The Difference in Measure of Academic Progress (MAP) Assessment Scores of Third and Fourth-grade Students Later Identified as Gifted and Students Not Identified as Gifted

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Abstract

The purpose of this study was to analyze the differences in reading and math MAP Assessment scores of third and fourth-grade students who were later formally identified for gifted special education services and third and fourth-grade students who were not formally identified for gifted special education services. The research design for this study utilized a quantitative research method based on a non-experimental design. Archival data were used for this study.

The sample was limited to third and fourth-graders attending one of the 35 elementary schools in School District ABC. Data were collected from five testing intervals which included Winter 2015, Spring 2016, Fall 2016, Winter 2016, and Spring 2017. The four research questions related to the reading and math MAP Assessment scores of third and fourth-grade students who were later formally identified for gifted special education services and third and fourth-grade students who were not formally identified for gifted special education services were analyzed using an independent samples *t* test.

The results from hypothesis testing indicated a significant difference existed in the reading and math MAP Assessment scores of third and fourth-grade students who were later formally identified for gifted special education services and third and fourth-grade students who were not formally identified for gifted special education services. The results of testing indicated that third and fourth-grade students who were later formally identified for gifted special education services scored significantly higher on the reading and math MAP Assessment than third and fourth-grade students who were not formally identified for gifted special education services.

Dedication

To my husband, Gary, thank for your love and support during this arduous journey. I could not have done this without your continued encouragement and patience. Because of your belief in me, I have felt a greater sense of determination to finish my dissertation and earn my doctoral degree. I love you very much!

To my boys, Taylor and Trevor, I want you to know that your support has been very much appreciated. Now, it is your turn. I will be so very proud when I am watching you both graduate from college!

To my parents, thank you for teaching me to dream. Thank you so much for your support of my dream. I am proud to be your daughter.

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The Baker University Doctoral Program is a rigorous program, which has provided an enriched learning experience that has prepared me for meeting my professional goals. Many thanks to my major advisor, Dr. Jim Robins for his continued encouragement and support. I appreciated the guidance and wisdom he offered during our weekly meetings. Thank you to Dr. Li Chen-Bouck for her help and advice with statistical research. Finally, thank you to the members of my dissertation committee, Dr. Susan Rogers and Dr. Brent Yeager. Thank you for selflessly giving your time to help me with the writing of this dissertation. Again, thank you all for your support and guidance in the successful completion of my dissertation.

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Chapter One

Introduction

Delisle (2014) considered labels that can be applied to a child such as gifted, disabled, athletic, or musical useful in identifying specialized learning needs, but cautioned the application of labels as children are constantly maturing and growing with changing needs. The label of gifted is most often used in reference to children with academic gifts in mathematics or language and measured with an intelligence quotient (IQ) test (Winner, 1996). On the other hand, Gardner (1983) supported the idea that intelligence was multi-faceted and could not be measured by a single IQ measure. Delisle and Galbraith (2002) acknowledged that the label 'gifted' might be considered controversial because of its association with an elitist attitude, yet many parents covet this label for their children so that they may benefit from the learning opportunities the label affords.

The National Association for Gifted Children (2010) classifies gifted students as children who demonstrate higher aptitude or an exceptional competency in one or more domains and successfully perform at a faster pace resulting in elevated levels of academic achievement. Renzulli (1977) defined giftedness as cognitive superiority and creativity merged with motivation resulting in performance that places a student apart from same-age peers. Similarly, Terman (1925) said that giftedness was essentially a trait of the top 1% in general intellectual ability as measured by the Stanford-Binet Intelligence Scale. While it seems there is not a singularly accepted definition of giftedness, it has become necessary for federal and state governments, as well as school districts, to define

giftedness to create appropriate programs focused on meeting the individual needs of gifted children.

The first nationally recognized report on gifted education, Marland (1972), supported the need for trained professionals to identify students who were gifted and capable of high performance. From the No Child Left Behind Act (2002), the phrase gifted and talented was used to refer to students with high achievement in intellectual, creative, artistic, or leadership capacities, and who needed special instructional services not provided in the regular classroom. Certainly, there have been numerous transformations in the laws and guidelines pertaining to the definition of gifted education.

As of 2017, federal guidelines have acknowledged the outstanding achievement of children who are gifted when compared to same-age peers and their need for special instruction in school. Also, federal law has recognized that giftedness can be found in all cultures, socioeconomic classes, and rural, suburban, and urban settings (Ross, 1993). Though federal laws have evolved in broadly defining giftedness, school programs for the gifted are greatly impacted by how individual states interpret governmental guidelines of giftedness (Delisle, 2014). School districts are dependent upon state decisions for an acceptable definition and identification guidelines for giftedness to receive money to fund programs for gifted students.

Because of the costs of extensive testing for gifted programs, McBee (2016) emphasized that schools need to establish an effective nomination process. When potentially gifted students are not considered for formal evaluation, teacher nomination alone may not be adequate in identifying students for gifted programs (McBee, 2016).

Gifted students who are not identified may not receive the appropriate challenges in the classroom for continued engagement and individual educational growth.

McBee (2016) suggested that screening assessments could improve the gifted nomination process. McBee, Peters, and Miller (2016) postulated that a two-stage diagnostic system could decrease the likelihood of gifted students being missed by screening all students, with some students proceeding to the next level of evaluation for gifted education. Borland and Wright (1994), Lakin (2016), and Card and Giuliano (2016) supported universal screening procedures as more effective than nomination alone.

Background

This study was conducted in a large suburban school district in the Midwest. To protect anonymity, the district located in the Midwest is referred to as School District ABC. The district has 35 elementary buildings, nine middle schools, five high schools, and six buildings for specialty programs spanning across portions of four cities and 74.5 square miles. During the 2016-2017 school year, School District ABC had an enrollment of approximately 29,616 students with 51.4% male and 48.6% female (Kansas State Department of Education [KSDE], 2016). According to the 2016-2017 state report card, 28% of students qualified for free or reduced-price lunch. The population was divided according to race with 67.1% Caucasian, 16.5% Hispanic, and 7.3% African American. An additional category was comprised of various ethnicities such as Asian, Native American, Pacific Islander, and Multi-Racial, which represented 9.1% of student enrollment.

Each year, KSDE requires school districts to report the number of students who receive special education services. Throughout the year, student enrollment in special education continues to fluctuate as some students begin receiving services for the first time, while others may move out of the district or are dismissed because they no longer need special education services. Despite vacillating enrollment numbers for special education, KSDE mandates school districts report the enrollment of special education annually in the fall on the official student count day. More importantly, official enrollment dictates the amount of state funding a school district will receive for special education.

Unfortunately, funding can create controversy, especially for a small number of states like Kansas where gifted education comes under the guidelines of special education. Across the country, state funding for gifted education tends to be limited and vulnerable due to active lobbying by parents of children with learning-related disabilities (Pfeiffer, 2002). When the gifted and children with disabilities vie for budgetary support, the disabled tend to receive a larger portion (Mitchell, 1994).

On September 20, 2016, School District ABC had 4,466 students receiving special education services. Of this special education population, 801 of those students qualified for gifted special education instruction. Like other students who receive special education services, students evaluated as being gifted, have an Individual Education Plan (IEP) to meet their unique learning needs.

To qualify for gifted special education services in Kansas, a student must meet eligibility requirements and demonstrate a need for specially designed instruction. KSDE (2017) offers eligibility guidelines for identifying gifted students which include a score in

the 95th percentile or greater on a standardized, norm-referenced achievement test, as well as a score in the 97th percentile or better on an individually administered standardized, norm-referenced intelligence test. Within the suggested requirements, each school district must create an identification protocol, which may cause the existence of discrepancies from district to district.

School District ABC has standards for their gifted program, which exceed the minimum eligibility guidelines of the state. School professionals administer two individual assessments in a separate setting outside of the regular classroom. The Wechsler Individual Achievement Test, Third Edition (WIAT-III) is administered to measure academic achievement (Wechsler, 2009). Another test, the Wechsler Intelligence Scale for Children, Fourth Edition, General Ability Index (WISC-IV-GAI) is administered to determine the intellectual ability of the child (Wechsler, 2003). School District ABC requires that students demonstrate a need for gifted instruction, a score in the 97th percentile or better on the WIAT-III, and a score in the 98th percentile or greater on the WISC-IV-GAI. After eligibility from test has been completed, several pieces of data from cumulative records, current achievement in the classroom, district and grade level assessments, parent and student surveys, and teacher observational records are used to determine the existence of a need for gifted special education. When a student meets this criterion, the student is qualified to receive gifted special education and requires an IEP defining the type and amount of specialized instruction.

Statement of the Problem

When formal gifted evaluations are conducted, students miss instructional time outside the classroom. Educators administering gifted evaluations must be given

adequate training. These considerations may cause some educational teams to be reluctant to proceed to evaluation, and in fact, some schools may feel pressured to decrease the number of gifted evaluations (McBee, 2016). An inexpensive diagnostic system to quickly screen all students may be helpful in saving schools money and instructional time, as well as provide a more effective method of determining the students who need gifted evaluations (McBee et al., 2016). Since many school districts use formative assessments to collect student data for instructional planning, these assessments may serve a dual purpose to assist with initial screening for gifted programs.

Purpose of the Study

The purpose of this study was to explore the utility of the Measure of Academic Progress (MAP) Assessment as an assistive tool for gifted screening. Differences in the reading and math MAP scores of third and fourth-grade students were evaluated. Specifically, the purpose of this study was to analyze the differences in MAP Assessment scores of third and fourth-grade students who were later formally identified for gifted special education services and third and fourth-grade students who were not formally identified for gifted special education services.

Significance of the Study

As a result of this study, focused attention may be given to the valuable data from formative testing instruments, such as the MAP Assessment and to how these assessment tools may be used to inform decisions concerning formal gifted evaluations. Specifically, a school screening procedure using existing data from formative assessments may improve current gifted identification practices. Because of this research, educators may better understand the need to revise current procedures to become more effective in

screening students before formal gifted evaluations. Gifted evaluations are a costly expense for school districts and a screening tool may help schools to better determine which students need to proceed in the evaluation process, improve identification procedures, and save financial resources. This study could contribute to the current research related to giftedness and identification procedures by proposing the use of the MAP assessment for the purpose of screening all students for potential giftedness.

Delimitations

According to Lunenburg and Irby (2008), "delimitations are self-imposed boundaries set by the researcher on the purpose and scope of study" (p. 134). The following delimitations were placed on this study.

1. The setting was limited to 35 elementary schools in one suburban school district in the Midwest.
2. The data used for this study were collected from the 2015-2016 and 2016-2017 school years.
3. The population was limited to students who were in the third and fourth-grade during the 2015-2016 or 2016-2017 school years and were not identified as being gifted. To preserve the diversity of the actual population, students identified for other special education services or classified as English Language Learners were included in the population.
4. The subgroup of the population was limited to third and fourth-grade students during the 2015-2016 or 2016-2017 school year, who were part of the general education population, but were later formally tested and identified as gifted special education students after a MAP testing cycle had occurred.

5. The sample size was based on 198 students.
6. The reading and math MAP Assessment scores were the only scores used in this study.

Assumptions

Assumptions, as defined by Lunenburg and Irby (2008) are "premises and propositions that are accepted as operational for purposes of research" (p. 135). The following assumptions were made during this study.

1. General education teachers adhered to all protocols and rules for administering the MAP assessment for reading and math.
2. The setting for the MAP assessment was in a general education setting with similar testing conditions.
3. The WISC-IV and WIAT-III were individually administered by trained educators who executed these assessments with fidelity. Gifted identification was conducted according to state and school district eligibility guidelines. These instruments were used in the gifted identification process for students who were later formally identified for the gifted program.
4. All data received from School District ABC was accurate and complete.

Research Questions

This study was conducted to investigate if there would be a difference in MAP Assessment scores among students later identified as gifted and students not identified as gifted. The results of this examination may improve understanding of the efficacy of the MAP Assessment in helping to screen students for further evaluation and formal testing for gifted special education services. The following research questions guided this study:

RQ1. To what extent was there a difference in scores on the reading portion of the MAP Assessment for third-grade students who were later formally identified for gifted special education services and third-grade students who were not formally identified for gifted special education services?

RQ2. To what extent was there a difference in scores on the reading portion of the MAP Assessment for fourth-grade students who were later formally identified for gifted special education services and fourth-grade students who were not formally identified for gifted special education services?

RQ3. To what extent was there a difference in scores on the math portion of the MAP Assessment for third-grade students who were later formally identified for gifted special education services and third-grade students who were not formally identified for gifted special education services?

RQ4. To what extent was there a difference in scores on the math portion of the MAP Assessment for fourth-grade students who were later formally identified for gifted special education services and fourth-grade students who were not formally identified for gifted special education services?

Definition of Terms

Terms used throughout this study have been defined for clarity and accurate interpretation of research results.

Evaluation. An initial evaluation is conducted after a decision-making team has met to discuss concerns and collected data. This team consists of a student's parents, teacher, specialist in the specific exceptionality, professional skilled with diagnostic testing, and other qualified educators. If the team decides evaluation is needed, written

permission from parents is required before testing begins. The evaluation includes a variety of assessment instruments, parent input, student input, teacher observations, as well as data from the classroom, results from interventions, and information from cumulative records. The evaluation process should be completed within 60 school days after written permission has been granted (KSDE, 2017).

Exceptionality. The state of Kansas and federal guidelines have recognized the existence of exceptionalities. The state of Kansas has provided clear information detailing thirteen exceptionalities, including giftedness. A child having an exceptionality, including giftedness indicates an appropriate evaluation has been conducted according to state and federal guidelines (School District ABC, 2017).

General education. General education refers to the basic curriculum and instructional practices used by teachers in meeting the learning needs of the majority of students in school (Van Tassel-Baska, 1992).

Giftedness. Giftedness is recognized as an exceptionality in Kansas and a few other states. Giftedness is determined with a dual approach (KSDE, 2012). First, the child must demonstrate a need for specially designed instruction through collected data from various sources (KSDE, 2012). Second, the child must meet eligibility requirements according to an appropriate evaluation which includes a score in the 95th percentile or greater on a standardized, norm-referenced achievement test, as well as a score in the 97th percentile or better on an individually administered standardized, norm-referenced intelligence test (KSDE, 2012).

Gifted special education services. Giftedness is recognized as an exceptionality in Kansas, and gifted education is provided through special education services in each school district (KSDE, 2012).

Individualized Education Plan (IEP). An IEP is specifically designed to describe and guide the services needed by an individual student who has an exceptionality (KSDE, 2012). The IEP is considered a legal document and is developed through the collaboration of a team that includes the child's classroom teacher, special educator, principal, parents, school psychologist, the child, as well as other professionals sometimes needed by the school's decision-making team (School District ABC, 2016). The IEP contains the child's present levels of performance and measurable goals, which are closely monitored for progress (School District ABC, 2016).

Intelligence Quotient (IQ). An intelligence quotient refers to the measure used to represent the level of an individual's intelligence (Grohol, 2016). The Stanford-Binet Intelligence Test is an example of an instrument that provides an IQ (Delisle, 2014; Gargiulo, 2012).

Measure of Academic Progress (MAP) Assessment. MAP is a standardized, norm-referenced assessment developed by the Northwest Evaluation Association (NWEA, 2016). The test is cross-grade and computer adaptive to accurately measure student achievement and growth over time in the areas of reading, math, and language arts (NWEA, 2016).

National Association for Gifted Children (NAGC). The National Association for Gifted Children formed in 1954 to advocate for the educational needs of gifted students (NAGC, 2016).

Same-age peers. Webb, Meckstroth, and Tolan (1982) defined peers as children of equal rank or standing, as in grade level or age. While students of the same age are referred to as same-age peers, gifted students often have few commonalities with the students of the same age due to individual motivation and intellectual or creative qualities (Renzulli, 1977).

Screening. Processes that may take place before formal testing to evaluate a student for gifted special education services which may include referral or nomination (McBee, 2006). McGowan, Runge, and Pedersen (2016) liken educational or universal screening to a health screening to gather general measures of student learning. The purpose of screening is not to identify giftedness, but to collect valuable comparative data about student learning to determine individual interventions and students who may need further testing (McGowan et al, 2016).

Special Education Services. Special education services are services rendered by teachers who provide specially designed instruction and support targeting the unique needs of individual students identified with an exceptionality (Gargiulo, 2012).

Wechsler Individual Achievement Test for Children, Third Edition (WIAT-III). The WIAT-III is an individually administered assessment given to children for obtaining an achievement score. The WIAT-III is a formal standardized testing instrument. The results of the testing yield composite scores from 16 subtests. The composite scores are grouped into nine categories: listening comprehension, vocabulary, basic reading, reading comprehension, spelling, writing, math, math problem solving, and math fluency (Wechsler, 2003).

Wechsler Intelligence Scale for Children, Fourth Edition, General Ability Index (WISC-IV-GAI). The WISC-IV-GAI is a formal standardized assessment administered to children for obtaining a full-scale intelligence quotient (IQ). The results of testing yield scores in four areas: verbal comprehension, perceptual reasoning, working memory, and processing speed (Wechsler, 2003).

Organization of the Study

This study has been organized into five chapters. Chapter one included an introduction and a background describing School District ABC in which the study took place. The statement of the problem, purpose, and significance of the study were identified. Then, the delimitations and assumptions of the study were provided followed by the research questions, which served to guide the study. Chapter one concluded with a definition of terms.

Chapter two provides a review of the literature on gifted education. In chapter three, the methodology of the study is explained. Chapter four contains the findings of the study derived from the results of hypothesis testing. Finally, chapter five provides a summary of the study, findings related to the literature review, and conclusions.

Chapter Two

Review of the Literature

Though studies of the gifted date back to the late 19th century, gifted education received little attention until the National Defense Education Act was passed in 1958 (National Association for Gifted Children, 2013). The terminology used to describe what it means to be gifted has sometimes been inaccurate and has contributed to the ongoing misconceptions about the nature of giftedness (Winner, 1996). Researchers and educational experts have not agreed on an appropriate vocabulary or a universally accepted definition (Cramond, 2010). Therefore, it is not surprising that measuring giftedness has been difficult.

This chapter includes a discussion of the history of gifted education. The work of early pioneers such as Terman and Hollingworth, as well as the work of present day researchers is included. Analyzing previous research will demonstrate the difficulty of researchers to define giftedness and identify giftedness in children. Advocacy groups dedicated to supporting the needs of gifted children and the legislation that has impacted the education of gifted students in school systems are discussed. Criteria and models used for gifted identification are examined. Finally, a brief discussion of the MAP Assessment is shared.

History of Gifted Education

The need to identify and educate gifted children is not a concept recently conceived by researchers and educators (Delisle, 2014). In ancient times, Plato supported the testing of children to identify those in need of more challenging educational opportunities (Whitmore, 1980; Delisle, 2014). Early civilizations in Greece, Rome,

Egypt, China, and Japan respected the need for supporting talent (Gallagher, 1994). In the 14th century, European countries recognized the importance of finding children with high potential who needed educational opportunities. Therefore, early civilizations valued the gifts and talents of highly capable children as a treasured natural resource to secure and strengthen their nation's future and preserve their culture. In this section, the history of gifted education will be explored. Early researchers such as Galton, Terman, Hollingworth, and Dabrowski have attempted to explain intelligence and giftedness. Because of their work, present day researchers such as Gagné and Sternberg have proposed theories about identifying gifted children.

Galton. Early researchers contributed greatly to the field of intelligence and giftedness. One important researcher, Galton (1869) was credited with being the first to use the term gifted for an individual who demonstrated exceptional intelligence. He suggested that it was not the size of the brain, but the efficient manner and speed in which the brain functioned that determined higher than average intelligence. He attempted to test this theory by measuring reaction time in an experiment using sensory stimuli. Additionally, Galton held that intelligence was an inherited trait similar to physical appearance. He was dedicated to studying hereditary genius, and upon completion of his investigation, he concluded that intelligence was genetically transmitted. Though Galton referred to giftedness and researched the nature of intelligence, a definition for giftedness was not addressed in his research.

Terman. Galton's research contributed to the field and strongly influenced the work of Terman. In fact, Galton's earlier study of intelligence provided a foundation for Terman's research of gifted education (Winkler & Jolly, 2013). In 1916, Terman began

gaining attention for his focused work studying the range of human intelligence (Gargiulo, 2012; NAGC, 2013). While working as a professor at Stanford University, Terman revised the Binet-Simon Scale and published the first intelligence test (Gargiulo, 2012; Delisle, 2014). The Stanford-Binet Intelligence Test was an individual test that provided an intelligence quotient (IQ) (Gargiulo, 2012; Delisle, 2014).

Terman (1925) conducted a longitudinal study with 1,528 children as participants over decades and recorded his findings in a five-volume work. Because of his work with intelligence testing, Terman was the first to define the term 'gifted' when referring to children who had an exceptionally superior IQ (Stephens & Karnes, 2000). Though Terman and Galton agreed that superior intelligence was an inherited characteristic, environment and heredity factors have been difficult for researchers to isolate to determine a possible relationship with intelligence (Winner, 1996).

Terman was recognized for his work to dismiss negative stereotypes associated with being gifted (Winkler & Jolly, 2013). Many had considered gifted children to be odd, sickly, and even mentally unstable (Winkler & Jolly, 2013). Giftedness was not perceived as a talent worth nurturing (Winkler & Jolly, 2013). Similarly, television and media have portrayed gifted individuals as peculiar or strangely eccentric (Reis & Renzulli, 2004). Progress has been made to promote awareness and sensitivity for individuals who are gifted.

Hollingworth. Hollingworth was another researcher who shared similar views of intelligence. Like Galton and Terman, Hollingworth believed that giftedness was a hereditary trait (Winkler & Jolly, 2013). Hollingworth (1926) focused her research on

the educational development and social needs of gifted students based on her belief that giftedness was affected by heredity and environment.

However, Hollingworth brought unique perspectives based on her experiences working as a schoolteacher and principal (Delisle, 2014). Hollingworth (1926) viewed giftedness as a mosaic of psychological issues about the differences in a gifted child's mental and chronological age. Hollingworth published *Gifted Children: Their Nature and Nurture*, which was regarded as the first textbook on gifted education (Gargiulo, 2012; National Association for Gifted Children, 2010). This book was important as it helped teachers and schools understand that gifted children learn differently and have unique instructional needs.

Torrance. Unlike previous researchers, Torrance examined creativity to improve understanding and formulate a working definition. Torrance (1966) acknowledged that other researchers associated creativity with a personality type, a specific environment, a process, or a completed work. Torrance (1966) distinguished creativity as a process of recognizing problems, developing new ideas to test, manipulating variables to achieve success, and disseminating the unique results accomplished.

Through his research, Torrance (1966) developed the Torrance Tests of Creative Thinking (TTCT). The TTCT was devised for individual or group administration for a testing period of 30 minutes (Torrance, 1966). This assessment was designed to measure divergent thinking and appraises responses for flexibility, fluency, and originality (Luria, O'Brien, & Kaufman, 2016). The goal of the TTCT was to identify an individual's strengths in various areas for instructional purposes (Kim, 2006). However, some

institutions had used the TTCT for identification of potentially gifted students. Torrance's work on creativity promoted further discussion of the meaning of giftedness.

Dabrowski. The work of Dabrowski was focused on the intellectual and emotional traits of gifted children, which distinguishes them from same-age peers. Dabrowski (1967) developed the theory of positive disintegration in which he studied how gifted children work through emotional problems. His theory was based on his belief that aptitude is fixed at birth, focused on inner conflict, which motivates individuals to achieve their potentials (Dabrowski, 1967; Dabrowski & Piechowski, 1977). He found that some gifted children demonstrated an intense, emotional sensitivity, which he termed overexcitability. Dabrowski and Piechowski (1977) proposed five types of overexcitabilities including psychomotor, sensual, imaginational, intellectual, and emotional. Delisle and Galbraith (2002) credited Dabrowski for explaining this phenomenon, as it improved the understanding of educators who work with gifted children and teachers who refer students to gifted programs. Dabrowski's work was important to gifted education because it supported the belief that gifted individuals need specialized instruction for continued motivation, active engagement, and positive growth in learning.

Cattell, Horn, and Carroll. Cattell, a psychologist, sought to explain the complexities of intelligence. Cattell (1971) suggested a distinction between fluid intelligence and crystallized intelligence. Fluid intelligence was comprised of inductive and deductive reasoning due to heredity and chance environmental factors (Cattell, 1971). Crystallized intelligence referred to general knowledge gained through learning experiences (Cattell, 1971).

Horn expanded Cattell's model to include auditory processing, visual perception, short-term memory, long-term memory and retrieval, reaction time, and reading and writing skills (McGrew, 2005; Worrell & Erwin, 2011). The third psychologist, Carroll (1993) proposed the Three-Stratum Theory. This theory was based on leveled intellectual abilities, which included narrow, broad, and general abilities (Carroll, 1993).

Based on the research of Cattell, Horn, and Carroll, a new theory about intelligence emerged. The Cattell-Horn-Carroll Theory was developed from their combined works to propose a hierarchical model of intelligence (McGrew, 2005; Worrell & Erwin, 2011). The theory was composed of 10 broad abilities and over 70 general abilities. More importantly, this model provided a foundation for reliable and valid assessment tools to be developed. Because intelligence is a factor in determining giftedness, this model was useful to the fields of research and education.

Renzulli. The research of Renzulli was markedly different from some previous researchers as his theories did not focus on heredity. Instead, Renzulli challenged the traditional notions of giftedness based solely on scores from intelligence tests (Renzulli, 2009). He proposed a more flexible definition of giftedness (Renzulli, 1977, 1978). Like Torrance, Renzulli recognized the important role of creativity in the achievements of highly successful individuals. He argued that current definitions were restrictive and limited giftedness to academic areas (Renzulli, 1977, 1978). Renzulli advocated for the inclusion of music, art, drama, leadership, public speaking, social service, and creative writing (Renzulli, 1977, 1978). Because of his work, researchers, educators, and legislators began to revise their conceptualizations of giftedness (Renzulli, 2009).

Renzulli was perhaps best known for the three-ring conception of giftedness (Webb et al., 1982). His model demonstrated his theory that highly successful individuals who achieved recognition for their accomplishments possessed a well-defined set of three interlocking traits (Renzulli, 1978). Rather than an individual trait, Renzulli's model supported the interaction of these traits termed creativity, above average ability, and task commitment (Renzulli, 1978). He viewed these traits to be strong factors necessary for achieving goals and attaining success (Renzulli, 1978). Renzulli's three-ring model demonstrated his theory that high ability is ineffective without motivation and creativity (Webb et al., 1982).

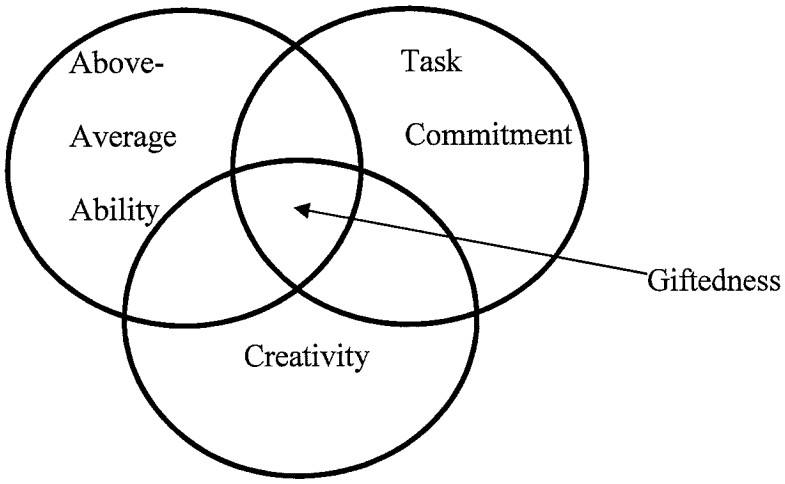

Figure 1. Renzulli's Three-Ring Conception of Giftedness. Adapted from "What makes giftedness? Reexamining a Definition," by J. Renzulli, 1978, *Phi Delta Kappan, 60*, p. 184.

Renzulli postulated that giftedness should not be regarded as a trait; instead, giftedness referred to a set of behaviors based on traits (Delisle, 2014). Reis and Renzulli (2004) proposed that individuals may possess or develop this set of traits and demonstrate

them in valuable areas. Later, Renzulli (2009) improved upon the three-ring concept model acknowledging the role of environment and personality in the appearance of the three interlocking traits. Finally, his research suggested that gifted children are a very diverse population with ability in one or more domains (Reis & Renzulli, 2004).

Renzulli's model was important to gifted research and the field of education as his theory was supported by brain research (Sousa, 2009). Abstract thinking, cognitive processing, and the ability to integrate multiple ideas utilize functions in the frontal lobe and other regions of the brain (Sousa, 2009). Task commitment uses the limbic area to enable continued focus and interest (Sousa, 2009). Additionally, brain imaging has shown creativity causes areas of the brain to become highly activated (Sousa, 2009).

Though his model was widely accepted, Renzulli recognized that schools continued to use traditional testing to determine giftedness (Sousa, 2009). Renzulli sought to further discriminate giftedness as schoolhouse giftedness and creative-productive giftedness (Sousa, 2009). Schoolhouse giftedness referred to the ability to attain knowledge and demonstrate learning through classroom grades and tests (Sousa, 2009). Creative-productive gifted individuals tended to produce new ideas or products targeting a specific topic or field (Sousa, 2009). Despite Renzulli's contribution to the field, some researchers and educators criticized the three-ring model and his theories claiming that children were overlooked due to an inability to demonstrate their talents in a measurable manner (Webb et al., 1982).

Gardner. Like Renzulli, Gardner had a flexible view of intelligence. Similar to Dabrowski, Gardner attempted to show a relationship between problem-solving strategies and intelligence. Gardner (1983) did not view intelligence in a singular sense but

proposed a variety of intelligence types. In fact, he suggested that all individuals possess different types of intelligence as tools to solve problems or creating unique products. In his book, Gardner (1983) proposed seven types of intelligence and suggested the use of differentiated methods to learn and teach. Some researchers embraced Gardner's theory adapting them to develop enriching classroom curriculum (Armstrong, 1993). However, Gardner's theory drew criticism from gifted researchers concerning his expanding view of intelligence and growing list of intelligence types, especially considering there was little brain research to support his theory (Sousa, 2009). Many of Gardner's intelligence types were not regarded as traditional indicators. Gardner suggested that when society values a specific ability, it is worthy of being considered a type of intelligence (Worrell & Erwin, 2011).

Tannenbaum. Tannenbaum's research focused on identifying characteristics associated with giftedness to provide an improved understanding of this phenomenon. Tannenbaum (1983) defined giftedness as a group of five factors that included general ability, special ability, environment, non-intellectual characteristics such as ego, strength, and dedication, as well as chance. Tannenbaum's theory reflected his view of giftedness as a synergy between cognitive aptitude, psychological factors, environmental elements, and chance opportunities (Borland, Schnur, & Wright, 2004). However, Tannenbaum's research garnered criticism associated with the need for reliable and valid assessments for some areas contained in his model (Clark & Zimmerman, 1984; Moon, 2002; Moon, Kelly, & Feldhusen, 2004).

Tannenbaum (2003) developed the Star Model to provide a deeper explanation of giftedness. This model utilized similar elements from his previous research with some

descriptive differences, which included superior general intellect, distinctive special aptitudes, nonintellectual requisites, environmental supports, and chance (Tannenbaum, 2003). In the Star Model, his definition of giftedness was widely applied to include areas outside of academic achievement and other domains (Tannenbaum, 2003). Like some previous researchers, Tannenbaum acknowledged the importance of creativity, motivation, and self-concept and included these aspects among the nonintellectual factors (Miller, 2012). Like Renzulli and Hollingworth, Tannenbaum's theory reflected the impact of environmental factors (Miller, 2012). Tannenbaum's model was different from earlier gifted research because it recognized the role of chance (Miller, 2012).

Sternberg. Like Renzulli and Gardner, Sternberg sought to explain the nature of intelligence. Sternberg proposed the Triarchic Theory based on three main elements, which included analytical, creative, and practitioner intelligences (Sternberg, 1985).

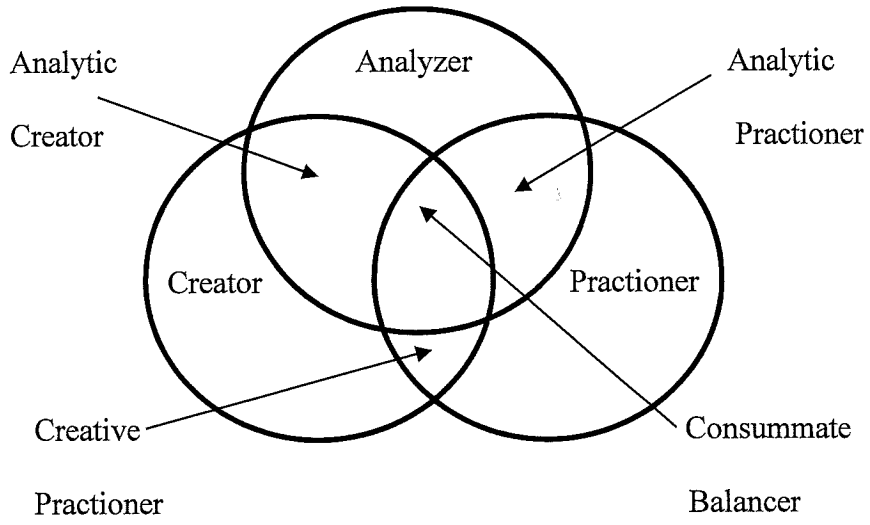

Figure 2. Sternberg's Triarchic Theory. Adapted from *Beyond IQ: A Triarchic Theory of human intelligence,* R. J. Sternberg, 1985.

In his theory, Sternberg (1985) suggested that intelligence was defined by the three behaviors and that giftedness occurs when an individual can demonstrate exceptional accuracy and efficiency in one or more areas (Sternberg, 1985). Expanding this theory, Sternberg and Zang (1995) developed the Pentagonal Implicit Theory of Giftedness. Sternberg and Zang developed their theory to include five criteria: excellence, rarity, productivity, demonstrability, and value. Sternberg, Ferrari, Clinkenbeard, and Grigorenko (1996) worked to show multiple uses of the Triarchic Model to assist in planning for instruction and assessment to evaluate the progress of gifted students. Sternberg (1997) proposed another model, the Theory of Successful Intelligence that involved recognizing strengths and weaknesses, goal setting, and achieving goals within a given environment.

Sternberg (2005) presented a proposal for giftedness, which specifically targeted leadership ability. The new model, WICS was named for the traits of wisdom, intelligence, and creativity synthesized. This model was based on the idea that gifted adults who demonstrate effective leadership have the ability to synthesize and evaluate ideas and implement decisions (Sternberg, 2005).

While Sternberg's model was applauded for the attention given to giftedness in adults, his work was critiqued for difficulties related to separating personality and behavior characteristics (Miller, 2012). Because Sternberg's theories reflected the complexities of psychological characteristics such as excellence and productivity, his work has continued to impact theories contributing to the field of research on giftedness (Sousa, 2009). Sternberg's research demonstrated a persistent and intentional effort to

interpret the meaning of giftedness and illustrated the difficulty in explaining the complexity of human intelligence.

Gagné. For many years, the terms "gifted" and "talented" have been closely associated causing increased confusion and a need for further discussion about the differences in terminology and appropriate definitions to sharpen understanding (Sousa, 2009). Gagné recognized the complexities of this struggle and attempted to provide some clarification. Gagné (1991) distinguished between giftedness and talent through his Differentiated Model of Giftedness and Talent (DMGT).

In his model, he proposed that giftedness was an innate ability in the absence of instruction in at least one aptitude area in which an individual was among the top 15% of same-age peers (Gagné, 1991, 1995). He suggested that talent was shaped through training and practice resulting in the development of a superior skill in at least one domain in which an individual performed in the top 15% when compared to a group of same-age peers. The DMGT described five aptitudes which included: intellectual, creative, socioaffective, sensorimotor, and an additional category to capture personal and paranormal abilities.

Gagné agreed with Hollingworth's research about the impact of environmental factors. Gagné supported that talent can be developed, but cautioned that motivation and environment could affect the outcome in a positive or negative manner (Gagné, 1995). Additionally, Gagné (1998) introduced a leveled method for categorizing gifted and talented populations that included mild, moderate, high, exceptional, and extreme. Distinguishing tiers of high intelligence was a beneficial hallmark that impacted the fields

of research and promoted an important paradigm shift in gifted education (Stephen & Karnes, 2000).

Van Tassel-Baska. Van Tassel-Baska (1992) agreed with many researchers who believed giftedness was complex, multifaceted, and difficult to define by a specific area, domain, or measure. However, Van Tassel-Baska did not dedicate her work to describing the nature of giftedness and dismissed the idea of a global definition. Her work focused on the social and affective needs, as well as curricular considerations of gifted students (Van Tassel-Baska, 1992; Van Tassel-Baska, Cross, & Olenchak, 2009). She recognized the varied needs of gifted students and promoted the use of differentiated instructional methods and specially designed curriculum (Van Tassel-Baska, 1992). Her work increased concern for the needs of gifted children. Through her research, she garnered more awareness for the underrepresented populations in gifted classrooms.

Gallagher. Delisle (2014) referred to Gallagher as an accomplished scholar and proponent of gifted children. Gallagher's work focused on gifted education and sought to reform systems in place to better meet the needs of gifted students. Gallagher (1994) reported broad support and concern for students with learning difficulties, yet little attention was given to gifted students and their special learning needs. He recommended that schools make modifications by differentiating content, offering acceleration opportunities, and forming special classes or schools for students to learn at an appropriate level of challenge (Gallagher, 1994).

Clark. Clark based her definition of giftedness on brain research, which suggested that gifted children think differently than their same-aged peers who are not gifted (Stephens & Karnes, 2000). Clark's (1997) research supported some of the

theories of Galton, Terman, and Hollingworth. Clark theorized that heredity was an influential factor in giftedness and proposed that advanced brain development was indicative of giftedness.

Callahan. Callahan (2005) agreed with the complexity of giftedness and emphasized that giftedness should not be narrowly defined as a single trait. Callahan shared similar beliefs with Renzulli and Gardner and suggested that definitions for giftedness were too confining and inflexible. Callahan agreed with Van Tassel-Baska (1992) contending that giftedness may not be demonstrated across all areas of learning or disciplines.

Pfeiffer. Similar to Sternberg (2005), Pfeiffer (2009) viewed giftedness to be a complex and labyrinthine phenomenon. Pfeiffer (2009) criticized traditionally narrow definitions of giftedness. Most researchers agreed that children with scores in the upper 3% to 5% on standardized tests compared to same-age peers were considered academically gifted (Thornburg, 2004; Pfeiffer, 2009). Pfeiffer (2009) questioned whether it was better to define giftedness more broadly to include exceptional ability in culturally valued domains or consider evidence of outstanding aptitude not yet demonstrated. Like Galton, Terman, and Hollingworth, Pfeiffer (2009) acknowledged research suggesting a genetic factor. Pfeiffer (2009) agreed with the research of Hollingworth that environmental elements played an influential role as well.

Gifted research has had an impact on schools and legislation. Researchers have provided new insight supported by data to help explain the nature of giftedness. Researched proposals have provided guidance in identifying gifted students and helped to shape attitudes about the learning needs of gifted children.

Gifted Advocacy and Support Groups

Discussed in this section is the importance of gifted advocacy and support groups. Advocacy and support groups dedicated to supporting the needs of gifted children have formed. The formation of these groups has provided a vehicle to promote changes in legislation, which impacted the education of gifted students (Delisle, 2002). The National Association for Gifted Children (NAGC) (2016) was formed in 1954 to advocate for the educational needs of gifted students. Other groups have been founded to provide support, awareness, or advocacy for gifted children and their families.

National Association for Gifted Children (NAGC). The mission of NAGC (2014) was dedicated to supporting educators, researchers, and parents who work to promote the growth and development of children who are identified as gifted or talented. NAGC acknowledged that there had not been a commonly shared definition of giftedness and did not propose a single operational definition. Instead, NAGC (2010) offered an independent definition of giftedness:

> Gifted individuals are those who demonstrate outstanding levels of aptitude (defined as an exceptional ability to reason and learn) or competence (documented performance or achievement in top 10% or rarer) in one or more domains. Domains include any structured area of activity with its own symbol system (e.g., mathematics, music, language) and/or set of sensorimotor skills (e.g., painting, dance, sports).

Davidson Institute for Talent Development (DITD). The DITD was founded as a nonprofit organization in 1999 by Bob Davidson (Delisle, 2014). The institute was formed because of growing concern for the nation's highly gifted and talented youth.

Their mission was to help highly intelligent students develop their talents to make a greater impact in the world. Additionally, DITD (2015) provided online support, classes, and experiences for gifted students who lived in other regions and were unable to commute.

Jack Kent Cooke Foundation. The Jack Kent Cooke Foundation started in 2000 with money from the estate of the billionaire (Delisle, 2014). Cooke sought to help children who were highly intelligent and creative, despite limited economic resources. The Cooke Foundation has provided support families of gifted children and educational opportunities to nurture intellectual and creative pursuits for many gifted children.

Supporting the Emotional Needs of the Gifted (SENG). Other organizations have formed to support and advocate for the emotional needs of gifted children and their families. SENG (2012) was formed with the mission to help families in providing guidance and support for gifted children in achieving their personal, social, and educational goals. Education was considered the central goal as they work to collaborate with community agencies to attain services for gifted children and families. Additionally, SENG has sought to provide a communication forum for parents and educators to collaborate and share ideas (Delisle & Galbraith, 2002).

Though some advocacy groups have received criticism for elitist attitudes, the formation of national advocacy and support groups has promoted awareness of giftedness and the need to nurture the abilities of gifted students. Through involvement in these groups, parents and teachers have collectively advocated for gifted children (Gargiulo, 2012). Because of public attention, legislators have been motivated to consider the needs

of gifted students in the development of laws that impact school districts (Gargiulo, 2012).

Federal Education Legislation

In this section, the federal laws that have affected the definition of giftedness, the identification of gifted students, and the instruction provided to gifted students are discussed. The National Defense Education Act in 1958 demonstrated the value placed on education by improving instructional standards in math and science and focusing on brighter students who needed more challenge, but this effort seemed to be a political response to current world events (U. S. Congress, 1959). The Civil Rights Act addressed discrimination and the need for equal educational opportunities for students (U. S. Congress, 1964). However, the Civil Rights Act did not address the educational needs of gifted students. The Elementary and Secondary Education Amendment of 1965 defined gifted and talented as students who have outstanding cognitive abilities or creative talent requiring specialized instruction not provided in schools (U. S. Congress, 1966).

Marland (1972) researched the state of gifted education. The results of his research became known as the Marland Report (1972). In his report, he recommended that trained professionals be responsible for the identification of gifted and talented children (Marland, 1972). He specified that gifted and talented students would require specialized instruction and services not offered in the regular classroom (Marland, 1972). The Marland Report was important as it established a palpable definition for children who are gifted or talented.

Gifted or talented children were defined as children capable of high performance and included those with a demonstrated achievement and/or potential ability in one or

more of the following areas: "general intellectual ability, specific academic aptitude, creative or productive thinking, leadership ability, visual and performing arts, and psychomotor ability" (Marland, 1972, p. 8). Additionally, gifted and talented students were to be identified according to the suggested criteria and make up a minimum of 3-5% of a school's population (Marland, 1972).

The Gifted and Talented Act expanded the definition to include preschool-aged children and continued to include performing arts (Purcell, 1978). Another important piece of gifted legislation, the Jacob K. Javits Gifted and Talented Students Education Act, removed the portion of the definition referring to psychomotor capabilities and eliminated age or grade level restrictions of gifted students (U. S. Congress, 1988). Based on this act, the U.S. Department of Education released a new report with a slightly revised definition. The term gifted was deleted from the definition to reflect the belief that intellectual ability and talent are constantly developing (U. S. Congress, 1994). By omitting "gifted" from the definition, a new view of ability was disseminated, which reflected a paradigm shift. Because some students are not able to demonstrate their full potential due to environmental factors, ability should not be considered fixed, for it is present across all socioeconomic and ethnic groups (Stephens & Karnes, 2000).

The No Child Left Behind (NCLB) Act (U. S. Congress, 2002) attempted to ensure that all children achieved state standards in reading and math. However, this legislation left out some children; the learning needs of gifted children were not addressed (Delisle, 2014). Hollingworth (1926) voiced concern over the lack of educational equality. Children who have learning disabilities have continued to be an urgent concern, while the needs of the gifted tend to be ignored (Delisle, 2014). Perhaps

meeting basic standards has taken precedence over meeting the needs of individual children.

The Every Student Succeeds Act (ESSA) was reauthorized in 2015 (Klein, 2016). This act reauthorized the Elementary and Secondary Education Act (ESEA) and replaced NCLB (Klein, 2016). The Obama Administration worked to create a more effective law focused on preparing all students to be ready to enter college or begin a career (Klein, 2016). Under ESSA, the Javits Gifted and Talented Students Education Program remained with some additional clauses about procedures for gifted data collection and reporting, funding for professional development for teachers who work with gifted students, and the use of Title I funds for identifying gifted students in diverse populations (NAGC, 2016).

State Education Legislation

Explored in this section are the state laws that have impacted gifted education. Although the federal government has revised and reframed their definition over the years, little change has taken place to provide a universally acceptable definition to assist states with developing gifted programs (Delisle, 2014). States have been granted the responsibility for creating their definitions for giftedness (NAGC, 2015). The results of a survey conducted by Stephens & Karnes (2000) showed that New Jersey, South Dakota, Massachusetts, New Hampshire, and Minnesota reported not to have a state definition for giftedness.

KSDE (2016) defined giftedness as "performing or demonstrating the potential for performing at significantly higher levels of accomplishment in one or more academic fields due to intellectual ability, when compared to others of similar age, experience, and

environment" (p. 878). Kansas has provided guidelines about giftedness and has defined exceptional children to include children who are gifted or who have disabilities (KSDE, 2016). Exceptional children who need special education are mandated to have an IEP (KSDE, 2016).

When comparing Kansas to neighboring states, there were dramatic differences. According to data from State of the States in Gifted Education (NAGC, 2015), Kansas and Missouri required teachers to have gifted education certification; Nebraska, Oklahoma, and Colorado did not require this professional endorsement. Kansas, Missouri, and Nebraska reported to use multiple scores or cutoffs to determine giftedness, but Oklahoma and Colorado accepted one test score with some degree of flexibility (McClain & Pfeiffer, 2012). In fact, Colorado's identification model required that students only demonstrate one score in the 95th percentile or greater on one of three tests measuring achievement, intelligence, and leadership or artistic talent (McClain & Pfeiffer, 2012). School principals or psychologists generally lead decision-making teams to analyze collected and testing data to determine students who may be gifted. Kansas, Missouri, Oklahoma, Colorado, and Nebraska reported that school principals and school psychologists are not required to be certified in gifted education (NAGC, 2015).

Since 1990, over half of the states have modified their definitions of gifted and talented (Stephens & Karnes, 2000). In fact, some states, like Georgia, Mississippi, New Mexico, North Carolina, Rhode Island, and Tennessee have expanded their definitions to include more areas of giftedness (Stephens & Karnes, 2000). Other states such as Nevada, Texas, Virginia, and Wyoming revised their guidelines to more narrow definitions of giftedness (Stephens & Karnes, 2000). According to survey data collected

by Stephens and Karnes (2000), Hawaii, Illinois, Kentucky, Maryland, Nebraska, North Dakota, Oklahoma, Pennsylvania, and Vermont slightly modified the verbiage of their state definitions of giftedness.

Researchers and educators have not agreed upon an appropriate definition of giftedness (Cramond, 2010). Since experts in the field have not reached consensus to clarify the meaning of giftedness, the problem of measuring giftedness is further complicated (Cramond, 2010). However, Cramond (2010) questioned the need for a shared definition. She proposed that a universal definition of giftedness was not applicable to all states or school districts in meeting the needs of students. One common definition of giftedness would not be representative of the multi-cultural differences of the country (Cramond, 2010). Additionally, she suggested the relevancy of a common definition as a temporary condition with a finite expiration.

The federal government has left the responsibility of making educational decisions, such as defining giftedness to states and individual school districts (Worrell & Erwin, 2011). In fact, all but four states have created a definition to guide school districts (Pankake, Littleton, & Schroth, 2001). Because individual states have been given the task of implementing gifted education, a nationally accepted definition of giftedness is not necessary (Cramond, 2010). A global definition would be challenging to draft and would not adequately address the unique learning needs of gifted students across varied regions and communities (Cramond, 2010).

Gifted Identification Process

While some professional discussion has continued to focus on the need to create an operational definition of giftedness, educators and school leaders have forged ahead in

their work to screen and identify children who are gifted (Webb et al., 1982). Most state legislation has not adequately addressed the issue of identification procedures (Pankake et al., 2001). Without clear guidelines, individual school districts have been left to create appropriate methods to identify students who may be gifted. However, Borland (1997) recommended that responding appropriately to the educational needs of students was more important than assigning the gifted label.

McClain and Pfeiffer (2012) suggested that policies and procedures for identifying potentially gifted students were paramount in deciding which students should receive gifted services. Plucker and Callahan (2014) agreed that appropriate procedures were needed for screening and identifying potentially gifted students. Gifted identification methods have been challenging for school districts to develop due to the lack of adequate resources (Sousa, 2009).

Because of the cost of gifted assessment, screening was suggested as a beneficial first step in the identification process. The purpose of screening was to provide an opportunity to analyze the needs of a student population and target students who have performed at high levels or shown a potential for outstanding achievement (Worrell & Erwin, 2011). Screening procedures could offer an affordable opportunity to identify the needs of all students, especially gifted students.

In a study conducted by Reiter (2002), six short forms of the WISC-III were compared to find the effectiveness of using short forms as gifted screening tools. The statistical data from the study showed that the short forms had low rates of underestimation and overestimation (Reiter, 2002). This results of this study may be helpful to researchers and schools as the research contributes to the existing literature.

A variety of screening instruments for giftedness were suggested in the research. Teacher checklists and surveys have been used to measure a student's personal characteristics (Gargiulo, 2012). Teacher rating scales, such as the Teacher Scale for Rating Students' Creativity have been reviewed as reliable and efficient in rating student behavior for potential giftedness (Garcia-Ros, Talaya, & Perez-Gonzalez, 2012). Teacher recommendation, also called teacher nomination, was listed as a common route to screen potentially gifted children (Hoge & Cudmore, 1986; Robinson, 2016).

Student portfolios have been useful tools in identifying outstanding performance (Robinson, 2016). Other tools used for gifted screening have included parent nomination, student interest inventories, and standardized achievement test scores (Worrell & Erwin, 2011). Based on information from screening data, educational teams could determine students who would require further evaluation for gifted programs.

Some experts have questioned the effectiveness of tools dependent upon teacher judgment of student characteristics (Endepohls-Ulpe & Ruf, 2005). As a result, researchers have suggested elementary teachers have more training in working with gifted students (Endepohls-Ulpe & Ruf, 2005). Professional development could provide teachers with a better understanding of gifted children. Greater understanding of giftedness might contribute to better decision-making practices for teacher recommendations in the gifted screening and identification process (Endepohls-Ulpe & Ruf, 2005).

The concern over teacher recommendations may be due to a frequently cited study by Pegnato and Birch (1959) that proposed teachers were not reliable sources in identifying students who may be gifted (Gagné, 1994). In his study, Gagné (1994) found

fault with the research procedures and interpretation of results in the Pegnato and Birch study. Because of his research findings on the Pegnato and Birch study, Gagne found teacher recommendations to be useful for the screening and identification of gifted students (Gagné, 1994). Although the current research did support teacher judgment, more research could be needed in this area.

Identification procedures have commonly included administration of standardized assessments (Perrone, 1986). These assessments include aptitude or achievement tests, as well as IQ tests (Pankake et al., 2001; Reis & Renzulli, 2004). However, some research in the field has described the nature of giftedness as having multiple qualities, which cannot be fully measured by a standardized assessment (Reis & Renzulli, 2004). Experts have continued to disagree with the use of IQ scores as the sole determinant for giftedness (Reis & Renzulli, 2004).

Research has shown that high intelligence exists and can be demonstrated in a variety of ways (Webb et al., 1982). Gargiulo (2012) recommended that the goal of utilizing assessment tools was to uncover student strengths and needs. The use of multiple measures has provided ample evidence to determine giftedness and address individual student needs (Webb et al., 1982). Prior screening data has yielded valuable data for educational teams to analyze with additional assessment measures to make effective decisions regarding gifted placement (Renzulli & Smith, 1977; Worrell & Erwin, 2011).

In addition to developing congruous identification methods for giftedness, researchers have recognized underrepresented populations in gifted programs (Callahan, 2005). Underrepresented populations have traditionally referred to ethnic minorities,

children with low socioeconomic status, or students who do not speak English as their native language (Callahan, 2005). Also, female students often have been underrepresented in programs for gifted students (Gargiulo, 2012).

Researchers suspected that current identification procedures were causing this imbalance of students in gifted programs (Callahan, 2005). For this reason, many have supported the use of multiple measures as being more effective in identifying gifted students (Worrell, 2009; Plucker & Callahan, 2014). Miller (1989) supported expanding the tools used to identify potentially gifted students as this method would yield more data to improve identification procedures. Plucker and Callahan (2014) cautioned that a variety of assessments might not be as beneficial as the way in which they are utilized. Professional development is critical in the effective use and interpretation of formal and informal assessment measures.

Card and Giuliano (2016) found that implementing a universal screening program in a large urban school district helped to identify more gifted students from underrepresented populations. In this study, a comprehensive, objective screening program was developed for second-grade students without any changes to the eligibility standards (Card & Giuliano, 2016). The Naglieri Non-Verbal Ability Test was used as the screening tool in the screening program (Card & Giuliano, 2016).

Students who scored at 130 or greater based on a mean of 100 were given a full evaluation by the school psychologist (Card & Giuliano, 2016). This study was important to gifted research in showing the role of screeners in the identification of gifted students from underrepresented populations. The results of this research supported the use of screening tools, which may apply to other student populations.

Steenburgen-Hu and Olszewski-Kubilius (2016) suggested that it is important for schools to implement a multi-dimensional approach to gifted identification. They noted that identification procedures in most states had been modified to include the use of multiple measures to determine giftedness. Recommendations were given in support of non-verbal ability tests for identification of giftedness (Card & Giuliano, 2016; Steenburgen-Hu & Olszewski-Kubilius, 2016).

Recent research has suggested that educational leaders consider a revision in their school's identification procedures to include intervention methods for high achieving students (McGowan et al., 2016). The data collected from the interventions would provide more evidence to support decision making for further assessment. Response to intervention systems have been widely accepted as appropriate frameworks utilized in teaching students at risk of falling behind in achievement or learning disabilities (McGowan et al., 2016). Similarly, instructional supports designed for very bright students may be beneficial in providing enriched learning experiences and assist with screening for gifted students (McGowan et al., 2016, Siegle & McCoach, 2010; Ysseldyke, Burns, Scholin, & Parker, 2010).

Another theory put forth focused on the use of curriculum-based measures as universal screeners for students who need further assessment to determine giftedness (Johnsen & Sulak, 2013; McGowan et al., 2016). The purpose of curriculum-based measures was to collect student data. Research suggested that student data could be used to align instruction according to individual needs and monitor student growth (McGowan et al., 2016). Because of the utility and availability of universal screeners, valuable data

can be readily collected to help identify students needing further testing for gifted programs.

McGowan et al. (2016) used the Dynamic Indicators of Basic Early Literacy Skills as a universal screener and administered the assessment to elementary students in the fall, winter, and spring. Though this screener analyzed reading growth only, results suggested that universal screening methods may provide useful information in identifying students for gifted testing (McGowan et al., 2016). Additionally, researchers suggested that using both curriculum-based measures and response to intervention systems might be effective in screening students for further gifted assessment (Johnsen & Sulak, 2013; McGowan et al., 2016).

McClain and Pfeiffer (2012) found that most states continue to identify 3% to 5% of students for gifted programs. Many researchers in the field of gifted education have supported an expanding conceptualization of giftedness beyond scores from standardized testing for achievement or aptitude (Fornia & Frame, 2001). Effective identification models consistent with current state and local definitions for giftedness are needed. These models should include the use of multiple measures such as universal screeners, response to intervention, and norm-referenced assessment (McGowan et al., 2016).

Measure of Academic Progress (MAP) Assessment

MAP is not associated with teacher surveys or teacher nomination for gifted identification, and is not considered a curriculum-based measure. The MAP Assessment is a computer-adaptive testing system to measure student learning (Cordray et al., 2012). Many school districts have employed the use of formative testing systems like the MAP

Assessment to gather data on student learning for effective instructional decision-making (Plucker et al., 2010).

Much of the available research about the MAP Assessment involved schools concerned with the achievement of students who struggled with learning than students who needed an increased academic challenge. Because the needs of potentially gifted students were ignored in the research, a gap in the research exists and more investigation would be needed on the expanded utility of the MAP Assessment. Researchers who analyzed educational trends warned that the future of our nation would depend upon supporting the academic needs of low achievers, but more importantly, advancing the needs of our brightest students (Xiang, Dahlin, Cronin, Theaker, & Durant, 2011)

Summary

The purpose of this review of the literature was to provide an overview of the history of gifted education including early pioneers to present day researchers. Secondly, the role of advocacy groups was studied. Then, federal and state legislation impacting school systems was examined for changes in procedures regarding gifted education. Information was shared about gifted identification models and screening procedures. Finally, this literature review concluded with a brief discussion of the MAP Assessment.

In chapter three, the methodology of this study is discussed, followed by a description of the research design, population, and sampling procedures. Also, instrumentation, procedures for data collection, and the analysis of data are presented. Finally, research questions with hypothesis testing and limitations are described.

Chapter Three

Methods

The purpose of this study was to explore the possible differences in the reading and math MAP scores of third and fourth-grade students who were later formally identified for gifted special education services and third and fourth-grade students who were not formally identified for gifted special education services. The results of this investigation could improve understanding of the utility of the MAP Assessment in helping to screen students for potential evaluation and formal testing for gifted special education services.

Presented in chapter three is a description of the research design, and the selection of participants. Additionally, this chapter contains information about the instrumentation, procedures for data collection, and details about the analysis of data. Finally, chapter three concludes with hypothesis testing and the limitations of the study.

Research Design

This study utilized a quantitative research method based on a non-experimental design. Archival data were used for this study. Comparative methods were considered most appropriate to examine possible differences between groups of same-age students who were later formally identified for gifted special education services and students who were not identified for gifted special education services.

The variables in this study were the reading and math portions of the MAP Assessment for students in third and fourth-grades. The reading and math MAP scores of third and fourth-grade students were analyzed and compared with the reading and math MAP scores of third and fourth-graders who were later identified as gifted.

Selection of Participants

The participants for this study were third and fourth-grade students who were not identified for gifted special education services at the time of MAP testing. Participants included in this study were enrolled in third and fourth-grade during the 2015-2016 and 2016-2017 school years. A purposive sampling procedure was employed to select students from the 35 elementary schools in School District ABC. Lunenburg and Irby (2008) described purposive sampling as "selecting a sample based on the researcher's experience or knowledge of the group to be sampled" (p. 175). The following criteria were used in selecting students for this study:

1. Students in this study were in third and fourth-grade.
2. Students were not identified for gifted special education services at the time of MAP testing.
3. Students took the MAP Assessment for reading and math during at least one of the testing periods which included Winter 2015, Spring 2016, Fall 2016, Winter 2016, or Spring 2017.

Measurement

McMillan (2008) described sound measurement as an essential element in effective quantitative studies. Creswell (2014) recommended that measurement information be included with an explicit description of the instrument used in data collection for descriptive research. Therefore, specific details about instrumentation were essential for inclusion in this study.

During the 2015-2016 school year, School District ABC adopted the MAP Assessment, which was published by the NWEA. The MAP Assessment was categorized

as a formative assessment and deemed useful in providing student data for instructional planning (NWEA, 2016). Formative assessments were described as tests or a series of activities that inform teachers of student growth according to learning standards in tested content areas, for differentiating classroom instruction (Militello, Schweid, & Sireci, 2010).

The MAP Assessment utilized a computer-adaptive testing system to measure student learning (Cordray et al., 2012). This assessment offered questions, which were computer-generated, based on a student's ongoing test performance (Cordray et al., 2012). Specifically, the MAP system was programmed to adjust the difficulty of test questions to measure student achievement accurately (NWEA, 2016). Additionally, the MAP Assessment had 1,500 possible questions in the testing bank for each subject area (Militello & Heffernan, 2009).

The NWEA created their tests for whole group administration for students in grades 3 through 10 (Cordray et al., 2012). The MAP testing system offered a collection of tests in reading, math, language, and science (Cordray et al., 2012). The math portion of the MAP Assessment consisted of 52 multiple-choice questions (Militello et al., 2010). Like the Math portion of the MAP Assessment, the Reading portion was multiple choice, but offered 42 questions (Militello et al., 2010).

The MAP Assessment was designed to collect data to demonstrate an individual student's learning continuum (Cordray et al., 2012). The MAP Assessment assigned a Rasch Unit Scale (RIT) score based on individual student performance and measured student learning growth in math and reading. The RIT scores from the reading and math

MAP scores were analyzed for differences among third and fourth-grade students later identified as gifted and third and fourth-grade students not identified as gifted.

Important aspects of measurement include validity and reliability. The technical manual of the MAP Assessment reported the results of validity and reliability testing for reading and math. NWEA reported that they have conducted numerous studies annually to measure the validity and reliability of the MAP Assessment for reading and math.

A study involving five states compared elementary performance in reading and math on state assessments and the MAP Assessments (Cronin, Kingsbury, Dahlin, & Adkins, 2014). To measure the validity of reading, concurrent validity testing was conducted by performing correlation coefficients. The average coefficient fell within a range of .76 and .82. The predictive validity of reading was strong between the reading MAP Assessment and the state assessments of the five participating states. Because the MAP Assessment is computer-adaptive for each student, traditional reliability testing was not possible for reading MAP Assessment. Cronin (2005) reported the reliability testing procedures were shown to be statistically significant in a NWEA study. Reading MAP reliability ranged from .94 to .95 (NWEA, 2009).

In the study comparing math MAP Assessment scores to state assessment math scores, a Pearson Correlation was conducted which showed the predictive validity of the math MAP Assessment was stronger than the predictive validity of the reading MAP Assessment (Cronin et al., 2014). Reliability testing took place over a period of a few weeks and was a combined procedure of test-retest and parallel forms. Marginal reliabilities were in the range of .90 through .95 (NWEA, 2011).

Data Collection Procedures

Before this study began, a research proposal was drafted and submitted to the Director of School Assessment of School District ABC (see Appendix A). A letter of support written by the major advisor for this study accompanied the proposal. School District ABC granted permission in April 2017 (see Appendix B). Next, the researcher sought permission from the Baker University's Institutional Review Board (IRB) committee (see Appendix C). In September 2017, the Baker IRB committee approved the study (see Appendix D).

Upon approval, the Director of School Assessment was contacted to request data needed for hypothesis testing. The school district's assessment department gathered the reading and math MAP Assessment scores for students in third and fourth-grade who were not identified for gifted special education services during the 2015-2016 and 2016-2017 school years. Additionally, the reading and math MAP Assessment scores were collected for third and fourth-grade students who were later formally identified for gifted special education services during the 2015-2016 and 2016-2017 school years.

The Department of School Assessment protected student identity by randomly assigning a number to each student. After all data was given to the researcher, the information was organized into a Microsoft Excel spreadsheet. To complete a statistical analysis of the data, it was imported into the IBM® SPSS® Statistics Faculty Pack 23 for Windows.

Data Analysis and Hypothesis Testing

During this study, MAP Assessment scores were collected from each participant. The research questions which guided this study are listed below. Each question is followed by the corresponding hypothesis and testing method.

RQ1. To what extent was there a difference in scores on the reading portion of the MAP Assessment for third-grade students who were later formally identified for gifted special education services and third-grade students who were not formally identified for gifted special education services?

H1. A difference existed in scores on the reading portion of the MAP Assessment for third-grade students who were later formally identified for gifted special education services and third-grade students who were not formally identified for gifted special education services.

An independent-samples *t* test was conducted to test H1. The reading MAP Assessment scores of third-grade students who were later formally identified for gifted special education services were compared to the reading MAP scores of third-grade students who were not identified for gifted special education services. The levels of significance were set at $\alpha = .05$.

RQ2. To what extent was there a difference in scores on the reading portion of the MAP Assessment for fourth-grade students who were later formally identified for gifted special education services and fourth-grade students who were not formally identified for gifted special education services?

H2. A difference existed in scores on the reading portion of the MAP Assessment for fourth-grade students who were later formally identified for gifted special education

services and fourth-grade students who were not identified for gifted special education services.

An independent-samples *t* test was conducted to test H2. The reading MAP Assessment scores of fourth-grade students who were later formally identified for gifted special education services were compared to the reading MAP scores of fourth-grade students who were not identified for gifted special education services. The levels of significance were set at $\alpha = .05$.

RQ3. To what extent was there a difference in scores on the math portion of the MAP Assessment for third-grade students who were later formally identified for gifted special education services and third-grade students who were not formally identified for gifted special education services?

H3. A difference existed in scores on the math portion of the MAP Assessment for third-grade students who were later formally identified for gifted special education services and third-grade students who were not identified for gifted special education services.

An independent-samples *t* test was conducted to test H3. The math MAP Assessment scores of third-grade students who were later formally identified for gifted special education services were compared to the math MAP scores of third-grade students who were not identified for gifted special education services. The levels of significance were set at $\alpha = .05$.

RQ4. To what extent was there a difference in scores on the math portion of the MAP Assessment for fourth-grade students who were later formally identified for gifted

special education services and fourth-grade students who were not formally identified for gifted special education services?

H4. A difference existed in scores on the math portion of the MAP Assessment for fourth-grade students who were later formally identified for gifted special education services and fourth-grade students who were not identified for gifted special education services.

An independent-samples *t* test was conducted to test H4. The math MAP Assessment scores of fourth-grade students who were later formally identified for gifted special education services were compared to the math MAP scores of fourth-grade students who were not identified for gifted special education services. The levels of significance were set at $\alpha = .05$.

Limitations

Lunenburg and Irby (2008) defined limitations as "factors that may have an effect on the interpretation of the findings or on the generalizability of the results" (p. 133). Because the researcher cannot control limitations, it is important to identify and report the limitations to communicate clearly avoiding false interpretation (Lunenburg and Irby, 2008). Limitations of this study included:

1. Some students may have benefited from previous learning opportunities or personal experiences, which assisted them in answering MAP Assessment questions.
2. Instruction between MAP Assessment testing periods may have been different according to the instructional methods and teaching styles of teachers in third and fourth-grade classrooms throughout School District ABC.

3. The testing environment for administering the MAP Assessment may have varied from school to school within the school district.
4. This study utilized samples from one school district. Caution should be exercised in generalizing these findings to other populations.

Summary

A nonexperimental quantitative design was employed in the study to analyze MAP Assessment scores. This chapter contained the research design and selection of participants. The measurement was explained including validity and reliability of the testing instrument. Then, procedures for data collection and data analysis and hypothesis testing were described. Finally, the limitations of the study were shared. The results of this study are presented in chapter four.

Chapter Four

Results

The main purpose of this study was to explore possible differences in scores on the MAP Assessment between students later identified as gifted and students not identified as gifted. More precisely, the MAP scores in reading and math of third and fourth-grade students who were later formally tested and identified for gifted special education services and third and fourth-grade students who were not formally tested and identified for gifted special education services were analyzed. In chapter four, descriptive statistics and the results of hypothesis testing are presented.

Descriptive Statistics

During the 2015-2016 and 2016-2017 school years, the MAP Assessment was administered to third and fourth-grade students from School District ABC. This assessment was administered to measure academic progress in reading and mathematics. The MAP Assessment was administered at five intervals which included Winter 2015, Spring 2016, Fall 2016, Winter 2016, and Spring 2017.

There were approximately 4,000 third and fourth-graders enrolled in School District ABC each year during this time. The sample for this study included third and fourth-grade students who were later formally identified for gifted special education services and third and fourth-grade students who were not formally identified for gifted special education services. Within this study, there were 198 third and fourth-grade participants from School District ABC.

For each MAP testing period and grade level, the two participant groups, students who were later identified as gifted and students who were not identified as gifted, were of

equal quantity. Third and fourth-grade students who were later formally identified for gifted special education services were selected based on the gifted identification date. The size of the sample varied among testing periods due to the number of third and fourth-grade students who met the guidelines of the study as identified for gifted special education services after a MAP testing cycle. Third and fourth-grade-students who were not formally identified for gifted special education services were selected randomly regardless of gender, ethnicity, socioeconomic background, or other possible educational services or classifications. Additionally, third and fourth-grade participants were administered the MAP Assessment for reading and math during at least one of the testing periods.

The sample means for students later identified as gifted were compared with the sample means for students not identified as gifted. For the reading portion of the MAP Assessment, the mean for third-grade students later identified as gifted was 222.71 with a standard deviation of 8.28 and the mean for third-grade students not identified as gifted was 200.33 with a standard deviation of 11.63. The mean for fourth-grade students later identified as gifted was 228.50 with a standard deviation of 6.94 and the mean for fourth-grade students not identified as gifted was 207.46 with a standard deviation of 11.24. The results for the reading portion of the MAP Assessment showed a significant difference. Specifically, the sample means for third and fourth-grade participants later identified as gifted were significantly higher than the sample means for third and fourth-grade participants who were not identified as gifted.

For the mathematics portion of the MAP Assessment, the mean for third-grade students later identified as gifted was 219.90 with a standard deviation of 9.59 and the

mean for third-grade students not identified as gifted was 201.02 with a standard deviation of 10.53. The mean for fourth-grade students later identified as gifted was 230.64 with a standard deviation of 10.39 and the mean for fourth-grade students not identified as gifted was 209.03 with a standard deviation of 12.50. The descriptive statistics showed that the sample means for the mathematics portion of the MAP Assessment for third and fourth-grade participants later identified as gifted was significantly higher than the sample means for third and fourth-grade participants who were not identified as gifted.

Hypothesis Testing

Hypothesis testing was conducted to address each research question. The results of this testing are included in this section. This study focused on four research questions and their corresponding hypothesis. A description of the analyses and testing results are presented below.

RQ1. To what extent was there a difference in scores on the reading portion of the MAP Assessment for third-grade students who were later formally identified for gifted special education services and third-grade students who were not formally identified for gifted special education services?

H1. A difference existed in scores on the reading portion of the MAP Assessment for third-grade students who were later formally identified for gifted special education services and third-grade students who were not formally identified for gifted special education services.

The results of the independent samples *t*-test indicated a statistically significant difference between the two means, $t = -17.375$, $df = 220.392$, $p < .001$. The sample mean

for students later identified as gifted ($M = 222.71$, $SD = 8.28$) was significantly higher than the sample mean for students not identified as gifted ($M = 200.33$, $SD = 11.63$). The results showed a difference existed in scores on the reading portion of the MAP Assessment among the two groups of third-grade students.

RQ2. To what extent was there a difference in scores on the reading portion of the MAP Assessment for fourth-grade students who were later formally identified for gifted special education services and fourth-grade students who were not formally identified for gifted special education services?

H2. A difference existed in scores on the reading portion of the MAP Assessment for fourth-grade students who were later formally identified for gifted special education services and fourth-grade students who were not identified for gifted special education services.

The results of the independent samples *t*-test indicated a statistically significant difference between the two means, $t = -13.885$, $df = 124.909$, $p < .001$. The sample mean for students later identified as gifted ($M = 228.50$, $SD = 6.94$) was significantly higher than the sample mean for students not identified as gifted ($M = 207.46$, $SD = 11.24$). The results showed a difference existed in scores on the reading portion of the MAP Assessment among the two groups of fourth-grade students.

RQ3. To what extent was there a difference in scores on the math portion of the MAP Assessment for third-grade students who were later formally identified for gifted special education services and third-grade students who were not formally identified for gifted special education services?

H3. A difference existed in scores on the math portion of the MAP Assessment for third-grade students who were later formally identified for gifted special education services and third-grade students who were not identified for gifted special education services.

The results of the independent samples *t*-test indicated a statistically significant difference between the two means, $t = -14.702$, $df = 244$, $p < .001$. The sample mean for students later identified as gifted ($M = 219.90$, $SD = 9.59$) was significantly higher than the sample mean for students not identified as gifted ($M = 201.02$, $SD = 10.54$). The results showed a difference existed in scores on the math portion of the MAP Assessment among the two groups of third-grade students.

RQ4. To what extent was there a difference in scores on the math portion of the MAP Assessment for fourth-grade students who were later formally identified for gifted special education services and fourth-grade students who were not formally identified for gifted special education services?

H4. A difference existed in scores on the math portion of the MAP Assessment for fourth-grade students who were later formally identified for gifted special education services and fourth-grade students who were not identified for gifted special education services.

The results of the independent samples *t*-test indicated a statistically significant difference between the two means, $t = -11.596$, $df = 150$, $p < .001$. The sample mean for students later identified as gifted ($M = 230.64$, $SD = 10.39$) was significantly higher than the sample mean for students not identified as gifted ($M = 209.03$, $SD = 12.50$). The

results showed a difference existed in scores on the math portion of the MAP Assessment among the two groups of fourth-grade students.

Summary

This chapter contained the descriptive statistics and hypothesis testing for each of the research questions posed in this study. The results of this study showed a difference existed in scores on the reading and math portion of the MAP Assessment among third and fourth-grade students later identified as gifted and third and fourth-grade students not identified as gifted. Specifically, the sample means of both reading and math portions of the MAP Assessment of third and fourth-grade students later identified as gifted were significantly higher than the sample means of third and fourth-grade students not identified as gifted. In chapter five, a summary of this study is described, including major findings related to the literature. Additionally, implications for action and recommendations for the future are explained, followed by the concluding remarks.

Chapter Five

Interpretation and Recommendations

Throughout the United States, school districts have been utilizing the MAP Assessment as a formative tool for educators to use when planning for instruction or intervention activities to better meet student learning needs (NWEA, 2016). The purpose of this study was to explore the efficacy of the MAP Assessment as an assistive tool for gifted screening. Specifically, this study was conducted to analyze possible differences in the reading and math MAP Assessment scores of third and fourth-grade students who were later formally identified for gifted special education services and third and fourth-grade students who were not formally identified for gifted special education services. Included in this chapter is a summary of the study in which the problem, purpose, research questions, methodology, and major findings are provided. The findings related to the literature and the conclusions are discussed, as well as implications and future research recommendations concerning the needs of gifted students and procedures for screening students for gifted evaluations are described.

Study Summary

This study was conducted to investigate differences in reading and math MAP scores of third and fourth-grade students who were later identified as gifted and third and fourth-graders who were not identified as gifted. In this section, a summary of the current study is provided. An overview of the problem, the purpose and research questions, review of the methodology, and the major findings of the study are shared.

Overview of the problem. McClain and Pfeiffer (2012) recognized the importance of policies and procedures for identifying potentially gifted children.

Callahan and Plucker (2014) supported the need for screening and identifying potentially gifted students. However, researchers have not named or recommended a specific, inexpensive systematic tool to screen all students for this purpose. Because a quality screening instrument is unavailable, researcher endorsements do not exist and school districts continue to be in need of a screening tool to assist with the gifted identification process.

Comprehensive procedures for gifted screening and identification have been difficult for school districts to develop due to limited financial resources (Sousa, 2009). Without a screening instrument, potentially gifted students may not be identified as quickly or may not be identified for a formal evaluation at all. Since many school districts use formative assessments, such as the MAP Assessment to collect student data for instructional planning, these assessments may serve another purpose assisting with initial screening for gifted programs.

When formal gifted evaluations are conducted, students lose valuable learning time in the classroom. Educators administering gifted evaluations must be given appropriate training, which is often costly for school districts. These considerations may cause educational teams to be reluctant to proceed to evaluation, even feeling pressured to decrease the number of gifted evaluations (McBee, 2016). A lack of financial resources may influence some decisions regarding gifted evaluations. An inexpensive diagnostic system to quickly screen all students may be helpful in saving schools money and instructional time, as well as providing a more effective method of determining the students who need gifted evaluations (McBee et al., 2016).

Purpose statement and research questions. The purpose of this study was to explore the utility of the Measure of Academic Progress (MAP) Assessment as an assistive tool for gifted screening. Differences in the reading and math MAP scores of third and fourth-grade students were evaluated. Specifically, the purpose of this study was to analyze the differences in MAP Assessment scores of third and fourth-grade students who were later formally identified for gifted special education services and third and fourth-grade students who were not formally identified for gifted special education services. Four research questions were developed to address the purposes of the study.

Review of the methodology. Using a non-experimental quantitative research design, archival MAP data were collected from School District ABC. Comparative methods were considered appropriate to examine possible differences between groups of same-age students who were later formally identified for gifted special education services and students who were not identified for gifted special education. The sample for this study was collected from third and fourth-grade students during the 2015-2016 and 2016-2017 school years. During this time, School District ABC administered the MAP Assessment at five intervals which included Winter 2015, Spring 2016, Fall 2016, Winter 2016, and Spring 2017. The participants for this study were third and fourth-graders who were later formally identified for gifted special education services and a random sample of third and fourth-grade students who were not formally identified for gifted special education services. An independent samples *t* test was conducted to test the hypothesis associated with each of the research questions.

Major findings. The findings of the study related to the four research questions are presented. The first and second hypothesis tests were performed to examine the

extent to which scores were different on the reading portion of the MAP Assessment for third and fourth-grade students who were later formally identified for gifted special education services and third and fourth-grade students who were not formally identified for gifted special education services. An analysis of the data showed that third and fourth-grade students who were later formally identified for gifted special education services scored significantly higher on the reading portion of the MAP Assessment than third and fourth-grade students who were not formally identified for gifted special education services.

The third and fourth hypothesis tests were conducted to assess the extent to which scores were different on the math portion of the MAP Assessment for third and fourth-grade students who were later formally identified for gifted special education services and third and fourth-grade students who were not formally identified for gifted special education services. An analysis of the data showed that third and fourth-grade students who were later formally identified for gifted special education services scored significantly higher on the math portion of the MAP Assessment than third and fourth-grade students who were not formally identified for gifted special education services.

Findings Related to the Literature

In this section, the findings of this study as they relate to the literature are examined. The discussion is focused on the MAP Assessment and the possible utility of this assessment as a screening tool to assist in identifying children who may need to be formally evaluated for gifted special education.

In terms of reading instruction, the findings of this study support that third and fourth-grade students who were later formally identified for gifted special education

services may need reading enrichment and differentiated instruction compared to third and fourth-grade students who were not formally identified for gifted special education services. In a study, Cordray et al. (2012) found that the reading portion of the MAP Assessment supported improved instructional practices and differentiated instruction. Effective reading skills are paramount to ongoing learning and students who are proficient readers may need more challenging enrichment in this area to continue to be engaged learners.

In the state of Kansas, the Response to Intervention (RTI) System is called Multi-Tiered System of Support (MTSS). For the gifted special education process, it is appropriate to provide enrichment interventions before a gifted evaluation occurs. Gifted intervention is considered a critical step in the process before a formal evaluation takes place (McBee, 2016).

In terms of math instruction, the findings of this study support that third and fourth-grade students who were later formally identified for gifted special education services may need math enrichment and differentiated instruction compared to third and fourth-grade students who were not formally identified for gifted special education services. Dahlin and Cronin (2010) studied math MAP Assessment scores and found that achievement gaps exist. When comparing the math scores of fifth-grade students from low income households to the math scores of fifth-grade students from non-low income households, Dahlin and Cronin (2010) found that generating a distribution of students yielded a more accurate picture of student performance on the MAP Assessment for math.

Furthermore, Dahlin and Cronin (2010) recommended for teachers to enrich students scoring at high levels on the math portion of the MAP Assessment to enable them to reach their full potential. The MAP system enables teachers to quickly create an individual report with student strengths and specific areas of instructional focus (NWEA, 2016). This type of report would help teachers to target mathematical concepts and topic areas needing enrichment for individual students. Data gathered from gifted enrichment interventions would be useful for instructional teams to discuss possible progression to gifted evaluation.

This current study focused on the expanded utility of the MAP Assessment. The results of the study would suggest that the MAP Assessment may offer some beneficial data for educational teams as they plan enrichment for potentially gifted students and proceed with gifted evaluation procedures. Much of the literature available on the MAP Assessment and other formative testing systems has focused on schools working to help those students who struggled with learning. More research is needed on the MAP Assessment related to the instructional needs of potentially gifted children.

Because of the costs of formal testing and the loss of instructional time for testing, McBee (2016) estimated that potentially gifted students often remain unidentified. To help solve this problem, McBee (2016) suggested that schools begin to use screening tools to assist in the identification of potentially gifted students. McBee et al. (2016) proposed a two-stage diagnostic system to screen all students with some proceeding to the next level of the gifted evaluation process. Additionally, the research of Borland and Wright (1994), Lakin (2016), and Card and Giuliano (2016) supported the use of universal screening procedures. For schools which are already utilizing the MAP

Assessment, this test could become the universal screener, which might be a cost-effective solution for finding potentially gifted students who may need further formal evaluation.

Conclusions

In this section, conclusions from this study are shared. The implications are presented to help school leaders understand the importance and need for effective procedures for gifted screening and identification. Also, school and district administrators may consider the MAP Assessment as an assistive tool for screening potentially gifted students for formal evaluation. Implications for action are followed by recommendations for future research and ends with concluding remarks.

Implications for action. The results from this study suggest that students in third and fourth-grade who score at higher levels on the reading and math MAP Assessment than same-age peers may be considered for possible progression in the gifted evaluation process. Before a student is referred for testing for any special education services, interventions must be applied and data collected to show a student's response to various instructional strategies and interventions. The MAP Assessment may be a helpful tool for school districts to collect data for teachers and school leaders to consult when discussing the needs of students who may need enrichment interventions in reading and math.

The state of Kansas uses MTSS for the application of systematic interventions. Enrichment for potentially gifted students is essential before progressing to formal gifted evaluation. McBee (2016) supported gifted enrichment as a important intervention before a formal evaluation. While this type of data shows details about individual

learning, it also helps to establish the student's need for gifted special education. In Kansas, students who qualify for gifted special education must meet eligibility requirements from formal testing and demonstrate a need for specialized instruction.

Another recommendation would be the need for professional development for teachers and educational leaders. Often, teachers have little understanding of the characteristics and varied needs of gifted students. Much attention has been focused on the importance of analyzing student data to target the individual learning needs of all children. Unfortunately, students who struggle in the classroom tend to receive more targeted instruction than students who have equally important needs for enriched instruction (McBee, 2016).

Increased professional development would improve teacher understanding and provide opportunities for teachers to learn new skills and strategies to enable them to be more effective in their instruction for students who are gifted. For school districts that currently use the MAP Assessment or are considering this tool for future use, training teachers in the appropriate administration and interpretation of the collected data will be essential in actualizing the full benefits of the instrument. Professional development would also serve to improve understanding of the gifted identification process and facilitate the formation of professional learning communities among staff to analyze student data, share ideas, and discuss students who may need enrichment opportunities or further evaluation for gifted education.

The current study supported the need for school and district administrators, special education directors, educational leaders, and school board members to collaboratively work to improve policies related to gifted identification and develop

effective procedures for identifying potentially gifted students. Improved procedures would include screening all students to ensure that potentially gifted students are identified for interventions and possible further evaluation. Progress in these areas would promote the use of enrichment activities in the general education classroom for students in need of these activities, especially students who are formally evaluated, but do not qualify for gifted services.

Another possible benefit of screening all students would be the saving of financial resources. Formal testing is costly, and students miss instructional time. Screening all students may more effectively identify students needing formal testing, eliminate excessive testing, and reduce the costs of unnecessary testing.

While many researchers have supported the need for a universal screener, schools may be hesitant in making a decision and need more information to select an appropriate tool to screen all students for potential giftedness. Instead of investing in another testing instrument, schools that currently use a formative testing system, such as the MAP Assessment may choose to explore the utility of this instrument. Further investigation by school districts into the efficacy of the MAP Assessment for this purpose would contribute to the current research available.

An effective screening tool is needed. Many educational companies may recognize this need as a new avenue for increasing profit margins. As a result, they may rush to create a screening tool with little or no research to support it, and quickly market the instrument with attractive packaging and an irresistible price tag. Unfortunately, this type of sales ploy may work with school districts that are scrambling to find a quick and simple solution to a problem that has long needed attention. However, careful

consideration and planning are needed when making a responsible decision related to the financial resources of school districts.

Until a screener supported by research is produced, school districts may need to be creative and explore other possible uses for the resources and materials they currently have. School districts may examine tools such as common assessments, formative assessments, or curriculum-based measures. Many schools have started using computer-adapted formative assessments, such as the MAP Assessment to collect data on students to analyze individual progress and determine student needs. Collaborative discussions among teachers, administrators, and stakeholders focused on the needs of the school district and available resources may facilitate possible solutions for screening procedures.

Regardless of the instrument chosen to gather data for gifted screening, it is appropriate for educational teams to continue to analyze all available data when making instructional decisions for potentially gifted students. When considering interventions or gifted special education evaluation, parent input is critical in determining how to best meet individual student needs. After gathering input from parents, student, and teachers, reviewing cumulative records, assessment scores, and screening data, educational teams may collaborate to make informed decisions to better meet student learning goals.

Advocacy groups, such as NAGC and parents may help to garner more support for improved identification procedures of potentially gifted students. Working closely with state legislators to keep these concerns a priority would help to facilitate change that will positively affect the policies of local school districts. As a result of this work, attention might be increasingly focused on the need for improving gifted identification policies and promote positive change in each state as well.

A concerning issue that needs further discussion and action is the use of educational verbiage, "gifted" and "gifted and talented" as synonymous terms. While this misunderstanding has probably been caused by the ongoing change in federal legislation, it continues to create confusion among parents, teachers, administrators, and researchers. Giftedness is usually identified according to high scores earned on standardized tests of intelligence and achievement. When a student is identified as talented, his talents may be in art, leadership, technology, sports, dance, or music. These are not areas in which standardized tests are available.

The state of Kansas recognizes intellectual giftedness. With the uncertain future of state financial support, many school districts would struggle to support the needs of talented students. While this is not an uncommon problem, states and school districts need to be mindful of the language used regarding gifted children and talented children. With limited financial resources, gifted and talented programs may be difficult to adequately fund and challenging to provide the quality of support and resources, which talented students may require for success.

Current research continues to show disagreement regarding the way giftedness is defined. With the ongoing changes in legislation that have affected how the federal government has defined giftedness, states have been given little guidance and much latitude on what constitutes giftedness. As a result, local school districts are dependent upon the state's definition to determine students who are gifted and eligible to receive gifted education services. Borland (1997) discouraged labels and recommended focusing on the appropriate services needed by individual students. However, many researchers

support that a label is necessary for helping to determine students who have a demonstrated need for gifted instruction.

This study found that third and fourth-grade students later identified as gifted scored significantly higher on the reading and math portion of the MAP Assessment than third and fourth-grade students who were not identified as gifted. School districts that currently use the MAP Assessment to gather data on student learning may be encouraged by the results of this study to explore other possible uses for this formative testing tool. However, caution should be exercised when examining the results of this study as generalizations cannot be applied to all grade levels, populations, and schools across the United States.

Recommendations for future research. The purpose of this study was to analyze the differences in the reading and math MAP Assessment scores of third and fourth-grade students who were later formally identified for gifted special education services and third and fourth-grade students who were not formally identified for gifted special education services. By analyzing the scores from the MAP Assessment, an inferred purpose of the study was to explore the utility of this assessment as an assistive tool for gifted screening. The recommendations below are presented to researchers, school district administrators, special education directors, gifted facilitators.

1. It is recommended future researchers expand the sample of this study to include elementary students in first through fifth grades from rural, urban, and suburban school districts with varied demographics across the United States. By expanding the study, researchers may be able to generalize about the results across different grade levels and school districts that use the MAP Assessment. After more

research has been conducted, results may support the MAP Assessment as an effective tool for screening possible gifted students.

2. It is recommended future researchers expand this study using stratified random sampling, rather than random sampling. Stratified random sampling might better preserve population demographics, yield additional data concerning the utility of the MAP Assessment, and increase current research.
3. It is recommended future researchers study the utility of the MAP Assessment. By exploring the existence of multiple uses of the MAP Assessment, additional educational benefits may be found to improve instructional methods, student learning, and target the needs of specific student populations, including students who may be gifted.
4. It is recommended future researchers analyze formative assessments similar to the MAP Assessment. By investigating other formative assessments, researchers may find additional instruments which may serve multi-purposes, including screening all students for further formal gifted evaluation.
5. It is recommended future researchers examine gifted identification procedures in rural, urban, and suburban school districts across the United States. By comparing gifted identification procedures and the number of identified gifted students, researchers may be able to evaluate current practices and improve procedures for identifying potentially gifted students.
6. It is recommended that researchers and the educational community collaboratively work to develop a multi-stage approach to assist in the identification of potentially gifted students. This multi-stage approach may

include an initial screening of all students, which was a proposal put forth by McBee et al. (2016) suggesting the effectiveness of a two-stage approach to identify potentially gifted children.

7. It is recommended future researchers develop appropriate screening tools to assist with gifted identification. Current research supported the need for screening tools or universal screeners. Research did not recommend specific tools designed for this purpose, and the availability of such products was difficult to find, scarcely limited, or not currently available for purchase in the educational market. Continued research and development of a reliable screening instrument to assist with the gifted identification process would be helpful for school districts.

Finally, it must be emphasized that this study was conducted in a large suburban school district in the Midwest. Therefore, results may not be generalized across other populations. Repeating this study in other school districts, grade levels, and among different socioeconomic demographics may contribute to the body of research on gifted identification procedures.

Concluding remarks. This intent of this study was to explore the utility of the MAP Assessment as an assistive tool for gifted screening. Specifically, the objective of this study was to analyze the differences in the reading and math MAP Assessment scores of third and fourth-grade students who were later formally identified for gifted special education services and third and fourth-grade students who were not formally identified for gifted special education services. The results of this study showed that third and fourth-grade students who were later formally identified for gifted special education services scored significantly higher on the reading and math portion of the MAP

Assessment than third and fourth-grade students who were not formally identified for gifted special education services. The results suggested that students in third and fourth-grade who score at higher levels than same-age peers could be considered for additional reading and math enrichment and possible progression in the gifted evaluation process. Certainly, these results contribute to the body of available research on gifted screening and identification procedures. However, more research is needed in these areas to determine the appropriate identification procedures and effective screening instruments to assist in the formal gifted evaluation process.

Meeting the individual needs of students and keeping them motivated and engaged in learning must be a priority for all teachers, educational leaders, and school and district administrators. Much attention is given to the students who struggle with learning and the need for this attention is not disputed. History shows that early civilizations valued the gifts and talents of highly capable children as a treasured natural resource to secure and strengthen their nation's future and preserve their culture. This example may serve as a reminder that gifted students have important needs that should not be ignored. While it can be agreed that educators, parents, and stakeholders have a common goal for all students. This shared goal is for all students to become successful lifelong learners and productive citizens of the community, and this goal is especially true for gifted students.

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Appendices

Appendix A: District Research Application

1. Applicant(s) Name: Tammy Whitlow
2. Position: Gifted Educator
3. School/Location: School District ABC
4. Telephone: 913-706-3633
5. Email Address: trwhitlow@School District ABC

6. Project Title: The Relationship between the Measure of Academic Progress Assessment and Identification Procedures for Gifted Education
7. The Proposed research is for: Dissertation

Seeking an advanced degree: ☒Yes ☐ No

Conducting research as part of a college class assignment: ☐Yes ☒No

College Semester: ☐Fall ☒ Spring ☐ Summer

Other: please explainThis research proposal will be the basis for the writing of my dissertation to fulfill graduation requirements in earning a doctorate degree in Educational Leadership.

University/College Affiliation Name: Baker University
University/College Name: Department: Education
Street Address: 8001 College Blvd.
City, State and Zip Code: Overland Park, KS
Phone Number: 913-491-4432 Fax Number: 913-696-1997

8. Anticipated Dates:
   Beginning Date: Winter 2017
   Ending Date: July 2017
   Date Final Report Available/Provided to School District ABC 2017
9. Participant Description:

- Educational Level of Students involved in the study (preschool, elementary, middle level, high school): Elementary
- Number of schools involved in the study: all district elementary schools
- Names of schools you would like to involve in your study: all 35 elementary schools
- Number of teachers involved in the study: 0
- Number of students involved in the study: 4th and 5th grade student (scores only)

Has the project been submitted to a Human Experimentation Committee? Respond☐ Yes or ☒No.

10a. If no, please explain why your project has not been submitted to a committee on human experimentation. Baker University requires doctoral students to have chapters one and two completed before the committee will formally meet for a discussion. Currently, I am working on revising and editing chapter two. My advisor plans on a spring break meeting of the committee.

10b. Paste a copy of the letter from the Human Experimentation Committee regarding your study (Word format)
Below or attach a scanned copy along with your request.

11. Brief review of the literature: Though studies of the gifted date back to the 19th century, gifted education received little attention until the National Defense Education Act of 1958. Terminology to

describe what itmeans to be gifted has sometimes been inaccurate and contributed to the ongoing misconceptions about the nature of giftedness. Because researchers and educational experts cannot agree on appropriate vocabulary or a universally accepted definition for giftedness, it is not surprising that measuring giftedness has been difficult. Galton and Terman held that intelligence was an inherited trait. Terman quantified intelligence by revising and publishing the Stanford-Binet Intelligence Test to determine an intelligence quotient (IQ). Hollingworth agreed that heredity, as well as environmental factors determined intelligence. Renzulli challenged these notions of intelligence being based on IQ tests alone and proposed a more flexible definition of giftedness to include music, art, leadership, and creativity. Because of Renzulli's work, researchers, educators, and legislators began to revise their conceptualizations of giftedness. The National Association for Gifted Children acknowledge that there is not a commonly held definition. Federal legislation was enacted as a result of the Marland Report (1972) which helped to broadly define giftedness as academic achievement, leadership ability, visual and performing arts, creative and productive thinking, and psychomotor ability. By 1994, Congress had discarded the belief that intellectual ability and talent continuously develop.The state of Kansas defines giftedness as "performing or demonstrating the potential for performing at significantly higher levels of accomplishment in one or more academic fields due to intellectual ability, when compared to others of similar age, experience, and environment. Kansas provides clear guidelines about giftedness and has defined exceptional children to include those who are gifted. Kansas is among a few states to included gifted education as part of special education services. Though researchers cannot agree on a universal definition for giftedness, researchers also disagree with the use of IQ scores being the sole determinant for giftedness. Research has shown that high intelligence can be demonstrated in a variety of ways. Identification methods for the gifted has been very challenging for school districts. Often, an evaluation requires trained professionals to conduct the protocols, costly testing materials, and students who are individually tested to miss instructional time. Additionally, researchers have recognized underrepresented populations participating in gifted programs.In addition to identification procedures which include standardized assessments, many schools rely on teacher or parent nomination, teacher checklists or student portfolio reviews as part of the gifted identification process. Because gifted students may not demonstrate their abilities or teachers may not be trained in working with gifted children, gifted students may not be identified for an evaluation. Some researchers have recommended a three stage evaluation process to avoid missing possible gifted students. This process would include a basic assessment for all students, then a teacher survey or checklist, portfolio, or intervention activity would be administered to some, and lastly the remainder of students would proceed to evaluation.

12. Major research questions and purpose of the study: RQ1. To what extent is there a difference in the MAP (for reading) scores of fourth or fifth grade students who have a gifted IEP and fourth or fifth grade students who do not have a gifted IEP?
RQ2.To what extent is there a difference in the MAP (for math) scores of fourth or fifth grade students who have a gifted IEP and fourth or fifth grade students who do not have a gifted IEP?
RQ3. To what extent is there a difference in the MAP (for reading) scores of fourth or fifth grade students who have a gifted IEP and fourth or fifth grade students who were evaluated and did not qualify for gifted special education services?
RQ4. To what extent is there a difference in the MAP (for math) scores of fourth or fifth grade students who have a gifted IEP and fourth or fifth grade students who were evaluated and did not qualify for gifted special education services?

13. Methodology (be specific) If administering a survey include survey instrument: This study will not need survey data. Archival data will be used for this study. The archival data needed will be the MAP test scores of students who are currently in 4th and 5th grades. Their MAP scores from the previous school year will include Winter 2016 and Spring 2016, and this year's MAP data for Fall 2016 and Winter 2017. The MAP scores from students who have been in the district for both school years will be needed. We will want to differentiate the scores of gifted students, students who were evaluated and did not

qualify for gifted education, and students who are enrolled in general education classes. We will not need the scores of students who have not been a student during all four MAP testing periods. A one-sample t test, an independent samples t test, and a Pearson product moment correlations will be used to analyze the collected data in this study.

14. Method Summary: This study will utilize archival data using a non-experimental research design. MAP assessment scores for students in the fourth and fifth grade during the 2016-17 school year will be gathered during four testing periods which include the winter, spring, and fall of 2016 and winter of 2017. Additionally, MAP assessment scores will be utilized for fourth and fifth grade students during the 2016-17 school year. The MAP scorres will be colleected for students who have been identified as gifted, had been evaluated and did not qualify for gifted special education services, and students from general education. A one-sample t test, an independent samples t test, and Pearson product moment correlations will be used to analyze the collected data in this study.

15. Research Design/Data Analysis: A non-experimental research design will guide this study. This design was selected for this study because archival data will be utilized. The independent variables in this study will include special education status of students who have a gifted IEP, general education status of students who were evaluated and did not qualify for gifted education services, and general education status of students who have not been evaluated for gifted education services and do not have a gifted IEP. The dependent variable in this study will be the change in MAP assessment scores over four collection periods.

16. Perceived Benefits of the Project:

17. Project Dissemination Plan: (The Perceived Benefits of this Project is included here as well.)This study will be shared with the Teaching and Learning Department, and will be benefical for Special Services and the Research Department in their decision making processes pertaining to instructional planning to best meet student needs. By the end of August, the completed study should be ready to share and present findings. The impact and perceived benefits of this study could promote further discussion focused on the utility of MAP assessment data to further improve instructional practices in meeting individual student learning needs. Additionally, further discussion may focus on the benefits of the MAP Assessment as a screening type of tool for the MTSS process to help identify students who may need further evaluation for gifted special education services or additional enrichment in the general education classroom.

18. Briefly describe how this research project supports | |District curriculum, a district goal, and/or individual school's improvement plan. One of the goals of School District ABCis increase the use of strategies/programs which meet individual learner needs. This means implementing the MTSS system and providing specific interventions for learners who are challenged or need more challenge in their learning. Our district's mission is to prepare students for their future.

19. Please provide a letter from your faculty advisor/committee or other appropriate official indicating that the research project has been reviewed and the researcher has met all requirements necessary to conduct the proposed research. Paste an electronic copy of the letter into this section or attach a scanned copy along with your request.
    Please see attached scanned copy of the letter from my advisor.

20. Please provide a copy of your class syllabus if you are conducting research as part of a class project. Paste an electronic copy of the document into this section or provide a scanned copy when submitting your application.
    N/A

21. I/We acknowledge that we have read and will abide by the District ABC Student Privacy IDAE policy.

Respond: ☒ Yes or ☐No

Any other comments regarding your application?

SCHOOL OF EDUCATION
Baldwin City, Overland Park, Wichita, Topeka,
Kansas City and Lee's Summit

1858

BAKER UNIVERSITY
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January 23, 2017

Dr. Richard Wilson
Director of School Improvement and Assessment
Instructional Resource Center
School District ABC

Dear Dr. Wilson,

This letter is written as confirmation that as Tammy Whitlow's major advisor at Baker University, I have received and approved her study. Additionally, I can confirm that her study has been reviewed and approved by one of our research analysts. Her study will be submitted for approval to our Institutional Review Board prior to the gathering of any data.

If you have any questions or concerns regarding this study, please do not hesitate to contact me.

Sincerely,

Jim Robins, Ed. D.

Appendix B: District Research Approval

April 7, 2017

Dear Tammy:

I am pleased to inform you that your request to do research in the School District ABC has been **approved.** Additionally, we do have record that your research has been approved by your advisor and Baker University.

In any of your work, please do not make any reference to the ABC School District or any specific elementary school– please reference as a "large suburban district in the mid-west" or an elementary school as a "suburban elementary school in the state of Kansas"– or some other reference name of your choice, but do not use the School name or any school names. Additionally, please do not use any student identifying information.

When your research if completed, we would love to see your results.

Good luck with your research!

Sincerely,

RE Wilson

Director of Assessment and Research
rwilsonirc@School District ABC

Appendix C: Baker University IRB Request

BAKER UNIVERSITY

SCHOOL OF EDUCATION
GRADUATE DEPARTMENT

Date:
IRB PROTOCOL NUMBER _____
(IRB USE ONLY)

IRB REQUEST
Proposal for Research
Submitted to the Baker University Institutional Review Board

I. Research Investigator(s) (Students must list faculty sponsor first)

Department(s) **School of Education Graduate Department**

Name	Signature	
1. Dr. Jim Robins		Major Advisor
2. Dr. Li-Chen-Bouck	_____	Research Analyst
3. Dr. Susan Rogers		University Committee Member
4. Dr. Brent Yeager		External Committee Member

Principal Investigator: Tammy Whitlow
Phone: 913-441-3017
Email: tammyrwhitlow@stu.bakeru.edu
Mailing address: 5031 Arapahoe
Shawnee, KS 66226

Faculty sponsor: Dr. Jim Robins
Phone: 913-344-1222
Email: jimrobins@bakeru.edu

Expected Category of Review: ___Exempt __X__Expedited ___Full

II: Protocol: (Type the title of your study)

The Relationship between Giftedness and Fourth and Fifth Grade Student Performance on the Measure of Academic Progress Assessment

Summary

In a sentence or two, please describe the background and purpose of the research.

During the 2015-16 school year, School District ABC adopted the Measure of Academic Progress (MAP) Assessment to be an instrument administered for collecting student achievement data. The purpose of this study was to determine the effectiveness of the MAP assessment as a tool in helping teachers to identify those students who may require further evaluation because of a demonstrated need for additional enrichment, which may necessitate gifted special education services.

Briefly describe each condition or manipulation to be included within the study.

There are no conditions or manipulations in this study.

What measures or observations will be taken in the study? If any questionnaire or other instruments are used, provide a brief description and attach a copy.

The investigator has received permission to analyze archival data from the Measure of Academic Progress (MAP) Assessment for reading and math from the 2015-16 and 2016-17 school year for students who are currently in the fourth and fifth grade in the School District ABC . Documentation of permission to use archival MAP data is attached.

Will the subjects encounter the risk of psychological, social, physical, or legal risk? If so, please describe the nature of the risk and any measures designed to mitigate that risk.

There are no psychological, social, physical, or legal risks involved in this study.

Will any stress to subjects be involved? If so, please describe.

There will be no stress on subjects involved in this study.

Will the subjects be deceived or misled in any way? If so, include an outline or script of the debriefing.

Participants of this study will not be deceived or misled in this study.

Will there be a request for information which subjects might consider to be personal or sensitive? If so, please include a description.

There will be no requests for personal or sensitive information for this study.

Will the subjects be presented with materials which might be considered to be offensive, threatening, or degrading? If so, please describe.

There will be no materials that might be considered offensive, threatening, or degrading presented to study participants.

Approximately how much time will be demanded of each subject?

No time will be required of any "subject" due to the use of archival MAP data from the School District ABC

Who will be the subjects in this study? How will they be solicited or contacted? Provide an outline or script of the information which will be provided to subjects prior to their volunteering to participate. Include a copy of any written solicitation as well as an outline of any oral solicitation.

The subjects in this study will be 300 students in the fourth and fifth grade during the 2016-17 school year. All identifying information related to the research has been redacted to ensure and protect the privacy of subjects.

What steps will be taken to insure that each subject's participation is voluntary? What if any inducements will be offered to the subjects for their participation?

Archival MAP data for reading and math will be used from subjects in this research. Therefore, there was no pursuit of participation or inducement of any kind to participate.

How will you insure that the subjects give their consent prior to participating? Will a written consent form be used? If so, include the form. If not, explain why not.

Permission was sought and granted to use archival data from the MAP Assessment for this research. It was made clear in this request that all identifying information related to this study would be redacted to ensure and protect privacy of every subject.

Will any aspect of the data be made a part of any permanent record that can be identified with the subject? If so, please explain the necessity.

The archival MAP data for reading and math collected and analyzed in this study will not be part of any permanent record.

Will the fact that a subject did or did not participate in a specific experiment or study be made part of any permanent record available to a supervisor, teacher or employer? If so, explain.

Given that archival MAP data was used for this research, every "subject" has already participated in the MAP Assessment during the 2015-16 and 2016-17 school year.

Therefore, for the purposes of this study, 100% of the subjects participated in the MAP Assessment for reading and math.

What steps will be taken to insure the confidentiality of the data? Where will it be stored? How long will it be stored? What will be done with it after the study is completed?

To ensure confidentiality of the subjects within the student, individual and school names will not be collected, recorded, or stored. The data that is collected will be stored through the defense of the dissertation and will be removed afterward.

If there are any risks involved in the study, are there any offsetting benefits that might accrue to either the subjects or society?

There are no know risks for participant involved in the study.

Will any data from files or archival data be used? If so, please describe.

Archival data served as the basis of this study of MAP data at the fourth and fifth grade. Permission was sought and granted from Mr. Richard Wilson, Director of Assessment and Research for the School District ABC to use archival MAP Assessment data for reading and math for this research. It was made clear to Mr. Wilson in my request that all identifying information related to this study would be redacted to ensure and protect the privacy of every subject involved.

Appendix D: Baker University IRB Approval

BAKER UNIVERSITY
1858 Own Confidence

Baker University Institutional Review Board

September 7, 2017

Dear Tammy Whitlow and Dr. Robins,

The Baker University IRB has reviewed your research project application and approved this project under Exempt Status Review. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

Please be aware of the following:

1. Any significant change in the research protocol as described should be reviewed by this Committee prior to altering the project.
2. Notify the IRB about any new investigators not named in original application.
3. When signed consent documents are required, the primary investigator must retain the signed consent documents of the research activity.
4. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.
5. If the results of the research are used to prepare papers for publication or oral presentation at professional conferences, manuscripts or abstracts are requested for IRB as part of the project record.

Please inform this Committee or myself when this project is terminated or completed. As noted above, you must also provide IRB with an annual status report and receive approval for maintaining your status. If you have any questions, please contact me at EMorris@BakerU.edu or 785.594.7881.

Sincerely,

Erin R. Morris

Erin Morris PhD
Chair, Baker University IRB

Baker University IRB Committee
Joe Watson PhD
Nate Poell MA
Susan Rogers PhD
Scott Crenshaw