately 50% of middle school aged gifted students underachieve (Siegle, 2013). The potential of these students often surpasses their output. Educators and parents have a reason to be concerned because the nation's underachieving gifted population represents a segment of society that may continue to underachieve and "the greater their underachievement, the less likely they will reverse it" (Siegle, 2013, p.4). We live in a society where it could benefit everyone if students grow to reach their full potential. It is also important for educators to be aware of underachievement in gifted students because a large portion of our brightest students are receiving mediocre grades and standardized test scores, while also experiencing very little academic success (Pagnani, 2008). The purpose of this research was to investigate the prevalence and beliefs about underachievement for 4th and 5th grade elementary students who were identified as being gifted in the area of reading. The following research questions were answered:

1. What is the perception of gifted educators, principals, and an Academically Intellectually Gifted (AIG) director about elementary gifted students who underachieve in the area of reading?

2. What is the prevalence of underachievement for students who are gifted in the area of reading in elementary school? Using archival data from 2013 to 2015, patterns of gifted reading students' academic performance was examined. Specifically, the following will be examined:
    a) Are there students who qualify for the gifted reading class, who choose not to participate?
    b) Are there students who are enrolled in gifted reading classes that are underachievers?

Achievement Orientation Model

Many factors contribute to achievement, with motivation being a major component. The Achievement Orientation Model focuses on what motivates students to become academically engaged (Siegle, 2004; see Figure 1).

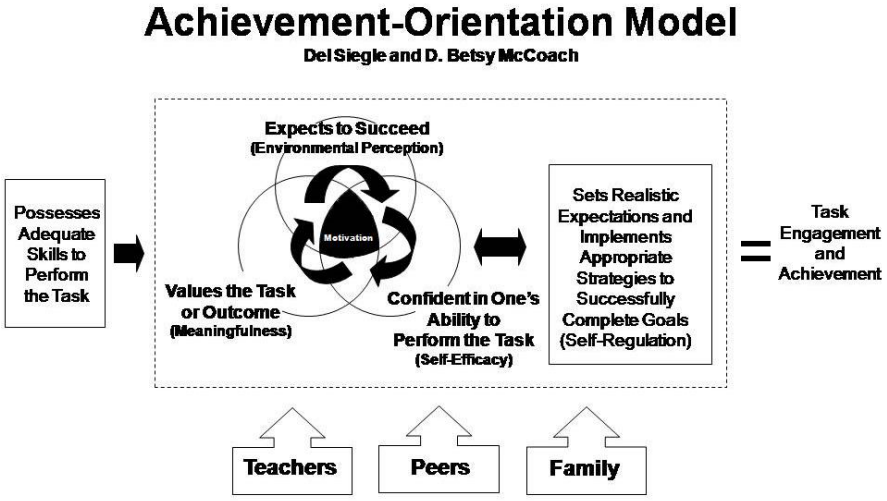

Figure 1. Achievement Orientation Model (Siegle & McCoach, 2005)

Students must find value in school and what they learn in order to be engaged. Students may value high grades, value the opinions of others and pleasing adults, or value acquiring a skill to be used for a future endeavor; regardless, if they value the goals, for whatever reason, they are more likely to do well.

Self-efficacy is also known as confidence or beliefs about whether or not a task can be achieved; past performance and observations of others can influence these beliefs (Siegle, 2013). Students must believe that they can be successful and learn new material. A student's past can impact self-efficacy; therefore, students must be reminded of the success that they have experienced (Siegle, 2004). Students who have a poor self-concept are less likely to try new tasks or those that appear challenging. Self-efficacy is related to self-esteem. Self-esteem "reflects how students feel about their worth or value, self-efficacy reflects how confident students are about performing specific tasks" (Siegle, 2013, p. 82). Students with low self-efficacy are less likely to attempt and to push through tasks.

Students must be comfortable and trust the environment where they learn; they need to know that if they are motivated and put for effort, they will succeed (Siegle, 2013). Students often compare themselves to others, so if they see others succeeding or failing in a certain environment, they will behave a certain way to put themselves in the same situation. Issues in the environment include the students' perceptions of teachers and peers, and the students' perceptions of the level of work.

Self-regulation is the final piece to the Achievement Orientation Model. Students have to learn the skills to be able to manage themselves and their academic lives. If students are motivated and have a supportive environment, they must still be able to

manage their time and have the skills needed to successfully complete tasks. There are three components to self-regulation: (a) self-management; (b) personal standards; and (c) self-monitoring (Siegle, 2013). Self-management refers to students' being able to manage their time and complete their tasks. Setting personal standards is the second part of self-regulation; students have to be willing to challenge themselves academically and not settle for mediocrity. The third component includes the student's self-awareness and monitoring his/her behavior when it comes to tasks and performance. Students have to set realistic expectations for themselves and may need support from educators and/or parents when setting goals and determining whether or not task avoidance has become common.

Conceptions of Giftedness

To understand gifted underachievers, there must be a discussion of both giftedness and underachievement. Chapter one will outline a history of giftedness and underachievement in gifted students.

Over the years, giftedness has been defined in different ways (see Table 1). In schools, IQ and/or other academic measures usually determine giftedness. The United States Office of Education defines gifted students as young people with high performance in areas such as "intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who need services or activities not ordinarily provided by the school in order to fully develop those capabilities" (No Child Left Behind, n.d.). The definitions in Table 1 encompass the various ways that major researchers in the field of gifted education think about giftedness and how educators define giftedness for programs of study. Since the early 1900's, researchers have tested and developed theories about giftedness.

Table 1

Conceptions of Giftedness

Theorist	**Conceptions of Giftedness**
Terman (1916)	Individual scores at least two standard deviations about the norm on the Stanford-Binet intelligence test
Renzulli (1978)	Schoolhouse giftedness is measured by cognitive tests and relates to what is taught and learned in schools through the regular curriculum. Creative productive giftedness consists of three cluster traits: above average ability, creativity, and task commitment (Renzulli & Reis, 1997) Above average ability refers to the "upper range of potential within any given area" such as the top "15 to 20 percent of any given area of human endeavor" (p.6, Renzulli & Reis, 1977)
Gardner (1983)	Giftedness is advanced potential in one or more of the multiple intelligences
Gagne (1985)	Giftedness is having extraordinary natural abilities in at least one area; a talent is an ability or skill that has been developed and giftedness is a natural ability; a person may be born gifted and never develop their talents and show superior performance.
Sternberg (1986)	The individual is analytic, creative, practical and an expert in his/her field
Feldman (1999)	Giftedness is displayed in a "focused, specialized, and domain-specific form" (Feldman, 1993, p. 188); IQ should not be the only factor in determining giftedness and there can be creative giftedness

Note. Adapted from *Critical Issues and Practices in Gifted Education: What the Research Says*, by Plucker, J. & Callahan, C. (Eds.) (2008). Waco, Texas: Prufrock Press, Inc., p. 108-109

Some researchers find it hard to define giftedness and disagree on one single definition since many explanations are either too inclusive or too exclusive. One description defines gifted students as being superior to their peers in some way (Sternberg, Jarvin & Grigorenko, 2011). This description is inclusive because it does not specifically state areas of superiority or the range of superiority and the definition is also dependent on the academic performance of others. Gifted individuals may also be defined by their IQ score, which quantifies intelligence. This measure may exclude some individuals due to the nature of IQ tests. While some researchers, use an IQ of 132 and above to define giftedness, other researchers consider a score at or above the 95th percentile on the ACT an accurate measure (Ford, 2011). Since there is no one agreed upon instrument used to test giftedness or underachievement, scores cannot be generalized across all populations. Furthermore, Sternberg et al. (2011) asserts that a person identified as gifted may change depending on the tasks assigned.

Giftedness from the 1800's to the Mid-20th century

During the mid-1800's, Galton was one of the first scientists to test intelligence. He believed that intelligence was related to the senses and created some of the first measurements of intellect. Alfred Binet developed intelligence tests during the early 1900's based on physical reactions that first failed, but then developed tests based on things such as memory and reasoning; these tests were more accurate in judging intelligence (Colangelo & Davis, 1991). The Stanford-Binet Intelligence Test was developed in the early 1900's and used to distinguish which individuals were intellectually advanced or behind for their age. Lewis Terman not only supervised the "Americanization" of the Binet-Simon tests in 1916, now known as the Stanford-Binet

Intelligence test, he also did a longitudinal study of over 1,000 male and female gifted children (Colangelo & Davis, 1991, p. 6). The gifted groups of students defied stereotypes associated with gifted students and were found to be socially adept, physically fit, and in good health, yet there were limitations to this study. Terman's study was conducted during a historical time period, the end of World War I through World War II, which could not be replicated. Terman was also personally involved in the lives of the students throughout their adulthood, which could have skewed results.

One of the most popular models, Renzulli's Enrichment Triad Model, developed in the mid 1970's and based on his Three-Ring Conception of giftedness, outlines three types of enrichment activities for gifted students (Renzulli & Reis, n.d.). Under this model, Type I activities were constructed to expose children to a variety of things (activities, places, people, etc.). Type II activities focus on oral, written, and visual thinking and learning skills, such as problem solving and higher order critical thinking skills. Students take the lead in Type III activities because with guidance, they are able to select areas of interest and think creatively to develop products. During this level, students develop task commitment (time and energy devoted to a task) and self-confidence. Renzulli and Reis also differentiate between "schoolhouse giftedness and creative-productive giftedness" (Renzulli & Reis, n.d.; Sternberg et al., 2011, p. 24). The two types of giftedness do not necessarily overlap, so a creative-productively gifted person may not be identified early in school. Also, someone "could have an extraordinary IQ, but not be labeled as gifted because of lower task commitment or creativity" (Sternberg et al., p. 25). Renzulli has expanded his model to include optimism, courage, sensitivity to human concerns, and physical/mental energy (Sternberg et al., p. 25).

Giftedness in the 1950's

In 1957, Russia launched Sputnik, the world's first artificial satellite. This Russian success pushed America to focus on the country's brightest students because the United States feared that other countries would surpass them in the areas of science, math, and military strength. After the 1957 launch of Sputnik, reports began to compare Russian educational systems to the United States' educational system; researchers, educators, and the federal government became aware of the neglect of gifted children. Gifted education was a concern when excellence took precedence over equity (Colangelo & Davis, 1991). Excellence was important in the 1950's when the United States wanted to be ahead of every other country in space exploration, science, and math. An Educational Policies Commission report and a report discussing Russia's educational policies highlighted the educational requirements of Russian students and the lack of commitment from the US government to gifted children and academic achievement in America.

Giftedness in the 1960s and 1970s

During the 1960's, equity became the focus as schools became racially integrated. As a result, the focus on gifted education began to wear off over time and meeting basic standards and equity became the focus. In 1964, Congress passed the Civil Rights Act that forbade discrimination based on sex and race and segregation was banned; this legislation shifted the focus to underprivileged students. Equity is associated with meeting the needs of the majority, the average citizen, whereas excellence is concerned with helping the brightest excel (Colangelo & Davis, 1991). Most often today,

disadvantaged or at-risk students receive local and state resources in an attempt to help them become academically equal to the average student.

S.P. Marland, U.S. Commissioner of Education in the early 1970s, submitted a national report to the United States Congress that outlined the lack of services for gifted students. The 1972 Marland Report was "federally sanctioned" and targeted the gifted population as the top three percent to five percent of school age children with the following categories: "general intellectual ability, specific academic aptitude, creative or productive thinking, leadership ability, visual and performing arts, and psychomotor ability" (Callahan & Hertberg-Davis, 2013, p. 16). Since gifted students are high functioning in one or more areas, they have the ability to do well in school and are typically offered less support in all areas. The report concluded that gifted education had not been a priority in the US and very few students were being appropriately served.

Giftedness in the 21st century

The U.S. Department of Education established the Jacob K. Javits Gifted and Talented Students Education Act in 1988. The purpose of the Javits Act was to support gifted education in the areas of research, projects, and finding ways to serve under-represented populations. The latest legislation, No Child Left Behind (NCLB) in 2001 and the 2009 Race to the Top initiative (RtT) have shifted the focus of educators and the nation away from gifted students and towards at-risk students, who are below grade level or those that are borderline proficient in reading and math on state assessments. NCLB and RtT both provide funds to the states and school districts to help students reach minimum standards. Gifted students and the Jacob K. Javits Gifted and Talented Students Education Act are addressed in part of the No Child Left Behind Act. The Javits program

is mainly focused on serving underrepresented gifted populations and does not fund local programs. This political history of gifted students demonstrates how public opinion has changed over the years. Historical information on gifted students relates to this study as it shows how the importance of student performance and impediments related to giftedness vacillate over time.

Characterizing Underachievement

Underachievement can be described as an occurrence where performance is not as good as expected; others define it as a measured discrepancy between potential and measured achievement or actual performance (Callahan & Hertberg-Davis, 2013). When underachievement occurs, "the waste of talent not only deprives society of potential contributions, but also represents a personal loss of self-fulfillment for the underachieving individual" (Callahan & Hertberg-Davis, 2013, p. 377). According to Siegle (2013, p. 10), the discrepancies may include the following: (a) high IQ and low achievement test scores; (b) high IQ and low academic grades; (c) high achievement test scores and low academic grades; (c) high indicators of intellectual, creative potential and low creative productivity; (d) high indicators of potential and limited presence of appropriate opportunity for intellectual and creative development. The discrepancy between ability and performance should be habitual as well as severe enough to be categorized as underachievement. For example, underachievement can be categorized as falling "more than one standard error below the regression of grades on an ability measure" (Siegle, 2013, p. 14). Gifted underachievers can also be "nonproducers"; this occurs when these students choose to be disengaged and not perform (Siegle, 2013, p. 16). Gifted students also have a tendency to refuse to work because the work is not

challenging and/or they are bored. Students ultimately have to decide whether or not they will put forth the necessary effort, and educators have to use strategies that capture the interest of gifted students.

As underperformance is analyzed, it is important to understand how it is defined. As mentioned earlier, narrow definitions of underachievement include students who score above average on an achievement or intelligence test, but do not show this same ability in other activities or in school performance. These students score very high on tests, but do not complete school assignments, have a low GPA and often drop out of school. Narrow definitions of gifted underachievement rely heavily on tests to identify giftedness. A more inclusive definition would refer to students who fail to reach their full academic potential (Ford, 2011). Although there is no universal definition of gifted underachievement, for the purposes of this study, we will define underperformance as a discrepancy between "assessed potential and actual performance" Colangelo & Davis, 1997, p. 361).

Factors Contributing to Underachievement

Several authors (Balchin, Hymer, Matthews, 2009; Plucker & Callahan, 2008; Ford, 2011; Siegle, 2013) have discussed ways to reverse underachievement and the factors that can contribute to underachievement. The school curriculum and academic program can contribute negatively to a student's academic performance if there is not enough rigor. Gifted students must be challenged by the curriculum and experience success. According to Ford's research (2011, p.123), "reading positively correlated with language acquisition, literacy development, test scores, and achievement." Students may underachieve in reading because of a limited vocabulary, limited exposure to text during

their primary years, and lack of a solid foundation in reading instruction. Students should be in a literacy and print rich classroom with developmentally appropriate materials (Ford, 2011).

Identification of Gifted Students in North Carolina

Under Article 9B of the North Carolina academically or intellectually gifted program standards, the North Carolina Department of Public Instruction has identified state program standards to direct how each local district identifies and serves gifted students. Standard 1 requires that practices: (a) include a process for identifying, screening, and referring students of all grade levels; (b) incorporate multiple measures for identification; (c) encompass under represented populations; (d) are consistently implemented; (e) protect the rights of AIG students and families; (f) maintain accurate records and data for AIG students which should be reviewed annually with parents (North Carolina academically or intellectually gifted program standards, 2012, p. 3). The local district participating in this research has a system-wide screening process involving teachers, parents, or other individuals who are aware of a student's academic performance. Students are automatically screened when they score at or above the 85th percentile on an aptitude test, 90th percentile on an aptitude subtest, or 93+ on grade level achievement tests. Students in 3rd and 6th grade are also administered the InView test at mid-year and students with an A average in grades 3 – 7 are also screened for the AIG program.

The InView test assesses cognitive abilities in the following areas: verbal reasoning, sequences, analogies, and quantitative reasoning; this provides schools with a "reliable measure of overall academic aptitude" (McGraw-Hill, 2013). The InView test is

used with grades K-12 and highlights student strengths, which is why the test is especially helpful in identifying gifted students (McGraw-Hill, 2013).

Students in this district, in grades 3-8 are also administered End of Grade (EOG) achievement tests in Reading and Math. These tests measure student performance based on North Carolina's standards and are a part of the district's AIG qualification pathways (see Table 2). Achievement testing is one category included in the district's AIG qualification pathways. Grade level performance is considered a Level III and college and career readiness standards are considered a Level IV and Level V in Reading, Math, and Science.

After being screened, students can qualify for the AIG program in one of three pathways. The first pathway qualifies students that score in the 98th percentile on an approved IQ test. In the second pathway, students must meet three of the four criteria in Table 2 below. Students must be referred for the third pathway, which is an alternative form of screening. The third pathway is for students that may have a disability or are culturally, linguistically, and/or economically diverse. Students must meet three out of four of the criteria in the following areas: aptitude, achievement test score, performance in class, and/or the gifted rating scale. Once a student is identified as gifted, the parents are notified by the school based AIG teacher.

All of the student data used in this study has been based on students identified using one of the three pathways approved in the local district.

Table 2: Local district AIG qualification pathways

	IQ Test	Aptitude Subtest/ Rating Scales	Achievement Test	Grades
Pathway One	98th percentile on an approved test			
Pathway Two	93rd percentile on an approved test	90th percentile on one of the following: quantitative subtest, nonverbal subtest, verbal subtest, or an approved specific area test	At least one year above grade level (85th percentile in reading or math or the 93rd percentile on the North Carolina End of Grade Test	"A" average in reading or math or 90th percentile on Gifted rating scales
Pathway Three	93rd percentile on approved test or content subtest	90th percentile in qualifying areas	85th percentile on approved test or 93rd percentile on the EOG or grade level test	Reading or math in the same area as the qualifier or portfolio score

Limitations

The findings of this study are limited by the number and type of students identified by the AIG program's criteria. The ethnic representation of the gifted population in the district participating in this study was as follows: Native American .17%, Asian 1.2%, Hispanic 3.34%, Multiracial 1.44%, Black 2.79%, and White 89.66% (North Carolina Public Schools). Minority students are typically under-represented in AIG programs (Ford, 2011). This study reflects the diversity levels of the district's gifted population with the majority of the students being Caucasian.

Limitations of this study include the variables not accounted for in each elementary school. The elementary schools vary in total size, time of day students have their Reading AIG class, and class size. The schools are in the same cluster and will have a similar economic and racial composition. School clusters are determined based on the geographical location of the schools. The elementary schools have the following in common: the selection process for gifted students, the curriculum, the resources used for instruction, and the allotted time for reading instruction.

There are many research studies on gifted students and several surrounding the topic of underperforming gifted students in middle school and high school; however, this study looks more specifically at the underachievement of gifted students during their preadolescent years. This study adds to the current research by attempting to provide a more complete picture of the reading underachievement of gifted students. The content area of reading is being studied because much of what students do in school and in life involves reading. "Being able to read well is the most important factor that determines children's success in school" (Reis, 2009, p. 45). Reading is also a subject area that the State of North Carolina tests each year for students in grades 3 through 12. School leaders need to understand the reading performance of gifted students because (1) reading is a fundamental skill, (2) administrators and their schools are rated based on the performance of students, and (3) if under performance is detected, educators can put support systems in place for the students and/or teachers that serve the underperforming students. Underachievement in reading is also important to school leaders because if it goes undetected, it can impact other areas and become hard to reverse (Siegle, 2013).

Definition of Terms

The terms that are used in this study are defined in this section. These definitions are needed in order to discern the overall study. Multiple definitions could be used in some cases, therefore, the meaning most frequently used across the literature is presented.

Achievement refers to performance measured by standardized tests, IQ tests, or other measures to determine the knowledge and/or success of a person.

Elementary school refers to a Kindergarten through 5th grade school.

End of Grade (EOG) tests are standardized tests designed to measure student performance at the end of the school year in North Carolina in grades 3-8.

Giftedness is the ability to "perform or show the potential to perform at substantially high levels of accomplishment when compared with others of their age, experience, or environment. Academically or intellectually gifted (AIG) students exhibit high performance capability in intellectual areas, specific academic fields, or in both the intellectual areas and specific academic fields" (Academic Services and Instructional Support, n.d., para 3).

Middle of Year (MOY) refers to a student's middle of the year, or semester, average for a particular subject.

Underachievement is the "discrepancy between potential and actual performance," (Reis & McCoach, 2000, p. 156). This occurs when there is a discrepancy between the high academic potential of a person and the low level of productivity. For the purposes of this study, the term "underperformance" will be used simultaneously with the term "underachievement".

CHAPTER 2: LITERATURE REVIEW

Determining Giftedness

Intelligence Testing

The earliest significant account of intelligence testing was by Sir Francis Galton; he believed that evolution favors highly intelligent people. Galton began studying heredity and the ability of humans in the late 1860's because his interest was peaked by the publication of Charles Darwin's book, *Origin of the Species*. Galton measured intelligence through "visual acuity, auditory acuity, tactile sensitivity, and reaction time" (Colangelo & Davis, 1991, p. 6). Although debatable, Galton believed that that intelligence is hereditary.

In France, Alfred Binet and T. Simon developed an intelligence test originally to determine which children would receive regular schooling and which would receive special services. Binet developed tests that measured comprehension, reasoning judgment, and memory. He determined that "children grow in intelligence and that any given child may be measurably ahead of or behind the typical intellectual stage for his or her actual age" (Colangelo & Davis, 1991, p. 6). Lewis Terman helped modify the Binet-Simon tests to create the Stanford-Binet IQ test in 1916. Since then, the test has been revised at least three times. IQ continues to be the most used and preferred method of identifying giftedness (Sternberg et al., 2011). Schools continue to use IQ tests because it is a good predictor of academic performance, can be used with any age group, and can be

done through group testing, which is efficient and cost effective for schools (Sternberg et al., 2011). IQ scores are also quantified, are reasonably objective, and most people are familiar with IQ tests. Familiarity can be a double-edged sword because there is increased understanding but also the likelihood of educators and researchers trying a different measure.

Models of Giftedness

The Pentagonal Theory of Giftedness

Giftedness is not easily defined. Sternberg believes that giftedness in young children "must be excellent, relative to the performance of peers who are the same age or who have had the same degree of instruction"; performance "must be rare among the same peers"; the forms of measurement must be "reliable and valid"; there must be "some societal value"; and their performance "must be productive or suggest potential for productivity" (Colangelo & Davis, 1997, p. 460).

The purpose of The Pentagonal Theory of Giftedness was to create a model that captures what most people believe comprise a gifted person: excellence, rarity, productivity, demonstrability, and value (Sternberg, Jarvin, & Grigorenko, 2011). The excellence criterion asserts that the individual is superior to his/her peers in some way. The definition of superiority varies depending on the context; however, a person must be significantly more talented than his/her peers in the designated area(s), such as the arts, reading, or math. If giftedness depends on the task, then determining who is identified as gifted changes as often as the task. Rarity criterion supplements the excellence criterion because the level of superiority or attribute must be rare in relation to peers. If a student's attribute is deemed common and not rare, then the student is not considered gifted. The

productivity criterion states that the superior attribute of the gifted student must lead to productivity. A high IQ score alone does not qualify a person as being gifted, but he or she must show that he/she can do something with his/her ability. The demonstrability criterion states that giftedness must be demonstrated in some way through an assessment. This shows that the gifted individual truly has the superior ability that categorized him or her as gifted. Having individuals demonstrate giftedness takes away the notion of assumed or false giftedness. For a true measurement, the assessment must be valid, using such measures as product based assessments, standardized tests, and achievement tests (Sternberg et al., 2011). The value criterion requires the gifted individual to have a superior ability in an area that is valued by society. One must remember that what is valued differs according to various cultures. The five criterions (excellence, demonstrability, rarity, productivity, and value) are known as the "pentagonal implicit theory of giftedness" (Sternberg et al., 2011, p. 2). Using this theory, an individual can be labeled and identified as being gifted based on the five criterions.

Programming

A theory developed by Renzulli, the Three-Ring Conception of Giftedness, lists three interacting traits (ability, task commitment, and creativity) that form a relationship with areas of performance. These three rings are placed with a houndstooth background that represents the "interactive personality traits" and environment (Renzulli, Koehler, & Fogarty, 2006, p.17). The Three-Ring Conception includes three overlapping characteristics of giftedness; one characteristic is considered Above Average Ability, another is Task Commitment, and the third characteristic is labeled Creativity. Students do not need to possess all three of these characteristics, but if they have above average

ability, the other two rings contain goals that are developed over time. Colangelo and Davis (1991) remind us that teacher training is important since teacher nominations are often a part of the identification process.

Sternberg and Davidson's definition of ability refers to an above average ability, the "upper range of potential within any given area" (2005, p. 260.). Their usage of the term task commitment is a form of motivation that is generated for a specific area or task. Creative productive students are diverse thinkers and can work outside of traditional parameters.

Renzulli, Koehler and Fogarty's Operation Houndstooth Intervention Theory emerged from the three-ring conception of giftedness and is a project that asserts, "that it is the interactive personality traits and environmental landscape that give rise to abilities, creativity, and task commitment" (2006, p. 17). There are six cognitive factors to Operation Houndstooth: optimism, courage, romance with a topic, sensitivity towards others, mental/physical energy, and visions of destiny (Renzulli et al., 2006). Operation Houndstooth builds social awareness; it focuses on how schools can promote positive changes in gifted students while they build social capital and learn to help others. It can be a challenge to provide young people with opportunities to apply their talents, but researchers found that social activities can also occupy and engage students (Renzulli et al.). Operation Houndstooth Intervention theory has six approaches that may contribute to positive growth. The Rally-Round-the-Flag-Approach includes positive visual aids and declarations that promote the desired behaviors in students. The Gold Star Approach is a traditional approach of rewarding students with prizes and ceremonies while utilizing positive reinforcement through the use of awards and privileges (Renzulli et al., 2006).

The Teaching-and-Preaching Approach includes techniques such as "drills about desirable beliefs and behaviors that require students to repeat back slogans or answer in prescribed ways" and engages in "dialogue, discussions, and debate about character-or-value laden issues" (Renzulli et al., 2006, p. 20). The Vicarious Experience Approach involves opportunities for students to experience situations and events in a safe controlled environment. Students can be involved in dramatizations, re-enactments, or study works of literature where they place themselves in the story as a character. In this last approach students develop a relationship with the character and begin to internalize the intentions of the characters. When students come into direct contact with situations through volunteer opportunities and internships, they are participating in the fifth approach, Direct Involvement I. When students carry out actual projects that they initiate, they are engaging in Direct Involvement II. "Utilizing the values or character traits in a real-world solution to a problem helps to solidity and deepen the commitment to particular beliefs" (Renzulli et at., 2006, p. 22).

Three types of enrichment are included in the Enrichment Triad Model, which was designed to "encourage creative productivity on the part of young people by exposing them to various topics, areas of interest, and fields of study and further train them to apply advanced content process-training to self-selected areas of interest" (Renzulli & Reis, 1997, p.14). Like Operation Houndstooth, Type I enrichment exposes students to a variety of topics and experiences not covered in the general curriculum. Type II enrichment activities are constructed to cultivate thinking and feeling skills. Type II activities also provide students with the skills that they need in order to be able to work independently on their own activities. Type III activities prepare students to commit to

advancement in a self-selected area. The type of skills needed to be successful in Type III activities were practiced in Type II activities, such as using research skills and problem solving.

The Revolving Door Model was developed out of concern that only a small percentage of students, 1%-3%, were being identified for enrichment programs through the triad model (Renzulli & Reis, n.d.). This new model allows for a larger portion, 15%-20%, of the regular population to participate in enrichment experiences and move into Type III experiences (Renzulli & Reis, n.d.). In a study by Renzulli & Reis (n.d.), students from the general population that participated in the talent pool for Type I and Type II experiences "produced equally good Type III products as the traditional 'gifted' students, the top 3%-5% (Renzulli & Reis, n.d.). With this model, students are identified for the talent pool using a combination of "test scores, teacher, parent, or self-nomination, and examples of creative potential or productivity (Renzulli & Reis, n.d.).

The Revolving Door Model addresses the number of students identified, and Renzulli concluded that within the gifted population, there are two different types of giftedness: "schoolhouse giftedness" and "creative-productive giftedness" (Sternberg et. al., 2011, p. 24). Schoolhouse giftedness is typically identified by educators and is seen through high-grade averages and test scores. Creative-productive giftedness is displayed through music, art, science, and other creative avenues. Children are typically identified through schoolhouse giftedness and adults are typically known for creative-productive giftedness.

Renzulli has developed the Schoolwide Enrichment Model (SEM), which evolved out of combining the original Enrichment Triad Model and the Revolving Door

Identification Model in the 1980's (Renzulli & Reis, n.d.). Both of these models pertain to procedures for pinpointing children for services. The purposes of the SEM model are:

1. To promote higher levels of learning and creativity to a larger school population than most gifted programs serve. SEM includes a talent pool of 10%-15% of above average students (Renzulli & Reis, 1997).
2. To create a collaborative environment between gifted teachers and regular classroom teachers and regular classroom teachers and integration of programs (Renzulli & Reis, 1997).
3. To reduce negativity directed towards gifted education (Renzulli & Reis, 1997).
4. To improve enrichment for all students (Renzulli & Reis, 1997).

Identifying students to participate in SEM enrichment includes: test score nominations, teacher nominations, alternative pathways, special nominations, notification and orientation of parents, and action information nominations (Colangelo & Davis, 1991). Test score nominations not only include standardized test scores of those scoring in the top ten percent, but it includes identifying students from programs that are focused on the arts, product based assessments, and larger percentages of students that do well on standardized tests. Teacher rating scales and/or nomination forms can be used for teachers to record evidence of advanced potential; however, all teacher nominations should be given the same value and strategies can be used to address situations where teachers that over and under nominate (Colangelo & Davis, 1991). Most districts create their own plan for an alternative pathway that permits students to initially qualify for a gifted program through means other than tests and school based teacher nominations. Some of these pathways include parent nominations, self-nominations, or an authentic

assessment. Alternative pathways are typically not automatic qualifiers, but must be vetted with a committee. When a student's previous teacher nominates him/her, it is considered a special nomination. Being nominated through active information occurs when a student becomes extremely involved and focused in a specific area. This pathway does not automatically qualify students, but it lets teachers know who needs enrichment based on their level of involvement. Action Information nominations are "derived from the concept of performance-based assessments" and is "defined as the dynamic interactions that occur when a student becomes extremely interested in or excited about a particular topic area of study, issue, idea, or event that takes place in school, or the non-school environment (Renzulli & Reis, 1997, p. 71). Teachers are trained on the activities that they provide and also use Action Information Messages to inform Type III enrichment activities that students participate in (Renzulli & Reis, 1997). Once the message if filled out, the teacher determines whether or not the student has enough motivation and interest to pursue the enrichment.

Achievement Orientation Model

Self-efficacy, goal valuation, and environmental perceptions influence motivation and achievement; they also "direct a resultant behavior", which is self-regulation (Siegle, 2013). Motivation is impacted if any one of the components is low, regardless of the strength (Siegle, 2013). The components of the Achievement Orientation Model are: (a) goal valuation, (b) self-efficacy, (c) environmental perceptions, and (d) self-regulation. All of these components are intertwined and can impact each other.

Goal valuation

Students must see the value in academic tasks and consider them meaningful, otherwise, they may not complete the task. Motivation can be described as a product of a student's valuation of a task and expectation of success (Siegle, 2013). Students are likely to value a task and become motivated if they find the task useful or helpful and if they can see a benefit associated with the task. Parents and educators have to explain and show the value of tasks to students and help them see their relevance and how they can be applied in their life.

Self-efficacy

If students are not confident in themselves, they will not attempt tasks and live up to their full potential. This confidence does not just apply to present tasks, students must believe that they are able to learn new things and handle difficult tasks if they apply themselves. Self-efficacy is based on: (a) past performance; (b) observations of others; (c) convincing a person that he/she possesses certain abilities; (d) and a person's mental and emotional state (Siegel, 2013). Gifted students generally believe that they are academically able, but they often believe that their ability is static and will not develop or allow for growth in other areas.

Environmental perceptions

The students' whole environment must be taken into account – home and school. The students' perceptions of relationships with parents, peers, and teachers are impactful. The level of support that students receive and the actions or events that take place within each environment can also have an impact. If the student has a negative perception about his or her environment, he or she must be able to either change the environment or learn

the skills to manage the environment. Students must feel that they are valued and that their work is valued; students will put forth more effort if they believe that they can be successful and that they are in a secure environment.

Self-regulation

Self-regulation is a product of self-efficacy, goal valuation, and environmental perceptions. If any one of these three areas is low, students may underachieve and not be engaged in academic tasks; likewise, if these three areas are positive, students may be able to self regulate and actively engage in tasks. Students that are low in self-regulation may know what they want to accomplish, but have trouble acquiring it because they cannot manage their time, take academic risks, or avoid certain tasks.

Motivation

Motivation is why people act and think the way that they do. Based on Bernard Weiner's original work of developing a motivation model of attributions, four components are important when understanding behaviors related to achievement: ability, effort, task difficulty, and luck (Weiner, 1974; Petri, 1996). Success and failures are attributed to one or more of these behaviors when people engage in academic tasks. Ability and effort are internal traits, but, task difficulty and luck are external and situational factors. If one seems to have no control over the outcome, it is considered to be luck. Task difficulty and ability are based on the percentage of people that can complete a task or the performance of others (Petri, 1996).

"A lack of motivation to excel is considered one of the critical issues in understanding underachievement among the gifted" (Chan, 1996, p. 184). High achievers initiate academic activities and are not afraid of failure whereas low achievers avoid

academic tasks and quit when they perceive themselves to be failing. While ability is stable, effort is a variable that can change from moment to moment. “Ability attributions have an internal locus, are stable, but uncontrollable, whereas effort attributions have an internal locus and are changeable and controllable” (Chan, 1996, p. 185). A student’s motivation is a key factor in academic achievement and can be an internal locus when students have the drive within themselves.

Carol Dweck has studied the attributions that people make after different experiences (successful vs. unsuccessful and positive vs. negative) (Dweck, 1975). In a 1978 study, Diener and Dweck examined how children identified as helpless and mastery-oriented children perceived unsuccessful and successful experiences (Diener & Dweck, 1978). Helpless children did not find the successful experience to be as rewarding while the mastery oriented children rated their success high (Petri, 1996). After the unsuccessful experience, the helpless oriented children attributed their failure to factors out of their control while the mastery oriented students did not see themselves as failing.

Dweck believes that students with a growth mindset believe that they can develop intelligence, want to learn, and can identify their weaknesses so that they can build upon them (Dweck, 2010). A growth mindset refers to intellectual growth. Educators can help foster the growth mindset by praising students for how they learn. Students must also understand that a deeper learning is more important than learning things quickly; teachers should also emphasize effort, the strategies students’ use, the occurrence of persistence and the students’ learning process (Dweck, 1975). Students with a growth mindset seek learning goals, whereas those with a fixed mindset seek performance goals (Petri, 1996).

According to Petri (1996), the difference is that learning goals pertain to "increasing one's competence" and performance goals are "defined as the gaining of favorable judgments of performance" people who view their intelligence as fixed just want to improve their ability while people with a growth mindset want to "adopt learning goals as a way of further developing that intelligence" (p. 308). Dweck's research is also important as one considers the attribution process as it relates to effort. Helpless children also see effort as a "lack of ability" and mastery-oriented children "view effort as one strategy for demonstrating their competence" (Petri, p. 308)

Gifted Underachievement

There is much concern about the underachievement of gifted students. In 1983, *A Nation at Risk* reported that approximately 20% of the students that dropped out of school were gifted students (Ford, 2011). The nation's brightest students were not meeting their academic potential based on their ability, as measured by IQ scores and achievement tests. In a 2013 study, it was found that "the U.S. is relying on much less than half of its talent" and very few students are truly performing at advanced levels (Plucker, Hardesty, & Burroughs, 2013, p.29). There is "no problem more perplexing or frustrating than the situation in which a bright child cannot or will not perform at an academic level commensurate with his or her intellectual ability" (Emerick, 1992, p. 140). Because of underperformance, gifted underachievers miss advanced educational opportunities, and personal development and society often does not benefit from their intelligence.

As with giftedness, there is not a universally accepted definition of underachievement. The most commonly used definition is the "discrepancy between potential and actual performance" (Reis & McCoach, 2000, p. 156). Some authors view

"underachievement as a failure to develop or utilize latent potential without reference to other external criteria"; these researchers do not measure potential (Reis & McCoach, 2000, p. 157). Standardized test scores and classroom performance are generally the most common forms of measurement because they are common and more accessible in schools; however, underachievement cannot be based on only one measure (Reis & McCoach, 2000). Gifted students who are unmotivated are often categorized as underachieving or underperforming; "the problem of gifted students who lack motivation to participate in school or to strive to excel academically is, in most cases, a product of a mismatch between the child's motivational characteristics and the opportunities provided in the classroom" (Reis & McCoach, 2000, p. 156).

It is difficult to identify gifted underachievers according to specified criteria because they may have low class grades but high-standardized test scores and vice versa. If the most common definition of underachievement is the discrepancy between ability and achievement, the criteria for identifying underachievers should include means for identifying academic discrepancies such as: performing below grade level in one or more subjects; only performing at grade level in one or more subjects; and declining achievement scores over a period of time that show a pattern (Colangelo & Davis, 1997; Baker, Bridger, & Evans, 1998). Although classroom grades may be subjective or inconsistent from teacher to teacher, Siegle (2013) believes that academic grades are a good reflection of student motivation and student performance in a given class.

Underachievement can be difficult to identify as well as sporadic and situational. This happens when students are experiencing a momentary crisis, emotional or personal problems, family problems, or continuous stress, which can be easily diagnosed (Dyrda,

2009). However, this type of situational underachievement often evolves into chronic underachievement. Emerick (1992) has identified six factors that help reverse underachievement in gifted students. The factors identified are: “out of school interests/activities”; “parents”; “the class”; “goals associated with grades”; “the teacher”; and “self” (Emerick,1992, p. 142-143). Out of school experiences help students see connections between school experiences and their personal experiences. Students also see their activities as an outlet from school and an interest that increases self worth (Emerick, 1992). Parents can also have a positive effect on student performance because of the support and motivation they offer students and parents often place academic responsibility back on the student. The classes that gifted students take as well as the goals they set, make a difference. Gifted students need challenging experiences, independence in choosing and completing tasks, opportunities for discussions, and have relevant, realistic learning opportunities as well as short term and long-term goals (Emerick, 1992). The impact of a compassionate, understanding teacher with engaging lessons and realistic expectations cannot be underestimated (Emerick, 1992). The concept of self is also considered important. Students can build their confidence by experiencing “small successes”, making learning personal, and by becoming reflective (Emerick, p. 144). Reversing underachievement is not easy but takes determination and understanding from all those connected to the gifted underachievers. Progress will not happen at once and different factors have to be considered depending on the nature of the student. Students may underachieve for one reason or for several reasons; therefore, educators and parents need to be patient and pay attention to the students’ academic, social, emotional,

and psychological needs to determine when signs of underachievement become prevalent.

Dowdall and Colangelo (1982) consider measurement errors a cause of under-achievement because the assessments or methods used to determine achievement are not reliable or valid. Underachievement is typically identified using standardized measures, teacher perceptions, parent perceptions, and student self-perceptions – many of the same factors Emerick (1992) listed that will reverse underachievement. This paradox is part of what puzzles many people about gifted education and gifted underachievement. Standardized assessments became the focus with No Child Left Behind legislation in 2001. One byproduct of this legislation is that every 3rd through 8th grade public school student has to take standardized tests; high school students take local exams, state mandated tests and standardized tests (Ford, 2011).

Reversing Underachievement

Psychologist Sylvia Rimm developed the Trifocal Model to reverse underachievement in gifted students with a focus on the student, home, and school. Rimm believes that behaviors impacting underachievement are learned, therefore they can be unlearned (Siegle, 2013). The six steps of the Trifocal Model are:

- Assessment of Skills, Abilities, Reinforcement Contingencies, and types of Underachievement
- Communication
- Changing the Expectations of Important Others
- Role Model Identification
- Connecting skill Deficiencies

- Modifications of Reinforcements at Home and School (Rimm, 2008, p.3)

The first step, an assessment is done to determine students' ability, learning needs, and reasons behind underachievement. This information is shared with parents and teachers so that they will have a better understanding of the students' abilities and needs. Out of this communication, goals are set and both the school and home environment may have to be modified to support the gifted underachiever; frequent communication between school and home is encouraged. Students must also have a feeling of self worth. This comes from having realistic expectations and encouragement and flexibility from educators and parents. If these students begin to feel successful, their feeling of self-efficacy increases.

Step number three, positive role models and mentors are important in the lives of all students; a mentor can influence the creative and educational outlook of students (Torrance, 1984). According to Rimm (2008, p.5), "children can learn appropriate behaviors more easily if they have effective models to imitate". A role model can be a family member, teacher, or older peer. The "purpose of the role model is to expose the student to someone who demonstrates that effort and hard work produce positive outcomes" (Siegle, 2013, p. 69). Students learn positive work ethics, gain advice, and can be motivated by mentors. Mentors should understand their obligation to their students because they must not be flighty or inconsistent. The role of the mentor is to help someone develop their vision and reach a major life goal or accomplishment, while offering support and an appropriate level of challenge (Siegle & McCoach, 2005).

Persistent underachievement can cause students to have academic deficits and the reversal process will depend on how long the underachievement has occurred. Siegle

(2013) writes that the best way to overcome these deficits is by one-to-one mentoring; it does not take long for a gifted student to make progress in this type of environment. Modifying what is done at home and school to reinforce positive behaviors should stress the importance of school and academic achievement. Students suffer from underachievement for a number of reasons and it takes commitment and compassion from educators and parents to help them turn things around. Gifted students need a relationship that will not only motivate them, but also challenge them; mentors can also offer content specific knowledge that traditional teachers often cannot (Siegle & McCoach, 2005). Students that are advanced may have interests outside of those of his/her peers and/or interests that go beyond traditional schools; mentoring is an opportunity for gifted students to meet with another person who may have the same interests (Siegle & McCoach). Parents and educators should not underestimate the power of a mentor. The purpose of the relationship between mentor and mentee "is to support the young person's dream and to facilitate its realization" (Colangelo & Davis, 1997, p. 220). A mentor must be able to assume many intertwining roles. According to Colangelo and Davis (1997), these roles are defined as follows:

- Teacher – promote academic acceleration, and provides feedback and guidance
- Expert – share expert knowledge in an area and generate opportunities for the student
- Guide – allow for the student to explore options, but understand and know what path the student should take
- Advisor – help with decision making, confront and correct inappropriate behavior
- Friend – emotionally supportive and trustworthy

- Role Model – the mentor becomes a symbol and someone that has desired characteristics

Through mentorships, gifted students can receive individualized feedback, learn at an accelerated rate, receive training and knowledge related to specific jobs or fields of work, and gain a deeper understanding of content.

The School Attitude Assessment Survey-Revised

The School Attitude Assessment Survey-Revised (SAAS-R) was developed by McCoach and Siegle to uncover issues surrounding underachievement. While the instrument is not used in this research, interview questions are based off of the constructs in the survey. The instrument was designed to measure the following psychological factors associated with underachievement: goal valuation, self-efficacy, environmental perceptions and self-regulation (McCoach & Siegle, 2003). Academic self-perceptions relates to confidence and the willingness to participate in activities, which also encompasses self worth. Students' environmental perceptions refer to the structures in schools, teachers, and students' interest in school.

Motivation and self-regulation are key factors in academic achievement. These factors include components such as "metacognitive strategies, self-management and control of effort" (McCoach & Siegle, 2003, p. 146); in other words, motivation relates to ones thoughts and actions about obtaining a goal. If a goal or task is valued, then the student expends effort in approaching the task and there is more engagement. Goal valuation stands on the premise that if a task is valued, a person is more likely to be engaged and put forth more effort to complete the task. In a 2003 validity study, McCoach and Siegle (p. 147) used a sample size of 176 gifted high school participants to

determine whether or not the SAAS-R could distinguish between academically "able and "unable" underachievers. The researchers found that the scores demonstrated construct validity, criterion related validity, and internal reliability as well as having factors differentiate between gifted underachievers and gifted achievers; these scores allow for more accurate research that can be used to help make generalizations. Construct validity determines the degree to which a test measures what it should be measuring, while criterion related validity refers to how accurate the test can predict outcomes. Internal reliability determines whether or not the test items measure the same general items. The SAAS-R helps researchers, educators, parents, and students understand more about achievement because this test focuses on the predictors of academic achievement.

Twice-exceptional Students

The rights of students with disabilities to a free and appropriate public education (FAPE) became law in 1975 and was renamed the Individuals with Disabilities Act (IDEA) in 1990; however, it wasn't until 2004 that gifted students were recognized and included in the reauthorization (Nicpon, Assouline, & Colangelo, 2013). Twice-exceptional students can be defined as those that "possess an outstanding gift or talent and are capable of high performance, but who also have a learning disability that makes some aspect of academic achievement difficult" (Brody & Mills, 1997). Brody and Mills outlined three groups of students with dual exceptionality that is unrecognized. The first group includes students who are identified as gifted but struggle academically in school. These students are often considered underachievers unless their deficits become so prominent that someone speculates a disability. The second group of students is those who have been identified with a learning disability but not as gifted. These students

typically do not pass the assessment measures to qualify for gifted programs and their giftedness is typically unrecognized in the regular classroom. The third group of unrecognized students is those that do not receive any services because they have average academic performance. Students in this category never reach their full potential. There are approximately 300,000 twice-exceptional children in the United States (Nicpon, Allmon, Sieck, & Stinson, 2011).

A student's giftedness and learning disability can be in related areas or in separate academic areas. If gifted students with disabilities are to be identified as gifted; the "cutoff scores on whatever measures are used may have to be adjusted downward to accommodate the depressing effect of their learning disability" and those that do not meet the cutoff should be recognized for "the extraordinary nature of their ability" (Brody & Mills, 1997, p. 285). In order to determine a disability, educators must look at more than one measure to determine a discrepancy between aptitude and achievement because there could be many causes for a discrepancy; educators can use individual intelligence tests, such as the WISC, auditory tests, achievement battery tests, and observations (Brody & Mills, 1997, p. 285). Trail (2011) also agreed that there should be flexibility in how twice-exceptional students are identified for both giftedness and learning disabilities because a learning disability may impact the students' performance on intelligence tests (Trail, 2011).

The Other Side of Giftedness

Gifted students at the higher end of the academic spectrum typically experience social, emotional, and academic problems in school. These students feel different, isolated, frustrated and often get upset by the unreasonableness and duplicity in the world

(Davis, 2006). Hollingworth observed gifted students with exceptionally high IQ's, above 180, on the Stanford-Binet (Plucker & Callahan, 2008). In the study, she found that these children had two major adjustment problems. First, students were often bored and idle in school and did not develop good work habits. Another problem is that these students can be socially awkward and isolated because they do not share the same interests as peers or use the same vocabulary. The children observed for Hollingworth's study were rarely selected as leaders by their peers because of the lack of relationships formed by the highly gifted students. Young students with an IQ of over 180 do not always have high emotionally intelligence; these students can experience difficulties, because while they can intellectually understand complex ideas, they still have the emotional capacity of their chronological age. Highly gifted children need support in dealing with frustrations while at the same time the and also need specialized instruction to meet their academic needs.

Approximately 75% of the highly gifted population is introverted (Plucker & Callahan, 2008). These students are more likely to be intrinsically motivated and they prefer to work independently. Highly gifted students also tend to prefer to become friends with peers of their same ability or older peers. Hollingworth classified children with an IQ range of 125-155 as having socially optimal intelligence; these students were well adjusted and accepted by age peers not identified as being gifted (Plucker & Callahan, 2008). Children with IQ's above 160 had a harder time finding non-identified age peers that shared their interests. Motivation is key with students on the higher end of the spectrum because they need to see value in what they are doing and the goals set in order to find value in tasks and complete them; they will not always respond to the

environment because of social cues and the lack of peers performing at their ability; therefore, the environment is considered less of an influence.

North Carolina Legislation and Practices

North Carolina AIG Legislation

North Carolina is one of 22 states having legislation regarding gifted education. The original NC legislation was developed in 1961 and the 1996 revision, Article 9B, offers a state definition of gifted students and requires local districts to develop a three-year plan for gifted education. North Carolina's gifted students are categorized as Academically or Intellectually Gifted (AIG) students and are housed under the Exceptional Children's' Division of the Department of Public Instruction. Although state legislation mandates that gifted students be served, each individual district determines how to identify and serve its population; program standards were developed in 2009 to guide local districts. Gifted students in North Carolina are defined as students that perform or show the potential to perform at significantly high levels of accomplishment when compared with those of the same age, experiences or environment (Academically and Intellectually Gifted, 2013). Academically or intellectually gifted students exhibit high performance capability in intellectual areas, specific academic fields, or in both the intellectual areas and specific academic fields. Academically or intellectually gifted students require differentiated educational services beyond those ordinarily provided by the regular educational program. Remarkable abilities can be present in students from all cultural and socio-economic groups, and in all aspects of human life (Academically and Intellectually Gifted, 2013). North Carolina has six AIG Program Standards:

- Standard I

    - The AIG program will have equitable, comprehensive, and clear identification procedures; this includes using multiple criteria for identification to ensure that all populations are represented.
- Standard II
    - The AIG curriculum will be relevant, challenging, and meets the various needs of a diverse group of students.
- Standard III
    - Highly qualified teachers will be employed and receive ongoing relevant professional development that meets the needs of gifted students.
- Standard IV
    - The district will provide K-12 support and programs for the school community.
- Standard V
    - The district engages all stakeholders in the planning and implementation phases of the AIG program
- Standard VI
    - Local districts implement, monitor, and evaluate their local AIG program for effectiveness.

Curriculum and Instruction

Once students are identified as being gifted, schools and districts must determine how to serve them. Educational leaders have to be aware of these differences when receiving and trying to transition students from other districts because not all students are being served in the same way. Some school districts have enrichment programs that

involve the entire school and others have specialized programs for only the identified gifted population. One district in NC that is not involved in this study, uses interdisciplinary units, while another district offers its gifted students a choice of either attending a magnet school or staying at their home school where the general classroom teacher and gifted teacher work collaboratively to adjust the curriculum to meet the needs of students.

Type I, Type II, and Type III enrichment of The Enrichment Triad Model is also the basis of Renzulli's Schoolwide Enrichment Model. Type I enrichment is an exploratory process for students to be exposed to things that they are not normally exposed to in the regular curriculum. All students at the school are given the opportunity to participate in Type 1 activities, and the schoolwide enrichment team makes decisions regarding the enrichment programs. Type II enrichment is centered on classroom instructional methods, processes, and skills that will prepare students for Type III, the highest level of enrichment. A continuum is developed with the skills for the objectives ranging in level of difficulty for the different types of enrichment. Type III enrichment depends on the students' interests and is self selected. Students engage in "enrichment as investigative activities and artistic productions in which the learner assumes the role of a first-hand inquirer thinking, feeling, and acting like a practicing professional" (Colangelo & Davis, 1991, p. 131). Type I, Type II and Type III enrichment was established to meet the varying needs of gifted students in different settings. This is one way that schools can adapt their curriculum and instruction for gifted students.

Curriculum compacting is another way to adapt the curriculum for gifted students, by restructuring work that may be mastered at a pace matching the students' ability

(Colangelo & Davis, 1991). Assessments can be given to determine whether or not students have mastered the material. If students show mastery, teachers should provide more challenging work. Students can have their curriculum compacted during the time they normally have that subject area. School districts should have guidelines on how to compact the curriculum for subjects. Classroom teachers must be trained and know which specific learning objectives will be used. Students must find tasks valuable and teachers must be prepared to deliver a relevant curriculum to students for them to engage. If teachers are not trained to meet the needs of gifted students, the students will not achieve at high levels or reach their potential

District Practices

In the North Carolina school district used for this study, students are screened for the AIG program in the spring for grades 4-8 in the areas of reading and math. Teachers, parents, and other individuals can request for a student to be screened in the spring. If a student transfers from another district, he/she can participate in an ongoing screening process at his/her new school. Students in kindergarten, 1st grade, and 2nd grade are screened at the end of the year for grade or subject acceleration. Third and 6th grade students are administered the InView test, which measures students' cognitive abilities in the areas of verbal reasoning, sequencing, analogies, and quantitative reasoning. This test provides normative data for schools on a Cognitive Skills Index; the data is on a national percentile by grade level. Appendix A shows the various screening components. The first pathway that allows for students to qualify requires students to score within the 98th percentile on an approved test; for this district, these are EOG tests. The second pathway requires students to meet three out of four criteria listed in Appendix A. This pathway

still requires students to score at a certain percentile on tests and/or have either an A average or gifted rating scale percentile at 90% or above. This local district also offers alternative pathway placement. For this process, students must still meet three out of the four criteria listed in Appendix A; however, there are alternative assessments that can be used to qualify students.

Students can also be admitted to kindergarten early according to legislation passed by the General Assembly. In Appendix B, the district participating in this study has outlined the methods used for early kindergarten placement. The district has also designed a Global Kids Program to nurture academic the potential in students; this is usually done in 3rd grade before students are identified for the fall of their 4th grade year. This program allows for 3rd grade students that are not identified, to interact with the gifted education teacher in a classroom setting to work on enrichment activities.

Elementary AIG students are homogenously grouped into reading and math classes; elementary and middle school teachers are required to have AIG licensure, however, middle school math teachers are not. In 9th through 12th grade, all students are offered advanced and AP/IB courses if they meet the course prerequisites and have a teacher recommendation. Gifted high schools students are also offered dual enrollment where they can attend high school and enroll in classes for college credit, and can be considered as early high school graduation candidates. Previous EOG and InView scores do not necessarily determine giftedness in high school, but an emphasis is placed on a student's current performance in high school and level of motivation.

Reading

Reading is one of the most important subjects in school because the skills used in reading impact all other subjects. Rimm (1995, p. 238) refers to reading as "a first priority subject for comfortable learning in the classroom". Reading can be a difficult task because it is a complex cognitive process. When this process is difficult for students and they do not receive academic support, they can start to underperform and struggle academically. It is important for teachers to know how to engage students, adapt the curriculum, and create a supportive environment. Engaging students in a reading program that is challenging, includes higher order thinking skills, and includes self-selected reading, can serve as an effective model (Reis, 2016). Developing effective reading skills also helps students develop creativity, improve writing, and helps students discover new interests. Developing individualized reading programs can also help students that are achieving, because to avoid "boredom and disenchantment", reading instruction must be individualized for students so that they can achieve a "maximum level of learning ability" (Cushenbery, 1987, p. 39). Learning to read is a life-long process and students learn the foundation in their primary years – in elementary school. The topic of underperforming gifted elementary students in the area of reading is important because students have begun to establish their foundational reading skills and if they begin to underperform in elementary school and not learn the higher cognitive skills needed to perform at their full potential, they may continue to underperform in secondary school and risk not achieving at their fullest potential or achieve their goals. Understanding potential causes of underachievement could help parents and educators plan and implement interventions and reverse underachievement.

Conclusion

Giftedness has been a concern at different points in American history. While the focus continually shifts from underachieving students to gifted students, and vice versa, educators, parents, and policy makers must remember that there is a group of students that fall into both categories. To help these students, there must first be ways to identify gifted students, such as through IQ testing and multiple measures as mentioned in the research. Underachievement can also be reversed; therefore, why would one not try to identify gifted students that are underperforming.

Once the characteristics of students are identified and underachieving students are targeted, educators can then begin to reverse underachievement. Students that do not perform well on academic tasks do not have positive self-efficacy and are not academically motivated at school. Low achieving students would also perceive their environment differently; they typically believe that luck plays a major role in their success and failures.

This body of research will attempt to add to the research on gifted underachievement, as it relates to the Achievement Orientation Model. In this research project, the academic underperformance of 4th and 5th grade students, identified as being gifted in the area of reading, will be analyzed. Convenience sampling will be used for this study. The participants must all be identified as AIG reading students on a traditional school calendar, not year-round school calendar. The school district is divided into nine school clusters. One school cluster will be selected for this study.

CHAPTER 3: METHODS

Following the principle of The Achievement Orientation Model, this study sought to discover and understand underperformance in gifted elementary students, in the area of reading by gathering data on the constructs surrounding underachievement (self regulation, goal valuation, self efficacy, environmental perceptions).

This is a non-experimental mixed methods study, as it did not involve manipulation of the participants or their environment. This study used a concurrent approach to data collection and analyses to help confirm or cross-validate results from each method. Quantifiable data was collected from the district level data manager and a qualitative inquiry was used for interviews. Any reoccurring or emerging themes were detected through the interviews.

The following research questions were examined:

1. What is the perception of gifted educators, principals, and an AIG director about elementary gifted students who underachieve in the area of reading?
2. What is the prevalence of underachievement for students who are gifted in the area of reading in elementary school? Specifically, the following sub-questions

will be examined:

a) Are there students who qualify for the gifted reading class, who choose not to participate?
b) Are there students who are enrolled in gifted reading classes that are underachievers?

Setting and Participant Characteristics

North Carolina serves over 170,000 AIG students, 12% of the total student population (AIG Child Count, 2011). Since 1996, North Carolina has mandated that each local district formulate a three-year AIG plan guided by state program standards. The setting for this study was a public school district in North Carolina with a population of approximately 40,000 K-12 students; AIG students comprised 17% of the population. This participating district was in a rural county in North Carolina. The school district's ethnic diversity was approximately 65% Caucasian, 13% African American, and 15% Hispanic. The district had approximately a 33% free and reduced lunch population rate. All elementary schools follow district and state guidelines for identifying, classifying, and teaching AIG students.

The elementary schools in this district used homogeneous ability grouping for reading and followed their local AIG plan based on North Carolina guidelines and AIG standards. Local districts must abide by North Carolina legislation, which mandated that AIG students be identified and served. The six AIG program standards are referred to in Chapter 1 (p 13). In this district, students can be placed into the AIG program by meeting the criteria for any one of the three pathways (see Table 2). Pathway one only requires students to reach 98th percentile on an approved IQ test, while Pathway two requires

students to meet three out of the four listed criterion: 93rd percentile on an IQ test, 90th percentile on an aptitude test, at least one year above grade level in reading or math, and an "A" average academic grade in reading or math or a 90th percentile on two gifted rating scales. Pathway three is considered an alternate pathway because it may be used for students with cultural or language barriers. Students must still meet three of the four criteria: a 93rd percentile on an approved test, a 90th percentile in qualifying areas, 85th percentile on an approved test or a 90th percentile on an EOG test, reading or math in the same areas as the qualifier, or portfolio score. According to the North Carolina Department of Public Instruction, this district had over 4,000 total AIG students in all grades in the school district (AIG Child Count, 2011).

Sampling Procedures

A convenience sample of three elementary schools comprised this study, consisting of three AIG reading teachers (one per participating school), two elementary school administrators, and one AIG district director; although this study focuses on reading, the AIG teachers teach gifted students in the areas of reading and math. For research question one, six interviews were conducted. The interviews provided the researcher information regarding educator perceptions of AIG reading students in a broader spectrum. All participants were interviewed individually for approximately 30 minutes. The three participating reading AIG teachers constituted a homogeneous sample because they share the same characteristics (certified to teach AIG students, AIG reading teachers, and taught using the same content area resources).

The three participating AIG reading teachers were highly qualified and certified in a content area and had additional AIG add-on licensure. At the time of this study, add-

on licensure was only obtained through Universities that had their courses approved through the North Carolina Department of Public Instruction. To be highly qualified, teachers needed to have at least a Bachelor's degree and a NC teaching certificate. In addition, they were required to have one of the following: at least 24 hours of coursework in the content area he/she teachers in, an advanced degree, National Board certification, or a passing score on a Praxis content area test (Highly Qualified). In this district, elementary school AIG teachers utilized the same curriculum and taught both AIG reading and math classes in 4th and 5th grade. There were mandatory trainings for AIG teachers that were held district-wide and as school clusters. The participating schools were in the same cluster. School clusters within the district consist of less than five elementary schools, one middle school, and one high school within close proximity of each other, serving the same communities; elementary schools typically contain grades K-5 with selected schools district-wide having Pre-Kindergarten classes.

The teacher interview participants were also the teachers of the students' whose semester grades were analyzed for the quantitative part of this study. School One had six students in the 4th grade AIG reading program during the 2013-2014 school year; there were four female students and two male students. There were five White students and one American Indian student. During the 2014-2015 school year, eight female students and seven male students participated. Of the 15 students, 14 were White and one student was American Indian.

At School Two, there were 12 White students, one multiracial student, one American Indian student, and one Hispanic student identified during the 2013-2014 school year. Five of the students were female and the remaining 10 were males. During

the 2014-2015 school year, 29 White students, three multiracial students, two Hispanic students, and one Indian/Alaskan Native student were identified as being gifted in the area of reading. Of those 35 students, 17 were female and 18 were male.

School Three had eight White students and one Hispanic student identified during the 2013-2014 school year. There were six female students and three male students. For the 2014-2015 school year, 23 of the students were White, two of the students were multiracial, one student was Asian, and two students were Hispanic. Eighteen of the students were female and 10 were male.

This sample size represents 4th and 5th grade students at three different elementary schools in the district. There were a total of 21 AIG reading students identified for School One, 50 students for School Two, and 37 students for School Three. For the 2013-2014 school year, 4th grade gifted students' semester grades were analyzed and for the 2014-2015 school year, both 4th and 5th grade semester grades were analyzed, which allowed for two year's worth of data for a cohort of students.

Measurement

The interview questions for this study were developed based on the Achievement Orientation model and the SAAS-R. In McCoach and Siegle's 2003 study, four of the factors differentiated between gifted achievers and gifted underachievers. Goal valuation and self-regulation/motivation were statistically significant and had moderate to large effect sizes. Self-regulation and goal valuation showed the largest differences and effect sizes. The academic self-perceptions scale was not statistically significant and had a small effect size. Table 3 displays each construct and the questions associated. When creating the questions, their simplicity, transparency, and application to only one

construct were key factors in crafting the questions. The questions also needed to be universal enough for more than one participant to answer for an elementary gifted student population.

Data for this study was gathered in two different ways. First, the audio from the interviews was recorded and transcribed to gain insight on the perceptions of the three gifted educators, two elementary principals, and one AIG director. Interviews were conducted because information regarding teachers' students and their behaviors were needed; this was also an effective way to collect, analyze, and interpret data from a target group. Each participant received the same instructions and questions. The participants were told that the interview questions pertained to the gifted students that they served during the 2013-2014 and 2014-2015 school years. The interview questions were open ended so that if differences existed, participants could describe the differences between their highest achieving students and their lowest achieving students. The interview questions addressed the following domains: self-regulation, goal valuation, self-perception, and environmental perceptions.

Table 3: Interview questions

Questions	Domain
1. Do you feel as though all of your students are achieving at their fullest potential?	Self Regulation
a. Why or why not?	
2. Does the attendance rate differ for your lowest achieving students and your highest achieving students?	Self Regulation
a. If so, how?	
3. What factors do you feel could raise the academic performance of your lowest achieving students?	Goal Valuation
a. And your highest achieving students?	
4. Do your lowest academically performing students easily take risks or are they afraid of failure?	Self Efficacy
a. And your highest achieving students?	

5. Do you have students that are dependent upon peers or parents/guardians in order to understand academic content or can they manage to learn and complete the required assignments on their own? a. If so, describe the academic performance of those students.	Environmental Perceptions

For quantitative measures, student semester grades were collected. Fourth grade students' semester grades were collected for the 2013-2014 and 2014-2015 school years and 5th grade students' semester grades were collected for the 2014-2015 school year.

Semester reading grades for each student were collected electronically in an Excel spreadsheet. Frequency charts were created and the data was analyzed to determine whether or not there were signs of underachievement based on student MOY grades. Students in 4th and 5th grade were selected for this study because students were first identified as being Academically or Intellectually Gifted at the end of their 3rd grade school year, or at the beginning or end of their 4th grade year.

Table 4: Local district grading scale

A	Excellent	93-100
B	Above Average	85-92
C	Average	77-84
D	Below Average	70-76
F	Failing	Below 70

Note. Adapted from: http://wdms.ucps.k12.nc.us/php/grading-scale.php

Research Procedures

The local school district and the Institutional Review Board at the University of North Carolina at Charlotte granted approval to the researcher before beginning this study. Procedures for Institutional Review Board (IRB) review were followed to ensure that the rights of the participants were protected. Confidentiality was maintained; there was no identifying data related to the participants, students, or local school district. The student participants were provided a unique random ID that was used for their semester grades. The data was entered into Excel for analysis. The qualitative interviews were conducted at each participant's school and the responses collected through the face-to-face interviews were stored on the researcher's personal laptop which is password protected and then were transcribed.

The AIG director, school principals, and teachers were contacted via email to set up interview times. All elementary schools included in the study used homogeneous ability grouping of AIG students for reading. Before reading the five questions on the script, the teachers were told that they were going to be asked five questions about their AIG reading students from the 2013-2014 and 2014-2015 school years. The adult participants were also told that the final results of this study would be shared with them. The interviews were conducted in different locations. Each teacher's interview was conducted in his/her classroom. The director was interviewed in the researcher's office at a local school in the same district. The administrators were interviewed at School Three because they were gathered there for a meeting; however, the administrators were interviewed separately. All interviews were conducted within the same week at the end of the 2014-2015 school year.

The data collected from the interviews were analyzed so that reoccurring themes between the interview and survey could be identified. The interview questions specifically focus on attempting to identify underperforming gifted students.

Data Collection and Analysis

Qualitative

Interviews with the participants were conducted for the qualitative part of the study. The interviews were recorded on the researcher's computer. The interviewees were given a consent form and instructions before the interview was conducted as well as a list of the research questions for the study. Interviews with open-ended questions, that lasted approximately 30 minutes each were designed to "gain direct access" to the respondents perceptions about gifted students (Baum, Schader, & Hebert, 2014). The participants were informed that there were no anticipated risks to them by responding to the questions and that no personal identifiable information would be shared.

Data analysis occurred in three phases: data management, data reduction, and interpretation. Reduction and interpretation was a continuous process throughout the collection and analysis of the data. An inductive research approach was used to allow research findings to emerge from the data; the most frequently occurring themes were reported (Thomas, 2006,). As the interviews were conducted, the researcher used member checking to confirm the researcher's interpretation of the participants' responses. The interviews were transcribed and open coding was used. Open coding occurs when the data is analyzed or read through several times and labels or codes are assigned to the data; these codes are based on what emerges from the data. For example, the participants repeatedly mentioned home environment and the school environment; therefore,

environment was used as a code. The researcher also used *in vivo* codes to best capture the teacher's voices. Strauss (1987) defined in vivo codes as, "terms used by the people who are being studied" (p.30). For example, the following quote is directly from a participant's response to question one, "I think it goes to their motivation as students to how the teacher sets up the classroom and her expectations as well as their home environment" (Personal interview, June 3, 2015). The voices of the participants were used and the researcher did not apply any codes, but allowed for them to develop from the interviews. The researcher listened to the six interviews one at a time and used memoing. Memoing occurs when reflective notes about what the researcher is learning is recorded. The interviews were reviewed four times and open coding was continued. The researcher listened to the responses to see if there were any common patterns.

Next, the responses from the six educators were compared; comparative analysis was applied by analyzing codes across participants to determine common codes. Theoretical codes were applied next and the researcher looked to see how the codes fit into the Achievement Orientation Model. The codes were then typed and charts were created to see which codes the participants had in common. The charts were checked to see if they mirrored the frequency of the codes that appeared in the data notes. The codes that occurred most frequently were used. If a code appeared within participant responses three or more times, it was considered a major code that became a finding of the study. When the theoretical codes were identified, they were applied to the Achievement Orientation Model and codes that have already been established in the research.

Trustworthiness

In qualitative research, there are four different types of trustworthiness: "credibility, transferability, dependability, and confirmability"; all four methods were used in this study (Thomas, 2006, p. 243). The researcher transcribed the interviews. Memoing was done to create dependability within this research. This includes outlining the procedures used to collect, organize, and analyze data. The researcher wrote what the interview participants said and used their words to create in vivo codes. It is recommended by Creswell (2007) that at least two methods be used to create trustworthiness.

Member checks were conducted during the interviews by restating the educators' responses and asking for the educators to confirm their responses when read aloud. Peer debriefings also occurred between the researcher and an expert in the field. These checks "involve opportunities for people with a specific interest in the evaluation . . . to comment on categories or the interpretations made" (Thomas, 2006, p. 243). Through discussions with an expert in the field, the data was concurrently examined for emergent themes and procedures were incorporated to address credibility, transferability, and dependability (Charmaz, 2006; Lincoln & Guba, 1985; Patton, 2002).

Rich and thick descriptions were used to establish transferability and confirmability. The participants' voices are heard through the direct quotes used in the presentation of results in Chapter 4. The reader can use the direct quotes to determine how the findings can be generalized and made applicable to other populations, which is the purpose of transferability, while confirmability pertains to the amount of neutrality in the research and how the study is shaped by the respondents, not the researcher's interests

(Lincoln & Guba, 1985). This being a mixed methods study, where there is both qualitative and quantitative data also supports triangulation; different types of data and methods were used to gain a deeper understanding of the research questions. There are six different educators from different schools and in different positions in the district serving as participants for this study.

Subjectivity Statement

The researcher served as the instrument used to understand the qualitative results. I am an elementary school administrator. Before becoming an elementary school administrator, I was a middle school reading teacher and middle school administrator. My interest in giftedness in elementary school reading is both professional and personal. I became interested in gifted education as I watched my younger brother underperform in middle and high school. He was identified as being gifted in elementary school, yet he showed signs of underperformance through his grades and academic work after elementary school. I also noticed that my brother developed adverse attitudes towards reading in middle school that continued in secondary school, despite his love of reading in elementary school. This discrepancy between his potential and his actual performance was puzzling. As a school administrator, I expect for my teachers to be accountable for the academic performance of their students. I also expect for educators to try to find ways to motivate students that underperform. I kept an open mind as the teachers in this study shared their perceptions of their students and did not pass judgment.

Quantitative

For the quantitative measure, student semester grades from the 2013-2014 and 2014-2015 school years were collected from each school by a data manager for the

district and emailed to the researcher. Once collected, the grades for gifted reading students were extracted so that no math data was included. The student grades for each school were analyzed. Students with a C average and below were considered underachieving.

Conclusion

This purpose of this mixed methods research study is to investigate the prevalence and beliefs about underachievement for 4th and 5th grade students who are gifted in reading in elementary school. Confidentiality was maintained throughout the study while the researcher conducted face-to-face interviews. A representative subset of gifted students in a rural North Carolina school district was used for this study, which will add to the research on underperforming gifted elementary students.

CHAPTER 4: RESULTS

This chapter describes the results of the data analysis used to examine the research questions. First, the qualitative research questions will be examined, and then results of the quantitative questions are presented. The following research questions were examined:

1. What is the perception of gifted educators, principals, and an AIG director about gifted elementary students who underachieve in the area of reading?
2. What is the prevalence of underachievement for students who are gifted in the area of reading in elementary school? (2a) Are there students who qualify for the gifted reading class who chose not to participate? (2b) Are there students who are enrolled in gifted reading classes who are underachievers?

Samples

Two samples were used to examine the research questions in this study. The qualitative part of the study included: three Caucasian female teachers, who teach gifted elementary students in the area of reading; two Caucasian elementary principals, one male and one female; and the director of the district's gifted program, who is a Caucasian female. All of the educators involved in this study have over five years of experience in education. The principals have less than three years of experience as a principal at their current schools. The AIG director has been in her current position less than three years. Before becoming the AIG director, she worked in Federal Programs Department in the participating district.

For research question two, reading grades of students' were collected to determine whether or not there was underperformance. A total of 30 students were recorded for the 2013-2014 school year and 78 students' grades were analyzed for the 2014-2015 school year; a breakdown by gender is included in Table 5. There were a total of 15 girls and 15 boys included during the 2013-2014 school year and 43 girls and 35 boys during the 2014 - 2015 school year; the semester grade data collection included a total of 56 girls and 51 boys. For the 2013-2014 school year, there were a total of 25 White students, 2 American Indian students, 2 Hispanic students, and 1 Multiracial student. During the 2014-2015 school year, there were a total of 66 White students, 1 American Indian student, 1 Asian student, 4 Hispanic students, 5 Multiracial students, and 1 Indian/Alaskan Native student. The semester grade data collection included a total of: 91 White students, 3 American Indian students, 1 Asian student, 6 Hispanic students, 6 Multiracial students, and 1 Indian/Alaskan Native student. All of the students who participated in gifted reading classes during the 2013-2014 school year participated the following year as well along with students that were identified at the end of the 2013-2014 school year and those that transferred to the school.

Table 5: Gender classification

		2013-2014		2014-2015		Total	
		Girls	Boys	Girls	Boys	Girls	Boys
School One	*N*	4	2	8	7	12	9
	%	66.67	33.33	53.33	46.67	57.14	42.86

School Two	*N*	5	10	16	19	21	29
	%	33.33	66.67	45.71	54.29	42.00	58.00
School Three	*N*	5	4	18	10	23	14
	%	55.56	44.44	64.29	35.71	62.16	37.84
All Schools	*N*	14	16	42	36	56	52
	%	46.67	53.33	53.85	46.15	51.85	48.15

Qualitative Results

Qualitative methodology was used to examine the first research question. Data were collected during interviews with key school personnel. The following results are organized by the four factors from the Achievement Orientation model that differentiated gifted achievers from gifted underachievers.

Self-regulation

The first interview question asked, "Do you feel as though all of your students are achieving at their fullest potential?" All participants reported that their AIG students were not achieving at their fullest potential. When asked why, several themes emerged and are reported in Table 6.

The student's level of motivation and environment were the most common reason given for why students are not achieving at their fullest potential. Motivation is viewed as the drive that students have to accomplish tasks. Half of the participants (Teacher 1, Teacher 3, and Principal 2) believe that motivation is the reason why their gifted students do not achieve at their fullest potential. The teacher from School One believed that "a lot

of the potential of the AIG students comes from within, they want to do well, they want to succeed, sometimes there is parent pressure", (Personal interview, June 11, 2015); therefore, it is their internal motivation to do well in school. The teacher from School Three states that students do not achieve at their highest level because "of effort on their part" and "lack of parent support at home" (Personal interview, June 8, 2015). The principal at School Three's comments encompasses both motivation and the environment, stating, "I think it goes to their motivation as students to how the teacher sets up the classroom and her expectations as well as their home environment" (Personal interview, June 3, 2015).

The environment is defined as being both the school and home setting. Within the response about the environment, the AIG director, principals, and teachers see things differently. The AIG director believes that the environment around the students changes, whether it is school or home and educators have to adjust to that target. Principal 3 refers to not only the home environment, but also the school and classroom environment, which educators have control over. The teachers from Schools One and Three view the environment as a student's home life and the role that parents play, while the teacher at School Two feels as though the curriculum is not challenging enough for students with a high cognitive ability. The teachers do not seem to view any aspect of the environment as something that they can control and make more supportive, even the curriculum. The administrators' responses involved themes that they had some control over, such as curriculum/instruction and teacher expectations. The teachers did not discuss their practices in any of the themes related to students achieving at their fullest potential; even the teacher from School Two referred to the curriculum itself, not instruction or practices

that she could control or adjust for students. The teachers did not self reflect on their methods when answering this question.

Motivation relates to self-regulation because motivation is the drive behind what pushes kids to self-regulate. Self-regulation refers to how students respond in the environment, whether it is the school environment or home environment. Both of these factors influence self-regulation, by motivation first being the factor behind actions and behaviors and the environment being where the actions and behaviors occur or do not occur.

Table 6: Self-regulation

Trait	Participant	Participant	Participant	Participant
Environment	AIG Director	Principal School Three	Principal School Three	Teacher School One
Motivation	Principal School Three	Teacher School One	Principal School Two	

The adult interview participants were specifically asked about attendance for interview question 2 because it relates to self-regulation and how students manage themselves. When asked "Does the attendance rate differ for your lowest achieving students and your highest achieving students?" all respondents except for the AIG director, stated that the attendance rate does not differ for low achieving and high achieving students. The AIG director states that generally, the "lowest achieving students often have attendance issues" and a low level of family engagement; she states that this is directly related to achievement because "you have to be at school to successfully achieve" (Personal interview, June 4, 2015). The AIG director is able to analyze data from the district level for trends and patterns that may be the cause of discrepancy in responses. When answering, the teacher at School One stated, "I have not noticed, really,

a correlation" during the 2014-2015 school year "between the attendance rate and the lowest and highest" performing students, however, "there are some students who are absent a lot but still tend to perform ok." The remaining individual teachers and administrators did not notice any attendance issues or identify patterns of poor attendance with their gifted students. The schools used in this study may not see any trends of differing attendance rates between low achieving and high achieving gifted students within their schools, but the AIG director is able to analyze AIG data from different district perspectives. Therefore, the schools within this cluster may not have any attendance concerns within their elementary gifted population, but there may be other school clusters or individual schools within the district that see a correlation between attendance and lowest performing gifted students and the highest performing students.

Goal Valuation

The third interview question was "What factors do you feel could raise the academic performance of your lowest achieving students?" The major theme that emerged is reported in Table 7.

The teachers' responses were varied. Curriculum was defined as what is taught in the classroom and instruction relates to how the teachers deliver the curriculum or instructs the students. The teacher from School Two reported that because "the AIG curriculum is very fast paced", students may struggle and not have time to fully understand a specific part of the curriculum before moving on to the next concept (Personal interview, June 9, 2015). The teacher from School Two stated that there may be issues with the eligibility criteria because "if you qualify Pathway One, your IQ is at the 98th percentile, it doesn't matter what your performance is and you're not required to

maintain a GPA" (Personal interview, June 9, 2015). This means that there may be students struggling in either regular education classes or AIG classes, but "because they have high potential, cognitive potential, they are automatically eligible" and do not have to continue to meet entrance standards (Personal interview, June 9, 2015).

The administrators and director believed that the school and teachers play an important role in raising the performance of students and listed small group instruction, slowing down the curriculum, setting high expectation, engaging parents, and providing extra time before or after school for academic support. The main factor that the administrators and director felt could raise the academic performance of their lowest achieving students was instructional time/curricular considerations. The two principals noted that classroom instruction is important in improving the academic performance of their lowest achieving students (see Table 7). One principal believed that "having extra sessions with the teacher" and "teachers really knowing what skills they are missing" are key factors in helping low achieving students (Personal interview, June 3, 2015). The AIG director also believes that teachers need to have high expectations, see students as individuals and serve them accordingly because "a lot of students need more time, whether it's extended day", "afterschool tutoring", or "small group" (Personal interview, June 4, 2015). Curriculum related decisions are often determined by state and local district policies by which teachers must operate. The district that participated in this study uses specific instructional materials and pacing guides, however, teachers are able to use their own teaching methods to deliver instruction as long as the curriculum is taught.

Table 7: Participant identification of academic performance of lowest achieving

Trait	Participant	Participant	Participant
Instruction	Principal School Three	Principal School Two	AIG Director

Themes that emerged when asked about the highest achieving students are reported in Table 8. Most participants list instructional considerations as being the most important factor in raising the achievement level in students that are already high achieving (see Table 8). Being able to "differentiate the curriculum more" may help, according to the teacher from School Three (Personal interview, June 8, 2015). The teacher from School Two stated that she would like to see "more project based activities" and the administrator from School Three stated that educators should be "giving them opportunities to think critically, working in teams and giving them more project based learning and making it more real life and applicable to what they will see in the real world" (Personal interview, June 9, 2015; Personal interview, June 3, 2015). The AIG director had varied responses, similar to those for the previous interview question, and believed that there must be "high expectations" and "rigor" (personal interview, June 4, 2015).

For this question, curriculum is again viewed as what is taught to students and instruction relates to how the information is taught. Curriculum and instruction is directly related to goal valuation because in order for students to achieve at their fullest potential, they must value the academic goals, which are developed, based on the curriculum. If the curriculum is relevant and presented to students in an engaging way, they will be more likely to develop goals and achieve the academic goals set.

Table 8: Participant identification of academic performance of highest achieving

Trait	Participant	Participant	Participant	Participant
Curriculum/Instruction	Principal School Three	Principal School Two	Teacher School Three	AIG Director

Self-efficacy

Interview question four asked interviewees, "Do your lowest academically performing students easily take risks or are they afraid of failure?" The respondents had very different viewpoints and there were no responses that three or more participants agreed upon. The principal from School Two states that the students are "usually afraid of failure and they're usually like a perfectionist and don't want to be wrong" (Personal interview, June 3, 2015). This principal's viewpoint is contrary to what the teacher from School Two sees in her classroom: "My perception is not fear of failure, it's an apathy, a lack of concern" (Personal interview, June 9, 2015). One teacher stated that the lowest performing elementary AIG students do take risks and "that's why they are low performing, they are arrogant and it comes easy to them"; this may be reinforced because of the lack of consequences for their behavior or apathy (Personal interview, June 8, 2015). The AIG director believed that "it really comes down to the climate and community of the classroom" and one teacher believed that students take risks based on whether or not the climate and classroom community are supportive as well as the self-perception of the individual students (Personal interview, June 4, 2015). The teacher from School One thought that risk taking behavior was more dependent on the make up of the individual student because she saw "some of the low performing students who are ready to do anything, they take risks," but there are also "high achieving students that are afraid

of failure because they don't want to make the low grades" (Personal interview, June 11, 2015).

Two participants, the principals, believe that the lowest performing elementary AIG students are afraid to take risks because they are afraid of failure and of being perfectionists; the classroom teachers did not note this type of behavior from their students. The AIG director and the Principal from School 3 also agreed that perfectionism plays a role in whether or not the lowest academically performing students take risks.

When asked about their highest achieving students taking risks, several themes emerged and the responses were again varied. The highest and lowest achieving students both have a perfectionist mentality in common, based on adult participant responses. Teacher Two sees "lots of perfectionism" with the highest achievers. AIG students "do feel the pressure" and they think "I might not succeed on it" according to the teacher from School Three (Personal interview, June 8, 2015). The administrators and director perceived risk taking among the highest achieving students differently. The principal and teacher at School Three both agreed on two traits, students being afraid of failure and students not wanting to be wrong.

Environmental Perceptions

Interview question five asked respondents, "Do you have students that are dependent upon peers or parents/guardians in order to understand academic content or can they manage to learn and complete the required assignments on their own?" Themes are reported in Table 9. The interview participants have varied responses about whether or not their gifted students are academically dependent upon others. The administrator at

School Two expressed that her students do not ask for help and "attempt to do the work on their own" because "they don't want it to be seen as a sign of weakness" (Personal interview, June 3, 2015). The teacher and administrator at School Three agree that their students are receiving support; there is also agreement that the students are not necessarily receiving help because of the lack of ability or for understanding content. At times it may be that students understand the content, but receive help for other reasons; one teacher states that she has difficulty determining whether or not the students truly don't understand or if they were not attentive during the lesson. Both administrators and two of the teachers agree that the students attempt assignments on their own; however, both interview participants from School Three as well as the teacher from School One also agree that their students are dependent on others.

The majority of the interview participants also agree that students attempt assignment independently (see Table 9). One school administrator and two teachers believe that students have the ability to complete tasks on their own. The administrator of School Three stated "some rely on their parents, I don't know that it's necessarily to understand the content, I think it goes back to the previous question where they don't want to be wrong and they are perfectionists, so they go and talk to their parents or ask questions to just get that reassurance" (Personal interview, June 3, 2015). Another teacher stated that the students are not "dependent for understanding" but "a great many of them are dependent on parents for organizational skills" (Personal interview, June 9, 2015). The role of the parent is also important because "some of them just go to that parent or guardian for reassurance and I think that I have a lot of parents that want to make sure that they are correct", as stated by one teacher (Personal interview, June 11, 2015).

Whether or not students attempt tasks on their own relates to the environment because if students are comfortable and feel supported in the environment, they will attempt tasks. The environment is what surrounds students and they use all of their senses to determine how they will respond. For students to attempt tasks on their own, they need to feel that they are able to be successful in the environment.

Table 9: Participant perspective of student dependency

Trait	Participant	Participant	Participant	Participant
Students Attempt on their Own	Principal School Two	Teacher School One	Principal School Three	Teacher School Two
Dependent on parents and/or peers	Principal School Three	Teacher School One	Teacher School Three	

When asked about the academic performance of those students, the principal from School Three felt as through "the ones who can manage and complete it on their own perform better" (Personal interview, June 3, 2015). The three teachers believe that performance varies; some students struggle to grasp the material even with help and some understand the content more after receiving help from parents or peers. "The ones who need help, they're kind of middle of the road" stated the teacher from School Two and the teacher from School Three stated that "some of those who do need help at home" or ask the teacher, "pick it up quickly", while some that receive help at home still do not grasp the material (Personal interview, June 9, 2015; Personal interview, June 8, 2015). The administrators' responses are different from the teachers' responses. The principal of School Three agrees with the AIG director that the level of support given to students' impacts their performance. The teachers from Schools Two and Three both see students struggle even with additional support.

The AIG director believed that we have created a culture of collaboration in schools where students are expected to collaborate with peers; this collaboration often evolves into a dependency at school and home. The director also expresses that teachers need to know when to offer support and when to release students to independent learning. The teacher from School Two agrees that, at times, students just need support, "they're not struggling performance wise, . . . they just need help" (Personal interview, June 9, 2015). When describing the academic performance of these students, the AIG director states that the level of support impacts student performance; therefore, when students don't take risks and don't feel safe, it impacts their academic performance (Personal interview, June 4, 2015).

Summary of Research Question One

According to the Achievement Orientation model, the factors that may motivate students are: goal/task valuation, self-efficacy, environmental perception, self-regulation, and the potential to achieve. This model focuses on how a person understands and responds to tasks, becoming academically engaged. The participants' responses are based on their first-hand knowledge of working with gifted students who have the potential to achieve based on their placement in the AIG reading program. Overall, the educators that participated in this study perceived that some of their students were underperforming. All participants believed that there were gifted students in their school who underachieve for various reasons. According to participants' interview responses, their students exhibit characteristics of underachievers. Questions were asked pertaining to each factor (self-regulation, goal valuation, self-efficacy, and environmental perceptions) of the

Achievement Orientation Model. The participant responses gave insight into the performance of underachieving gifted students.

The AIG director's responses as well as the administrators' responses were consistent for many questions, while the teachers' responses often differed and surrounded areas that focused on student behaviors.

Quantitative Results

An analysis of the semester grades of gifted elementary students was conducted. Based on student grades, underperformance was detected during the 2013-2014 and 2014-2015 school year. Each school had one or more students earn a C average during the time frame that data was collected.

Research Question

Quantitative methodology was used to examine research question two. The first interview question was, "Are there students who qualify for the gifted reading class, who chose not to participate?" All of the students that participated in gifted reading classes during the 2013-2014 school year also participated during the 2014-2015 school year; there were a total of 108 students. One student transferred from one school in this cluster to another school within the cluster, and remained in the program. New students qualified each year and some gifted students were transient and moved from one school to another based on where they lived during the school year. There was an increase of identified gifted reading students during the 2014-2015 school year that can be attributed to normal growth and redistricting. Through the redistricting process, students were shifted from one school to another as a means to relieve overcrowding at various schools in the district.

To examine if students who enrolled in gifted reading classes were underachievers, a frequency analysis of students' grades was examined (recall that grades below B suggest that the student is underachieving). The Achievement Level Frequency Table (see Table 10) was created to determine the how many gifted reading students scored at the various grade point averages at each school during the 2013-2014 and 2014-2015 school years.

School One had six gifted students in the area of reading, in 4th grade, during the 2013-2014 school year and 15 gifted reading students in 4th and 5th grade during the 2014-2015 school year. Three students from School One earned A's and three students earned B's during the 2013-2014 school year.

During the 2014-2015 school year, there were nine students that made A's, five B's, and one student earned a C at School One. There were two additional students during the 2014-2015 school year because one student was newly identified and another student transferred from within the cluster.

School Two had 15 gifted reading students enrolled during the 2013-2014 school year; there were nine A's, five B's, and one C. School Two had the largest number of identified gifted students in the area of reading for both the 2013-2014 school year and 2014-2015 school year. There was the one student with a C average for one semester. Thirty students earned A's and five students earned B's during the 2014-2015 school year.

School Three had nine gifted reading students enrolled for the 2013-2014 school year and 28 students for the 2013-2014 school year; redistricting for the 2014-2015 school year also impacted this school. During the 2013-2014 school year, seven students

earned semester grades of B's and two students earned semester grades of C's. School Three was the only school that did not have any students earn an A average for one semester during the 2013-2014 school year. There were seven A's, 17 B's, and four C's recorded for the 2014-2015 school year. Across all schools and years, most students earned A's (54%) or B's (39%) and approximately 7% of the students earned C's.

Table 10: Achievement level frequency

	2013-2014			2014-2015		
Scale	School One	School Two	School Three	School One	School Two	School Three
A	3	9		9	30	7
B	3	5	7	5	5	17
C		1	2	1		4

Conclusion

All interview participants believed that there were some gifted elementary students in the area of reading that were underperforming. The two most prevalent common themes for Question One, related to self-regulation, were the environment and motivation. Motivation and environmental factors also relate to the most frequent responses for interview questions four and five. Students' level of apathy and perfectionist mentality may correlate to their level of motivation and the level of support in their environment can affect whether or not they take risks, attempt tasks on their own, or are afraid of failure. Interview question three pertained to both ends of the spectrum - the highest and lowest achieving students; however, instruction was stated as being the most important factor in raising achievement for both groups. Question 3 relates to goal valuation and the interview participants had to focus on their highest achieving and lowest achieving students. For question three, the majority of the respondents did not

share the same thoughts; there was no common code where three or more respondents agreed.

The quantitative data supported the interview participants' beliefs that all of their students are not performing up to their ability level. There were eight students, approximately 7% of the sample, that showed signs of underperformance; these students earned a C average for the semester in their AIG reading class. A C average is below the ability level for gifted students causing a discrepancy between their potential and performance. The data also showed that all of the participants remained in the gifted program. Based on responses from the interviews and results from the data analysis, there is evidence of underperformance.

CHAPTER 5: DISCUSSION

Reis and McCoach (2000) agree that there should be concern for gifted students that only perform at grade level and not above. The goal of this study was to examine the perceptions of gifted educators, principals, and an AIG director about elementary gifted students in the area of reading who underachieve and the prevalence of underachievement among the same group of students. The underperformance of gifted students can be frustrating for educators and parents, but the key to reversing it is to first identify underperformance and then understand the causes.

Six interviews were conducted to answer the research question pertaining to the perceptions of educators about elementary gifted students in reading. The interview questions addressed the following areas: self-regulation, goal valuation, self-efficacy, and environmental perceptions. To examine the prevalence of underachievement among elementary gifted students in the area of reading, the reading grades of all 108 students' were collected and analyzed.

The Achievement Model is the foundation for this study. The Achievement Orientation Model, developed by Siegle and McCoach (2005), helps to explain underachievement in gifted students. The Achievement Orientation Model addressed factors (goal valuation, self- efficacy, and environment) that comprise motivation; if the perceptions of students are positive on all factors, they will self-regulate and achieve at high levels. This model posits that gifted students have the ability to achieve, to find

value and find meaning in the school's goals (i.e. goal valuation), and to consider the school environment supportive (i.e., self-efficacy – (Ritchotte et. al, 2014). Self-regulation, a key indicator of achievement, is impacted by goal valuation and environmental perceptions (Ritchotte et al., 2014). Underachieving students often have a negative self-perception and a low level of internal motivation (Dyrda, 2009). Emerick (1992) stated that a significant positive change in a person's self-concept is needed to reverse underachievement; a student's self-concept is how he/she views his/her abilities.

Summary of Findings

Research question one: What is the perception of gifted educators, principals, and an AIG director about elementary gifted students who underachieve in the area of reading? The gifted educators were interviewed individually by the researcher and asked the same five questions related to factors of underachievement.

Self-regulation

The findings indicated that the environment and the student's level of motivation are two of the most dominant factors in achievement, with half of the interview participants believing that motivation is a major factor and four agreeing that the environment is a major factor. The interview participants in this study stated that the environment is a determining factor in the achievement level of their students, which is partially supported by the findings of Ritchotte et al. (2014). The teachers' viewed the environment outside of school as the major factor, whereas the administrator and director viewed the environment as both home and school. As evident in this study, the participants feel that "when there is a discrepancy between person and environment, underachievement can occur" (Ritchotte et al., 2014, p. 3).

Goal Valuation

The director and administrators believed that classroom instruction was the determining factor in raising student achievement, regardless of the student's performance level. The teachers had varied responses and focused on characteristics that the students had more control over. In the Ritchotte et al. (2014) study, the other factor that had a direct impact on self-regulation was goal valuation. As it pertained to goal valuation, the teachers in this study viewed the students and factors outside of the classroom as the cause of their underachievement; however, when it came to increasing the achievement of students already performing at a high level, this was attributed to classroom instruction. The teachers only see themselves as being responsible for high achievement, but not for supporting low achieving students. The administrators and director had a different perspective. They clearly believed that instruction was most important in raising the achievement of the lowest academically performing students as well as the highest academically performing students. According to Emerick's 1992 study, setting expectations, classroom structure, and establishing challenging experiences are important in helping to reverse underachievement. In this study, only one interview participant saw the students as being risk takers, whereas the other participants saw more undesirable traits in the students, such as apathy and not being risk takers.

The AIG director stated that the students have the ability to understand content, however, they seek the support and reassurance of others. Students may know what type of behaviors they need to exhibit to be successful, but they doubt whether or not they "can successfully execute those behaviors" (Ritchotte et al., 2014, p. 2). This can relate to the curriculum as well as how students perceive the environment. Due to environmental

perceptions or whether or not students value the school's goals, there may be a disparity between the students and the curriculum (Reis & McCoach, 2000).

Self-efficacy

Responses on self-efficacy were varied. The participants see many different traits in the classroom that vary depending on the students' confidence level, which could vary depending on the student's personal strengths and perceptions. Therefore, if the curriculum is developed and delivered in a way that is engaging, important and valuable to students, they will be more willing to put forth the effort to accomplish given tasks (Siegle, 2004). For example, the educators in this study have mentioned the classroom climate and curriculum and instruction as pertaining to every factor on the participant interview: environmental perceptions, goal valuation, self-perception, and self-regulation. The environment was mentioned in several responses related to self-regulation and self-efficacy, which adds additional support to the Achievement Orientation Model.

The perfectionist mentality was not discussed in the literature review; however, perfectionism was referenced for both low performing and high performing gifted students as it relates to self-efficacy and their willingness to take risks. Teachers and parents worry about perfectionism negatively impacting students by causing students to not perform or have a low tolerance for criticism and making mistakes (Shaughnessy, 2010). Perfectionism can be both a positive and negative trait. Educators and parents want students to strive for excellence, but when students cannot accept criticism or the mistakes they make, they can become afraid of failure and either avoid tasks or stop performing (Shaughnessy, 2010). A student's past experiences and achievement have the biggest impact on what a student believes about his/her ability (Siegle, 2004). If a student

has experienced failure numerous times it can cause a student to have lower self-confidence and not take risks because he/she does not want to experience failure again. Striving for excellence and setting high standards are positive, healthy aspects of perfectionism. If a student becomes obsessed, the trait is perceived as negative; however, if perfectionism pushes a student towards excellence and higher achievement, it is considered a positive. "Normal perfectionists allow themselves to fail and to be imperfect while neurotic perfectionists never feel that their efforts are good enough" (Orange, 1997, p. 1). Interview participants speak of perfectionism in their students as a negative trait because it impacts their ability to move forward academically. Gifted students are used to being successful, so when they are faced with the threat of failure, they become afraid and can avoid tasks (Silverman, 1999). These findings are important because a student's confidence can be boosted if teachers encourage and remind him/her of past successful experiences and show him/her specific progress that has been made.

Environmental Perceptions

Several aspects of this study support the current literature on gifted students. If the environment is perceived as being unsupportive, underachievement can occur. Students need to believe that those in their environment want them to succeed (Ritchotte et al., 2014). The interview participants see their students as both dependent and independent enough to attempt tasks alone. Student behaviors may vary depending on the task causing teachers to see several different characteristics.

Research question two: What is the prevalence of underachievement for students who are gifted in the area of reading in elementary school? 2a) Are there students who

qualify for the gifted reading class who chose not to participate? (2b) Are there students who are enrolled in gifted reading classes that are underachievers?

Underachievement is defined as "a discrepancy between potential (or ability) and performance (or achievement)" (McCoach & Siegle, 2003, p 415). For this study, grades below a B were considered a sign of underperformance. Each of the three schools participating in the study had one or more students earn a C average for the semester, with a total of eight students scoring a C average. Underachievement is prevalent at each school during the two years included in this study and all of the qualified students participated. There are three students scoring a C during the 2013-2014 school year and five students earned a C during the 2014-2015 school year. Grades can mean very little to some students, while it may harm the self-perception of others; the more confident students are, the more willing they are to participate in activities (Emerick, 1992; McCoach & Siegle).

All of the students that qualified for the AIG program and began the school year in the AIG reading class, remained as participants in the gifted reading class. This finding does not support drop out related research on underperforming gifted students in middle and high school. Typically, up to 20% of the students who drop out of high school are gifted (Ford, 2011). There may be less of a drop out effect in elementary school because of fewer social demands and less preadolescent behaviors (Ritchotte, Rubenstein & Murry, 2015). Elementary school students are also not legally able to drop out of school; nevertheless, this study showed that they did not drop out of the AIG program. Ritchotte et al. stated that gifted underachievement usually begins in middle school, although those students were considered achievers in elementary school.

Implications for practice

The results of this study helps other educators and parents understand what perceptions are surrounding gifted students, those that underachieve and those that are high achieving. By looking at the characteristics of the two types of students, educators are able to reflect on their students and practices and intervene early. It is also important to note that high and low achieving students display some of the same characteristics; therefore, educators must form a supportive environment, relate goals that students value, and help them learn how to self regulate (Siegle, 2013).

Several of the relationships explored in the validity study by Ritchotte et al. (2014) were supported in this study. Based on the Achievement Orientation Model, if students' attitudes are low on any of the constructs (self-regulation, self-efficacy, goal valuation, environmental perceptions), they will likely underachieve; "environmental perceptions, and self-efficacy directly affect students' self-regulation (Ritchotte et al., 2014). Although this study focused on the perceptions of the educators, not the students, in looking at the two main constructs that significantly contributed to achievement (self-regulation and environmental perceptions), the interview participants strongly agreed that the environment effected self-regulation and the responses on self-efficacy were mixed. When describing the lowest performing students, all respondents except one (the teacher from School Three) recognized characteristics or factors that led students to believe that they could not be successful.

Training regular education teachers so that a high level of rigor is maintained could help reduce the amount of underperformance because students will be accustomed to higher expectations, a faster paced curriculum, and the amount of effort and stamina

needed to be successful in gifted reading classes. Gifted education teachers also need to know how to identify potential underachieving AIG students. Based on this study, teachers view underperformance as the students' fault, but if identification systems could be created to support students, underachievement could be prevented. Teacher training can occur at the district level, school level, or individual teachers can initiate and engage in their own professional learning and reflective process. A teacher has the greatest impact on reversing underachievement (Reis & McCoach, 2000). If the classroom teacher does not join the student in taking responsibility for student learning, students will not reach their potential.

It is also important for teachers to receive training on how to establish a supportive classroom and not only how to identify underperforming gifted students, but how to help those students. Teachers need to be aware of appropriate instructional strategies, relevant curriculum, and be able to differentiate because students learn at different paces and need different levels of difficulty. Tomlinson (1997) refers to a "supported risk," where students are supported through academic risks so that they don't feel threatened and will continue to try. AIG teachers are often trained in how to provide a rigorous curriculum, but not how to help develop the social emotional side of students through both their classroom environment and the curriculum.

Interventions for underperforming students can be addressed in more than one way. Since behaviors are learned, Ritchotte et al. (2015) proposed establishing a Functional Behavioral Analysis for gifted underachievers to target their adverse behaviors and create more desired behaviors. A team that is familiar with the student can create the plan. When developing the plan, the problem has to be defined as well as the

desired replacement behavior. Once that has been completed, data is collected to ensure that the plan is meeting the needs of the underperforming student. Sylvia Rimm (2008) developed the Trifocal Model to reverse underachievement. In her model, the first five steps apply to all underperforming students and in step six, the educator or parent selects which ideas apply to the underachieving student (Rimm, 2008).

The results of this study show that, the administrators and the director realized that the school played a part in identifying and supporting underachieving students. Therefore, it is still important for them to support their teachers by advocating for gifted students. Gifted educators and students are often not a focus in schools because so much effort is put into serving at-risk students who are not on grade level. Administrators typically focus on the students below grade level because gifted students are expected to pass achievement tests. Gifted underachieving students could also be considered at-risk because of their potential to become underachievers and possibly drop out of the program or, later, out of high school (Ritchotte et al., 2015).

Limitations

The sample size and lack of diversity in the sample were limitations of this study. The sample consisted of 108 gifted students and six interview participants; eight of the students were determined to be underachievers. A larger diverse student sample size would likely lead to identifying more underachieving gifted students and a larger interview participant sample size would allow the researcher to gain further insight into the behaviors of gifted students and how their behaviors are perceived by educators. There was a lack of diversity in the gifted population sampled for this study. Of the 108 students, 17 were minority students resulting in a 6% minority population. Based on the

AIG Child Count (2011) report, the gifted minority population for the school district was 7% out of 5,278 total gifted students in the school district. Although this study reflects the district's diversity in the gifted population, it is difficult to generalize the findings to larger and/or more diverse populations.

The second limitation of this study is that certain extraneous variable were not accounted for, such as the individual classroom environments and the impact that redistricting had on two of the three participating schools. Although the curriculum materials used at each school were the same, the time allotted for reading instruction varied even though it was within district guidelines, and the demographic make up was similar; controlling for those other variables could add more validity and reliability to the measures.

In addition, it is important to remember that the educators were making inferences about the gifted students' actions and the thoughts of gifted students'. Although the educators have knowledge about the students in this study and the classroom teachers are directly involved daily, the students' voice was not a part of this study.

Suggestions for Future Research

The results of this study demonstrate that gifted students do underachieve and that the causes are related to the factors in the Achievement Orientation Model as measured by constructs modeled after the SAAS-R. A suggestion for future research is to further explore the Achievement Orientation model and SAAS-R with elementary school students. Many of the studies conducted have explored underachievement in secondary students, such as McCoach and Siegle (2003), Baslanti (2008), and Ritchotte (2013). If more studies focus on identified gifted elementary school students, there may be an

opportunity to intervene in the earlier grades, which may result in fewer cases of underperformance during secondary years.

Summary

The underachievement of gifted students has been referred to as "one of the greatest social wastes of our culture" (Gowan, 1955, p.247). Gifted students represent those with the potential to have the greatest achievement in one or more fields. Being able to identify underachievement in children at an early age allows for interventions to be put in place. Blackburn and Erickson (1986) refer to the underachievement of 4th and 5th grade students as a "crisis" (Blackburn & Erickson, p. 553). The purpose of this study was to investigate the prevalence and beliefs about underachievement for 4th and 5th grade elementary students who were identified as being gifted in the area of reading. These findings suggest that underachievement does exist. Educators have a responsibility to provide gifted students with the necessary support. Knowing what characteristics to look for in underperforming students takes some of the uncertainty out of identifying gifted struggling students.

REFERENCES

Academically and intellectually gifted. (2013). Retrieved from http://aig.ucps.k12.nc.us.

AIG Child Count. (2011). *Retrieved from http://www.ncpublicschools.org/docs/academicservices/gifted/student-data/childcount/2011-lea.pdf.*

Andrews, C., & Bishop, P. (2012, September). *Middle grades transition programs around the globe: Effective school transition programs take a comprehensive approach to ensuring student success in the middle grades*. Retrieved from http://files.eric.ed.gov/fulltext/EJ990866.pdf.

Bailey, C. (2011). *An examination of the relationships between ego development, Dabrowski's theory of positive disintegration, and the behavioral characteristics of gifted adolescents. Gifted Child Quarterly, 55(208),* doi: 10.1177/0016986211412180.

Baker, J., Bridger, R., Evans, K. (1998) *Models of underachievement among gifted Preadolescents: The role of personal, family, and school factors. Gifted Child Quarterly*, *42(5)*, doi: 10.1177/001698629804200102.

Balchin, T., Hymer , B., & Matthews, D. (Eds.). *(2009) The routledge international companion to gifted education.* New York, NY: Routledge.

Bandura, A. (2003). Social cognitive theory in cultural context. Human Resources Abstracts, 38(1), p. 5-136.

Baslanti, U. (2008). *Investigating the underachievement of university students in Turkey: Exploring subscales. International Journal of Progressive Education*, 5(4), 1-29.

Baum, S.M., Schader, R.M., & Hebert, T.P. (2014). *Through a different lens: Reflecting on a strengths-based, talent-focused approach for twice-exceptional learner*s. *Gifted Child Quarterly*, 58, 311-327.

Blackburn, A. C. & Erickson, D. (1986). Predictable crises of the gifted student. Journal of Counseling and Development, 64, 552-555.

Borland, J. H. (2003). *Rethinking gifted education.* New York, NY: Teachers College Press.

Brody, L., & Mills, C. (1997). Gifted children with learning disabilities: A review of the issues. Journal of Learning Disabilities, 30(3), 282-292.

Callahan, C. & Hertberg-Davis, H (Eds.). (2013). *Fundamentals of gifted education: Considering multiple perspectives*. Abingdon, Oxon.

Chan, L. (1996). *Motivational orientations and metacognitive abilities of intellectually gifted students. Gifted Child Quarterly,* doi: 10.1177/001698629604000403.

Charmaz, K. (2006). *Constructing grounded theory*. Thousand Oaks, CA: SAGE Publishing.

Cook, J., & Cook, G. (2009). Child development: Principals and perspectives. *Pearson Allyn Bacon Prentice Hall. Retrieved from http://www.education.com/reference/article/self-regulation-development-skill/.*

Colangelo, N., Assouline, S. G., & Gross, M. U. M. (2004). *A nation deceived: How schools hold back America. The Templeton National Report on Acceleration.* Retrieved from http://www.accelerationinstitute.org/Nation_Deceived/ND_v1.pdf.

Colangelo, N., & Davis, G. (1991). *Handbook of gifted education.* Needham, MA: Allyn and Bacon.

Colangelo, N., & Davis, G. (1997). *Handbook of gifted education.* Needham, MA: Allyn and Bacon.

Compton, M. (1982) *The gifted underachiever in the middle school. Roeper Review, 4(4), 23-25.*

Cushenbery, D. (1974). *Reading and the gifted child: a guide for teachers.* Springfield, IL: Thomas.

Cushenberry, D. (1987). *Reading instruction for the gifted.* Springfield, IL: Thomas.

Dai, D. (2010). *The nature and nurture of giftedness: A new framework for understanding gifted education.* New York, NY: Teachers College Press.

Davis, G. (2006). *Gifted children gifted education.* Scottsdale, AZ: Great Potential Press, Inc.

Davis, G. A., & Rimm, S. B. (1985). *Education of the gifted and talented.* Englewood Cliffs: Prentice Hall, Inc.

Davis, G. A., & Rimm, S. B. (1994). *Education of the gifted and talented. (3rd ed.).* Needham Heights: Simon & Schuster, Inc.

Davis, G. A., Rimm, S. B., & Siegle, D. (2011). *Education of the gifted and talented. (6th ed.).* Upper Saddle River: Pearson Education, Inc.

Delisle, J. (2014). *Dumbing down America: the war on our nation's brightest young minds (and what we can do to fight back).* Waco, Texas: Prufrock Press, Inc.

Diener, C. I. & Dweck, C. S. (1978). *An analysis of learned helplessness: Continuous changes in performance, strategy and achievement cognitions following failure. Journal of Personality and Social Psychology*, 36(5), 451-462.

Diener, C. I. & Dweck, C. S. (1980). *An analysis of learned helplessness: II. The processing of success. Journal of Personality and Social Psychology*, 39(5), 940-952.

Dowdall, C. B., & Colangelo, N. (1982). *Underachieving gifted students: Review and implications. Gifted Child Quarterly*, doi: 10.1177/001698628202600406.

Dweck, C. S. (1975). *The role of expectations and attributions in the alleviation of learned helplessness*. *Journal of Personality and Social Psychology*, 31(4), 674-685.

Dyrda, B. (2009). *The process of diagnosing the underachievement syndrome in gifted and creative children. The New Educational Review,* 18(2), 129-137.

Emerick, L. J. (1992). *Academic underachievement among the gifted: Students' perceptions of factors that reverse the pattern. Gifted Child Quarterly,* doi: 10.1177/001698629203600304.

Enrichment triad. (2010, September). Retrieved from http://www.det.wa.edu.au/curriculumsupport/giftedandtalented/detcms/navigation/identification-provision-inclusivity-monitoring-and-assessment/provision/teaching---learning-models/enrichment-triad/?oid=Category-id-3872462.

Feldman, D. H. (1993). *Child prodigies: A distinctive form of giftedness. Gifted Child Quarterly*, 37(4), 188-193. Retrieved from http://www.davidsongifted.org/db/Articles_id_10185.aspx.

Fletcher, K., Neumeister, K. (2012). *Research on perfectionism and achievement motivation: Implications for gifted students. Psychology in the Schools, 4(7),* doi: 10.1002/pits.21623.

Ford, D. Y. (2011). *Reversing underachievement among gifted black students. (2nd ed.).* Waco, Texas: Prufrock Press Inc.

Galton, F. (1962). *Heredity genius; an inquiry into its laws and consequences*. Cleveland, OH. Meridian.

George, D. (2011). *Young gifted and bored.* Carmarthen, Wales: Crown House Publishing Ltg.

Gowan, J. C. (1955). *The underachieving child: A problem for everyone*. *Exceptional Children*, 21, 247-249, 270-271.

Heider, F. (1958). *The psychology of interpersonal relations*. New York, NY: Wiley.

Hewstone, M. (1983). *Attribution theory: Social and functional extensions.* Oxford, England: Blackwell.

Highly qualified. Retrieved from http://www.dpi.state.nc.us/program-monitoring/titleIA/highlyqualified/.

Hoekman, K., McCormick, J., & Gross, M. (1999). *The optimal context for gifted students: A preliminary exploration of motivational and affective considerations. Gifted Child Quarterly,* 43(4).

Hunter, M. (1967). *Motivation theory for teachers: A programed book.* El Segundo, California: TIP Publications.

Jacob K. Javits gifted and talented students education program. (2015). Retrieved from http://www2.ed.gov/programs/javits/index.html.

Jacob K. Javits gifted and talented students education act. (2013). Retrieved from http://www.nagc.org/index.aspx?id=572.

Kanoy, R. (1980) *Locus of control and self-concept in achieving and underachieving bright elementary students. Psychology in Schools,* 17, 395-399.

Karnes, M. (1983). *The underserved: Our young gifted children.* Reston, VA: The Council for Exceptional Children.

Kitano, M., Montgomery, D., Vantassel-Baska, J., & Johnsen, S. K. (2008). *Using the national gifted education standards for pre-k professional development.* Thousand Oaks, CA: Corwin Press.

Krissman, A. (1989). *The trillium child: A new type of gifted underachiever*. Roeper Review, 11(3), 160-162.

Lincoln, Y., & Guba, E. (1985) *Naturalistic Inquiry*. Newbury, CA: SAGE Publications.

Local plan for gifted education. (2010). Retrieved from http://aig.ucps.k12.nc.us/php/localplan.php.

Maltby, F. (1984). *Gifted children and teachers in the primary school.* Philadelphia, PA: Falmer.

McClellan, E. (1985). *Defining giftedness.* Clearinghouse on Handicapped and Gifted Children, doi: ED262519.

McCoach, D. B., & Siegle, D. (2003). *Factors that differentiate underachieving gifted students from high-achieving gifted students. Gifted Child Quarterly, 47(2),* doi: 10.1177/001698620304700205.

McCoach, D.B., & Siegle, D. (2003). *The school attitude assessment survey-revised: A new instrument to identify academically able students who underachieve. Educational and Psychological Measurement*, 63(3), doi: 10.1177/0013164403063003005.

McGraw-Hill. Inview test. (2013). Retrieved from http://www.ctb.com/ctb.com/control/ctbProductViewAction?productFamilyId=449&productId=875&p=products.

National Association for Gifted Children. (n.d.) Retrieved from http://www.nagc.org/resources-publications/resources-parents/social-emotional-issues/perfectionism.

National Association for Gifted Children. (2008). Retrieved from http://www.nagc.org/index2.aspx?id=548.

Nicpon, M., Allmon, A., Sieck, B., & Stinson. (2011). *Empirical investigation of twice exceptionality: Where have we been and where are we going? Gifted Child Quarterly*, 55(1), 3-17.

Nicpon, M., Assouline, S., & Colangelo, N. (2013). *Twice-exceptional learners: Who need to know what. Gifted Child Quarterly*, 57(3), 169-180).

No Child Left Behind. (n.d.) Retrieved from http://www2.ed.gov/policy/elsec/leg/esea02/pg107.html.

North Carolina accountability services. (2013). Retrieved from http://www.ncpublicschools.org/accountability/testing/eog/reading/.

North Carolina academically or intellectually gifted program standards. (2012, December), p. 1-8. Retrieved from http://www.ncpublicschools.org/docs/academicservices/gifted/ncaig-program-standards.pdf.

North Carolina Division of Accountability Service. (1999). *Understanding testing at grades 3-8: Background. Assessment Brief, 6(1),* Retrieved from http://www.ncpublicschools.org/docs/accountability/testing/eog/asb_und38.pdf

North Carolina Office of Accountability. (1995). *Understanding testing at grades 3-8: Background. Assessment Brief, 1(8),* Retrieved from http://www.ncpublicschools.org/docs/accountability/testing/eog/asb_lev1.pdf.

North Carolina public schools. Retrieved from http://www.ncpublicschools.org/academicservices/gifted/student-data/childcount/.

O'Neil, H., Drillings, M. (1994). *Motivation: Theory and research.* Hillsdale, New Jersey: Erlbaum Associates.

Orange, C. (1997). *Gifted students and perfectionism. Roeper Review, 20(1),* doi: 10.1080/02783199709553849.

Pagnani, A.R. (2008). *Gifted underachievement: Root causes and reversal strategies. A practical handbook for guidance counselors and teachers*. Retrieved from http://www.giftedstudy.org/newsletter/pdf/underachievement_handbook.pdf.

Parker, W. & Mills, C. (1996). *The incidence of perfectionism in gifted students. Gifted Child Quarterly*, 40(*4),* doi: 10.1177/001698629604000404.

Patton, M. Q. (2002). *Qualitative research & evaluation methods*. Thousand Oaks, CA: SAGE Publications.

Petri, H. (1996). *Motivation: Theory, research, and applications.* Pacific Grove, CA: Brooks Cole.

Petri, H. (1986). *Motivation: theory and research*. Belmont, CA: Wadsworth.

Pfeiffer, S. I. (2013). *Serving the gifted.* New York: Taylor and Francis.

Plucker, J., Callahan, C., (Eds.). (2008). *Critical issues and practices in gifted education: What the research says.* Waco, TX: Prufrock Press Inc.

Plucker, J. A., Hardesty, J., & Burroughs, N. (2013). *Talent on the sidelines: Excellence gaps and America's persistent talent underclass*. Storrs, CT: Center for Education Policy Analysis, University of Connecticut. Retrieved from http://webdev.education.uconn.edu/static/sites/cepa/AG/excellence2013/Excellence-Gap-10-18-13_JP_LK.pdf.

Pintrich, P., Schunk, D. (1996). *Motivation in education: Theory, research, and applications.* Englewood Cliffs, NJ: Merrill.

Preckel, F., Holling, H., Vock, M. (2006). *Achievement: Relationship with cognitive motivation, achievement motivation, and conscientiousness. Psychology in Schools,* 43(3), doi:10.1002/pits.20154.

Rakow, S. (2011). *Educating gifted students in middle school.* Waco, TX: Prufrock Press Inc.

Reis, S. M. (2009). *Joyful reading: Differentiation and enrichment for successful literacy learning, grades K-8*. San Francisco, CA: Jossey Bass; Wiley.

Reis, S.M. (2016). Reflections on gifted education: *Critical works by Joseph S.Renzulli and colleagues*. Waco, TX: Prufrock Press Inc.

Reis, S. M., & McCoach, D. B. (2000). *The underachievement of gifted students: What do we know and where do we go? Gifted Child Quarterly, 44(3*), doi: 10.1177/001698620004400302.

Reis, S. M., & Renzulli, J. S. (1984). *Key features of successful programs for the gifted and talented. Educational Leadership,* Retrieved from http://www.ascd.org/ASCD/pdf/journals/ed_lead/el_198404_reis.pdf.

Renzulli, J. S., & Reis, S. M. (n.d.). *The schoolwide enrichment model executive summary.* Retrieved from http://www.gifted.uconn.edu/sem/semexec.html.

Renzulli, J. S., & Reis, S. M. (1997) *The schoolwide enrichment model: A guide for developing defensible programs for the gifted and talented*. Mansfield Center, CT: Creative Learning Press.

Renzulli, J. S., & Reis, S. M. (1977). *The schoolwide enrichment model: A how to guide for educational excellence (2nd ed.)*. Mansfield Center, CT: Creative Learning Press.

Renzulli, J. S., Koehler, J. L., & Fogarty, J. L. (2006). *Operation houndstooth intervention theory: Social capital in today's schools. Gifted Child Today*, 29(1). Waco, TX: Prufrock Press, Inc.

Reynolds, K. (1995). *Insights toward the transition to middle school.* Manuscript submitted for publication, Plymouth State University, Plymouth. Retrieved from http://files.eric.ed.gov/fulltext/ED491409.pdf.

Rimm, S. (1995). Why bright kids get poor grades and what you can do about it. New York, NY: Crown Publishers, Inc.

Rimm, S. (2008). *Bright kids, poor grades: And what you can do about it. Sylvia Rimm On raising kids, 19(1), 1-8. Retrieved from http://www.sylviarimm.com/newsletters/Newsletter%2019.1.pdf.*

Ritchotte, J. (2013). *The validity of the achievement-orientation model for gifted middle school students* (Unpublished doctoral dissertation). University of North Carolina, Charlotte.

Ritchotte, J., Matthews, M., Flowers, C. (2014). *The validity of the achievement-orientation model for gifted middle school students: An exploratory study. Gifted Child Quarterly,* 58(3), DOI: 10.1177/0016986214534890.

Ritchotte, J., Rubenstein, L., Murry, F. (2015). *Reversing the underachievement of gifted middle school students: Lessons from another field. Gifted Child Today*. 38(2), 102-113, Retrieved from file:///Users/kimgc15/Downloads/Gifted%20Child%20Today%20Underachievement.pdf.

Ryan, T., Coneybeare, S. (2013). *The underachievement of gifted students: A synopsis. The Journal of the International Association of Special Education. 14(1), 58-66*. Retrieved from http://www.iase.org/?journal,7.

Rubenstein, L., Siegle, D., Reis, S., McCoach, D. B., & Burton, M. (2012). *A complex quest: The development and research of underachievement interventions for gifted students. Psychology in the Schools*, 49(7), doi: 10.1002/pits.21620.

Schultz, R. (2002). *Illuminating realities: A phenomenological view from two underachieving gifted learners. Roeper Review, 24(4), 203.*

Schultz, R. (2002). *Understanding giftedness and underachievement: At the edge of Possibility. Gifted Child Quarterly*, *193(46)*, doi: 10.1177/001698620204600304.

Shaughnessy, M. (2010). *Sylvia Rimm on perfectionism in the gifted*/Interviewer: Michael Shaughnessy. Supporting Educational Needs of the Gifted. Retrieved from http://sengifted.org/archives/articles/sylvia-rimm-on-perfectionism-in-the-gifted-an-interview-by-sengs-editor-in-chief-michael-shaughnessy.

Siegle, D. (2004). *Living up to their potential: Strategies for promoting achievement oriented students.* Retrieved from http://www.gifted.uconn.edu/siegle/publications/caglivinguptotheirpotential.pdf.

Siegle, D. & McCoach, D.B. (2005). *Motivating gifted students*. Waco, TX: Prufrock Press, Inc.

Siegle, D. (2013). *The underachieving gifted child: Recognizing, understanding, & reversing underachievement.* Waco, TX: Prufrock Press Inc.

Silverman, L. (1999). *Perfectionism. Gifted Education International*, 13(3), 216-225.

Shah-Coltrane, S. (n.d.). *Academic services and instructional support*. Retrieved from http://www.ncpublicschools.org/academicservices/gifted/.

Shavinina, L. (2009). *International handbook on giftedness.* Dordrecht, London: Springer.

Strauss, A. (1987). Qualitative analysis for social scientists. New York, NY: Cambridge University Press.

Strauss, S. (1981). *The gifted and non-gifted.* Chicago, Illinois: Saturn Press.

Sternberg, R.J. & Davidson, J.E. (2005). Conceptions of giftedness (2nd ed.). Cambridge: Cambridge University Press.

Sternberg, R., Jarvin, L., & Grigorenko, E. (2011). *Explorations in giftedness.* New York, NY: Cambridge University Press.

Stipek, D. (2002). *Motivation to learn: Integrating theory and practice. Boston, MA: Allyn and Bacon.*

Suldo, S., Shaffer, E., Shaunessy, E. (2008). *An independent investigation of the validity Of the school attitude assessment survey-revised. Journal of Psychoeducational Assessment,* 69(2), doi: 10.1177/0734282907303089.

Thomas, D.R. (2006). *A general inductive approach for analyzing qualitative evaluation data. American Journal of Evaluation* 27(2), doi: 10.1177/1098214005283748.

Tomlinson, C. (1997). *What it means to teach gifted learners well. Instructional Leader*. Retrieved from https://www.nagc.org/resources-publications/gifted-education-practices/what-it-means-teach-gifted-learners-well.

Torrance, E. (1984). The role of creativity in identification of the gifted and talented. Gifted Child Quarterly, 28(4), 153-156.

Trail, B. (2011). Twice exceptional gifted students: Understanding, teaching, and counseling gifted students. Retrieved from http://www.prufrock.com/assets/clientpages/pdfs/twice_exceptional_gifted_children_sample.pdf

Union County Public Schools Enrollment and Ethnicity Information. (2013). Retrieved from http://www.ucps.k12.nc.us/communications/Enrollment_Ethncitypage.php.

Union County Public Schools Local Plan for Gifted Education. (2014). Retrieved from http://aig.ucps.k12.nc.us/documents/APPENDIXAPLACEMENTCRITERIA-revisedJanuary2014.pdf.

Union County Public Schools Local Plan for Gifted Education. (2013). Retrieved from http://aig.ucps.k12.nc.us/documents/APPENDIXBEARLYKINDERGARTENADMISSION.pdf.

University of Connecticut. (n.d.) Psychometrics. Retrieved from http://mea.education.uconn.edu/selected-current-research-projects-for-mea-faculty/.

Wallechinsky, D. (2013). *Allgov*. Retrieved from http://www.allgov.com/departments/independent-agencies/national-science-foundation?agencyid=7341.

Weiner, B. (1974). *Achievement motivation and attribution theory.* Morristown, New Jersey: General Learning Press.

Western Australia Department of Education. *Renzulli's Enrichment triad*. (2010, September). Retrieved from http://www.det.wa.edu.au/curriculumsupport/giftedandtalented/detcms/navigation/identification-provision-inclusivity-monitoring-and-assessment/provision/teaching---learning-models/enrichment-triad/?oid=Category-id-3872462

APPENDIX A: PLACEMENT PATHWAYS FOR GIFTED STUDENTS

Full Scale Aptitude	Content Aptitude	Achievement	Performance

First Pathway

Full Scale NPA: 98th percentile on an approved test			

Second Pathway
Must meet 3 out of the 4 criterion

Aptitude/IQ Test 93rd percentile on an approved test	Content Aptitude Subtests 90th percentile Math: Approved quantitative and nonverbal subtest score or approved specific domain aptitude tests Reading: verbal subtest score or approved specific aptitude test	Achievement Test (1 year above grade level) Reading: 85th percentile Math: 85th percentile on approved test Or EOG=93rd percentile	Grades: A Average reading and/or math Or Gifted Reading Scale

Alternative/Third Pathway
Must be referred for this pathway through alternative assessment screening. Must meet 3 out of 4 of the criteria below. The AIG team must make recommendations for this pathway during screening.

Aptitude: math & reading 93rd percentile full scale Or Content subtest scores=90th percentile	Achievement Test (1 year above grade level) Reading: 85th percentile Math: 85th percentile On approved test or EOG=93rd percentile	Performance Reading: A average Math: A average Or Portfolio Score	Recommendation Gifted Rating Scale

Note: Appendix A taken from Local Plan for Gifted Education (2014). http://aig.ucps.k12.nc.us/documents/APPENDIXAPLACEMENTCRITERIA-revisedJanuary2014.pdf

APPENDIX B: STANDARDS FOR EARLY ADMISSION TO KINDERGARTEN

The 1997 General Assembly passed legislation allowing a child who has reached his/her fourth birthday by April 16 to enter kindergarten if he or she demonstrates an extraordinary level of academic ability and maturity and is presented no later than the end of the first month of school. In determining eligibility, the principal shall convene a committee of educational professionals who will assist him/her in making decisions about each individual child. Criteria that shall be considered include the following:

- Aptitude
- Achievement
- Performance
- Observable Student Behavior
- Motivation to Learn
- Student Interest

Student Aptitude Indicator: 98th percentile

> A child eligible to enter school early shall be precocious in academic and social development and score at the 98th percentile on a standard individual test of intelligence such as the Stanford-Binet-Fifth Edition, the Wechsler Preschool and Primary Scale of Intelligence-Fourth Edition, the Kaufman Anderson, or any other comparable test administered by an outside licensed psychologist.

Achievement Indicator: 98th percentile

Children entering kindergarten early shall be functioning two to three years beyond their peers. Children eligible for early admission to kindergarten shall score at the 98th percentile on either Reading or Mathematics on a standard test of achievement such as the Metropolitan Readiness Test, the Stanford Early School Achievement Test, the Mini Battery of Achievement, or the Woodcock-Johnson, administered by a licensed psychologist or a member of his/her professional staff who is trained in the use of the instrument as long as he/she has no potential conflict of interest in the outcome of the assessment.

Performance Indicator: Student samples of work

The child shall be able to perform tasks well above their age peers. Some indicators the principal may observe are the child's ability in independent reading, problem solving skills, advanced vocabulary, and some writing fluency. The parents shall submit a sample of student work showing outstanding examples of ability in any of the following areas: art, math, writing, dramatic play, creative productions, science, social interactions, etc. For further indication of performance, the principal may instruct a teacher to complete an informal reading assessment.

Observable Student Behavior/Student Interest

Indicator: 2 letters of recommendation Social development checklist

The child shall demonstrate social and developmental maturity sufficient to be in a structured school setting for a full school day. The child should be capable of following verbal instructions and functioning independently within a group. The school system shall require two recommendation letters with specific documentation of physical and social maturity from preschool teachers, childcare workers, pediatricians, or other adults with direct knowledge of the child. Documentation checklists that might be useful are the California Preschool Competency Scale, the Harrison Scale, or any other comparable scale of early social development.

Motivation/Student Interest

Indicator: Informal interview with the child Structured parent interview

Principals or his/her designee shall determine this information in an informal interview with the child and in a more structured interview with the parent to determine if the child displays a thirst for knowledge and seeks new and challenging learning situations.

Time Lines
Within the first 30 calendar days of the school's instructional year

Within in three weeks of receiving the information that Principal shall make a determination

Within first 90 days of enrollment

10 days notice to parent

Parent submits all required documentation to the principal

Principal has right to rescind placement

Notification to parent if placement has been rescinded

A parent wishing to submit his/her child for consideration for early admission to kindergarten shall present to the principal of his/her local school the required information within the first thirty (30) calendar days of the school year. All testing must be administered after the April 16th that follows the child's fourth birthday. If the child is admitted to kindergarten, before the end of the first ninety (90) calendar days of the child's being enrolled, the principal may rescind his/her approval based on substantial evidence documenting that the child is not adjusting satisfactorily to the school setting. If

the decision is made to remove the child from school, parents must be given at least ten (10) days notice to arrange child care if needed.

Note: Appendix B taken from Local Plan for Gifted Education (2013) http://aig.ucps.k12.nc.us/documents/APPENDIXBEARLYKINDERGARTENADMISSION.pdf

APPENDIX C: SAMPLE PARTICIPANT EMAIL

Dear (Insert Teacher's name),

I am a doctoral student at the University of North Carolina in Charlotte, NC conducting my dissertation research within Union County Public Schools. After speaking to your principal and the AIG director in UCPS, I think that your school would be a great setting to conduct my research. I hope that you will agree to participate in this study regarding your 4th and 5th grade AIG reading students.

This study will provide educators and researchers information about the characteristics of underachieving gifted students. If characteristics of underachievement are uncovered and educators know what factors to look for, they have the opportunity to identify those students and begin to intervene so that underachievement does not occur. Participation will consist of you completing a survey for each of your 4th and 5th grade reading students and a short face-to-face interview. Your responses will be used to make generalizations about elementary aged gifted students, so honestly is critical to the integrity of this study. The survey questions will be sent to you through your school email account and will take approximately 60 minutes to answer; a survey will be completed for each gifted reading student that you teach in grades 4 and 5. After the survey has been sent, I will contact you through email to set up a time for a face-to-face interview. The interview will take approximately 30 minutes of your time and will be recorded; we can meet before school, during school, or after school. If at any point you are uncomfortable with the questioning, please let me know so that I may address your concerns. I do not anticipate any risks to study participants. I will make every effort to protect your privacy; your name and responses will be confidential throughout the process. All of your responses to

the interview questions will also be kept confidential, transcribed, and coded. The digital audio recording files will be kept on a password-protected computer and will not be stored on a public network folder. When the results of this study are published, code numbers, not names, will refer to participants. If you agree to participate, please take a moment to sign the form below, which verifies your willingness to participate in the survey and interview. Participants will receive a complimentary $20 gift card at the conclusion of the study. If you have questions, you can contact me through email at kchinnis@uncc.edu.

The decision to participate in this study is completely up to you. You will not be treated any differently if you decide not to be in this study.

I have read the information in this consent form. I have had the chance to ask questions about this study, and those questions have been answered to my satisfaction. I am at least 18 years of age, and I agree to participate in this research project. I understand that I will receive a copy of this form after both the principal researcher and I have signed it.

_____	_____	_____
Printed name of participant	Signature of participant	Date

_____

Person obtaining consent