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The Impacts of Principals' Knowledge and Advocacy on Gifted Programming in Site-Based Districts

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Abstract

The purpose of this study was to explore the impact of elementary principals' knowledge-base and advocacy on gifted and talented (GT) programming within their school in a site-based district. This study sought to understand principals' knowledge-base, acquisition of knowledge, and advocacy behaviors in an effort to support principals in the future to better understand and support GT programming within their schools. The research questions which guided this study were: How does the knowledge-base of a principal impact gifted and talented programming within his or her school? How does the advocacy behaviors of a principal impact gifted and talented programming within his or her school? How do principals acquire knowledge about gifted programming?

This study utilized a mixed methods approach incorporating an anonymous Internet survey and six semi-structured interviews with current elementary principals in Colorado. Results from this study suggested participants possessed a limited knowledge-base around gifted education leading to limited and inconsistent school-based programming. Their knowledge-base was impacted by their teacher and principal preparation programs and the lack of education they received on gifted evidence- and research-based practices. Results from this study further suggested participants' demonstrated limited if any advocacy behaviors for their schools' gifted program. Although the data collected through this study cannot be generalized to the larger population, the researcher feels these results can still be useful within specific contexts and to move the field of gifted education forward.

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ABSTRACT

The purpose of this study was to explore the impact of elementary principals' knowledge-base and advocacy on gifted and talented (GT) programming within their school in a site-based district. This study sought to understand principals' knowledge-base, acquisition of knowledge, and advocacy behaviors in an effort to support principals in the future to better understand and support GT programming within their schools. The research questions which guided this study were: How does the knowledge-base of a principal impact gifted and talented programming within his or her school? How does the advocacy behaviors of a principal impact gifted and talented programming within his or her school? How do principals acquire knowledge about gifted programming?

This study utilized a mixed methods approach incorporating an anonymous Internet survey and six semi-structured interviews with current elementary principals in Colorado. Results from this study suggested participants possessed a limited knowledge-base around gifted education leading to limited and inconsistent school-based programming. Their knowledge-base was impacted by their teacher and principal preparation programs and the lack of education they received on gifted evidence- and research-based practices. Results from this study further suggested participants' demonstrated limited if any advocacy behaviors for their schools' gifted program. Although the data collected through this study cannot be generalized to the larger population, the researcher feels these results can still be useful within specific contexts and to move the field of gifted education forward.

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CHAPTER ONE: INTRODUCTION

Persistent Problem of Practice

A comprehension program design (CPD) offering a continuum of services is essential for gifted learners (VanTassel-Baska, 2003; Reis, 2006; Finn, 2014; Plucker, 2015; NAGC, 2016). Traits of high-quality CPD for gifted learners include derivation of the services, comprehensiveness, practicality, consistency, clarity, availability, and continuation, extension, and evaluation (Reis, 2006). The National Association for Gifted Children (NAGC) further explain specific programming standards highlighting elements of CPD for gifted learners (2010). A few of these specific elements are a variety of identification and programming options and pathways, curriculum planning, resources, talented development to develop abilities, talent development to increase competencies, instructional strategies, culturally relevant curriculum, and socio-emotional development (NAGC, 2010).

In order to create an effective CPD for gifted learners, school leaders must understand the various elements of an effective CPD (Reis, 2006). Furthermore, schools leaders must develop the CPD in response to their student population (Reis, 2006). Within an effective CPD there are many identification and delivery options to meet the unique needs of the gifted population (Denver Public Schools, 2016), and the selected curriculum and instruction must be responsive and flexible to meet the diverse needs of the population (Hertberg-Davis & Callahan, 2013). The importance of curriculum cannot be overstated. Marzano (2003) states a guaranteed and viable curriculum is critical to impact student achievement, and high-quality curriculum for gifted learners is constructed from high-quality curriculum for gifted learners (Tomlinson, 2005; Reis, 2006; Hertberg-Davis & Callahan, 2013).

However, evidence continues to suggest gifted students are not provided with an effective CPD (Finn, 2014; Plucker, 2015; NAGC, 2016). Culturally and Linguistically Diverse (CLD) students and students eligible for free or reduced lunches continue to be underrepresented in gifted programs (Ford, 2003; Olszewski-Kubilius & Clarenbach, 2012; Ford, 2013; Worrell, 2014), and research has suggested "many classroom teachers lack the skill or will to modify instruction for students with varied learning needs" (Tomlinson, 2014, p. 205). In classrooms across the United States, "a regular classroom teacher has a primary responsibility to average students and then to students who have fallen behind. Time often runs out before a well-meaning teacher can organize special experiences for gifted students" (Gallagher, 2003, p. 18). Further evidence gifted students continue to not have their needs met through an effective CPD is suggested in Hardesty, McWilliams, and Plucker's (2014) work around the excellence gap. The excellence gap has highlighted advanced and gifted students across the United States are not staying at or ever reaching high levels academically.

This leads to the persistent problem of practice this study targeted. Instructional leaders must understand their students and understand the elements of an effective CPD for gifted learners in order for advanced and gifted students to show continual growth commensurate with their abilities (Reis, 2006; Finn, 2014; Hardesty, McWilliams, & Plucker, 2014). With this in mind, principals, as their schools' top instructional leader, require a strong knowledge base in order to meet their responsibility of ensuring the growth of every student in their building (Lynch, 2012; Marshall, 2013). Lynch (2012) states, "As instructional leaders, principals maintain the responsibility for the learning of all students" (p. 40). Marshall (2013) adds on and states, "Every principal's most important job is getting good teaching in every classroom (p. 3).

However, research has suggested gifted students are not making continual growth (Hardesty, McWilliams, & Plucker, 2014) and the level of teaching required to meet the needs of advanced and gifted learners is not in place (Ford, 2003; Gallagher, 2003; Olszewski-Kubilius & Clarenbach, 2012; Ford, 2013; Tomlinson; 2014; Worrell, 2014). This study focused on the impact of principals on gifted programs as they are the schools' primary instructional leaders (Lynch, 2012; Marshall, 2013) and because there is limited research on this population within the field of gifted and talented (Grantham, Collins, & Dickenson, 2014). This study sought to understand the knowledge base principals' possessed around gifted programming and how this knowledge impacted the schools' gifted programs and the advocacy behaviors of the principals for their schools' program. This study further sought to understand how principals acquired the knowledge they did possess around this group of learners.

Study Purpose, Problem, and Questions

The purpose of this study was to explore the impact of elementary principals' knowledge-base and advocacy on gifted and talented (GT) programming within their school in a site-based district. The problem this study was investigating was the limited amount of knowledge principals possess on gifted and talented programming and the associated lack of attention and advocacy on the school's gifted program. The research questions which guided this study were: How does the knowledge-base of a principal impact gifted and talented programming within his or her school? How does the advocacy behaviors of a principal impact gifted and talented programming within his or her school? How do principals acquire knowledge about gifted programming?

The questions stemmed from the persistent problem of practice and the purpose of the study. They were designed to seek understanding around the level of knowledge current

elementary principals' in Colorado possess on GT programming, how principals advocate for GT programming, and how principals have obtained their understanding of GT programming. By enhancing understanding around these questions, next steps can be developed to begin to solve the problem underlying this study, which is principals' possess a limited amount of knowledge around GT programming. Together, the purpose, problem, and questions work collectively to serve as the foundation and driving force for this study.

Study Audience, Outcomes, and Implications

The audience for this study includes, but is not limited to, universities (particularly those universities involved in teacher and principal preparation programs), policy makers (national, state, and district), district and school leadership, advocates and advocate groups, teachers, students, and parents. The selected community partner for this project was the Colorado Association of School Executives (CASE), an association working to "empower Colorado education leaders through advocacy, professional learning, and networking to deliver on the promise of public education" (CASE, n.d., para. 1). CASE additionally serves as an audience for the outcomes and implications from this study. Documentation of the partnership can be found in Appendix C.

The expected outcomes included both statistical analyses and emergent themes providing a mixed methods approach to thoroughly answer each of the three research questions guiding this study. Statistical analyses were completed on closed questions from the online survey. Due to the response rate, only descriptive statistics were utilized with the closed response questions from the online survey. Emergent themes were determined from coding open-ended questions from both the online survey and the semi-structured interviews. Complete methodology is discussed in Chapter Three, and data analyses are discussed at length in Chapter Four.

Implications for this study are far reaching. Universities could use this data to determine future need for revisions within current teacher and principal programs and class syllabi for inclusion of GT knowledge and strategies to increase the knowledge-base of future educators and leaders. Likewise, professional institutions, such as the Colorado Association of School Executives (CASE), and advocacy groups, such as the Colorado Association of Gifted and Talented (CAGT), could use this data to educate their members and provide a foundation for state-wide dialogue. Policy makers, educational leaders, and advocates on all levels could utilize this information to strengthen policies and mandates, continue to develop gifted programs, and highlight the needs and current status for GT students in the state of Colorado.

National, State, and Personal Context

The need for GT programming within schools is well documented (VanTassel-Baska, 2003; Finn, 2014; Plucker, 2015; NAGC, 2016). Gifted programs are needed to challenge students and have been found to impact gifted students' future in positive ways (NAGC, 2016). Gifted students who have participated in GT programs are more likely to attain higher education degrees, such as doctoral degrees, and GT students who have participated in GT programs continue to produce creative pieces in their chosen areas of interest (NAGC, 2016). Finn (2014) speaks directly to the need for gifted education as he states:

> Education policy in recent decades has been focused primarily on ensuring that all children — especially poor and minority children — attain at least a minimum level of academic achievement…In our effort to leave no child behind, we are failing the high-ability children who are the most likely to become tomorrow's scientists, inventors, poets, and entrepreneurs — and in the process we risk leaving our nation behind. This failure is due more to ideology, political correctness, distorted priorities, and fallacious

> theories of education, than it is to scarce resources…The truth is that high-ability students do not need more money spent on their schooling as much as they need to be allowed to learn at a faster pace with other gifted students. This will require more "gifted and talented" classrooms and programs in elementary schools [and] more honors and Advanced Placement courses at the secondary level. (p. 50)

VanTassel-Baska (2003) adds on and states, "Gifted and talented students, like all students, have the right to a continuity of educational experience that meets their present and future academic needs" (p. 174).

As of 2014, there were over 30,000 currently identified GT students in Colorado (CDE, 2015) with over two million identified gifted and talented students throughout the United States (http://nces.ed.gov/programs/digest/d04/tables/dt04_055.asp, 2000). Students identified as GT are the best and brightest the American school system has to nurture and develop (Gallagher, 2003), yet Plucker (2015) points out, "Multiple international comparisons reveal disparities in how our most talented students achieve relative to their peers in other countries" (p. 3) providing quantitative support proving countless of our students identified as possessing the aptitude to achieve higher than their same-age peers are failing to be competitive at an international level.

The current educational realities of gifted and promising learners throughout the nation must first be examined. To begin, students from specific populations, particularly Culturally and Linguistically Diverse (CLD) students and students eligible for free or reduced lunches are not seen by all as possessing the potential for high achievement (Ford, 2003; Olszewski-Kubilius & Clarenbach, 2012; Ford, 2013; Worrell, 2014). "Too often these children, who typically depend solely on public schools to meet their educational needs, are overlooked by educators and administrators who see high performance on ability or achievement tests as the sole indication of

high ability" (Olszewski-Kubilius & Clarenbach, 2012, p. 4). Countless numbers of our nation's greatest resources continue to go unrealized and therefore undeveloped or underdeveloped by teachers (Olszewski-Kubilius & Clarenbach, 2012), who are responsible for delivering differentiated curriculum and instruction (Gallagher, 2003; Tomlinson, 2014), and by principals (Olszewski-Kubilius & Clarenbach, 2012), who are responsible for establishing and evaluating programs to meet the needs of all the unique students within their school (Seedorf, 2014; Jacquith, 2015).

Copious amounts of students continue through the current educational system without having their gifts and talents acknowledged, understood, and cultivated by a school (Richert, 2003; Olszewski-Kubilius & Clarenbach, 2012; Plucker, 2015). Additionally, with current national reform efforts, it is not only students' abilities which may be overlooked. Richert (2003) explains the schools may not even have a program to meet the needs of the students once the student is identified as GT or having high academic potential. Richert (2003) adds on stating, "The national impetus for school reform has led many schools to adopt reform models that eliminate programs for the gifted, particularly in economically disadvantaged districts" (p. 146). This leaves an abundance of gifted and high potential students to have their needs meet within a general education classroom where teachers may or may not have the knowledge, understandings, and skills to meet this population's unique learning needs (Gallagher, 2003; Richert, 2003).

This leads into the educational strategy of differentiation. Tomlinson (2014) defines differentiation as "modifications of curriculum and instruction appropriate to the needs of the gifted learner" (p. 198). To meet the needs of the diverse learners within the classroom, general education teachers must plan to modify their curriculum and instruction on a daily basis for each

group of learners within their class (Tomlinson, 2014). Gallagher (2003) discusses the fate of many GT and high potential children taught within a general education classroom and explains why differentiation for this group of students does not consistently occur. He states, "A regular classroom teacher has a primary responsibility to average students and then to students who have fallen behind. Time often runs out before a well-meaning teacher can organize special experiences for gifted students" (Gallagher, 2003, p. 18). Tomlinson (2014) agrees and states, "Research from several facets of educational practice have suggested that many classroom teachers lack the skill or will to modify instruction for students with varied learning needs" (p. 205). Therefore, it is not only the issues around identification that are impacting GT and high potential students; it is also issues around lack of GT programming and appropriate, consistent differentiation (Gallagher, 2003; Richert, 2003; Tomlinson, 2014).

One reason explored to explain the lack of advanced and gifted differentiation and programming in schools is the national reforms aiming at and emphasizing proficiency as the target (Plucker, 2015). Rimm (2003) explains how school systems themselves can be harmful by stating, "School environments that value children's accomplishments but only provide tasks that are too easy and do not encourage challenge or sustained efforts also foster underachievement" (p. 425), which directly impacts students' motivation to "show what they know" in terms of proficiency (Plucker, 2015). The problem comes full circle. Students underachieve due to the school environment, are potentially overlooked or not fully recognized for their gifts and talents, and do not have access to appropriate curriculum, instruction, and programming therefore continue to underachieve (Richert, 2003; Rimm, 2003; Plucker, 2015).

In Colorado on June 1, 2015, the Colorado's Exceptional Children's Education Act (ECEA) went into effect (Colorado State Board of Education Code of Colorado Regulations,

2015). Within this act, gifted education was included as were specific mandates encompassing gifted education (Colorado State Board of Education Code of Colorado Regulations, 2015). The legal mandate for gifted programming in all schools included in the ECEA states, "Administrative units shall implement gifted education student programs providing programming options and services for gifted children for at least the number of days calendared for the school year by each school district" (Colorado State Board of Education Code of Colorado Regulations, 2015, p. 98). The ECEA also included definitions for gifted children and programming (Colorado State Board of Education Code of Colorado Regulations, 2015), which will both be discussed further in Chapter Two. Other terms defined include assessment, identification, evaluations, and Advanced Learning Plans procedures and guidelines and guidelines around portability, which means once a student is identified in one Colorado school district, upon moving, all other Colorado school districts must honor the student's advanced learning plan (Colorado State Board of Education Code of Colorado Regulations, 2015). Another mandate within the ECEA is the formation of talent pools, which changes the sole emphasis of gifted programming within Colorado from already developed talent to developing the gifts and talents of those not yet qualifying for an advanced learning plan (Colorado State Board of Education Code of Colorado Regulations, 2015). Therefore, schools should have a designated talent pool group within their school where those students are receiving differentiated curriculum and instruction in order to facilitate their high potential for achievement and growth with the ultimate goal of possible gifted and talented identification either through traditional methods of assessments or the formation of a portfolio of advanced work (Colorado State Board of Education Code of Colorado Regulations, 2015). However, from school to school it is common to see inconsistencies in gifted programs, even within the same district (Young & Balli,

2014). These inconsistencies become issues of equity as schools with large populations of Culturally and Linguistically Diverse (CLD) students and students qualifying for free or reduced lunch have inconsistent programs when compared to affluent schools (Young & Balli, 2014). Just as Sonia Sotomayor stated, "Until we get equality in education, we won't have an equal society." We can ill afford as a state or nation to continue these inequities.

To better understand the current realities of GT programming, researchers have focused much time and attention on what is working and what is not working within GT programming (Gallagher, 2003; VanTassel-Baska & Stambaugh, 2005; Olszewski-Kubilius & Clarenbach, 2012; Ford, 2013; Worrell, 2014; Plucker, 2015). The purpose of this study was to explore the impact of elementary principals' knowledge-base and advocacy on gifted and talented (GT) programming within their school in a site-based district. Principals were the focus of the research because of this group's influence on curriculum, instruction, and programming within a school.

Another part of this study seeks to understand if a principal's knowledge base around gifted programming impacts the school's gifted programming through site-based decision making. Numerous school districts nationally have moved towards site-based decision making (Ouchi, 2006). Within the state of Colorado, 77 percent of all schools have reported site-based decision making (US Department of Education, 1996). Site-based decision making enables principals to work with all stakeholders to make decisions with their specific school population in mind, including curriculum, instruction, and programming (US Department of Education, 1996). Although certain functions are still performed by people at a central administration office, autonomy is granted to individual schools (Ouchi, 2006).

Lynch (2012) speaks of the great responsibility placed on principals. Lynch (2012) states:

> Historically, principals served as disciplinarians and the teachers' boss. Under current federal legislation, principals now must accept the responsibility to manage personnel, funds, and strategic planning. Today's principals also must accept responsibilities associated with being their schools' instructional leaders. As instructional leaders, principals maintain the responsibility for the learning of all students, including students with disabilities. (p. 40)

However, with these responsibilities there is not always success, and schools often enter into due process because of the school's inability to meet the needs of students with disabilities as delineated through Individualized Education Plans (IEP) for Special Education services (Mueller, 2009). Due process is a "key dispute resolution feature approved by Congress in accordance with the Individuals With Disabilities Education Act, whose goal is to facilitate resolution and minimize conflict" (Mueller, 2011, p. 131). Due process hearings are usually requested by parents, and Mueller (2009) estimates there are more than 14,000 requests for due process hearings based on IEPs with the number increasing annually. "The costs accrued could be as much as $50,000 per hearing, with some cases that reach federal appeals court costing as much as $60,000 to $100,000. School districts across the United States are spending more than $90 million per year in conflict resolution" (Mueller, 2009, p. 4). Due to this, Special Education is included in principal preparation programs, although there is still a call to further increase training in this area within principal preparation programs (Lynch, 2012).

Much like an IEP, the ALP is a legal document created by a team consisting of the teacher, student, and parents utilizing a body of evidence (Colorado Department of Education,

2016). Standards-based goals are created, with at least one academic goal within the student's area of strength and one affective goal (Colorado Department of Education, 2016). These goals are meant to drive the students programming for the year therefore are progress monitored and revised by the team (Colorado Department of Education, 2016). Unlike an IEP, the ALP currently does not have the same potential impact for noncompliance (Colorado Department of Education, 2016). IEPs and special education law are included within administrator preparation programs as IEPs have been the platform for several lawsuits against public education schools (Mueller, 2009). However, gifted education, centered around a student's advanced learning plan, while mandated within the state of Colorado, does not currently carry any consequences if the mandate is not met (Colorado State Board of Education Code of Colorado Regulations, 2015; Colorado Department of Education, 2016). However, as Lynch (2012) states, "As instructional leaders, principals maintain the responsibility for the learning of all students" (p. 40).

Several persistent problems of practice determined through research have been discussed. This study seeks to create a fuller understanding on the impact of elementary principals' knowledge-base and attitude on gifted and talented (GT) programming within their school in a site-based district. Implications include changes in content within teacher and administration preparation programs and providing data and insight to policy makers, educational leaders, and advocates on all levels to strengthen policies and mandates, continue to develop gifted programs, and highlight the needs and current status for GT students in the state of Colorado. In the next chapter, the literature supporting this study was examined.

Study Overview

This study utilized a mixed methods investigation collecting both quantitative and qualitative data to more fully understand each question driving this study (Creswell, 2014). First, an anonymous, one time internet survey was distributed among a sample of elementary principals across the state of Colorado. The survey consisted of a variety of closed and open ended questions. Statistical analyses were conducted on all closed ended questions, and emergent codes were clustered into themes from the open ended questions.

Additionally, semi-structured interviews were conducted with six principals. Two principals worked in rural settings, two principals worked in suburban settings, and two principals worked in urban settings. Two principals from each setting were purposefully selected to provide insight into the different educational settings across Colorado. Codes, some of which were taken from the survey results and others which emerged through interview data, were utilized to develop themes within the interview data.

The theoretical framework utilized within in this study is the theory of adaptive leadership developed by Heifetz, Grashow, and Linsky (2009). Adaptive leadership begins with diagnosing a system to determine technical challenges, which can be solved by current know-how, and adaptive challenges, which involve working to modify people's beliefs and priorities (Heifetz, Grashow, & Linsky, 2009). Using the lens of technical and adaptive challenges, the researcher examined the results, findings, and implications as technical and/or adaptive challenges.

More on the theoretical framework and other relevant literature is discussed throughout Chapter Two. The study's complete methodology is discussed in Chapter Three. Data analysis and results collected from the study are examined in Chapter Four, and the findings and implications of the data are highlighted in Chapter Five.

CHAPTER TWO: LITERATURE REVIEW

Overview

The purpose of this study was to explore the impact of elementary principals' knowledge-base and advocacy on gifted and talented (GT) programming within their school in a site-based district. The persistent problem of practice was the limited amount of knowledge principals' possess around gifted and talented programming. This study sought to understand principals' knowledge-base, acquisition of knowledge, and advocacy behaviors in an effort to support principals in the future to better understand and support GT programming within their schools. This chapter is an exploration into a variety of topics and research impacting gifted and talented (GT) programming in schools with site-based management, with a specific focus on the principal's impact on such programming. First examined are the current programming standards and delivery models commonly implemented to meet the needs of GT and high potential learners along with the research emphasizing the need for GT programming within schools. Next, the transforming populations across America and the impact of these changes on GT programming were discussed. The subsequent section explores the barriers currently in place preventing countless GT and high potential learners from participating in GT programs. The literature on the principal's impact on all programs within their school along with the impacts a principal has on GT programming was investigated. To end, the theoretical model guiding this study was explored.

Gifted and Talented Defined

To begin, it is necessary to clarify and define what is meant by the term "gifted and talented". Missett and McCormick (2014) speak to this imperative and state:

> The way in which a school district conceptualizes giftedness should guide its overall programming for gifted students, including how to identify gifted learners, how to instruct them so their gifts and academic potential are realized, and how to evaluate whether the identification and instruction were appropriate and relevant to the cognitive characteristics. (p. 143)

The definition of gifted and talented therefore drives all aspects of gifted and talented programming (Moon, 2006). This has particular emphasis for principals because they must clearly understand their district's definition of GT so the school-based program is in agreement with the district definition.

Over time, the conceptions of how gifted and talented is defined has changed and there is continual disagreement within the field (Reis & Renzulli, 2009). This can make it difficult for anyone entering into the field to understand what GT is because the field itself, historically and currently, argues within itself about what GT is and how it should be defined. If a principal does not have a clear understanding of who GT learners are and how GT is defined, it is difficult to have a strong program to match these learners needs (Moon, 2006). To shed some light on the continual changing of definitions, explanations of some of the most significant historical and current definitions were reviewed.

Initially, giftedness was defined nationally as possessing the intelligence to score statistically higher compared to the general population on an intelligence test (Terman, 1925; Hollingworth, 1942). Stephens and Karnes (2000) summarize the changing federal definitions and state:

> One of the first federal definitions for gifted and talented students appeared in The Education Amendments of 1969 (U.S. Congress, 1970) which stated:

> The term 'gifted and talented children' means in accordance with objective criteria prescribed by the Commissioner, children who have outstanding intellectual ability or creative talent, the development of which requires special activities or services not ordinarily provided by local education agencies. (p. 220)

This definition is important to all school leaders because it shifts emphasis from solely the definition of gifted and talented as a child who can demonstrate an extraordinary ability, such as scoring significantly higher on an intelligence test than his or her peers, to include a requirement on schools to provide programming for students who have this proven aptitude. Stephens and Karnes (2000) continued by citing Marland (1972) who modified the definition of gifted and talented children by stating:

> Gifted and talented children are those identified by professionally qualified persons who by virtue of outstanding abilities are capable of high performance. These are children who require differentiated educational programs and/or services beyond those normally provided by the regular school program, in order to realize their contributions to self and society.
>
> Children capable of high performance include those with demonstrated and/or potential ability in any of the following areas, singly or in combination:
>
> - General intellectual ability
> - Specific academic aptitude
> - Creative or productive thinking
> - Leadership ability
> - Ability in the visual or performing arts

- Psychomotor ability. (p. 221)

This definition continues to encompass the idea of demonstrated abilities and broad school programming expectations; however, it provides specific areas of giftedness beyond general intelligence. The first addition is specific academic aptitude, which means advanced work within a specific subject area, like language arts or math (Stephens and Karnes, 2000). The second is creative or productive thinking, which places emphasis on the creative individual for the first time. "Creativity is the single-word description of a student's ability to come up with new ideas, to tolerate ambiguity, to choose complex ideas over simple ones, to develop new meanings of concepts, and to enjoy taking risks" (Markusic, 2012, para. 4). The third is leadership, which identifies the natural leadership qualities some children possess. "Not all leaders are geniuses. But good leaders demonstrate highly developed interpersonal and social skills. This is why they have the ability to negotiate, influence, and even dominate. Students with leadership abilities are usually responsible and self-confident" (Markusic, 2012, para. 5). The fourth area is advanced abilities in visual and performing arts. "Talents in visual and performing arts are usually demonstrated in music, painting, drama, and other similar areas. Although subjective, judges critique the appeal of an artwork, the existence of giftedness and talent in the arts is identified through a more objective process" (Markusic, 2012, para. 6). The final area for gifted identification listed is advanced psychomotor abilities. "Highly developed kinesthetic abilities lead to extraordinary psychomotor abilities. The gifted and talented student has exceptional mechanical, spatial, and physical skills" (Markusic, 2012, para. 7). All of these listed elements can be areas in which a learner can be identified as gifted and talented, so principals must ensure all of these areas are included within a school's GT program (Moon, 2006).

In 2004, a new federal definition for gifted and talented was created within the No Child Left Behind Act. The current federal definition of gifted and talented states:

> The term 'gifted and talented," when used with respect to students, children, or youth, means students, children, or youth who give evidence of high achievement capability in such areas as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who need services or activities not ordinarily provided by the school in order to fully develop those capabilities. (No Child Left Behind Act, 2004, p. 20)

This definition is similar to Marland's 1972 definition of gifted and talented. Like Marland's 1972 definition, it emphasizes this group of identified students need programming beyond what a school regularly provides to the student body.

The National Association of Gifted Children (NAGC) is a leading national advocacy group for gifted and talented children and their families. The current National Association of Gifted Children's definition states:

> 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). (NAGC, 2016)

This definition is a definition only of who gifted and talented learners are and does not discuss the role of the school in developing such learners. The expectations of the school around programming for GT learners has been separated from the definition of GT learners and has been developed into a set of programming standards which was reviewed later in this literature review.

Although there is a federal definition as well as a definition from a national leading advocacy group, there continues to be great debate around the definition of giftedness. Reis and Renzulli (2009) state:

> Difficulty exists in finding one researched-based definition to describe the diversity of the gifted and talented population, and the number of overlapping definitions of giftedness that are proposed in educational research underlies the complexity of defining with certainty who is and who is not gifted. (p. 308)

For example, every state has created its own definition of what it means to be gifted and talented (NAGC, 2013). These varying definitions reflect a deviation in beliefs about who gifted learners are from around practitioners, researchers, and policy makers across the nation. Again, this can lead to confusion for principals and others learning about the field. For the purposes of this study, the definition of "gifted and talented" utilized was taken from the Colorado Department of Education (CDE), which states:

> 'Gifted and talented children' means those persons between the ages of five and twenty-one whose abilities, talents, and potential for accomplishment are so exceptional or developmentally advanced that they require special provisions to meet their educational programming needs. Children under five who are gifted may also be provided with early childhood special educational services.
>
> Gifted students include gifted students with disabilities (i.e. twice-exceptional) and students with exceptional abilities or potential from all socio-economic and ethnic, cultural populations. Gifted students are capable of high performance, exceptional production, or exceptional learning behavior by virtue of any or a combination of these **areas of giftedness**:

- General or specific intellectual ability
- Specific academic aptitude
- Creative or productive thinking
- Leadership abilities
- Visual arts, performing arts, musical or psychomotor abilities.

(http://www.cde.state.co.us/gt/about, retrieved April 23, 2016)

This definition was chosen not only due to the fact the study was completed within the state of Colorado, but it was moreover selected due to its comprehensiveness as it honors much of the diversity within the field.

One critical section of giftedness that is yet to be included in the state definition is linguistic giftedness, which includes the rate with which a person acquires languages and a person's vocabulary and flexibility within languages (Biedroń & Pawlak, 2016). With our nation's changing population, language and students' abilities across multiple languages is a significant area of giftedness to be acknowledged and nurtured. Another foundational belief of this study is that "there is no single homogeneous group of gifted children and adults, and giftedness is developmental, not fixed at birth" (Reis & Renzulli, 2009, p. 233). The field of gifted and talented cannot be focused on a single group or style of learners (Olszewski-Kubilius & Clarenbach, 2012; Ford, 2013) nor can the focus be on already developed talent (Olszewski-Kubilius & Clarenbach, 2012; Plucker, 2015). It is the ethical responsibility of all within the field to nurture and develop talent in all groups and for all styles of learners (Gallagher, 2003; Olszewski-Kubilius & Clarenbach, 2012; Finn, 2014). Together, this definition and these ideals drive the foundational underpinnings of this study to increase support for principals in the future to better understand GT programming.

Gifted and Talented Programming Standards

In 2010, the National Association for Gifted Children (NAGC) in conjunction with the Council for Exceptional Children, The Association for the Gifted (CEC) revised standing national Gifted Program Standards to support the implementation and evaluation of a continuum of research-based services for professionals to meet the needs of gifted learners. This resource was created to assist school and district leaders evaluate their current program to identify elements of success and next steps to continually create a stronger program for GT and high potential learners (NAGC, n.d.). As such, principals possessing a strong knowledge based around these standards could be helpful in creating and evaluating a school based gifted program. The standards:

> Provide a basis for policies, rules, and procedures that are essential for providing systematic programs and services to any special population of students. While standards may be addressed and implemented in a variety of ways, they provide important direction and focus to designing and developing options for gifted learners at the local level. (NAGC, n.d.)

Not only do the standards provide consistency in effective programming and evaluation, they also support advocacy, provide guidance for professional development and teacher preparation programs, support policy creation at all levels, and define the field of gifted and talented (Johnsen, 2014).

To guide the revision of the Gifted Program Standards, a comprehensive review of the research was completed and foundational values were created based on both a historical and current body of research (Johnsen, 2014). The established principles were:

- giftedness is dynamic and is constantly developing;

- giftedness is found among students from a variety of backgrounds;
- standards should focus on student outcomes rather than practices;
- all educators [including teachers, counselors, instructional support staff, and administrators] are responsible for the education of students with gifts and talents;
- students with gifts and talents should receive services through the day and in all environments that are based on their abilities, needs, and interests. (Johnsen, 2014, p. 283-284)

These foundational principles served as the underpinnings for the six programming standards created by the group and were approved to be the new Gifted Program Standards in 2010.

The six standards are (1) learning and development, (2) assessment, (3) curriculum planning and instruction, (4) learning environments, (5) programming, and (6) professional development (NAGC, 2010). Included within each standard is a brief description as well as numerous student outcomes paired with evidence-based practices to provide specific, concrete guidance to the professionals within the field to build a comprehensive, defensible program design including a continuum of services (NAGC, 2010), which is discussed at length in the following section. As these standards represent the evidence-based, best practices within the field, they are essential for instructional leaders, especially building administrators, to be knowledgeable about to ensure effective implementation of programming to meet the needs of high potential and gifted learners (Johnsen, 2014). The standards provide a starting point for principals beginning to build a gifted program within a school, but they also offer a clear support for principals who are more knowledgeable and are refining gifted and talented programming within a school (Johnsen, 2014).

Comprehensive Program Design: A Continuum of Services

Principals are responsible for implementing and evaluating programs within schools. For the purposes of this study, a comprehensive program design (CPD) will broadly be defined as "a thoughtful, unified service delivery plan that has a singular purpose: to identify the many, varied ways that will be used to meet the needs of high-potential students" (Reis, 2006, p.74). Reis (2006) explains at least seven traits of high-quality CPD, which include derivation of the services, comprehensiveness, practicality, consistency, clarity, availability, and continuation, extension, and evaluation. Much like the NAGC standards, these traits can be used by principals as lenses for the creation and evaluation of GT programs. Furthermore, Reis (2006) discusses the necessary guiding principles include the following:

- The CPD must demonstrate linkages between what is being provided in district and school classrooms with local and state curriculum standards and gifted program guidelines and regulations.
- A CPD must describe current program services as applied to the regular curriculum as well as to the gifted and talented curriculum.
- The CPD is a foundational, administrative design plan on which program goals and objectives are built.
- The CPD must provide opportunities for expansion of current services across all content areas and grade levels.
- A CPD should take into account a broad range of talents (e.g., academic, artistic, creative, and leadership) and the spectrum of talent development (e.g., latent, emerging, manifest, actualized).

- The CPD must consider affective (e.g., social and emotional) needs as well as academic needs.
- A CPD should describe curriculum philosophy and address grouping issues.
- A CPD must reflect a wide range of broad-based choices that will enable talents or potential talents of a diverse group of students to be developed. These multifaceted educational opportunities can be provided during the school day, but also after school and in the summer, through the active participation of professional faculty and parents. (p. 75)

The aforementioned standards and these traits and guiding principles work together to form a CPD including a continuum of services PreK through Twelfth Grade, involving multiple pathways and opportunities for a diverse group of GT and high potential learners. Table 1 defines the numerous delivery options programs often utilize within their CPD as well as whether the model is typically used at the elementary, middle school, and/or high school level. A CPD must be developed in response to the student population so there is not one single correct answer (Reis, 2006), which is why school leaders need to understand the various elements of a successful CPD (Reis, 2006).

Table 1

Gifted and Talented Program Delivery Models

Delivery Model	**Definition** **E = Elementary, M = Middle School, H = High School**
Advanced Content	Opportunities for students to access content materials at a more sophisticated or complex level than typically offered. Material may be at higher reading level or a deeper level of understanding. (E, M, H)
Advanced Placement (AP)	A program developed by the College Board wherein high schools offer courses that meet criteria established by institutions of higher education. In many instances, college credit may be earned with the successful completion of an AP Exam in specific content areas. (H)
Alternate Curriculum	Curriculum materials on the same topic, or a related topic, or another altogether, that offers great opportunity for rigor, depth, complexity, or creativity. May be aligned to the "big ideas" of the district curriculum. (E, M, H)
Cluster Grouping	A grouping assignment for gifted students in the regular heterogeneous classroom. Typically, five or six gifted students with similar needs, abilities, or interests are "clustered" in the same classroom, allowing the teacher to more efficiently differentiate assignments for a group of advanced learners rather than just one or two students. (E, M, H)
Community / District Activities	Enrichment activities, typically offered as extra-curricular options that offer opportunities for students to work together in areas of high interest. (E, M, H)
Consultation and/or Coaching	Providing guidance relating to the personal/social, educational, and career/vocational concerns of the gifted student. (E, M, H)
Content Acceleration	Moving students through the district curriculum at a faster pace. This may be accomplished by students moving to a higher grade for instruction or by increased pacing in the grade level classroom. May be offered to the whole class or to individual students who demonstrate mastery of grade level curriculum on a pre-assessment. (E, M, H)
Content Extensions	Materials/activities developed to extend the core curriculum in ways that offer greater opportunity for higher order thinking. These kinds of materials are currently being developed for elementary and middle school by the Gifted and Talented Department. (E, M, H)

Delivery Model	**Definition** **E = Elementary, M = Middle School, H = High School**
Cross-Grade Grouping	A single subject grouping, tied closely to specific skills, where students in several grades are taught in separate classrooms according to different ability levels in that specific subject. (E, M, H)
Curriculum Compacting	After showing a level of proficiency in the basic curriculum (based on pre-assessment data), a student can then be allowed to exchange instructional time for other learning experiences. (E, M, H)
Dual Enrollment (PSEO) Post-Secondary Enrollment Option	Most often refers to high school students taking college courses, often for college credit. Dual enrollment is viewed as providing high school students benefits such as great access to a wider range of rigorous academic and technical courses, savings in time and money on a college degree, promoting efficiency of learning, and enhancing admission to and retention in college. (H)
Gifted Magnet Schools	A public school program that was established to meet the specific learning needs of the gifted by peer grouping students with similar interests and abilities. (E, M)
Grade Acceleration	Moving a student to a higher grade, based on a thoughtful protocol, such as the Iowa Acceleration Scales, taking into account the social and emotional of the individual student as well as the academic needs. (E, M) In high school, this may be accomplished by individual enrollment in courses in an accelerated sequence.
Honors Class	Classes designed and set up by individual schools, that make use of curriculum compacting – the basic curriculum is compacted, and instructional time is exchanged for other learning experiences including extension/enrichment of the curriculum (M, H)
Inclusion in the Regular Classroom	The gifted student is included for instruction in a regular classroom as opposed to a magnet classroom/school. Student needs are met through differentiation of instruction as a delivery model. (E, M, H)
Independent / Small Group Instruction	A self-directed learning strategy where the teacher acts as guide or facilitator and the student plays a more active role in choosing, designing, and managing his or her own learning within an area of focus. (E, M, H)

Delivery Model	Definition E = Elementary, M = Middle School, H = High School
International Baccalaureate (IB)	IB emphasizes critical thinking and understanding of other cultures or points of view. A demanding pre-university program that students can complete to earn college credit. A diploma is awarded at the completion of the high school IB program, after completing international examinations, which are recognized in college applications. (E, M, H)
Investigations / Independent Study	Students have an opportunity to work in an in-depth fashion on a topic that is of high interest to them. These passion projects provide an opportunity to apply and extend skills. (E, M, H)
In-Depth Study	In-depth study projects, based on interests/choice, as part of a specific class assignment. (E, M, H)
Magnet Classroom	A magnet program (Highly Gifted Program, International Preparatory, School of the Arts, etc.) that is housed in a traditional school. (E, M, H)
Mentorship	Opportunity to work with a professional to understand advanced aspects of a topic. Community resources assists in arranging mentorships for gifted students. (H)
Multi-age Class	A multi-age classroom utilizes an organizational structure in which children of different ages (at least a two-year span) and ability levels are grouped together, without dividing them or the curriculum into steps labeled by grade designation. (E, M, H)
Project-Based Learning	A complex approach to curriculum that provides students with an opportunity to work towards solving a complex problem involving skills and knowledge of multiple disciplines. (E, M, H)
Pull-Out Program / Class	A program or a short-term class which takes a student of the regular classroom during the school day for special programming (mentorship, advanced content area group, independent/small group project, etc.). (E, M, H)
Special Class or Seminar	A class specifically designed for gifted or high-ability students. (E, M, H)
Tiered Instruction	Differentiating instruction by offering multiple avenues to access the content, including learning experiences that are well-suited to gifted, talented, and advanced learners. (E, M, H)

Source: Denver Public Schools, 2016

Along with a variety of delivery models, curriculum and instruction are additionally critical pieces to any CPD, and the selected curriculum and instruction must be responsive and flexible to meet the needs of the gifted learners within a given population (Hertberg-Davis & Callahan, 2013). Curriculum and instruction signifies yet another piece principals and school leaders must understand in order to meet the needs of gifted and high potential learners (Sak & Maker, 2006). Curriculum and instruction are defined as a "design plan that fosters the purposeful, proactive organization, sequencing, and management of the interactions among the teacher, the learners, and the content knowledge, understandings, and skills we want students to acquire" (Burns, Purcell, & Hertberg, 2006, p. 88).

One essential piece for all, including principals, to recognize is that high-quality curriculum for gifted learners is generated from a high-quality curriculum for *all* students (Tomlinson, 2005; Reis, 2006; Hertberg-Davis & Callahan, 2013) and a guaranteed and viable curriculum is critical to impact all student achievement (Marzano, 2003). According to Tomlinson (2005), effective curriculum and instruction for all students:

1. Focuses squarely on the essential facts, concepts, principles, skills, and attitudes that professionals and experts in the discipline value most. It directs student attention to rich and profound ideas, and ensures grounding in what matters most in each topic and discipline.
2. Provides opportunity for students to understand clearly and in depth how the essential information, concepts, principles, and skills work to make meaning and to be useful. It guides students in understanding where, how, and why to use what they learn.

3. Engages the students affectively and cognitively. Students find pleasure, or at least satisfaction, in what and how they learn.
4. Places the student at the center of learning and addresses the reality that different students will learn in different ways, at different paces, and will manifest different interests.
5. Has a product focus. That is, it calls on students to transfer, apply, and extend what they have learned to solve problems, address issues, and create products that are meaningful and purposeful to the student.
6. Guides students in developing their capacities as thinkers and their awareness of their capacities as thinkers.
7. Is relevant to students' varied experiences and lives, including gender, culture, economic status, and exceptionality.
8. Coaches and supports students in developing the skills, tools, attitudes, and processes to become increasingly independent as learners. (p. 161-162)

Van Tassal-Baska (2003) discusses five key assumptions about curriculum and instruction for gifted and talented students, which include:

1. All learners should be provided curriculum opportunities that allow them to attain optimum levels of learning.
2. Gifted learners have different learning needs compared with typical leaners. Therefore, curriculum must be adapted or designed to accommodate these needs.
3. The needs of gifted learners cut across cognitive, affective, social, and aesthetic areas of curriculum experiences.

4. Gifted learners are best served by a confluent approach that allows for both accelerated and enriched learning.
5. Curriculum experiences for gifted learners need to be carefully planned, written down, implemented, and evaluated in order to maximize potential effect. (p. 174)

Stambaugh & Chandler (2012) expand on evidenced-based features of curriculum for GT learners when working with culturally and linguistically diverse (CLD) learners by highlighting effective curriculum and instruction must:

1. Scaffold instruction through the use of graphic organizers and the teaching of thinking skills…
2. Emphasize the development of potential rather than remediation of skills…
3. Focus on teacher modeling of both oral and written communication of the discipline…
4. Provide targeted professional development to teachers…
5. Create opportunities for engagement including real-world problem solving and student choice…
6. Incorporate student goal setting and self-monitoring…
7. Use curriculum-based performance measures to modify instruction and measure progress…
8. Place effective curriculum in the hands of trained teachers. (p. 37-42)

A CPD encompasses the curriculum, instruction, and delivery methods targeted to meet the various needs of GT and high potential learners on a daily basis. The next section explores the research behind the need for such programming.

The Need for Gifted and Talented Programming

Programming standards, a comprehensive continuum of services, curriculum, and instruction are critical for principals to understand as it the principals' role to meet the educational needs of all students (Lynch, 2012). Underlying how to meet the needs of gifted learners is why it is necessary to provide specific programming for gifted learners. This section briefly reviews the literature behind the importance of gifted programming in all schools to build this understanding. As of 2014, there were over 30,000 currently identified gifted and talented students in Colorado (CDE, 2015) with over two million identified gifted and talented students throughout the United States (http://nces.ed.gov/programs/digest/d04/tables/dt04_055.asp, 2000). This group of students are continually misunderstood due to deep-rooted societal myths about their abilities and the daily instruction they require (Fetterman, 1999; NAGC, n.d.). The National Association for Gifted Children (n.d.) explain two of those myths persist in countless schools across America, and the first is all students are challenged by their general education classroom teachers, so GT learners will consistently be differentiated for and challenged by their general education classroom teacher. The second is, once a student is identified as GT, they will continue academic growth on their own without major assistance or help from teachers or administrators (NAGC, n.d.). Clearly, the two myths are in direct opposition of one another as the first myth states gifted students get what they need from differentiated instruction and the second myth says they don't need anything different. The research is clear in response to each of these myths.

Exploring the research behind the first myth delves into the research behind differentiation. Tomlinson (2002) defines differentiation as a series of processes:

> Ensuring that what a student learns, how he/she learns it, and how the student demonstrates what he/she has learned is a match for that student's readiness level, interests, and preferred mode of learning. A readiness match maximizes the chance of appropriate challenge and growth. An interest match heightens motivation. A learning profile match increases efficiency of learning. Effective differentiation most likely emanates from ongoing assessment of student needs. (p. 188)

However, true differentiation "requires great skill on the part of teachers and the support of peers and principals" (VanTassel-Baska & Stambaugh, 2005, p. 216).

Another piece impacting teachers' abilities to differentiate include the intensive time that is needed to plan to meet everyone's needs through differentiated instruction. Hertberg-Davis (2009) explains:

> Many teachers also seem resistant to differentiation because they perceive it as highly time consuming. It does take longer to plan thoughtful differentiated units and lessons than to present a one-size-fits-all curriculum. Of course, the amount of time it takes to plan differentiated curriculum decreases over time as teachers become more accustomed to the process, learn to plan efficiently, and develop a storehouse of differentiated lessons and units from which to work. But the initial planning is off-putting to many teachers, causing them to write differentiation off as unrealistic or to differentiate only for the students who they perceive need it most. (p. 252)

Gallagher (2003) agrees and discusses how time is often prioritized as he states, "A regular classroom teacher has a primary responsibility to average students and then to students who have fallen behind. Time often runs out before a well-meaning teacher can organize special experiences for gifted students" (p. 18).

The sustained legacy of No Child Left Behind continues to prompt teachers and administrators to teach to the middle, focusing on those students not reaching proficiency (Rutkowski, Rutkowski, & Plucker, 2012; Hardesty, McWilliams, & Plucker, 2014). Hertberg-Davis (2009) states, "high-stakes testing associated with No Child Left Behind has rendered the regular classroom even less hospitable to gifted learners than it was previously, causing teachers to resort to drill-and-kill techniques over more student-centered approaches" (p. 252). This pressure coupled with the feeling of a lack of time has affected who classroom teachers differentiate for, which is primarily the group the teachers are working to meet proficiency to increase the school's score on their state-wide annual assessment (Hertberg-Davis, 2009).

Several studies have been completed on the level of differentiation occurring in general education classrooms, two of which are explored briefly. Archambault, Westberg, Brown, Hallmark, Zhang, and Emmons (1993) conducted a national survey of third and fourth grade teachers to gather information on the rate with which teachers differentiated their curriculum and instruction to meet the needs of their gifted learners. "The most salient survey finding is that the third and fourth grade teachers who responded to this survey made only minor modifications in the regular curriculum to meet the needs of gifted students" (Archambault, et al., 1993, p. 110). Westberg, Archambault, Dobyns, and Salvin (1993) developed and utilized the Classroom Practices Record to track and compare one GT learner and one average ability learner in 46 different third- and fourth-grade classrooms. These observations occurred across five content-areas over 92 observational days. "Across all five subject areas and 92 observation days, no instructional or curricular differentiation was found in 84% of the activities experienced by the target gifted and talented or high ability students" (Westberg, et al., 1993, p. 131). These studies highlight the idea that even when teachers are trained and expected to differentiate their

curriculum and instruction, few are able to implement such strategies. Various additional pieces have been determined to account for the lack of differentiation gifted and high potential learners experience daily, including a "lack of sustained teacher training in the specific philosophy and methods of differentiation, underlying beliefs prevalent in our school culture that gifted students do fine without any adaptations to curriculum, lack of general education teacher training in the needs and nature of gifted students, and the difficulty of differentiating instruction without a great depth of content knowledge" (Hertberg-Davis, 2009, p. 253). These findings merge together to suggest an abundance of students are not adequately challenged on a daily basis within public school classrooms.

This leads to the second myth, which is identified gifted students are able to attain high levels academically and continue to perform at those high levels without specialized, differentiated gifted education. As previously discussed, differentiated instruction is not present in most classrooms, and when is it is present, is only present during certain times throughout the day (Archambault, et al., 1993; Westberg, et al., 1993). Current data and several research studies will briefly be explored to challenge the myth that GT learners will attain and continue to reach advanced levels of growth and achievement without targeted daily instruction, specialized curriculum, and gifted programs to meets their unique needs.

Based on a review of 33 studies, Reis and Renzulli (2009) determined the need for specialized, differentiated gifted education and programming is necessary as "our nation's talented students are offered a less rigorous curriculum, read fewer demanding books, and are less prepared for work or post-secondary education than top students from other countries" (p. 309). Gallagher (2003) summarizes findings from a 1993 report on national excellence by stating:

- Only a small percentage of students are prepared for challenging college-level work, as measured by tests that are not very exacting or difficult.
- The highest achieving U.S. students fare poorly when compared with similar students in other nations.
- Students going on to a university education in other countries are expected to know more than U.S. students and to be able to think and write analytically about that knowledge on challenging exams. (p. 11)

Plucker (2015) agrees, pointing out, "Multiple international comparisons reveal disparities in how our most talented students achieve relative to their peers in other countries" (p. 3) providing quantitative support that many of our students are identified as possessing the aptitude to achieve higher than their same-age peers are failing to be competitive at an international level.

This concern has continued to grow from a disaggregation of data collected from the National Assessment of Educational Program (NAEP), from state-wide achievement assessments, and from the International Mathematics and Science Study (TIMSS) for global analysis (Hardesty, McWilliams, & Plucker, 2014). Based on the collected data, Hardesty, McWilliams, and Plucker (2014) developed the term "excellence gap", which represents the disparities of scores at the highest levels, which is different than the "achievement gap", which represents the differences between scores to attain minimum proficiency (Hardesty, McWilliams, & Plucker, 2014). Students not adequately challenged on a daily basis leads to students not staying at or never reaching high levels academically (Hardesty, McWilliams, & Plucker, 2014). Discussed in subsequent sections is the fact that the excellence gap is most prominent when disaggregating specific groups of students in public education across America, specifically CLD learners and learners from low-come households (Plucker, Burroughs, & Song, 2010).

This body of research highlights the fact that for some students to continually grow, gifted programming must be made available (Gallagher, 2003; Olszewski-Kubilius & Clarenbach, 2012; Hardesty, McWilliams, & Plucker, 2014). Additionally, the programming must be appropriate for the student population, rigorous, purposeful, and include multiple delivery methods. Such programs are created over time by leaders who know and understand the elements of effective gifted programs and make them a priority over time. Such specialized programs exist and are maintained over time because of support of principals, which are discussed further in this literature review.

Gifted and Talented Programming Inequities

Changing Populations in the United States

Principals are aware of the changing populations within the United States and the affects the changing populations are having on the public school system. The demographics of the United States are changing at a rapid pace as the population is becoming increasingly diverse and Hispanic (Kurtzleben, 2011; Harris & Sanchez Lizardi, 2012). The U.S. Census Bureau (2012) predicts:

- The non-Hispanic white population will decrease by nearly 20.6 million from 2024 to 2060.
- The Hispanic population will more than double, from 53.3 million in 2012 to 128.8 million in 2060. Consequently, by the end of the period, nearly one in three U.S. residents would be Hispanic, up from about one in six today.
- The Black population is expected to increase from 41.2 million to 61.8 million over the same period. Its share of the total population would rise slightly, from 13.1 percent in 2012 to 14.7 percent in 2060.

- The Asian population is projected to more than double, from 15.9 million in 2012 to 34.4 million in 2060, with its share of nation's total population climbing from 5.1 percent to 8.2 percent in the same period.
- The American Indian and Alaska Native population is projected to increase by more than half from now to 2060, from 3.9 million to 6.3 million, with their share of the total population edging up from 1.2 percent to 1.5 percent.
- The Native Hawaiian and Other Pacific Islander population is expected to nearly double, from 706,000 to 1.4 million.
- The number of people who identify themselves as being of two or more races is projected to more than triple, from 7.5 million to 26.7 million over the same period.
- The U.S. is projected to become a majority-minority nation for the first time in 2043. While the non-Hispanic white population will remain the largest single group, no group will make up a majority.
- Minorities, now 37 percent of the U.S. population, are projected to comprise 57 percent of the population in 2060. (Minorities consist of all but the single-race, non-Hispanic white population.)
- The total minority population would more than double, from 116.2 million to 241.3 million over the same period. (Retrieved from https://www.census.gov/newsroom/releases/archives/ population/cb12-243.html)

Furthermore, Patten (2016) explains:

> Hispanics are the youngest major racial or ethnic group in the United States. About one-third, or 17.9 million, of the nation’s Hispanic population is younger than 18, and about a quarter, or 14.6 million, of all Hispanics are Millennials (ages 18 to 33 in 2014),

according to a Pew Research Center analysis of U.S. Census Bureau data. Altogether, nearly six-in-ten Hispanics are Millennials or younger. (para. 1)

These statistics paint a broad picture of how quickly and tremendously the demographics of the United States are changing as well as the demographics of students enrolled in public education across America.

The demographics are not the only changing population within the United States. The rate of Americans living in low income households is also changing (Olszewski-Kubilius & Clarenbach, 2012; Bishaw & Fontenot, 2014; Torres, 2014). One method used to determine low income households in the United States and Colorado is whether the children in the family qualify for free or reduced priced school lunches (CDE, 2016). Table 2 shows the income eligibility for families to qualify for free and reduced price school lunches.

The state of Colorado takes two separate categories of information into account when determining whether children qualify for reduced priced school lunches (CDE, 2016). The first is the timing in which the family is paid, for example, yearly, monthly, twice a month, bi-weekly, or weekly, and the second is the size of the household (CDE, 2016). Based on these criteria, which is submitted to the state by the family via the school, the state uses this table to calculate whether the children in the family (CDE, 2016).

Table 2 also shows the method the state of Colorado uses to calculate free school lunches is similar to how reduced priced lunches are determined in terms of the criteria utilized. The difference is in the amount families earn. Families who have a lower income qualify for the children in the family to receive free school lunches, rather than reduced priced lunches (CDE, 2016). .

Table 2

Income Eligibility for Families to Qualify for Free and Reduced Price School Lunches

Household Size	Income									
	Yearly		Monthly		2x/Month		Bi-Weekly		Weekly	
	Free	Reduced	Free	Reduced	Free	Reduced	Free	Reduced	Free	Reduced
1	$15,444	$21,978	$1,287	$1,832	$644	$916	$594	$846	$297	$423
2	$20,826	$29,637	$1,736	$2,470	$868	$1	$801	$1,140	$401	$570
3	$26,208	$37,296	$2,184	$3,108	$1,092	$1,554	$1,008	$1,435	$504	$718
4	$31,590	$44,955	$2,633	$3,747	$1,317	$1,874	$1,215	$1,730	$608	$865
5	$36,972	$52,614	$3,081	$4,385	$1,541	$2,193	$1,422	$2,024	$711	$1,012
6	$42,354	$60,273	$3,530	$5,023	$1,765	$2,512	$1,629	$2,319	$815	$1,160
7	$47,749	$67,951	$3,980	$5,663	$1,990	$2,832	$1,837	$2,614	$919	$1,307
8	$53,157	$75,647	$4,430	$6,304	$2,215	$3,152	$2,045	$2,910	$1,023	$1,455
Each Additional Family Member	$5,408	$7,696	$451	$642	$226	$321	$208	$296	$104	$148

Source: Colorado Department of Education, 2016

According to Ballantyne, Sanderman, Levy (2008), “almost six in ten (59 percent) adolescent [English Language Learners or] ELLs qualify for free or reduced price lunch” (p. 7). Additionally, after a four year period of increases in the poverty rate in the United States, the poverty rate seemed to have stabilized at 15.9 percent in 2012 and 15.8 percent in 2103 (Bishaw & Fontenot, 2014). However while these numbers seem to indicate the number of students living in low income households are neither increasing nor decreasing, Olszewski-Kubilius & Clarenbach (2012) note “in 2011, 21 percent of children between five and seventeen in America lived in poverty, an increase of 4.3% since 2007” (p. 5).

Colorado’s poverty rate in 2012 was 13.7 percent, meaning that 694,842 people in the state were living in poverty (Bishaw & Fontenot, 2014). In that same year, “about 224,000, or 18 percent, of the state’s more than 1 million children lived below the poverty threshold of $23,000 in annual income for a family of four” (Torres, 2014, para. 3). Torres (2014) continues, “Black

children were hit the hardest over the five years covered in the report. The number of black children living in poverty spiked from 28 percent in 2007 to 41 percent in 2012. Latino children have the second-highest rate of poverty, at 31 percent, but the number was flat from 2007 to 2012" (para. 4).

As numerous principals experience first-hand, these disparities in poverty by race continue inequities within our society due to the level of school readiness children from low-income households' experience. Ferguson, Bovaird, and Mueller (2007) explain:

> Poverty decreases a child's readiness for school through aspects of health, home life, schooling and neighbourhoods. Six poverty-related factors are known to impact child development in general and school readiness in particular. They are the incidence of poverty, the depth of poverty, the duration of poverty, the timing of poverty (eg, age of child), community characteristics (eg, concentration of poverty and crime in neighborhood, and school characteristics) and the impact poverty has on the child's social network (parents, relatives and neighbors). A child's home has a particularly strong impact on school readiness. Children from low-income families often do not receive the stimulation and do not learn the social skills required to prepare them for school. Typical problems are parental inconsistency (with regard to daily routines and parenting), frequent changes of primary caregivers, lack of supervision and poor role modelling. Very often, the parents of these children also lack support. (para. 4)

This information means children from low-income households are more likely to enter school behind and stay behind throughout their educational career (Ferguson, Bovaird, & Mueller, 2007). Hodgkinson (2007) points out, "poverty is only one of the risks that many children are exposed to, [and] it magnifies all other risks" (p. 11).

Even with the changing populations in America's public education classrooms, little is changing to meet the distinctive needs of the shifting student body, which is important information for a principal to consider when looking at their student body and school staff (Flores and Smith, 2008; Fehr & Agnello, 2012; Boser, 2014). "Today's classrooms call for teachers who are well prepared to instruct diverse students. Unfortunately, classroom teachers often have life experiences that are dissimilar to those of many of the students they are teaching" (Fehr & Agnello, 2012, p. 34). Culturally and linguistically diverse (CLD) students make up over 40 percent of the student population whereas CLD teachers make up only 17 percent of the teacher population (Boser, 2014). Flores and Smith (2008) state, "In contrast to the student population, the teaching profession has experienced a dichotomous trend among its ranks. The number of teachers from minority groups continues to remain constant, while the majority of new teacher candidates continue to be White, middle class, and female" (p. 324). According to Gebhard (2010) "Many teachers have had little to no preparation for providing the assistance that second language (L2) learners need to understand how academic language works in the types of texts they are routinely required to read and write in school" (p. 797), and countless teachers, likewise, have misunderstandings and misconceptions about the tumultuous lives of many of the students they teach, particularly students from low-income households. This research suggests the need for an increase in diversity within the schools with high populations of CLD students,

and it also suggests the need for professional development of current staff working with high populations of CLD students (Flores & Smith, 2008; Gebhard, 2010).

Underrepresented Populations in Gifted and Talented Programming.

"All students, regardless of socioeconomic status, gender, or race should have access to, and be provided with the best educational opportunities" (Payne, 2010, p. 18); however, research shows that there is disproportionality and inequities in gifted education (VanTassel-Baska & Stambaugh, 2007; Olszewski-Kubilius & Clarenbach, 2012; Esquierdo & Arrequin-Anderson, 2012). For the purposes of this study, the following definition of underrepresentation was utilized:

> Underrepresentation in gifted education is typically defined in terms of disproportionally lower percentages of ethnically diverse students identified as gifted relative to their proportion in the school or district, a definition that is premised on the belief that there are equivalent percentages of gifted students in all demographic groups. (Worrell, 2014, p. 238)

Based on this definition and current state and national data, culturally and linguistically diverse (CLD) students, including Hispanic, Black, and Native American students, continue to be underrepresented in gifted programs (Olszewski-Kubilius & Clarenbach, 2012; VanTassel-Baska & Stambaugh, 2007; Esquierdo & Arrequin-Anderson, 2012). Callahan (2005) states, "Black and Hispanic students are less than half as likely to be in gifted programs as White students... [this] also includes the underrepresentation of students from low socioeconomic status (SES) backgrounds" (p. 98). Worrell (2014) clarifies further explaining Asians students, like White students, are over-represented in gifted programming; however, this refers to specific sub-groups of the Asian population, including Chinese, East Indians, Japanese, and Koreans, whereas Asian

students from other countries, such as Cambodia, Hmong, Laos, and Vietnam, are also underrepresented. Sub-groups from other ethnic groups, for instance Hispanics, have not been separated and studied through comparative research (Worrell, 2014), which continues to be an important area for future research as the field moves forward.

Much research has been focused on understanding root causes behind underrepresentation in order to develop solutions (Olszewski-Kubilius & Clarenbach, 2012; VanTassel-Baska & Stambaugh, 2007; Esquierdo & Arrequin-Anderson, 2012). In the past, it was thought testing biases were an issue since testing biases "can be manifested in test scores, including bias in content, item functioning, factor structure, reliability, and predictive validity…[however,] there is now a consensus in the measurement literature that tests are generally not biased in these ways" (Worrell, 2014, p. 238). Brown, Reynolds, and Whitaker (1999) state "empirical research to date consistently finds that standardized cognitive tests are not biased in terms of predictive and construct validity. Furthermore, continued claims of test bias, which appear in academic journals, the popular media, and some psychology textbooks, are not empirically justified" (p. 208). Still, many in the field explain that there are many forms of giftedness outside of the traditional form of giftedness, particularly with CLD students, which cannot be determined through a formalized assessment (Hodgkins & Garrett, 2010; Ford, 2013).

Furthermore, it has traditionally been thought teachers are less likely to refer or nominate CLD students to gifted programs (Hopkins & Garrett, 2010; Worrell, 2014) because teachers lack knowledge around gifted traits for CLD students and students from low-income households (Castellano, 1998; Ford, 2003; Ramos, 2010) or because teachers hold deficit thinking models, focusing on a groups perceived shortcomings rather than the group's strengths (Ford, 2003). Yet according to McBee (2006) it is not that teachers are not referring CLD students and students

from low-income households to gifted identification for programming. His findings suggest the reason CLD students and students from low-income households are underrepresented in gifted programming is because these students are not scoring at an academic level high enough to qualify them for entrance into gifted program (McBee, 2006; Worrell, 2014) thus creating the excellence gap (Plucker, Burroughs, & Song, 2010).

Several additional barriers have also been the focus of researchers to determine the root cause(s) behind underrepresentation in gifted programs. Some of these barriers are that CLD students and students from low-income households have less opportunities to learn at rigorous levels (Hopkins & Garrett, 2010; Olszewski-Kubilius & Clarenbach, 2012; Worrell, 2014), and there is a focus within the field of gifted on already developed talent rather than on developing talent (Olszewski-Kubilius & Clarenbach, 2012). Other reasons include a lack of willingness on the part of the student to pursue gifted programs as it is not valued within their culture (Worrell, 2014), and there could be a lack of opportunity to utilize programs (Worrell, 2014), for instance, due to cost of programs or lack of transportation. Furthermore, other barriers include a lack of federal and often state guidelines (Hopkins & Garrett, 2010) as well as a tenuous commitment from federal and state policy makers as well as district administrators regarding gifted programming (Olszewski-Kubilius & Clarenbach, 2012). These studies together suggest there is not one root cause behind underrepresentation.

Although research in this field is continuing, Worrell (2014) explains eight defensible conclusions from empirical research on underrepresentation, which include:

1. ethnically diverse students continue to be underrepresented in GATE [Gifted and Talented Education] programs;

2. ethnically diverse students have lower achievement scores than their peers both within and beyond GATE programs;
3. ethnically diverse students come from households that are on average less affluent than the households of peers who are not from ethnically diverse backgrounds, and the average SES of gifted ethnically diverse students is higher than that of their ethnically diverse peers who do not qualify as gifted and talented;
4. mean differences in test scores are not indicators of test bias against ethnically diverse students, but reflections of group differences on the constructs being assessed;
5. teachers *may* be less likely to refer ethnically diverse students for gifted identification under certain circumstances (e.g., less acculturated, lower verbal ability);
6. there are curriculum models and approaches to gifted education that work well with all students, including students from ethnically diverse groups;
7. ethnically diverse students do not always feel that they belong in gifted and talented education programs, so retaining them requires special attention to cultural variables; and
8. some ethnically diverse student may feel that they have to choose between high academic achievement and being a *genuine* member of their racial/ethnic group. (p. 244-5)

Worrell (2014) continues to explain misconceptions often drawn from the research that are not defensible, which include:

1. teacher bias and discrimination are major factors in the underrepresentation of gifted students from ethnically diverse backgrounds;

2. test scores used in gifted identification protocols are biased against ethnically diverse students;
3. there are many ethnically diverse students who would qualify as gifted and talented if the bias in test scores and teacher referrals could be eliminated; and
4. we can eliminate the underrepresentation of ethnically diverse students in GATE programs without changing the levels of cut scores currently used for identification. (p. 245)

This body of research suggests the importance of the student, the student's family and culture, testing, and teachers (Worrell, 2014). What is not included in the body of research is the importance of the principal, as there is limited research on this population within the field of gifted and talented (Grantham, Collins, & Dickenson, 2014). However, much is known about the principals' impact on programming and instruction, which are discussed in the following sections.

Principal Impact on Programming

Principal Leadership in Site-Based Schools

With site-based leadership, principals have increasingly more responsibilities within a school (Ouchi, 2006; Lynch, 2012). Numerous decisions once determined at a central administration office within a school district have now been turned over to each individual school's principal (Lynch, 2012). "[Only] certain important functions, such as administrative computing, auditing of schools, bus transportation, food preparation, payroll and pension, and new school construction, are carried out by central office" (Ouchi, 2006, p. 299). Through this site-based decision-making model, principals have greater control over their schools' budget and are empowered to make decisions to respond to the individualized needs of the stakeholders they

serve, including students, parents, and the community (Ouchi, 2006; Mette & Bengtson, 2015). With this model, comes increased accountability and an immense requirement for principals to understand the myriad of diverse populations within the school as well as the unique needs of each. This model further creates "varying climates and cultures depending on the type of leadership provided by the administrative teams, the support given to teachers, and the varying demographics of students supported in each building" (Mette & Bengtson, 2015). This means schools within the same district can be exceedingly dissimilar in aspects even beyond culture and climate. Schools can develop distinctive programs and utilized diverse curriculum and instruction based on the principals' decisions.

In the move to decentralize school districts, site-based decisions can include, but are not limited to, community outreach, curriculum, instruction, assessment, evaluation, systems, hiring practices, professional development, and specialized programs (Lynch, 2012), including special education and gifted and talented (GT) programs. Some systems and programs may be informed by, and even regulated by, state and federal mandates and laws to various degrees, whereas others rely on principals being knowledgeable about best practice because "every principal's most important job is getting good teaching in every classroom (Marshall, 2013, p. 3). Two examples in the state of Colorado include a specific evaluation system enacted by law to evaluate staff to which all administrators within public school organizations must adhere (CDE, 2016) and, like many other states, Colorado public schools are mandated to participate in formalized state-wide assessments (CDE, 2017). Another further example is the federal requirements of the Individuals with Disabilities Education Act (IDEA), which necessitates programming guidelines for and communication around students who qualify for an Individualized Education Plan (CDE, 2017).

Other programming options are not tied to legal mandates. Some examples of these include curricular decisions, instructional models, hiring practices, and non-mandated programs, such as Multi-Tiered Systems of Support (MTSS), formally known known as Response to Intervention (CDE, 2017) and was expanded upon further in the subsequent section, and GT programs, which was the basis of this study and currently has a limited empirical research base (Grantham, Collins, & Dickenson, 2014).

Principal Leadership Impact on Instruction and Programming

A principal's impact on a school has been well documented and one form of impact is how principals affect change within the school is through professional development (Youngs and King, 2002; Marshall, 2013; Zepeda, 2013; Rigby, 2014). According to Youngs and King (2002), "School leaders can connect their schools to sources of professional development that concentrate on instruction and student outcomes, that provide opportunities for feedback and assistance in teachers' classrooms, and that are sustained and continuous" (p. 644). Marshall (2013) states, "The quality of instruction is the single most important factor in student achievement" (p. 1) emphasizing the need for principals to be knowledgeable instructional leaders to support their staff in the implementation of best practices (Zepeda, 2013; Rigby, 2014).

Additionally, after completing a research study including 99 high schools, Sebastian and Allensworth (2012) suggest , "The degree to which principals are successful at creating a strong learning climate in the school seems to be the most important way in which they influence the average quality of instruction in the school" (p. 642-3). Based on a middle school case study, Jacquith (2015) concludes, "A principal's actions have the potential to create site-based

conditions that can grow a staff's capacity to improve instruction, depending on how the principal conceives of, organizes, and structures learning opportunities for teachers" (p. 19).

The importance of principal knowledge and support on programming options is beginning to be realized in specialized programs (Seedorf, 2014; Printy & Williams, 2015). Seedorf (2014) explains the importance of principal knowledge and support in regards to building and maintaining a strong Response to Intervention (RtI) program for both interventions and identification of special education as well as gifted and talented (GT) students. Seedorf (2014) states:

> Teachers and administrators alike need to become familiar with a more holistic view of RtI and how students with advanced needs also fit into this framework. Once teachers and administrators are aware of the comprehensive nature of RtI, *support* from both district- and building-level administration is the next key component. (p. 255)

Likewise, Printy and Williams (2015), who also conducted research on the principal's role in the implementation of an RtI system, stated, "Principals in all the schools had decision discretion for implementing RtI" (p. 196) and similarly cited strong site-based leadership as an imperative for the implementation of such reform.

Principal Impact on Gifted and Talented Programming

Given the research on GT programs, the need for such programs, the changing populations across America, the impact of those changing populations, and the importance of principals as instructional leaders and supporters of programs, it seems evident principals must directly impact gifted and talented programming. However, empirical research on principals' impact on gifted and talented programming is limited (Grantham, Collins, & Dickenson, 2014).

A few qualitative studies have delved into the topic, and these studies all focus what is known throughout the field of education: principal support and buy-in is imperative for school-based change, including gifted programming success and sustainability (Weber, Colarulli-Daniels, and Leinhauser, 2003; Lewis, Cruzeiro, and Hall, 2007; Long, Barnett, & Rogers, 2015).

Support from leadership within gifted and talented programming has been cited a critical component in several studies. Johnsen, Haensly, Ryser, & Ford (2002) cite strong leadership as a factor to facilitate change when working with cohort groups to increase differentiation for GT and high-achieving students within the general classroom. Horn (2015) adds onto this body of research and explains, "From the very beginning, principal leadership has been a key component" as schools within Fairfax County Public Schools worked to create the Young Scholars program to realize and nurture giftedness within traditionally underserved populations. The Young Scholars program was begun with several principals interested in bringing such a program into their schools. Horn (2015) states, along with several other program components, "They [the principals] provide ongoing support to the teachers and they ensure that year after year the Young Scholars are clustered in classrooms with teachers who know how to nurture and develop their gifted potential" (p. 22). Additionally, as a subset of a larger study, Hertberg-Davis and Brighton (2006) conducted an ethnographic case study "to examine the influence of a key external factor, the building administrator, in middle school teachers' willingness and ability to address systematically the needs of all learners, including the gifted, in diverse middle school classrooms" (p. 91). In this study, three middle schools participated in a three year study to focus in part on meeting the needs of gifted students in general education classrooms through differentiation (Hertberg-Davis and Brighton, 2006). Four themes emerged from this study, which were:

1. Teachers' responses to being asked to differentiate mirrored those of their principal.
2. Teachers needed administrator support – both in terms of resources and emotional support – to feel comfortable with differentiating curriculum, instruction, and assessment.
3. Effective implementation of differentiation required an administrator with both the desire to see change occur and the belief that change was possible.
4. Encouraging teachers to differentiate instruction in any systematic way required administrators to have focus and long-term vision. (Hertberg-Davis & Brighton, 2006, p. 99-100)

This study highlights not only the power of principals' attitudes and supports, but it also emphasized the need for system thinking and long-term vision. These themes are expanded on by VanTassel-Baska and Stambaugh (2005) as they state:

> Leaders need to provide ongoing support within the school district or building that encourages teachers to utilize differentiated strategies for gifted learners. A system must be in place to assist with that support, including administrative visits to classrooms, questions about how teachers are meeting the needs of gifted learners, provision of needed resources, staff development provisions and common planning times, as well as an accountability measure for meeting the needs of gifted learners. Teachers must see that administrators care about the growth and development of gifted learners as much as they care about other learners.

> The need for a supportive school climate that fosters high expectations for teachers and holds them accountable for differentiation is essential to the process being successful. (p. 215)

Several other qualitative studies provide similar conclusions. Lewis, Cruzeiro, and Hall (2007) completed case studies on two principals who had current successful GT programs within their public general education schools. From this study, Lewis, Cruzeiro, and Hall (2007) state, "Principals are in the best position to enact coherent, developmentally appropriate educational experiences for all of their students, and *all* should include gifted leaners" (p. 61).

Weber, Colarulli-Daniels, and Leinhauser (2003) completed interviews with two principals, one in a public GT magnet school and one in a private GT school, to determine the similarities and differences between the "role of the principal as it relates to the education of gifted and talented children in programs and schools" (Weber, Colarulli-Daniels, and Leinhauser, 2003, p. 55). They noted, "Research [on the role of the principal on GT programming] is neither extensive nor recent" (Weber, Colarulli-Daniels, and Leinhauser, 2003, p. 55), but through their research, Weber, Colarulli-Daniels, and Leinhauser (2003) suggest, "Their [the principals] insights provide us with a glimpse of their passion, dedication, love for, and belief in what they do" (p. 62). As we know from other previously explored studies, what the principals value, the staff values, so when a principal has the passion and knowledge around gifted programming, the staff and school are more likely to as well, thus building a strong site-based program (VanTassel-Baska & Stambaugh, 2005; Hertberg-Davis & Brighton, 2006).

Another qualitative case study of ten Australian secondary schools the following themes emerged:

1. Schools with a documented gifted policy were more likely to provide more substantially for their gifted students.
2. Selective (all gifted) schools and schools with selected classes were more likely to provide distinctive gifted programs in line with state policy.
3. Principals with a policy to follow were more likely to provide adequate resource support and professional development for teachers in the school.
4. The desire of principals to meet policy mandate does not always equate to having the means to do so. (Long, Barnett, & Rogers, 2015, p. 118)

This study highlights the need for both policy, evaluation, and accountability within a system to support the success of programming.

Knowing the current realities of GT programming, researchers have focused much time and attention on a variety of issues to determine root causes and possible solutions for different contexts and environments (Olszewski-Kubilius & Clarenbach, 2012; VanTassel-Baska & Stambaugh, 2007; Esquierdo & Arrequin-Anderson, 2012). Due to site-based management, programs, including gifted programs, are dependent on the current leadership (Ouchi, 2006; Lynch, 2012). The purpose of this study was to explore the impact of elementary principals' knowledge-base and advocacy on gifted and talented (GT) programming within their school in a site-based district.

The past qualitative research has focused on successful principals, which has emphasized the deep understanding of what gifted children need and why GT programming is an imperative; however, gifted education is not a staple in most teacher preparation programs or in most administrator preparation programs (Hertberg-Davis, 2009). This study incorporated a mixed-methods approach to gain a fuller understanding around how a principals' knowledge,

experience, and attitudes impact current GT programming (Creswell, 2014). To assist in enhancing the understanding of the data gathered through this mixed methods approach, a theoretical or logic model was utilized and is explained further in the next section.

Theoretical Model: Adaptive and Technical Challenges

The theoretical or logic model utilized in this study was Heifetz, Grashow, and Linksky (2009) theory of adaptive leadership. Creswell (2014) explains the importance of having a theoretical lens within research. "This lens becomes a transformative perspective that shapes the types of questions asked, informs how data are collected and analyzed, and provides a call for action or change" (Creswell, 2014, p. 64). The theory of adaptive leadership (Heifetz, Grashow, and Linksky, 2009) was utilized as logic model to enhance the understanding around the collected data in order to provide answers to the research questions guiding this study.

Heifetz, Grashow, and Linsky (2009) developed the theory of adaptive leadership, which entails first a diagnosis of a system. From the diagnosis, the challenges are separated into technical problems or adaptive challenges. It is in this way this theoretical model was utilized. As principals respond to open ended questions concerning barriers, open coding was utilized to determine emergent themes. As the themes emerge, the lens of adaptive and technical elements was employed to help determine possible root causes. Technical challenges would be barriers including policy changes, whereas adaptive challenges deal more with beliefs. Heifetz, Grahow, and Linsky (2009) state:

> The most common cause of failure in leadership is produced by treating adaptive challenges as if they were technical problems…While technical problems may be very complex and critically important, they have known solutions that can be implemented by current know-how…Adaptive challenges can only be addressed through changes in

> people's priorities, beliefs, habits, and loyalties…[However,] problems do not always come neatly packaged as either 'technical' or 'adaptive'…[rather] most problems come mixed, with the technical and adaptive elements intertwined. (p. 19)

By analyzing the self-reported barriers in this way, adaptive and technical challenges across the state were determined for leaders in education and gifted programming to utilize towards building a stronger system to support our gifted and high potential learners. Heifetz, Grashow, and Linsky (2009) state, "There is no such thing as a dysfunctional organization, because every organization is perfectly aligned to achieve the results it currently gets" (p. 17). Based on the literature review, it can then be stated that our educational system is perfectly designed to achieve the results it is currently getting, which is disheartening. It then comes to the leaders within our buildings, our principals, to help shape instructional climate, cultures, and programs to support all of our learners, including our gifted and high potential learners. It likewise falls on the leaders within gifted education to support principals and other instructional leaders in this critical work.

As a field, gifted and talented practitioners and experts must begin to look outside of the field to build understanding and capacity across the broader fields of education and educational leadership in order to provide equitable education for all students at all schools. The importance and impact of principals on their schools has been discussed at length, and this study seeks to understand the impact of a principal on a specific program, the school's gifted and talented program.

Delimitations

Attending to reliability and validity, two characteristics of measurement, "ensure[s] that the research process is as error free as possible" (Frankfort-Nachmias & Leon-Guerrero, 2011, p.

16). Fowler (2013) defines reliability as "the extent to which people in comparable situations will answer questions in similar ways" (p. 86). Validity is defined "the relationship between an answer and some measure of the true score" (Fowler, 2013, p. 12). Prior to reviewing the study's methodology, delimitations allow for understandings around the processes taken by the researcher throughout the study.

One such process is the use of an internet survey in this study. There are several potential disadvantages of internet surveys, all which could potentially affect the reliability and validity of the administration, which include:

- "Limited to samples of Internet users
- Need for comprehensive address lists
- Challenges for enlisting cooperation (depending on sampled groups and topics)
- Various disadvantages of not having interviewer involved in data collection" (Fowler, 2013, p. 73)

Since the sample includes only elementary principals who are current members of CASE, the assumption was each would have Internet access. CASE is an association many administrators from around the state of Colorado belong to as CASE is the premier organization for principals throughout the state which is how CASE has such a large list serve.

Another potential issue was enlisting cooperation as principals are all incredibly busy. This could contribute to a high nonresponse rate, which would require a nonresponse analysis. "The effect of nonresponse on survey estimates depends on the percentage not responding and the extent to which those not responding are biased – that is, systematically different from the whole population" (Fowler, 2013, p. 43-44). Other potential issues stemming from not

personally interviewing all participants include not being able to probe for adequate answers and not being able to ensure participants are fully understanding the questions (Fowler, 2013). Complete study limitations are located within Chapter Five.

CHAPTER THREE: METHODOLOGY

Introduction

The previous chapter provided a strong foundation of research supporting gifted programming standards; the need for gifted education; the current state of gifted education; the implications of the changing American demographics; the impact of principals on their building curriculum, instruction, and programs; and the theoretical frame which was utilized to delve into and understand how principal's knowledge base and advocacy impact school-based gifted and talented programming within site-based school districts. This chapter provides a detailed description of the research methodology, the research questions, the study's setting and target participants, the instrument and data collection procedures, the data analysis, threats to reliability and validity within the study, and the role of the researcher.

Study Purpose, Problem, and Research Questions

The purpose of this study was to explore the impact of elementary principals' knowledge-base and advocacy on gifted and talented (GT) programming within their school in a site-based district. The problem this study was investigating was the perceived limited amount of knowledge principals possess on gifted and talented programming and the associated lack of attention and advocacy on the school's gifted program. Three research questions guided this study, and each are discussed along with a brief rationale. The first question was: How does the knowledge-base of a principal impact gifted and talented programming within his/her school? As discussed in Chapter Two, principals have a great deal of influence and control around programming and professional development within their school, particularly since many districts have moved towards site-based decision making (Ouchi, 2006). However, if principals do not have a solid foundational understanding of who a group of students are or what they need, it may

limit the programming within the school for that group of learners. This question seeks to understand how the level of knowledge principals have about gifted and talented education impacts their school's gifted programming.

The next question was: How does the advocacy behaviors of a principal impact gifted and talented programming within his or her school? Much like the last question, this question explored the impact of principal advocacy efforts on the school's gifted program. This question was further developed to determine any impact between principals' knowledge-base and principals' advocacy efforts.

The final question was: How do principals acquire knowledge about gifted programming? This question sought to understand what critical pathways of knowledge acquisition principals valued in providing information about gifted learners and gifted programming. Based on personal experience and knowledge, few teacher and administrator preparation programs include information about this group of unique learners. Therefore, if principals are knowledgeable about gifted programming, where did they gain the information? This question explored the options.

These three questions worked together with the purpose of the study and explored how principals' knowledge-base and advocacy impacted gifted programming within their school in a site-based district. These questions furthermore address the concern numerous principals do not have the necessary knowledge to provide the type or level of programming gifted learners require and deserve. This study serves to gain a "lay of the land" within the state of Colorado to acknowledge progress and determine next steps for principals, districts, preparation programs, associations, and advocacy groups.

Research Methodology and Study Design

As discussed in Chapter Two, past studies focused on principals' impact on gifted programming utilized qualitative methodology (Weber, Colarulli-Daniels, & Leinhauser, 2003; Lewis, Cruzeiro, & Hall, 2007; Long, Barnett, & Rogers, 2015). Weber, Colarulli-Daniels, and Leinhauser (2003) suggested it was the principals' passion, dedication, and belief in gifted education which led the two principals they interviewed to create strong gifted programs. Lewis, Cruzeiro, and Hall (2007) determined, "Principals are in the best position to enact coherent, developmentally appropriate educational experiences for all students" (p. 61) after interviewing two principals with strong gifted programs within their school. Long, Barnett, and Rogers (2015) explained the need for both policy, evaluation, and accountability within a system to support strong gifted programming.

To move this area of research forward, this study design was a mixture of convergent parallel and explanatory sequential mixed methods to obtain a deeper, fuller understanding and to better respond to the research questions driving the study (Creswell, 2014). The online survey was a convergent parallel mixed methods model as participants answered both closed questions for quantitative analyses processes and open questions for qualitative analyses processes. Creswell (2014) states, "In this design, the investigator typically collects both forms of data at roughly the same time and then integrates the information in the interpretation of the overall results" (p. 15). The follow-up semi-structured interviews moved the study into an explanatory sequential model as six principals were interviewed utilizing a predeveloped interview script and built "on the results [of the survey] to explain them in more detail with qualitative research" (Creswell, 2014, p. 15).

Instrument

Survey Development

The survey was developed in response to the purpose and problem of the study, the study's research questions, and the review of literature in the previous chapter. The survey was anonymous and consisted of 25 questions. The first page of the survey contained the full University of Denver Institutional Review Board's Consent Form. It disclosed pertinent information to the participants, including the study's purpose, procedures, voluntary participation, risks or discomforts, benefits, incentives, study costs, alternatives, confidentiality, questions, and contact information for both the researcher and faculty advisor. At the bottom of the page, each participant selected "yes" to give consent or "no" to not give consent. If consent was given, the participant was then moved into the survey. If consent was not given, the Skip Logic within the Qualtrics program was activated and the participant was exited from the survey. Once in the survey, the participant had to answer every question to submit the survey; however, participants could exit and quit the survey at any time.

The survey contained 25 questions. Table 3 contains each question along with the rationale for the question and the format of the question. The first twelve questions were demographic questions meant to describe the sample of principals who participate in the survey (Gliner, Morgan, Leech, 2009). The remaining questions were constructed to answer the research questions of this study. The overall survey including response options for each question can be found in Appendix A.

Table 3

Survey Questions, Rationale, and Format

Question	Rationale for Question	Rationale for Format	Citations
1. How long have you been a principal at your current school?	Collect general information about the principal to determine possible trends or relationships	Closed Response; Select One Response – To quantify the responses.	Demographics
2. How long have you been a principal?	Collect general information about the principal to determine possible trends or relationships	Closed Response; Select One Response – To quantify the responses.	Demographics

Question	Rationale for Question	Rationale for Format	Citations
3. What school/program did you attend for your principal preparation program?	Collect general information about the principal to determine possible trends or relationships	Text Entry Response – Due to the vast amounts of possible answers to this question.	Demographics
4. How long were you an educator prior to becoming a principal?	Collect general information about the principal to determine possible trends or relationships	Closed Response; Select One Response – To quantify the responses.	Demographics
5. What school/program did you attend for your teacher preparation program?	Collect general information about the principal to determine possible trends or relationships	Text Entry Response – Due to the vast amounts of possible answers to this question.	Demographics
6. Site-based decision making enables principals to have autonomy in their decisions to meet the needs of the unique population within their school. What percentage of your decisions are site-based?	Collect general information about the school to determine possible trends or relationships	Closed Response; Select One Response – To quantify the responses.	Demographics
7. What is the total population of students in your school?	Collect general information about the school to determine possible trends or relationships	Closed Response; Select One Response – To quantify the responses.	Demographics
8. Which term best describes your school?	Collect general information about the school to determine possible trends or relationships:	Closed Response; Select One Response – To	Demographics
9. What is your school's current status with the state of Colorado?	Collect general information about the school to determine possible trends or relationships: Accredited with distinction, performance, improvement, priority improvement, or turnaround	Closed Response; Select One Response – To quantify the responses.	Demographics
10. What is the percentage of students meeting the criteria for Free and Reduced Lunch in your school?	Collect general information about the school to determine possible trends or relationships	Closed Response; Select One Response – To quantify the responses.	Demographics
11. What is the percentage of identified English Language Learners in your school?	Collect general information about the school to determine possible trends or relationships	Closed Response; Select One Response – To quantify the responses.	Demographics

Question	Rationale for Question	Rationale for Format	Citations
12. What is the percentage of identified Gifted and Talented learners in your school?	Collect general information about the school to determine possible trends or relationships	Closed Response; Select One Response – To quantify the responses.	Demographics
13. How many full-time certified employees are at your school who are a GT Teacher, GT Coordinator, or GT Specialist?	Collect general information about the school to determine possible trends or relationships	Closed Response; Select One Response – To quantify the responses.	Demographics
14. How many part-time certified employees are at your school who are a GT Teacher, GT Coordinator, or GT Specialist?	Collect general information about the school to determine possible trends or relationships	Closed Response; Select One Response – To quantify the responses.	Demographics
15. How many classified employees at your school work directly for the GT program?	Collect general information about the school to determine possible trends or relationships	Closed Response; Select One Response – To quantify the responses.	Demographics
16. As a principal, what do you feel are the greatest benefits to having a strong GT program within a public elementary school?	Collect information about the principal's knowledge-base to determine possible trends or themes	Text Entry Response – Due to the vast amounts of possible answers to this question.	Reis, 2006; NAGC, 2016; Hardesty, McWilliams, & Plucker, 2014
17. Rate your personal knowledge around the overall needs of GT students.	Collect about the knowledge-base of the principal to determine possible trends or relationships: Limited, Somewhat Limited, Basic, Moderate, or Expert	Closed Response; Select One Response – To quantify the responses.	Weber, Colarulli-Daniels, and Leinhauser, 2003; Lewis, Cruzeiro, and Hall, 2007; Long, Barnett, & Rogers, 2015
18. Rank order the topics based on your level of personal knowledge, 1 being the topic you are most knowledgeable about	Collect the knowledge-base of the principal to determine possible trends or relationships: The GT identification process, The creation of Advanced Learning Plans (ALPs), The implementation of Advanced Learning Plans (ALPs), The gifted and talented sections within the Colorado Exceptional Children's Education Act, The academic needs of GT learners, The social emotional needs of GT learners	Rank Order – To collect levels of knowledge given a variety of topics to quantify responses	Reis, 2006; NAGC, 2010; Hertberg-Davis & Callahan, 2013; CDE, 2016

Question	Rationale for Question	Rationale for Format	Citations
19. Describe a time where you have had to take a particularly strong stance for a gifted and talented program.	Collect information about the principal's advocacy to determine possible trends or themes	Text Entry Response – Due to the vast amounts of possible answers to this question.	Seedorf, 2014; Jacquith, 2015; Printy & Williams, 2015
20. In what ways have you acquired knowledge about GT students? Select all that apply.	Collect information about how the principal did and did not acquire knowledge to determine possible trends or relationships: My teacher preparation program, My administrator preparation program, Being a classroom teacher with GT students in my class, Being a GT teaching in a self-contained or pull-out class, Being the parent of a GT student, Being a GT student myself, School provided professional development, District provided professional development, Personally seeking out my own professional development, other	Closed Response; Select all that apply; One Text Entry Response – To quantify the responses; To determine common ways in which principals do and do not acquire knowledge; To all for variety of answers	Lynch, 2012
21. Rank order the ways you have acquired knowledge about GT students in terms of value, 1 being the most valuable way you personally acquired knowledge about GT students.	Collect information about how the principal which pathways to knowledge the principal deems most valuable: My teacher preparation program, My administrator preparation program, Being a classroom teacher with GT students in my class, Being a GT teaching in a self-contained or pull-out class, Being the parent of a GT student, Being a GT student myself, School provided professional development, District provided professional development, Personally seeking out my own professional development, other	Rank Order – To determine value	Lynch, 2012
22. As a principal, what are the three most important elements you feel are needed to further strengthen your school's GT program?	Collect information about the principal's knowledge-base to determine possible trends or themes	Text Entry Response – Due to the vast amounts of possible answers to this question.	Reis, 2006; NAGC, 2010; Johnsen, 2014
23. As a principal, what are the largest barriers you face in terms of building a stronger GT program?	Collect information about the principal's knowledge-base to determine possible trends or themes	Text Entry Response – Due to the vast amounts of possible answers to this question.	Ford, 2003; Olszewski-Kubilius & Clarenbach, 2012; Finn, 2014; Worrell, 2014

Question	Rationale for Question	Rationale for Format	Citations
24. Rank order how important it is for a school to address the following student outcomes, 1 being the most important for a school to address.	Collect information about how the principal which pathways to knowledge the principal deems most valuable: 1) Curriculum Planning: a) Students with gifts and talents demonstrate growth commensurate with aptitude during the school year; 2) Talent Development: a) Students with gifts and talents become more competent in multiple talent areas and across dimensions of learning, b) Students with gifts and talents develop their abilities in their domain of talent and/or area of interest; 3) Instructional Strategies: a) Students with gifts and talents become independent investigators; 4) Culturally Relevant Curriculum: a) Students with gifts and talents develop knowledge and skills for living and being productive in a multicultural, diverse, and global society; 5) Resources: a) Students with gifts and talents benefit from gifted education programming that provides a variety of high quality resources and materials; 6) Variety of Programming: a) Students with gifts and talents participate in a variety of evidence-based programming options that enhance performance in cognitive and affective areas; 7) Socio-emotional Development: a) Students with gifts and talents develop socially and emotionally as a result of educators who have participated in professional development aligned with national standards in gifted education and National Staff Development Standards	Rank Order – To determine knowledge-base and values	NAGC, 2010; Johnsen, 2014
25. What do you think are the three most important topics to see at a principals' professional development session offered by CASE on gifted and talented programming?	Collect information about the principal's future knowledge and advocacy needs to determine possible trends or themes	Text Entry Response – Due to the vast amounts of possible answers to this question.	Future Professional Development

It is important to note the student outcomes listed in question 24 were taken from standards from the National Association for Gifted Children – Council for Exceptional Children (NAGC-CEC) program standards (2010) as these are elements of Comprehensive Program Design (CPD), which is described in-depth in Chapter Two. All of the student outcomes from Standard Three on Curriculum and Instruction were used as responses. NAGC-CEC (2010) explains the rationale for Standard Three as:

> One of the integral components of the curriculum planning process is Assessment. The information obtained from multiple types of assessments informs decisions about curriculum content, instructional strategies, and resources that will support the growth of students with gifts and talents. Educators develop and use a comprehensive and sequenced core curriculum that is aligned with local, state, and national standards, then differentiate and expand it. In order to meet the unique needs of students with gifts and talents, this curriculum must emphasize advanced, conceptually challenging, in-depth, distinctive, and complex content within cognitive, affective, aesthetic, social, and leadership domains. Educators must possess a repertoire of evidence-based instructional strategies in delivering the curriculum (a) to develop talent, enhance learning, and provide students with the knowledge and skills to become independent, self-aware learners, and (b) to give students the tools to contribute to a multicultural, diverse society. The curriculum, instructional strategies, and materials and resources must engage a variety of learners using culturally responsive practices. (Para. 1)

NAGC-CEC (2010) also include a brief description of the standard, which states:

> Educators apply the theory and research-based models of curriculum and instruction related to students with gifts and talents and respond to their needs by planning, selecting, adapting, and creating culturally relevant curriculum and by using a repertoire of evidence-based instructional strategies to ensure specific student outcomes. (Para. 2)

Standard Three was selected from the six total gifted program standards developed by NAGC-CEC for the purposes of time and content. All six standards were not included in the survey due to the projected length of the survey with each student outcome under every standard. In determining which one standard to select, Standard Three was selected as it described curriculum and instruction for gifted programming. As discussed in Chapter Two, the principal's impact as an instructional leader on curriculum and instruction is well documented (Youngs and King, 2002; Marshall, 2013; Zepeda, 2013; Rigby, 2014).

Two other student outcomes were also selected as rank order responses in question 24. The first was from Standard Five on Programming. The student outcome was: "Variety of Programming. Students with gifts and talents participate in a variety of evidence-based programming options that enhance performance in cognitive and affective areas" (NAGC-CEC, 2010, Table 1). This student outcome was selected due to the importance in the literature for gifted and high potential learners to have access to a continuum of services to meet the variety of needs within the population (VanTassel Baska, 2003; Tomlinson, 2005; Reis, 2006; Hertberg-Davis & Callahan, 2013)

The final student outcome selected was from Standard Six on Professional Development and is: "Socio-emotional Development**.** Students with gifts and talents develop socially and emotionally as a result of educators who have participated in professional development aligned with national standards in gifted education and National Staff Development Standards" (NAGC-

CEC, 2010, Table 1). This student outcome was selected for inclusion due to the importance of social-emotional curriculum within the literature on curriculum and instruction for gifted and talented students (VanTassel-Baska, 2003; Tomlinson, 2005; Burns, Purcell, & Hertberg, 2006).

Interview Protocol

Six elementary principals from public schools were additionally interviewed using the interview protocol developed for this study. At the onset of the interview, participants were given the consent form, which included the study's purpose, procedures, voluntary participation, risks or discomforts, benefits, incentives, study costs, alternatives, confidentiality, questions, and contact information for both the researcher and faculty advisor. At the bottom, the participant had the option to give consent for the interview, give consent to be audio recorded, or not give consent. Once consent was given, the following statement was read: Thank you so much for spending the time to meet with me and for signing the consent form. Before we begin, do you have any questions about the consent form, the interview, or the audio-taping of the interview? This interview consists of seven open-ended questions, so let's begin.

Once the statement was read, the interview began. The interview questions and the rationale for each are shown in Table 4. Each question was open-ended, and the interviews' maximum time allotted was 30 minutes in consideration of principals' schedules. The final version of the protocol can be found in Appendix B.

Table 4

Interview Questions & Rationale

Question	Rationale for Question	Citation
1. Tell me about your school's gifted program.	This question is an introductory question to build report with participant and gain knowledge about the school's current gifted program.	Reis, 2006; NAGC, 2010
2. What factors have influenced your school's gifted program?	This question is meant to understand from the principal's viewpoint those elements that may have influenced the school's current gifted program in some way. This could include staff members, consultants, parents, students, or resources. Knowledge-base, how the knowledge was acquired, and advocacy are possible lenses for this question.	Ford, 2003; Reis, 2006; NAGC, 2010; Olszewski-Kubilius & Clarenbach, 2012; Finn, 2014; Worrell, 2014; CDE, 2016
3. What are goals for your school's gifted program?	This question seeks to understand how knowledgeable the principal is about his or her current gifted program and what his or her next steps for the program are. Both knowledge-base and advocacy are possible lenses for this question.	Reis, 2006; NAGC, 2010; CDE, 2016
4. What are barriers for your school's gifted program?	This question seeks to understand how knowledgeable the principal is about his or her current gifted program and barriers are preventing the program from gaining strength. Both knowledge-base and advocacy are possible lenses for this question.	Ford, 2003; Olszewski-Kubilius & Clarenbach, 2012; Finn, 2014; Worrell, 2014
5. What are overarching benefits of having a strong gifted program within your school?	This question is ascertaining in general the knowledge-base of the principal by uncovering the depth to which the principal understands the importance and benefits of gifted programs.	Reis, 2006; NAGC, 2016; Hardesty, McWilliams, & Plucker, 2014
6. What have been your experiences with gifted education? Include any experiences from your current school and outside your current school.	This question is meant to further probe the principal about their knowledge-base, how they acquired their knowledge-base, and their advocacy for gifted education.	Seedorf, 2014; Jacquith, 2015; Printy & Williams, 2015
7. Do you have anything else you would like to add?	This question signals the end of the interview while still providing the principal a time to add any additional information.	Reis, 2006; NAGC, 2010; CDE, 2016

Based on the interviewees' responses to the above questions, follow-up questions were asked by the researcher to ensure the researcher was clearly understanding the principal's words and experiences.

Setting and Target Participants

The setting of this study was the entire state of Colorado. This location was selected because it is the current residing state of the researcher and the state where the researcher's career has existed thus far. Due to the researcher's experience within state, Colorado is also the

state where the researcher holds the most expertise on gifted education, programming, and policies. Colorado is also the state in which the University of Denver, the guiding research institution for the study, is located.

The target population is defined as "the total set of individuals, objects, groups, or events in which the researcher is interested" (Frankfort-Nachmias & Leon-Guerrero, 2011, p. 17). In this study, the target population was elementary school principals within the state of Colorado. Elementary principals were chosen as the target population because Kindergarten through fifth grade is the range where the researcher holds the most expertise. Furthermore, elementary principals were selected due to the researcher's interest in the role of the elementary principal as an instructional leader and decision maker. Since there are 944 elementary schools across the state of Colorado (CDE, n.d.), a sample frame was employed. Fowler (2014) explains the sample frame is "those people who have a chance of being included among those selected" (Fowler, 2014, p. 15). The sample frame for this study is every elementary principal in the state of Colorado who is a current member of the Colorado Association of School Executives (CASE). Since the email containing the survey link was sent out to these elementary principals only, it is a convenience sample frame.

To determine the participants for the interviews purposeful sampling was utilized, and "this means the inquirer selects individuals and sites for study because they can purposefully inform an understanding of the research problem or central phenomenon in the study" (Creswell, 2013, p. 156). Using the researcher's personal knowledge and professional network, six principals were selected to participate in interviews. Two principals worked in rural elementary schools, two principals worked in suburban elementary schools, and two principals worked in urban elementary schools. Separating the three geographic locations across Colorado was

important to understand the differences and similarities in experiences of principals working with their school's gifted program. Beyond geographical location, no additional criteria was used to engage potential participants. As previously stated, past qualitative studies had focused on principals in schools with robust gifted programming (Weber, Colarulli-Daniels, & Leinhauser, 2003; Lewis, Cruzeiro, & Hall, 2007; Long, Barnett, & Rogers, 2015). To move the field forward, this study focused on the knowledge-base and advocacy of principals in schools with typical gifted programming as determined by the researcher's knowledge and experience. This will provide insight into how to strengthen gifted programs within public elementary schools and inform policy, professional development, and other next steps.

Content Expert Review

The anonymous survey was developed and delivered through Qualtrics. To ensure the validity of the survey, prior to the Institutional Review Board, the survey was reviewed by several experts in the field. Dillman, Smyth, and Christian (2014) explain, "Obtaining feedback from these content experts is necessary to ensure that the questionnaire was perceived positively and will make sense respondents" (p. 243). Table 5 reviews all the professionals who acted as content expert reviewers. Also included is a short biography highlighting each expert's experience in the field of education.

Table 5

Content Experts

Expert Reviewer	Biography
Cristina Costas-Bissel	Cristina Costas-Bissel was a teacher for seven years at Mountain Ridge Middle School in Academy School District 20. Since then, she has been a Middle School Assistant Principal at Kearney Middle School and an Elementary Principal at Kemp Elementary, both located in Adams 14 School District. She is currently a Middle School Principal at Prairie View Middle School in Brighton School District 27J.
Patricia Kipp	Patty Kipp worked for 31 years in Denver Public School District (DPSD) as an teacher, Elementary Assistant Principal and Principal, Program Director, and Title 1 Consultant. Since 2006, she has worked with University of Denver, DPSD, and Adams 12 School District leading the Ritchie Program, an Educational Leadership and Policy Studies program for the preparation of future administrators and school leaders.
Judi Madsen	Judi Madsen has been with Adams 12 School District for the past 26 years. In that time, she has taught 4th, 6th, 7th, and 8th grades in Thornton Elementary and Thornton Middle Schools. She was Assistant Principal at Westview Elementary, and, in 2006, opened Silver Creek Elementary, the highest performing elementary school in the district. Judi is currently the Principal at Hulstrom K-8, the gifted and talented magnet school for Adams 12 School District.
Deana Valadez-Barnes	Deana Valadez-Barnes has worked in a variety of roles in education over the last 23 years, including sign-language interpreter, classroom teacher, instructional coach, dean of students, and assistant principal. She has a proven record of success in enhancing and improving school culture through intentional relationship building, clear and consistently high expectations, and a student-centered focus.
Pamela Wheeler	Pamela Wheeler has been an elementary school administrator since 2012 in high risk schools. She received her Educational Specialist degree in Brain-based Learning from Nova Southwestern University in 2008 and Educational Administration degree from the University of Denver in 2009. Pamela is currently participating in the National Principals Academy Fellowship with Relay Graduate School of Education.

From this review, a variety of revisions to clarify question stems and possible responses were made to make certain the sample of elementary principals would understand all aspects of the survey. This was also a step to allow for further edits of the questions to obtain accurate and precise data.

Data Collection Process

Survey. The researcher began with a partnership with the Colorado Department of Education (CDE) to distribute the final survey (Appendix A). The Gifted and Talented (GT) Director for the CDE agreed to grant the researcher access to District Gifted and Talented Directors and Coordinators email addresses. The researcher initially intended on directly emailing all the District GT Directors and Coordinators and have each of them distribute the survey to the elementary principals within their district. The CDE GT Director also agreed to encourage and remind District GT Directors and Coordinators to distribute the surveys.

However, upon reflecting on the potential issues and possible implications, the researcher decided to change community partners. The largest potential issue with distributing the survey through District GT Directors and Coordinators would be the sheer number of contacts for the researcher. With 183 school districts in Colorado (CDE, 2016), it would mean 183 contacts for the researcher to work with in terms of initially distributing and delivering reminders for the survey. With this in mind, the researcher reached out to form a partnership with the Colorado Association of School Executives (CASE). The mission and vision of CASE aligned with the purpose of the study and the impact the researcher hoped to make with the data collected through the study. CASE (n.d.) states:

> The mission of CASE is to empower Colorado education leaders through advocacy, professional learning and networking to deliver on the promise of public education.
>
> CASE will inspire visionary leadership for education by:

- modeling the highest moral and ethical behavior
- fostering a positive environment for high student achievement
- providing personal and professional development

- serving as a strong and influential voice for education leaders
- facilitating communication among education leaders

The Association shall in every way possible provide for and promote the best interest of public education, its leadership and service to its members. (Para. 1)

A strong, potential implication was forging a relationship between CASE and the gifted community. Such a partnership could impact future professional development and other educational opportunities for the target population of the study, elementary principals, in the area of gifted and talented programming and policy. Furthermore, this partnership provided direct access to the elementary principals across the state of Colorado who are members of CASE. CASE distributed the online survey to every current member who is an elementary principal across the state of Colorado, 403 principals total, on October 10, 2016. Additionally, CASE distributed follow-up reminder emails to participants on October 24, 2016 and November 7, 2016. Out of the 403 principals who received the emails, about 200 on average opened the emails.

Upon receiving the online survey, participants spent about 10-15 minutes answering the questions. The survey began with a consent form, then continued on to 25 questions, all of which are forced responses. This meant participants could exit and quit the survey if desired, but the principals were not be able to omit any questions. Once the survey was completed, the data was saved in the Qualtrics data warehouse.

Once the window was closed, the data from Qualitrics was exported into SPSS in order to run statistical analysis, including descriptive statistics and Cronbach's alpha test for closed-ended questions. For responses to open questions, open coding was utilized in Dedoose to determine categories of information (Creswell, 2013). "The process of coding involves aggregating the text

or visual data into small categories of information, seeking evidence for the code from different databases being used in the study, and then assigning a label to the code" (Creswell, 2013, p. 184). The survey was completed and the results analyzed prior to the interviews occurring.

Interview Protocol Development. Based on the data from the survey, several themes were observed and were developed into a priori codes for the coding process of the data from the semi-structured interviews. Creswell (2013) states:

> Using 'prefigured' codes or categories (often from a theoretical model or the literature) is popular in health science, but use of these codes does serve to limit the analysis to the 'prefigured' codes rather than opening up the codes to reflect the views of participants in a traditional qualitative way. If a 'prefigured' coding scheme is used in analysis, I typically encourage the researchers to be open to additional codes emerging during the analysis. (p. 185)

As Creswell (2013) suggested, the researcher utilized several additional codes which emerged during the data analysis of the interviews.

From the codes, themes, or "broad units of information of information that consist of several codes aggregated to form a common idea" (Creswell, 2013, p. 186), were determined. Creswell (2013) states:

> As a popular form of analysis, classification involves identifying five to seven general themes…These themes, in turn, I view as a 'family' of themes with children, or subthemes, and even grandchildren represented by segments of data. It is difficult, especially in a large database, to reduce the information down into five or seven 'families,' but my process

involves winnowing the data, reducing them into a small, manageable set of themes to write into my final narrative. (p. 186)

A goal of the study was to reduce the qualitative data into a maximum of three to five general themes in such a way through coding the data and creating small, manageable sets of themes to communicate to the audiences of this study. Using the theoretical framework guiding this study, the themes were then analyzed to determine the technical and adaptive elements and challenges within each theme (Heifetz, Grashow, & Linsky, 2009).

Six principals participated in answering the predetermined questions within the interview protocol to gather richer descriptive data about the impact of principals' knowledge-base and attitudes on gifted programming. Principals were selected on the basis of professionals within the field and the researcher's own knowledge and expertise. Selected principals were communicated with either via email or phone, whichever the individual principal prefers, to set up a date, time, and location for the semi-structured interview. The researcher traveled to each principal and conduct each interview personally. Each interview was audio recorded and transcribed. Once the interview was transcribed, the audio recording was destroyed. Using the transcribed interview, coding for technical and adaptive challenges (Heifetz, Grashow, & Linsky, 2009) and open coding was utilized to determine themes. For their participation, each principal was offered a $25 Amazon gift card.

Threats to Instrument Reliability and Validity

Attending to reliability and validity, two characteristics of measurement, "ensure[s] that the research process is as error free as possible" (Frankfort-Nachmias & Leon-Guerrero, 2011, p. 16). Fowler (2013) defines reliability as "the extent to which people in comparable situations

will answer questions in similar ways" (p. 86). Validity is defined "the relationship between an answer and some measure of the true score" (Fowler, 2013, p. 12).

There are several potential disadvantages of internet surveys, all which could potentially affect the reliability and validity of the administration, which include:

- "Limited to samples of Internet users
- Need for comprehensive address lists
- Challenges for enlisting cooperation (depending on sampled groups and topics)
- Various disadvantages of not having interviewer involved in data collection" (Fowler, 2013, p. 73)

The sample was current members of CASE who were also current elementary principals. The survey was sent through the CASE list serve, therefore, all potential participants had Internet access. Additionally, as the premier organization for principals across the state of Colorado, the CASE list serve provided a wide sampling of potential participants.

Another potential issue was enlisting cooperation due to principals' schedules. This could contribute to a high nonresponse rate, which would require a nonresponse analysis. "The effect of nonresponse on survey estimates depends on the percentage not responding and the extent to which those not responding are biased – that is, systematically different from the whole population" (Fowler, 2013, p. 43-44). Other potential issues stemming from not personally interviewing all participants include not being able to probe for adequate answers and not being able to ensure participants are fully understanding the questions (Fowler, 2013).

Another threat to the reliability and validity of the survey stems from the process of coding the open responses to uncover themes. Fowler (2013) states, "The reliability of coding open responses will vary with the quality of the question, the quality of the code, and the training

and supervision of coders" (p. 133). When coding the open-ended survey responses and interviews, there was one coder, the researcher in this study; therefore, the need to ensure inter-rater reliability did not exist. While coding the open-ended survey responses and interviews, data was triangulated, which means:

> [The researcher triangulates] different data sources of information by examining evidence from the sources and using it to build a coherent justification for themes. If themes are established based on converging several sources of data or perspectives from participants, then this process can be claimed as adding to the validity of the study. (Creswell, 2014, p. 201)

The quality of the questions improved with the expert review prior to the actual distribution and the codes were developed in response to the participants' responses, both of which increased the reliability and validity of the study.

To ensure standardization for the semi-structured interviews, an interview protocol was developed and utilized along with specific, predetermined questions (Creswell, 2014). Furthermore, all interviews were audio recorded and transcribed to accurately understand and quote participants. As a backup, the researcher will take thorough notes in the event the audio recording does not work. The same coding process used with the survey was utilized with the interview.

Role of the Researcher

A critical piece of any research study is for the researcher to reflect on his or her experience and biases which may exist as a result of those events. Creswell (2014) discusses the importance of clarifying researcher bias by stating:

> Clarify the bias the researcher brings to the study. This self-reflection creates an open and honest narrative that will resonate well with readers. Reflectivity has already been mentioned as a core characteristic of qualitative research. Good qualitative research contains comments by the researchers about how their interpretation of the findings is shaped by their background, such as their gender, culture, history, and socioeconomic origin. (p. 202)

To date, my entire career has been in a highly impacted district. For 13 years, the researcher has worked in the most impoverished school district in Colorado which also had the highest percentage of Culturally and Linguistically Diverse (CLD) students in the state of Colorado. Unlike some researchers, the researcher's bias is more towards the white, affluent populations, so this is a piece to be mindful of during the data analysis. There are inconsistencies and inequities in terms of creating and sustaining a comprehensive program for all high potential and GT learners (VanTassel-Baska & Stambaugh, 2007; Olszewski-Kubilius & Clarenbach, 2012; Esquierdo & Arrequin-Anderson, 2012; Young & Balli, 2014). As the researcher worked to analyze data and draw conclusions, these experiences and the biases creating from these occurrences will need to be continually reflected upon and taken into account.

The next chapter delves into the data gathered from the online survey as well as from the semi-structured interviews with selected principals.

CHAPTER FOUR: DATA ANALYSIS

Introduction

The purpose of this study is to explore the impact of elementary principals' knowledge-base and advocacy on gifted and talented (GT) programming within their school in a site-based district. The persistent problem of practice this study is investigating is the perceived limited amount of knowledge principals' possess on gifted and talented programming. The research questions guiding this study are: How does the knowledge-base of a principal impact gifted and talented programming within his or her school? How does the advocacy behaviors of a principal impact gifted and talented programming within his or her school? How do principals acquire knowledge about gifted programming?

Data for this study was collected using a mixed method approach employing an anonymous online survey as well as a face-to-face, semi-structured interview. The online survey consisted of 25 questions, and the first 15 questions were close-ended questions working collectively to describe each participant's experiences and current school. The remaining ten questions were created to provide insight directly into this study's research questions. Of the last ten questions, questions 16, 19, 22, 23, and 25 were all open-ended questions, and questions 17, 18, 20, 21, and 24 were closed-ended questions utilizing a variety of response option scales, including Likert, rank order, and sliding scale. The full survey is located in Appendix A. As the data analysis procedures to analyze open- and close-ended questions vary, the data collected from the two types of questions were explored in different sections of this chapter.

First, the survey data analysis procedures were discussed, including pertinent dates, the survey response rate, and the implications of the response rate. Following this, the results from the online survey was explored, beginning with the data collected through close-ended,

quantitative questions then moving into the open-ended qualitative questions. Next, semi-structured interview data analysis procedures were explored, and the themes uncovered through the interviews were discussed. The full interview protocol is located in Appendix B.

Survey - Data Analysis Procedures

In order to reach as many elementary principals as possible as potential survey participants, the researcher formed a community partnership with the Colorado Association of School Executives (CASE). On October 10, 2016, an initial email including the anonymous Qualtrics link to the survey was distributed by CASE to 403 elementary principals across the state of Colorado. In an effort to increase the number of responses to the survey, reminder emails were sent by CASE to all prior email recipients on October 24, 2016 and November 7, 2016. Out of the 403 principals who received all three emails, about 200 principals opened the email and 14 responded to the survey, resulting in a response rate of 3.47%.

The survey sample for this study is not representative of Colorado school principals. The low response rate does not reflect a generalizable representation of the selected sample of elementary principals who are members of CASE (Gliner, Morgan, and Leech, 2009). Gliner, Morgan, and Leech (2009) explain a representative sample using a survey can be difficult to obtain because "even if the selected sample was quite representative of the theoretical population, the actual sample may be unrepresentative" (p. 118).

Low response rates may be attributed to multiple factors. As the survey was sent out to a distribution list of principals' emails, the distribution list used by CASE may have included outdated contact information. Principals transfer to different schools and districts and do not always remember to change email addresses, particularly with professional organizations. Additionally, the email could have been directed to principals' junk email. Time may have also

been a contributing factor given the workloads of school principals. Some principals may have received the email, put off responding due to lack of time, and then forgotten to go back. Some principals may not believe there is a need to have a strong gifted program and therefore did not respond to the survey. Additionally, some principals may not want to participate in a survey about a topic in which they have a limited knowledge base.

The low response rate has important implications on the data analysis methods within any study, and as Gliner, Morgan, and Leech (2009) state, "A study should include a minimum of 30 participants" (p. 127). As this study did not meet the threshold, only the use of descriptive statistics was utilized in the data analysis. Even with this type of data analysis, it is critical to be cautious because of the low external validity, which describes the level to which the data can be generalized (Gliner, Morgan, & Leech, 2009). Gliner, Morgan, and Leech (2009) explain, "Questions dealing with the external validity of a study are based on the principle that a good study should be rated high on external validity, or, if not, the author should at least be cautious about generalizing the findings to other measures, populations, and settings" (p. 128). Data collected from this survey cannot be generalized to the wider population of elementary principals within the state of Colorado.

With the low response rate and low external validity, the data gathered through the six semi-structured interviews becomes even more valuable in understanding the persistent problem of practice and research questions. Six individual interviews were conducted with two urban, two suburban, and two rural elementary principals as part of the mixed methods approach to this research study and provide additional insight and data, and, as mentioned, the themes which emerged from these interviews were discussed in the last section of this chapter.

Online Survey Quantitative Data Results

Data collected from the closed-ended, quantitative questions from the survey were imported into the Statistical Package for the Social Sciences (SPSS), a computer software package utilized for statistical analyses. Using SPSS, a Cronbach's alpha test was conducted to determine the questions' reliability. Due to the limited response rate and numerous types of response option scales SPSS could not run the Cronbach's alpha test. Therefore, internal consistency reliability could not be determined for the questions within this survey, further emphasizing the need for caution when reviewing the data collected through the survey and the inability for the data to be generalized to the larger population of elementary principals across the state of Colorado. Therefore, each question was analyzed separately using descriptive statistics exclusively.

The first 15 questions within the survey were developed to collect general information about the school, such as participants' experience, school demographics, and staffing for the school's gifted program. Initially, these data were collected in an effort to determine trends and relationships. However, due to the extremely low response rate, various response option scales, and untestable reliability of the survey data as discussed above, the researcher was not able to run these types of statistical analyses. The data collected from the survey, while not generalizable, uncovered emerging themes, which can serve to inform further research in this area. These common themes which surfaced from the data collected by the survey are supported by the data from the interviews. The remainder of this section will explore the data collected from the closed-ended responses from the online survey. All data gathered from the open-ended survey responses were discussed at length in the next section of this chapter.

Survey Results.

Question 1: How long have you been a principal at your current school?

The data collected from the first two questions are shown in Table 6. The first question in the survey gathered information regarding the length of time the principal has been in the role of principal at his or her current school. Results revealed a nearly even distribution across the given lengths of time with the exception of the response option "Less than a year". Five survey participants were within the first three years at the school (35.7%), three had been in the school for four to six years (21.4%), four reported working in the school for seven to ten years (28.6%), however only two had been in the school for over ten years (14.3%). Not one principal in his or her first year at a new school completed this online survey.

Question Two: How long have you been a principal?

The second question in the survey asked the participants how many years total they had been in the role of principal, beyond and including the time spent in his or her current school. Results indicated 10 of the 14 principals (71.4%) who participated in this survey have four or more total years of experience in the role of school principal. Two survey respondents had four to six years' experience (14.3%), three had seven to ten years' experience (21.4%), and five had over ten years of total experience (35.7%). Four participants reported to be in the first three years of this role (28.6%). Again, it is noted not one principal in his or her first year as a principal completed this online survey.

A possible reason for the results to both questions one and two could be the overwhelming workloads of principals, particularly for first year principals and principals new to a school. This workload could translate into little time to complete surveys unless required.

Table 6

Principal Experience

	Years at Current School		Overall Number Years as Principal	
	n	**%**	**n**	**%**
Less Than a Year	0	0.0%	0	0.0%
1-3 Years	5	35.7%	4	28.6%
4-6 Years	3	21.4%	2	14.3%
7-10 Years	4	28.6%	3	21.4%
More than 10 Years	2	14.3%	5	35.7%
Total	14	100.0%	14	100.0%

Note: All responses were self-reported.

Question Three: What school/program did you attend for your principal preparation program?

The third question in the survey prompted participants to reveal which principal preparation program was attended to gain principal licensure, and the results are displayed in Table 7. The results of this question showed participants attended a wide array of educational institutions for their principal preparation. Three participants attended Adam's State University (21.4%), three participants attended University of Colorado at Colorado Springs (21.4%), two attended the University of Phoenix (14.3%), and all others attended a variety of in- and out-of-state institutions, including University of Colorado at Denver (7.1%), University of Northern Colorado (7.1%), University of Houston (7.1%), University of Denver (7.1%), Alternative Licensure through North East BOCES (7.1%), and Concordia University (7.1%).

Table 7

Educational Institutions Attended for Principal Preparation Programs

Educational Institution	**n**	**%**
Adam's State University	3	21.4%
University of Colorado at Colorado Springs	3	21.4%
University of Phoenix	2	14.3%
University of Colorado at Denver	1	7.1%
University of Northern Colorado	1	7.1%
University of Houston	1	7.1%
University of Denver	1	7.1%
Alternative Licensure through North East BOCES	1	7.1%
Concordia University	1	7.1%
Total	14	100.0%

Note: All responses were self-reported.

Question Four: How long were you an educator prior to becoming a principal?

The fourth question participants responded to is highlighted in Table 8, and asked for information about the length of time spent as an educator prior to becoming a principal. Statistics showed one participant was an educator for less than three years prior to becoming a principal, three indicated four to six years of experience as a teacher prior to entering administration, three participants had seven to ten years experiences, four had 11-25 years, and three had more than 15 years. An outlier in this data set was one current principal was an educator for only three years or less prior to going into building administration.

Table 8

Time as Educator Prior to Becoming a Principal

Time	n	%
0-3 Years	1	7.1%
4-6 Years	3	21.4%
7-10 Years	3	21.4%
11-15 Years	4	28.6%
More than 15 Years	3	21.4%
Total	14	100.0%

Note: All responses were self-reported.

Question 5: What school/program did you attend for your teacher preparation program?

Much like the third question in the survey, the fifth question revealed the wide variety of educational institutions participants attended to attain their teaching degree. Survey participants were asked to give the name of the educational institution attended for teacher licensure, and the results are shown in Table 9. Three (21.4%) principals indicated attendance at the University of Northern Colorado, and all others listed different institutions, including Mountain BOCES Alternative Licensure (n=1, 7.1%), Chapman University (n=1, 7.1%), Bowling Green State University (n=1, 7.1%), University of Colorado at Boulder (n=1, 7.1%), University of Idaho (n=1, 7.1%), Regis University (n=1, 7.1%), University of Phoenix (n=1, 7.1%), Colorado College (n=1, 7.1%), Cedarville College/University (n=1, 7.1%), and University of Wyoming (n=1, 7.1%). One participant opted out of this question.

Table 9

Educational Institutions Attended for Teacher Preparation Progam

Educational Institution	n	%
University of Northern Colorado	3	21.4%
Mountain BOCES Alternative Licensure	1	7.1%
Chapman University	1	7.1%
Bowling Green State University	1	7.1%
University of Colorado at Boulder	1	7.1%
University of Idaho	1	7.1%
Regis University	1	7.1%
University of Phoenix	1	7.1%
Colorado College	1	7.1%
Cedarville College/University	1	7.1%
University of Wyoming	1	7.1%
Total	13	92.8%

Note: All responses were self-reported. One participant opted out.

Question Six: Site-based decision making enables principals to have autonomy in their decisions to meet the needs of the unique population within their school. What percentage of your decisions are site-based?

As discussed in Chapter One, Ouchi (2006) explained numerous school districts across the nation are granting increased autonomy to principals, in order to make site-based decisions for the good of the school's students, staff, and community. Survey question six was designed to ascertain the level to which the survey participants have been granted such autonomy at their school with results shown in Figure 1. To clarify survey participants' understanding the following description was added: Site-based decision making enables principals to have autonomy in their decisions to meet the needs of the unique population within their school.

Of the survey respondents, one reported limited site based with decision making with only 21% to 30% of the decisions being made at the school. One indicated 41% to 50% of decisions were site-based, one reported 51% to 60%, four participants explained 61% to 70%,

two indicated 71% to 80%, four reported 81% to 90%, and one participant said 91% to 100% of the decisions are site-based. Of all the survey participants, 11 reported they are given the autonomy to make 60% or more of the decisions at their school. Five of the principals who completed this survey stated 80% of the decisions made for the school are site-based. Although these findings cannot be generalized to elementary principals across the state of Colorado, the outcomes from this particular question are aligned to current research (Ouchi, 2016).

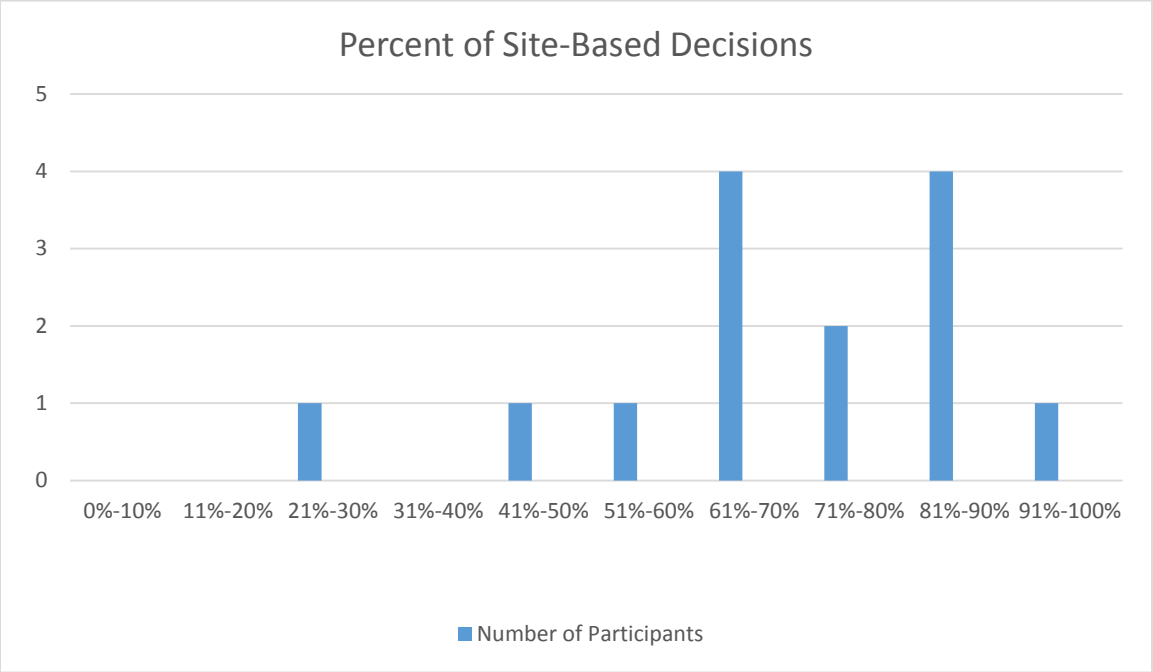

Figure 1. Participant Report of the Percent of Site-Based Decision Making

Question Seven: What is the total population of students in your school?

Question seven gathered information about the total population of students within each principal's school. Twelve (85.7%) of the principals reported having between 201 and 600 students, and within this clustering, eight (66.7%) of the principals described their school as having between 301 and 500 students. The largest school whose principal participated in the survey had between 701 and 800 students, and the smallest school whose principal participated

in the survey had between 101 and 200 students. The National Center for Education Statistics (2001) reported the average size of elementary schools in Colorado was 386 students, which is within the range of the majority of the survey participants' schools.

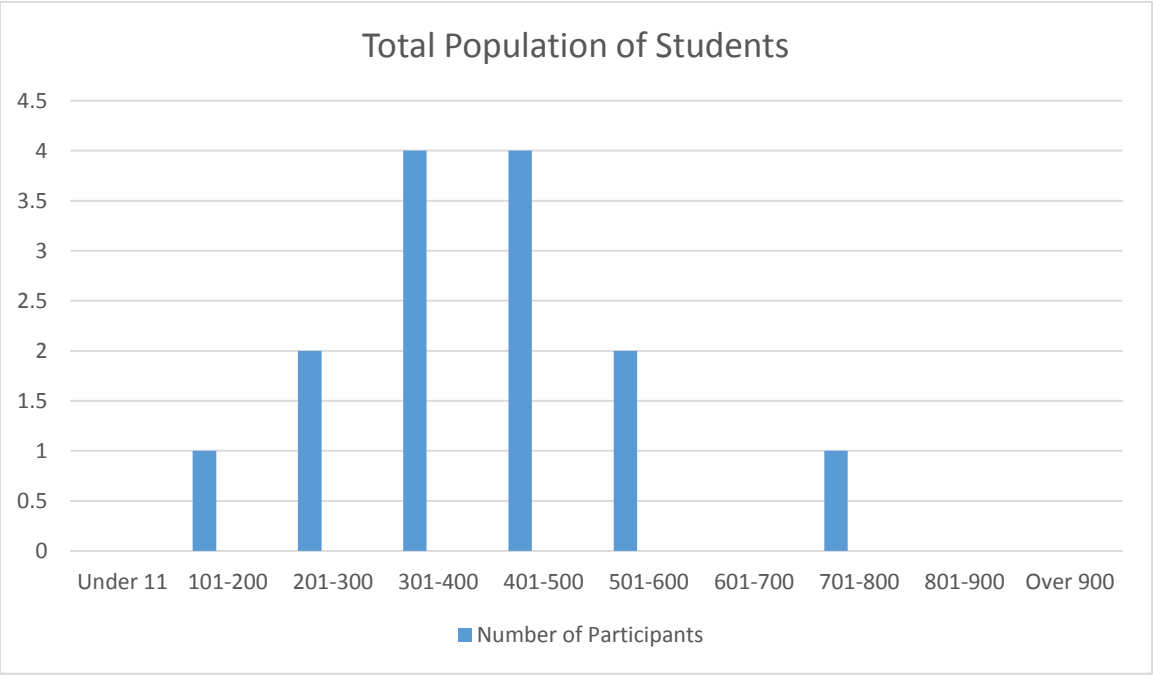

Figure 2. Total Student Population in each Principal's School

Question Eight: Which term best describes your school?

Survey question eight asked each principal to designate his or her school as rural, urban, or suburban. While this question asked principals to describe their individual school, the Colorado Department of Education (CDE) does not have descriptions such as rural, suburban, and urban broken down by a school-to-school basis. Rather, CDE has used these terms to describe school districts across the state of Colorado. Out of 178 school districts, 109 are described as small rural, of which 88 of these districts have less than 500 students total (CDE, 2016). Thirty-nine districts across the state of Colorado are labeled as rural (CDE, 2016). The Colorado Department of Education (2016) states, "These 148 (80% of total districts) rural districts comprise only 16% (just more than 136,000) of the total student population in the state"

(p. 1). The largest school district in the state of Colorado is an urban school district which alone has over 90,000 students and 93 elementary principals (Denver Public Schools, 2015).

Out of the 14 survey participants, seven (50%) worked in rural schools, five (35.7%) worked in suburban schools, and two (14.3%) worked in urban schools. Given the population distribution and population density across the state of Colorado, these results are unexpected since there are more principals across the state in urban and suburban settings than rural settings. One possible explanation for the higher response rate from rural schools could be in part because the Colorado Department of Education's Office of Gifted and Talented recently partnered with the University of Denver to work with rural school districts on gifted and talented identification and programming through a grant called Right 4 Rural. Therefore, the application and/or participation in the Right 4 Rural grant may have principals more aware of gifted education which might have increased the likelihood principals opted to participate in this online survey.

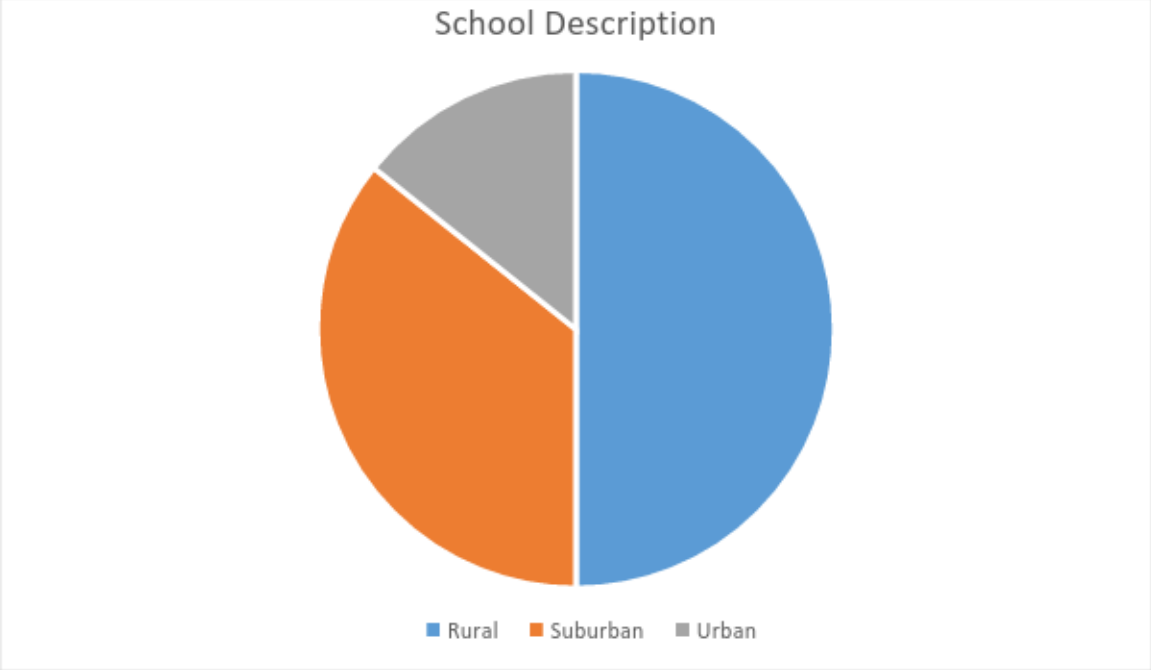

Figure 3. School Description as reported by Elementary School Principals

Question Nine: What is your school's current status with the state of Colorado?

In survey question nine, participants were asked to share their school's current accreditation status with the state of Colorado which are communicated in Figure 4. Much like the previous question, CDE does not list out each individual school's accreditation, although each school's accreditation can be looked up separately. Therefore, the districts' accreditation status was reported by participants. The CDE (2016) reported the following district accreditation for all 178 districts across Colorado: 27 accredited with distinction, 102 accredited with performance, 44 accredited with improvement, nine accredited with priority improvement plan, and one accredited with turnaround plan.

From the survey respondents, two (14.3%) schools were accredited with distinction, 11 (78.6%) were accredited with performance, and one (7.1%) was accredited with priority improvement plan. None (0.0%) of the participants' schools were accredited with improvement or turnaround plan. Responses to this survey mirrored the distribution of school accreditation across the state excluding state accreditation with improvement, the second largest accreditation category across the state. Not one (0.0%) principal from a school accredited with improvement opted to participate in this survey.

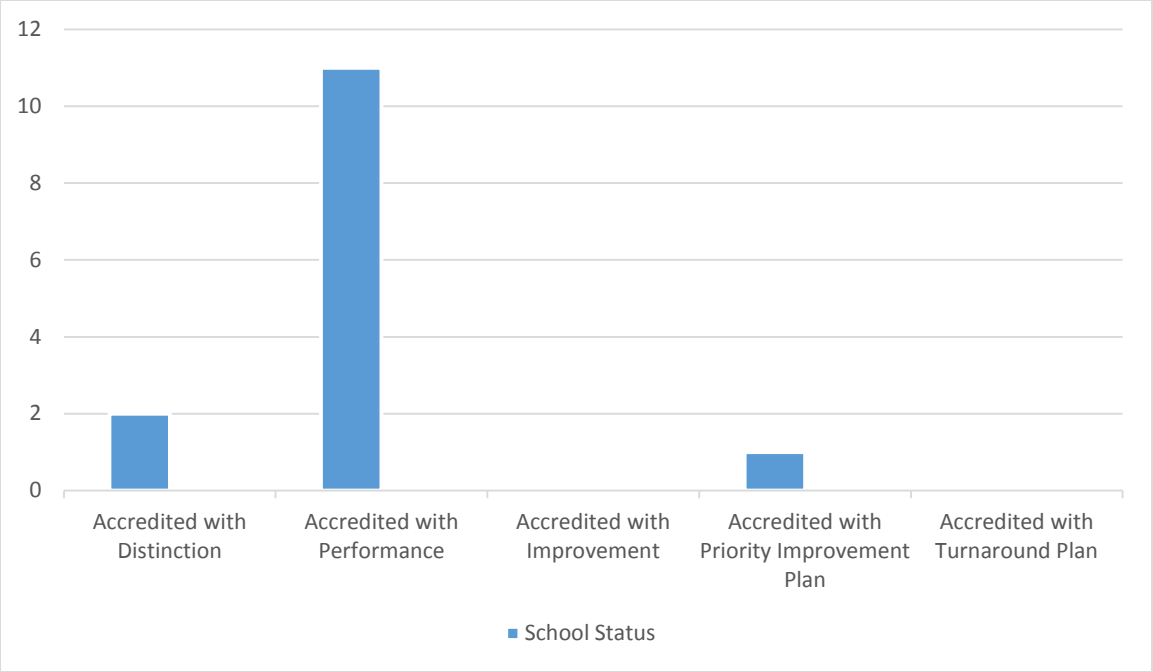

Figure 4. School Accreditation Status as reported by Elementary School participants.

Question 10: What is the percentage of students meeting the criteria for Free and Reduced Lunch in your school?

Survey questions 10 and 11 are discussed together as both explore traditionally underrepresented populations in gifted education, students from low income families and culturally and linguistically diverse students (Olszewski-Kubilius & Clarenbach, 2012; VanTassel-Baska & Stambaugh, 2007; Esquierdo & Arrequin-Anderson, 2012). Each question asked survey participants to communicate the total population of one of these subgroups of students within their school, and the results for both questions are displayed in Figure 5.

Survey question ten asked participants to report the percentage of students qualifying for free or reduced lunch within their school. In the state of Colorado, one method used to determine poverty is whether the children in the family qualify for free or reduced lunch. The state percentage for students in kindergarten through twelfth grade who qualify for free or

reduced lunch has continued to grow annually from 348,930 (41%) in 2011 to 376,078 (42%) in 2015 (Colorado Children's Campaign, 2017). The Colorado Department of Education (2016) reports 365,410 (42%) student out of the total 866,888 enrolled students qualified for free or reduced lunch during the 2015-2016 school year. Data collected from survey respondents showed one participant reported 0% to 10% of his or her students qualified for free or reduced lunch, two participants stated 11% to 20%, two participants reported 21%to 30%, four indicated 31% to 40%, one reported 41% to 50%, three reported 51% to 60%, and one indicated 71% to 80%.

Compared to the state numbers regarding free and reduced lunch, the majority of the participants who participated in this study were not highly impacted with students qualifying for free and reduced lunch. Nine (64.3%) of the survey participants had fewer than 40% of students qualifying for free and reduced lunch. Highly impacted schools with students qualifying for free or reduced lunches are often lower performing and in more urban areas (Vanderhaar, Munoz, & Rodosky, 2006). This data aligns with the results of previous questions which revealed few, if any, principals decided to participate in this online survey whose schools were in urban areas and accredited with improvement, priority improvement plan, or turnaround plan.

Question 11: What is the percentage of identified English Language Learners in your school?

The eleventh survey question asked principals what percentage of the student population at their school are identified as English Language Learners (ELLs). In Colorado during the 2014-2015 school year, there were 126,120 identified ELLs, including those identified as ELLs whose parents refused services, making up 14.76% of the total student population (Mohajeri - Nelson & Negley, 2015). When considering the statewide ELL population, 70.3% of the entire

statewide ELL population attended schools in the Denver Metro area (Mohajeri -Nelson & Negley, 2015), which "includes 15 districts located within the Denver-Boulder standard metropolitan statistical area which compete economically for the same staff pool and reflect the regional economy of the area" (Mohajeri -Nelson & Negley, 2015, slide 20). Denver Public School District, an urban school district and the largest school district in Colorado, has the largest number of ELLs with 27,437 (?%) students identified. Adams 14 School District, a small urban school district, has the largest percentage of ELLs in the state with 44.4% of the population identified.

The participants in this survey worked at schools less impacted by ELLs than students qualifying for free or reduced lunch. Seven participants reported 0% -10% of their school's population was ELLs, two indicated 11% to 20%, three stated 21% to 30%, one reported 41% to 50%, and one indicated 61% to 70%. Based on the results, 12 (85.7%) of the participants reported 30% or less of the students in their school were identified as English Language Learners. As previously stated, few urban school principals, which are the most highly impacted districts by an ELL population, participated in this survey.

According to Ballantyne, Sanderman, Levy (2008), "almost six in ten (59%) adolescent [English Language Learners or] ELLs qualify for free or reduced price lunch" (p. 7). Therefore, the participants' schools are not highly impacted with English Language Learners much like the participants' schools are not highly impacted with students qualifying for free and reduced lunch.

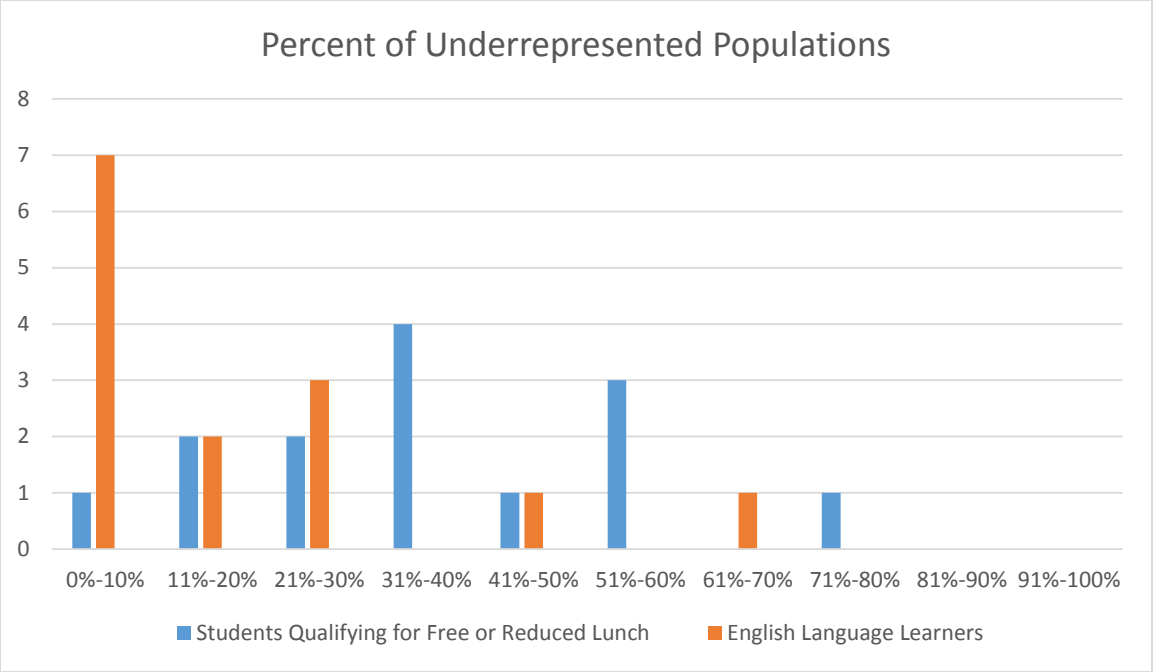

Figure 5. Percent of Underrepresented Populations in Participants' Schools

Question 12: What is the percentage of identified Gifted and Talented learners in your school?

Question 12 asked participants what percentage of their students were identified as gifted and talented, and the results of this survey question are shown in Figure 6. In Colorado during the 2014-2015, there were 68,663 identified gifted students equating to 7.7% of the total student population (Colorado Association for Gifted and Talented, 2015). The survey results indicated the following: one participant stated 1% to 2% of his or her student population was identified as gifted, two reported 3% to 4%, two indicated 5% to 6%, three reported 6% to 7%, and six participants reported more than 7% of the students in their school was identified as gifted. Based on this online survey question, 11 of the principals indicated five% or more of their population is identified as gifted and talented. This estimate suggests the majority of the principals are in schools where current identification procedures are seemingly successful. However, this is impossible to truly determine how successful the school's identification processes are based on

the data gathered through this online survey. Ethnic and gender data of the identified gifted students was unavailable to compare to the schoolwide ethnic and gender data to ensure the students who are identified as gifted reflect the total school population.

When looking at identification, it is continuously imperative to think about the demographics of the school. The two largest underrepresented populations in gifted and talented education are students from low income households and Culturally and Linguistically Diverse Learners (Olszewski-Kubilius & Clarenbach, 2012; VanTassel-Baska & Stambaugh, 2007; Esquierdo & Arrequin-Anderson, 2012). The survey participants were principals in schools not highly impacted by students living in low income households, as indicated by the low percentage of students qualifying for free and reduced lunch, or with English Language Learners. Therefore, the absence of these populations within the participants' schools indicate the majority of the schools' populations consist of white, more affluent students, which is the group of students over-identified in gifted and talented education (Ford & Robert, 2014). Still, most participants reported some students from underrepresented populations within their schools, so it would be interesting to see the amount of students from these populations who are officially identified as gifted and talented.

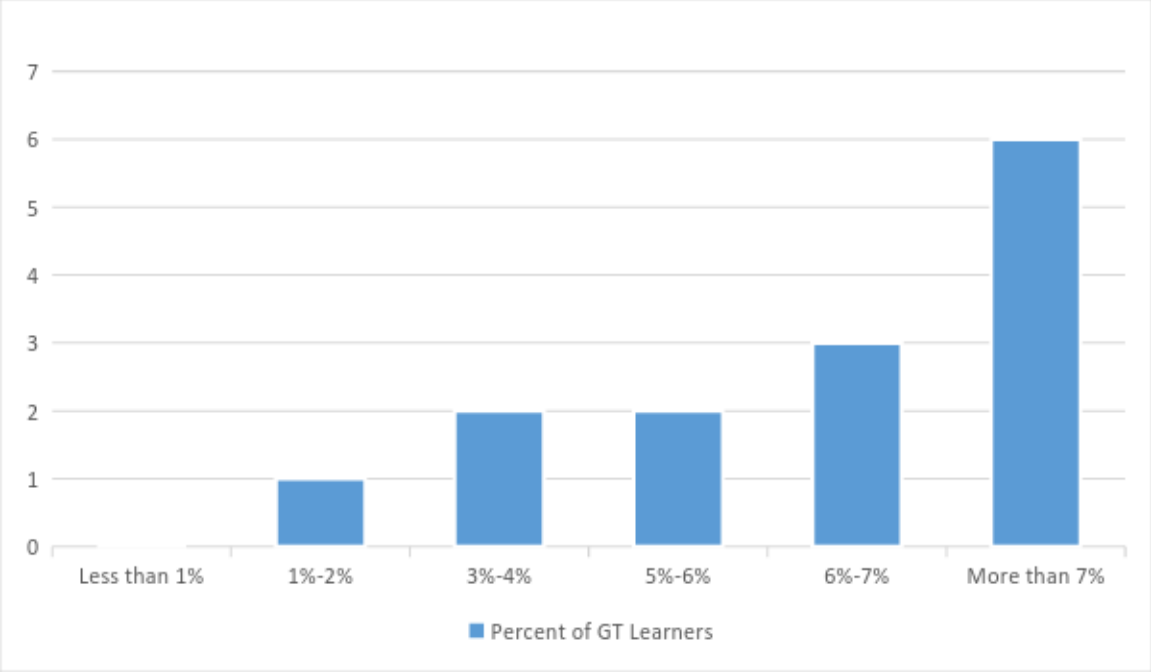

Figure 6. Percent of Identified Gifted and Talented Learners in Participants' Schools

Questions 13, 14 and 15 all discuss the participants' staff directly working with the school's gifted program. The results of these questions are shown in Figure 7. Certified employees must hold a valid teacher's license within the state of Colorado, and classified staff do not need to hold a teacher's license.

Question 13: How many full-time certified employees are at your school who are a GT Teacher, GT Coordinator, or GT Specialist?

Question 13 asked principals the number of full-time certified employees who are GT teachers, GT Coordinators, or GT specialist in their schools. Six (42.9%) of the participants reported they did not have any (0.0%) full time employees (FTEs) who were GT teachers, coordinators, or specialists; five (35.7%) had one FTE; one (7.1%) had two FTEs; and two (14.3%) had more than three FTEs. There were two (14.3%) with principals who reported having more than three FTEs who were GT teachers, coordinators, or specialists. The participants in this study may have considered classroom teachers who teach groups of GT

students clustered together as a GT Teacher, thus indicating a large number of FTEs working with GT students in the building.

Question 14: How many part-time certified employees are at your school who are a GT Teacher, GT Coordinator, or GT Specialist?

Survey question 14 asked principals the number of part-time certified employees at their school are GT Teachers, GT Coordinators, or GT Specialists. The result of data analysis for this question shows six (42.9%) participants indicated one half time certified employee works with the GT program within their school. The remainder and the majority of the participants, eight total (57.1%), reported not having any half time certified employees who were GT Teachers, GT Coordinators, or GT Specialists.

Question 15: How many classified employees at your school work directly for the GT program?

Question 15 asked participants how many classified employees, also known as para professionals, work directly with the school's GT program. Out of all the participants, 11 (78.6%) indicated zero classified employees worked directly with the GT program, and two (14.3%) stated one classified employee worked with the GT program. Through personal knowledge and experience, the researcher has observed most classified employees focus on intervention working with students in the Special Education Program or students needing additional support with literacy. There was one (7.1%) outlier which indicated more than three classified employees worked directly with the GT program at their school, which is atypical based on the researcher's personal experience stated above.

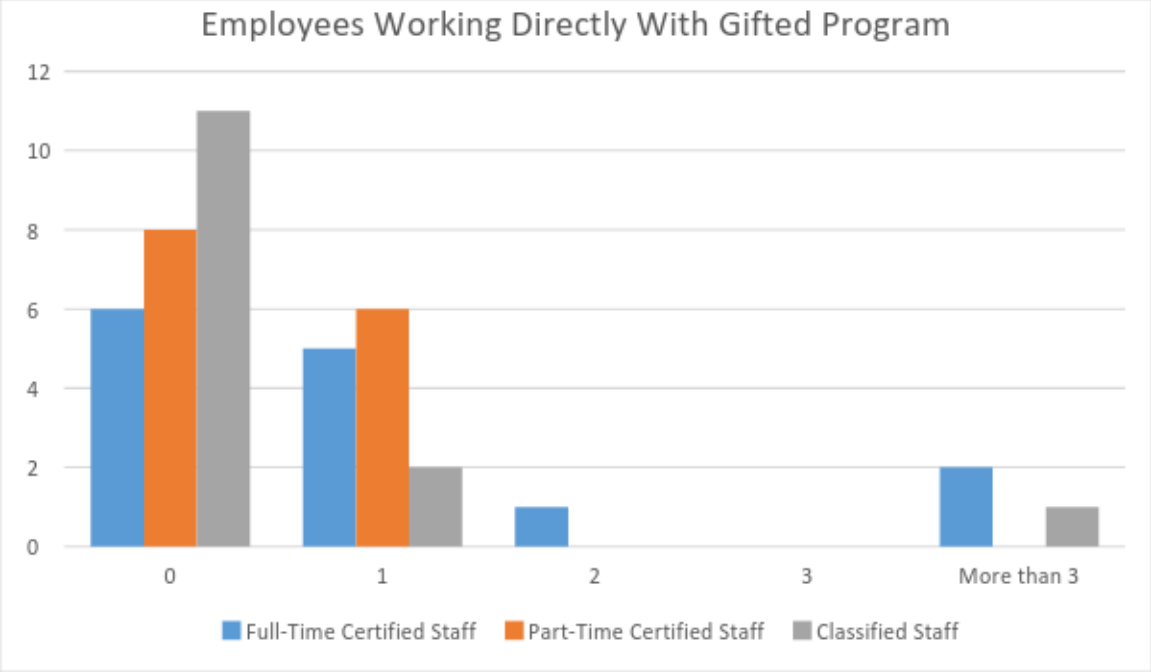

Figure 7. Employees Working Directly with the School's Gifted Program

After the completion of question 15, the underlying purpose of the survey questions shifted. The first 15 survey questions were designed to gather general information about the principal, the school, and the school's current gifted program. Survey questions 16 through 25 were created to collect data to address the research questions for this study and were comprised of both closed- and open-ended questions. Questions 16, 19, 22, 23, and 25 were all open-ended questions, and questions 17, 18, 20, 21, and 24 were closed-ended questions. As the data analysis procedures for closed- and open-ended questions differ, the closed-ended questions were discussed next in this section, and the open-ended questions were discussed in the subsequent section following a description of the data analysis procedures utilized to determine the themes which emerged.

As question 16 was an open response question, it was discussed in the next section of this chapter.

Question 17: Rate your personal knowledge around the overall needs of GT students.

Question 17, asked principals to rate their personal knowledge about the overall needs of GT students. Results are displayed in Figure 8 below. Three (21.4%) participants responded to having a basic level of personal knowledge, seven (50%) indicated having a moderate level, and four (28.6%)indicated having an expert level of knowledge. No (0.0%) participants self-reported a somewhat limited or limited level of personal knowledge. One possible reason for this could be that only principals who understand the need for gifted programming participated in this online survey. Another thought is provided by Gliner, Morgan, and Leech (2009), who explain any question where participants self-report depends on the participants' "willingness to give frank and honest answers" (p. 181). Participants could give socially desirable answers, such as saying what is thought the researcher wants to hear or inflate the results to appear more knowledgeable.

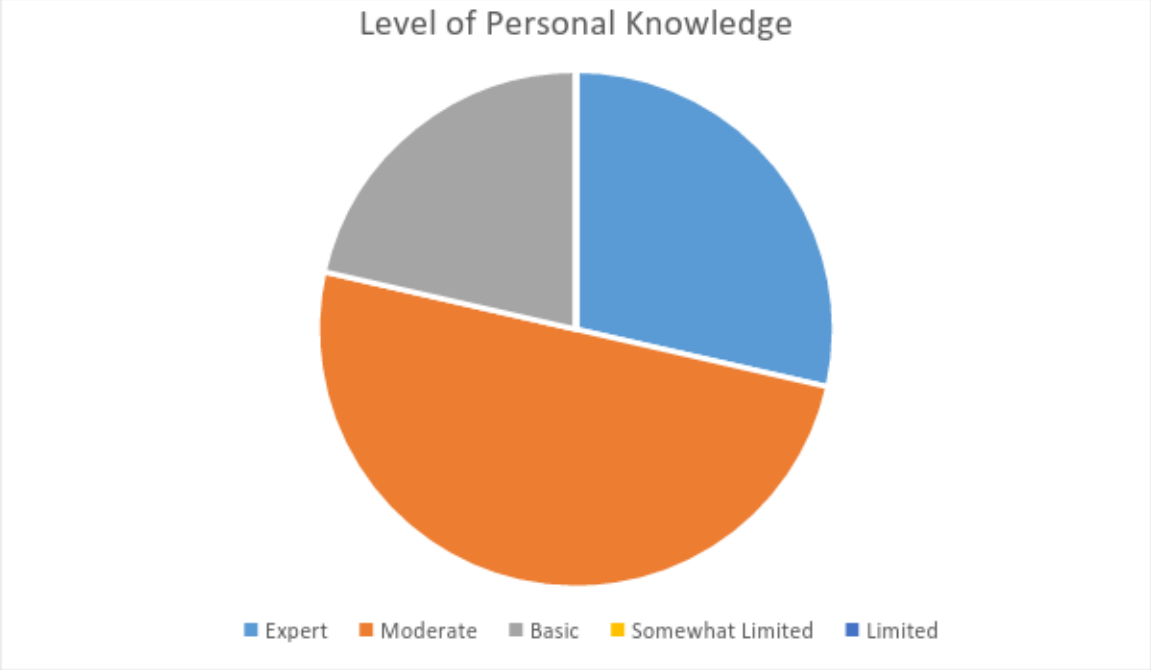

Figure 8. Self-Reported Personal Knowledge Rating of Overall Needs of GT Students

Question 18: Rank order the topics based on your level of personal knowledge, 1 being the topic you are most knowledgeable about.

Question 18 asked participants to rank order the given topics based on their personal knowledge, with the top ranked topic indicating where he or she felt most knowledgeable (rank=1), and the lowest ranked topic indicating where he or she felt least knowledgeable (rank=6). Results of this question are shown in Table 10. Visual inspection of the results suggested several trends in the data. All participants (100.0%) ranked the GT identification process within the top three most knowledgeable topics. Eight (57.1%) ranked the identification process as the topic he or she was most knowledgeable about, three (21.4%) ranked it as the second most knowledgeable topic, and three (21.4%) ranked it as third.

The second topic the participants reported most knowledgeable about was the academic needs of GT learners. Two (14.3%) ranked this as their most knowledgeable topic, six (42.9%) ranked it as their second, four (28.6%) ranked it as third, and two (14.3%) ranked it as their fourth most knowledgeable topic.

The data were more spread out across the rankings for two of the topics: 1) social emotional needs of GT learners, and 2) creation of Advanced Learning Plans (ALPs). The data for social emotional needs of GT learners was most evenly distributed of these two topics. Three (21.4%) participants ranked social emotional needs as their most knowledgeable topic, three (21.4%) ranked social emotional needs as the second most knowledgeable topic, five (35.7%) as third, none (0.0%) as fourth, two (14.3%) as fifth, and one (7.1%) participant indicated it was his or her least knowledgeable topic. Data for the creation of ALPs topic was distributed across most of the response options as well; however, distinct clustering was also indicated. One (7.1%) participant indicated it was the topic of which he or she is most knowledgeable, one (7.1%)

reported it was the second, one (7.1%) reported it was the third, one (7.1%) reported it was the fifth, and no one (0.0%) indicated it was the sixth. However, 10 (71.4%) indicated it was the fourth most knowledgeable topic.

Furthermore, the 78.6% (n=11) of the participants indicated nearly the least knowledgeable (rank=5) concerning the implementation of the ALPs, which is the programming in action. No (0.0%) participants indicated it was in the top two most knowledgeable topics, one (7.1%) indicated it was third, three (21.4%) indicated it was fourth, 11 (78.6%) reported it as fifth, and no (0.0%) participants indicated it as sixth.

The last topic referred to a principal's knowledge about the GT sections within the Exceptional Children's Education Act, which is legal mandate for gifted programming in all schools within the state of Colorado, includes definitions for gifted children, gifted programming, and much more. Participants reported the least personal knowledge about this topic. One (7.1%) participant ranked it as his or her second most knowledgeable topic and the other 13 participants ranked this as their least knowledgeable topic.

Overall, based on the limited sample population, this question suggests these participants' may possess a general knowledge base around GT learners. Principal participants ranked the identification process and meeting the academic and social emotional needs of GT learners highest. However, the knowledge base becomes less strong when dealing with implementation of programming, such as implementing the ALP, and understanding state mandates as communicated in the Exceptional Children's Education Act.

This data provides conflicting results. One piece of conflicting data is the majority of participants felt less knowledgeable about the creation of ALPs yet indicated they were knowledgeable about meeting the academic needs of gifted learners. The conflict arises because

the function of the ALP is to drive gifted programming in order to meet the academic and affective needs of gifted learners.

Table 10

Rank Ordered Topics Based on Level of Personal Knowledge

Topic	Rank											
	1		2		3		4		5		6	
	n	%	n	%	n	%	n	%	n	%	n	%
The GT Identification Process	8	57.1	3	21.4	3	21.4	0	0.0	0	0.0	0	0.0
The Creation of Advanced Learning Plans (ALPs)	1	7.1	1	7.1	1	7.1	10	71.4	1	7.1	0	0.0
The Implementation of Advanced Learning Plans (ALPs)	0	0.0	0	0.0	1	7.1	3	21.4	11	78.6	0	0.0
The GT Sections within the Colorado Exceptional Children's Education Act	0	0.0	1	7.1	0	0.0	0	0.0	0	0.0	13	92.9
The Academic Needs of GT Learners	2	14.3	6	42.9	4	28.6	2	14.3	0	0.0	0	0.0
The Social Emotional Needs of GT Learners	3	21.4	3	21.4	5	35.7	0	0.0	2	14.3	1	7.1
Total	14	100.0	14	100.0	14	100.0	15	107.1	14	100.0	14	100.0

Note: All responses were self-reported. Rank 1=Greatest Personal Knowledge; Rank 6=Least Personal Knowledge

Question 19 was an open response question and was discussed in the next section of this chapter.

Question 20: In what ways have you acquired knowledge about GT students?

Participants were asked by question 20 to identify in what ways knowledge about gifted learners was acquired by selecting all applicable responses. Participants were additionally provided an open-ended response opportunity to indicate other ways knowledge about gifted learners was acquired beyond the listed options. The responses illustrated in Figure 9 were analyzed by tallying responses for each pathway, then classifying them from most impactful

methods of gaining knowledge to least impactful as measured by total number of responses. Nine (64.3%) indicated being the parent of a child who was identified as gifted as a pathway to gaining knowledge. Acquiring knowledge through being a parent suggests these participants were driven by personal need to gain an enhanced understanding of their child to better meet the child's needs. These nine participants chose to learn about giftedness due to a child being identified, and this could also be a part of the explanation of why these principals elected to participate in the online survey.

Nine (64.3%) respondents also reported acquiring knowledge through district provided professional development However, respondents were not asked to indicate whether the district provided professional development whether required or optional. Not all district professional development is mandated, therefore interested parties can elect to attend based on personal interest or perceived needs.

The next avenue to gain knowledge about gifted learners was the participant personally sought out his or her own professional development. Eight (57.1%) participants chose this pathway, suggesting for those eight participants, gifted education may be an area of passion or at one time a perceived area of need in terms of further education.

Next, seven (50.0%) of the participants reported experience at one time being a classroom teacher with gifted learners among other students which provided knowledge about these students. Perhaps having gifted students in the classroom prompted some of these educators to seek out further professional learning to better meet the needs of their students.

Two methods, the acquisition of knowledge through teacher preparation program, as well as professional development from their school, were both selected by six (42.9%) participants. Less than half of the participants (n=6; 42.9%) gained knowledge about GT learners through

their teacher preparation programs, which are meant to prepare new teachers to meet the diverse needs of all students within a typical classroom.

The three least indicated pathways to acquire knowledge about GT learners were personally being a GT learner (n=3; 21.4%), administrator preparation program (n=2; 14.3%), or teaching experience in a self-contained GT classroom or pull out program (n=9; 64.3%). Three (21.4%) respondents reported gaining knowledge by being a GT learner themselves, two (14.3%) indicated gaining knowledge through their administrator preparation program, and no (0.0%) participants reported being a teacher in a self-contained or pull-out GT program. Similar results were found with the impact of administrator preparation programs. It is noteworthy only two (14.3%) participants felt their administrator preparation program provided knowledge regarding GT learners.

Five (35.7%) survey participants chose to identify other pathways utilized to acquire information regarding gifted learners. These included exposure to the process through the job, individual reading, previous support from past districts, and state level trainings as indicated by response to the "Other" open-ended response option (n=5; 35.7%).

Interestingly, several of the top rated avenues to gain knowledge around GT learners are opportunities which must be independently sought out. The lack of perceived knowledge gained through educational institutions preparing future teachers and administrators is troubling.

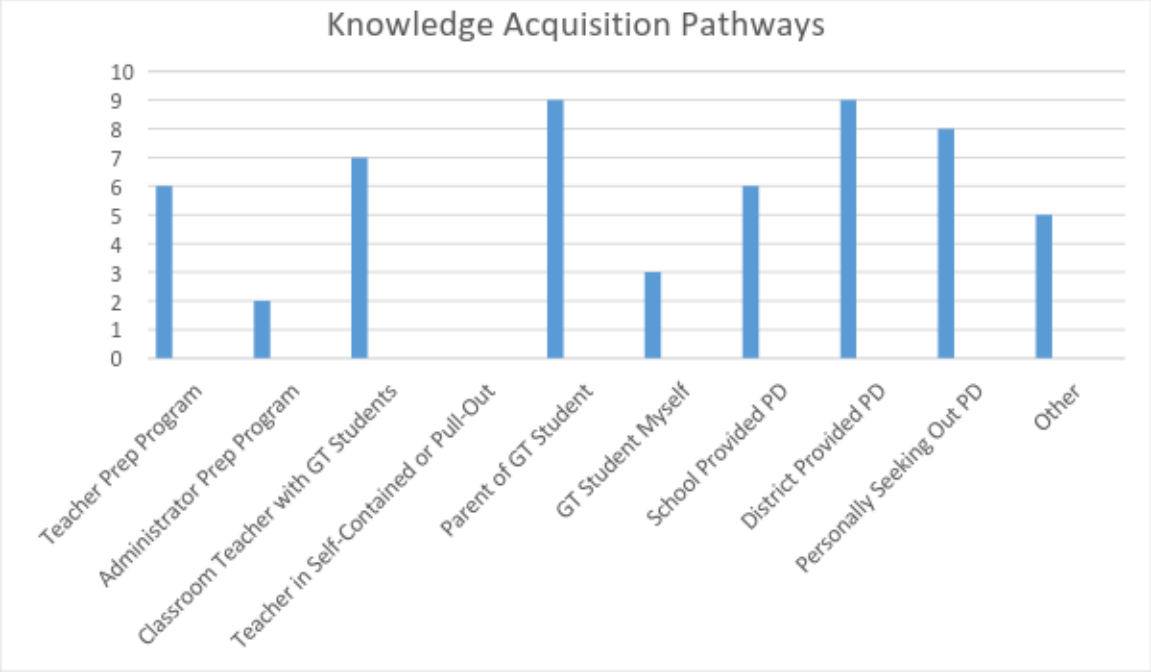

Figure 9. Knowledge Acquisition Pathways for Gifted Education

Question 21: Rank order the ways you have acquired knowledge about GT students in terms of value, 1 being the most valuable way you personally acquired knowledge about GT students.

Question 21 asked participants to rank order the ways knowledge about GT students was acquired in terms of value, with one being the most valuable way knowledge about GT students was acquired. Table 11 shows summary statistics for each pathway as well as the qualitative responses to the "Other" open response question, which were the same possible responses from question 20. Only three elected to type in a response on this question. The far-right column in Table 11 shows the calculated mean for each response option. This mean rank scale was interpreted as the lower the mean, the more the participants valued the method to acquire their knowledge.

To review the data collected from this question, the most valuable to least valuable methods to acquire knowledge as determined by the mean data was discussed. The most

valuable way to gain knowledge as reported by the participants was to be a classroom teacher with gifted students in the classroom (M = 3.29), and the second pathway was personally seeking out professional development (M = 3.92). The third most valuable way to gain knowledge about gifted learners is to be the parent of a gifted learner (M = 4.29), then district provided professional development (M = 4.57), followed by school provided professional development (M = 4.71). The sixth pathway was the participants' teacher preparation program (M = 5.29) trailed by the participants' administrator preparation program (M = 5.86). The two methods with the least value was being a gifted learner (M = 7.21) and being the teacher in a self-contained or pull-out GT classroom (M = 7.78). A response was required for each part of this question before the participant could move on to the next question, meaning the participants had to rank order being a gifted learner and being the teacher in a self-contained or pull-out GT classroom, even if those did not personally apply. Reviewing question 20, only three participants were identified as gifted themselves, and no participants were teachers in self-contained or pull-out GT classrooms. Therefore, those two pathways were not considered when evaluating this data. Out of the remaining options, the two methods participants felt had the least value on their knowledge acquisition about GT learners was teacher and administrator preparation programs.

Table 11

Rank Ordered Knowledge Acquisition Pathways

Topic	Rank																				Mean
	1		2		3		4		5		6		7		8		9		10		
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	
My Teacher Preparation Program	0	0.0%	2	14.3%	1	7.1%	2	14.3%	3	21.4%	2	14.3%	1	7.1%	2	14.3%	1	7.1%	0	0.0%	5.29
My Administrator Preparation Program	0	0.0%	0	0.0%	1	7.1%	1	7.1%	4	28.6%	4	28.6%	2	14.3%	1	7.1%	1	7.1%	0	0.0%	5.86
Being a Classroom Teacher with GT Students in My Class	4	28.6%	2	14.3%	2	14.3%	2	14.3%	1	7.1%	2	14.3%	1	7.1%	0	0.0%	0	0.0%	0	0.0%	3.29
Being a Teacher in a Self-Contained or Pull-Out Class	0	0.0%	0	0.0%	1	7.1%	0	0.0%	0	0.0%	1	7.1%	3	21.4%	3	21.4%	5	35.7%	1	7.1%	7.78
Being the Parent of a GT Students	1	7.1%	4	28.6%	1	7.1%	2	14.3%	1	7.1%	1	7.1%	3	21.4%	1	7.1%	0	0.0%	0	0.0%	4.29
Being a GT Student Myself	1	7.1%	1	7.1%	0	0.0%	0	0.0%	1	7.1%	2	14.3%	0	0.0%	2	14.3%	5	35.7%	2	14.3%	7.21
School Provided Professional Development	1	7.1%	3	21.4%	1	7.1%	1	7.1%	3	21.4%	0	0.0%	3	21.4%	2	14.3%	0	0.0%	0	0.0%	4.71
District Provided Professional Development	1	7.1%	2	14.3%	4	28.6%	2	14.3%	0	0.0%	1	7.1%	0	0.0%	3	21.4%	1	7.1%	0	0.0%	4.57
Personally Seeking Out My Own Professional Development	3	21.4%	0	0.0%	3	21.4%	4	28.6%	1	7.1%	1	7.1%	1	7.1%	0	0.0%	1	7.1%	0	0.0%	3.92
Other	3	21.4%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	11	78.6%	NA
Total	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	11	78.6%	NA	100.0%	14	100.0%	3	21.4%	NA
Responses for Other:	On the job exposure. State mandates for GT cluster teachers. We were required to get an initial 30 hours of training, followed with an annual update of 6 hours/year. BOCES G/T PD and CDE State G/T PD.																				

Note: All responses were self-reported. Rank 1=Most Valuable; Rank 10=Least Valuable

Questions 22 and 23 were open response questions and were included in the next section of this chapter.

Question 24: Move the slider to indicate the level each of the following student outcomes are addressed within your school's current gifted program. 0 - Not currently addressed and is an area for growth50 - Adequate100 - Currently a strength area with no room for growth

Table 12 shows the responses to question 24, the last close-ended question in the online survey. Using a scale from zero to 100, the question asked participants to indicate the level their school's current gifted program addresses student outcomes related to gifted learners. Zero represented the student outcome was not currently addressed and was an area for growth, 50

denoted the student outcome was adequately being addressed, and 100 represented the student outcome was currently a strength area with no room for growth. Participants were able to select any number between zero and 100. The minimum and maximum participant responses are shown in Table 12 along with the mean and the standard deviation. Questions were abbreviated in Table 12 for the sake of brevity. Prompts in entirety can be found in Appendix A.

The student outcomes listed in the question were taken from standards from the National Association for Gifted Children – Council for Exceptional Children (NAGC-CEC) program standards (2010). All of the student outcomes from Standard Three on Curriculum and Instruction, one from Standard Five on Programming, and one from Standard Six on Professional Development were used as responses.

The high standard deviation across the responses shows wide variance in how participants view the level which each school addresses the given student outcomes. This is also seen by the difference between the minimum and maximum for each student outcome. Each student outcome was discussed separately.

The first student outcome regarding curriculum planning stated, "Students with gifts and talents demonstrate growth commensurate with aptitude during the school year" (NAGC-CEC, 2010, Table 1). The minimum response was 12, and the maximum response was 100, making the difference 88. The mean was 56.5 with a standard deviation of 23.9. This is the second highest mean, showing more respondents selected a higher value for this question compared to the others. This student outcome had the second lowest standard deviation, which indicates participants' responses were closer together on this question than on others.

The next student outcome around talent development stated, "Students with gifts and talents become more competent in multiple talent areas and across dimensions of learning"

(NAGC-CEC, 2010, Table 1). Just as the first student outcome, the minimum was 12, and the maximum was 100, with the difference 88. The mean was 50.1, which was the fifth highest, and the standard deviation was 27.2, the sixth lowest indicating the values were highly spread apart.

The third student outcome is again focused on talent development, and it stated, "Students with gifts and talents develop their abilities in their domain of talent and/or area of interest" (NAGC-CEC, 2010, Table 1). The difference in values on this question is 100 as the minimum was zero and the maximum was 100. The mean was 51.1, the fourth highest, and the standard deviation was 28.7, the second highest again denoting the wide spread in responses, which is also apparent in the difference between the minimum and maximum.

The fourth student outcome around instructional strategies stated, "Students with gifts and talents become independent investigators" (NAGC-CEC, 2010, Table 1). Like the previous question, the difference in values on this question is 100 as the minimum was zero and the maximum was 100. The mean was 50.0, the sixth highest, and the standard deviation was 25.0, the fourth lowest.

Culturally relevant curriculum was the focus on the next outcome, and it stated, "Students with gifts and talents develop knowledge and skills for living and being productive in a multicultural, diverse, and global society" (NAGC-CEC, 2010, Table 1). Like the two preceding questions, the minimum was zero, the maximum was 100, therefore making the difference in values on this question 100. The mean was 49.9, which was the second lowest mean, and the standard deviation was 25.8, making it the fifth lowest.

The sixth student outcome regarding resources stated, "Students with gifts and talents benefit from gifted education programming that provides a variety of high quality resources and materials" (NAGC-CEC, 2010, Table 1). The minimum remained zero, but the maximum on

this question was 95, making the difference 95. The mean was 54.2, the third highest, and the standard deviation was 29.6, the highest out of all the student outcomes signifying the participants values on this question were the most spread apart.

The next student outcome, variety of programming stated, “Students with gifts and talents participate in a variety of evidence-based programming options that enhance performance in cognitive and affective areas” (NAGC-CEC, 2010, Table 1). The minimum was 10, and the maximum was 95, making the difference 85. The mean was 57.0, the highest mean out of all the student outcomes, and the standard deviation was 24.4, the third lowest.

The final student outcome focused on social emotional development, and it stated, “Students with gifts and talents develop socially and emotionally as a result of educators who have participated in professional development aligned to national standards in gifted education and National Staff Development Standards” (NAGC-CEC, 2010, Table 1). The difference was 72 as the minimum was 8 and the maximum was 80. The mean was 43.2, the lowest mean out of all the student outcomes, and the standard deviation was 21.2, which was the lowest out of all the student outcomes meaning this was the question where the responses were closest together.

Inconsistencies in gifted programs from one school to the next, even within the same district, are all too common (Young & Balli, 2014), and this persistent problem of practice has been one of the driving forces behind this study. The large differences between the minimum and maximum and the large standard deviations support the indication of vast inconsistencies in gifted programs among the respondent's schools.

Another notable piece of data is at least one participant selected the value of 100, indicating it is a strength area with no room for growth, in five out of the eight student outcomes. This data is surprising to the researcher as there are always ways to continue to grow a program

and strengthen student outcomes. This could potentially indicate a lack of knowledge by the one participant as he or she could potentially be unaware of how to continually strengthen the program.

Table 12

Level which Student Outcomes are Addressed in Principals' GT Program

Student Outcome	Min	Max	Mean	Mean Rank	SD	SD Rank
Variety of Programming	10	95	57.0	1	24.4	3
Curriculum Planning	12	100	56.3	2	23.9	2
Resources	0	95	54.2	3	29.6	8
Talent Development-Develop Abilities	0	100	51.1	4	28.7	7
Talent Development-More Competent	12	100	50.1	5	27.2	6
Instructional Strategies	0	100	50.0	6	25.0	4
Culturally Relevant Curriculum	0	100	49.9	7	25.8	5
Socio-emotional Development	8	80	43.2	8	21.2	1

Note: Student Outcomes displayed by Mean Rank order; 1=best addressed Student Outcome, 8=least well addressed Student Outcome. SD rank order; 1=least dispersion among responses, 8=most despersion among responses.

All responses were self-reported. Response options ranged from 0-100; 0=Not currently addressed and is an area for growth; 50=Adequate; 100=Currently a strength area with no room for growth.

Question 24 was the final close-ended question in the online survey. Question 25 was an open response question and was discussed in the next section of this chapter along with the other open-ended questions within the online survey. The section after the open-ended survey questions will analyze the themes and supporting responses from the individual interviews, with the final section of this chapter, each research question was discussed.

Survey - Qualitative Data Analysis

The online survey included five open-ended questions. For each of these questions, open coding was utilized to determine categories of information used to develop themes (Creswell, 2013). "The process of coding involves aggregating the text or visual data into small categories of information, seeking evidence for the code from different databases being used in the study,

and then assigning a label to the code" (Creswell, 2013, p. 184). During this section, the themes which emerged from each question will discussed.

Each theme was additionally coded as a technical element, adaptive element, or both to provide further clarity around principals' impact on school's gifted programs. Heifetz, Grashow, and Linsky (2009) explain, "While technical problems may be very complex and critically important, they have known solutions that can be implemented by current know-how…Adaptive challenges can only be addressed through changes in people's priorities, beliefs, habits, and loyalties" (p. 19). Therefore, themes which lend themselves to people's priorities, beliefs, habits, or loyalties were coded as adaptive, and themes which lend themselves to other pieces were coded as technical. However, it is critical to note behind most technical elements are adaptive elements (Heifetz, Grashow, and Linksy, 2009). For this coding, the researcher selected the code in accordance to how the principals answered the question rather than how the researcher would have thought about the topic. Some themes earned both codes and were coded in this manner as the data did not lend itself strongly to one over the other. To end, sample quotes were provided to support each theme. These themes were then utilized to assist in coding the semi-structured interviews, which was discussed in the next section of this chapter.

Online Survey Qualitative Data Results

Question 16: As a principal, what do you feel are the greatest benefits to having a strong GT program within a public elementary school?

The most prevalent theme in response to this question was the greatest benefit to having a strong GT program was to offer enrichment opportunities. This was coded as both technical and adaptive. It was coded as technical because to offer enrichment, various technical challenges must be overcome, including scheduling, curriculum, professional development, and staffing,

depending on how the enrichment is offered. However, it is also adaptive as it highlights the belief gifted students need more than what is offered in a traditional classroom.

The next theme which emerged from this question was the greatest benefit to having a strong GT program was to meet students' needs. These needs can further be broken down to meeting general, academic, or social emotional needs. Each of these are coded as adaptive since in order to meet student needs, educators must believe each student and group of students have unique needs. Certainly, there are technical elements which must be overcome to meet student needs; however, the participants did not include these components within their response prompting the researcher to code responses as adaptive only.

The final noteworthy piece which arose as the greatest benefit to having a strong GT program was to ensure parent satisfaction. This theme was coded as technical as it suggests the belief a strong GT program is needed to keep parents content with the school's programming.

Overall, this question highlights the stance principals want to meet the needs of all the learners within the school; however, beyond offering enrichment opportunities, the respondents may not possess the knowledge base to create, implement, and continually refine a continuum of services to meet the needs of gifted learners.

Table 13

Themes indicating the Greatest Benefits of a Strong Gifted Program

Theme	Technical, Adaptive, Both	Participant Quotes
Offer Enrichment	Both	-The opportunity to enrich and extend and deepen students' -Collaboration between the program and what is happening within the classroom. Going deeper into the subject matter being currently studied. -Ability to differentiate and provide opportunities for students that may not be available otherwise. -Opportunities for students in specific areas that they are interested in, other than grade level content.
Meeting Student Needs (General)	Adaptive	-Meeting the needs of these unique learners. -Meeting the needs of all students in my neighborhood.
Meeting Student Needs (Academic)	Adaptive	-Students have the opportunity to learn material at a rate commensurate with their ability. -The ability to help our highest learners grow as much as our mid-level and lower level learners
Meeting Student Needs (Social Emotional)	Adaptive	-Kids needs are being met. Kids view themselves as unique and give each other that space, too.
Parent Satisfaction	Technical	-Meeting parents' expectations for their perceived needs of their children

Question 19: Describe a time where you have had to take a particularly strong stance for a gifted and talented program.

This particular question yielded several notable themes. It is important to note two participants reported this question was not applicable to them, indicating they have never taken a strong stance for a gifted program. Principals wanting to change the current program away from pull-out programs was a theme that emerged as an area in which respondents had taken a strong stance. Although there would be technical elements around this theme including the need to change schedules, communication, training for classroom teachers, and decisions to be made

regarding the employee currently in charge of the pull-out program, these aspects were not mentioned. Based on respondent's statements, this theme was coded as adaptive as it highlights some participants' clear beliefs around gifted programming should occur within the regular educational classroom.

The next theme which emerged was the theme of off-topic responses, which shows not only have some of the participants not advocated for a strong gifted program but also likely do not have a strong knowledge base around gifted education. Furthermore, participants provided technical elements, such as staffing and funding, in place of explaining how they have taken a strong stance for a gifted program.

The final theme from this question was respondents explaining how they took a particularly strong stance for an individual student rather than a program. This theme was coded as technical for several reasons. The principal having to take a strong stance for individual student(s) suggests the school's program is not adequate to meet the needs of gifted learners. Furthermore, addressing the system to meet the needs of a single student is a start, but it fails to make the adaptive changes necessary to accommodate learners with similar needs or promote talent in students with potential. This question revealed a general lack of advocacy by participants in this survey as the majority of principals who responded did not indicate ever advocating for a gifted and talented program within their school.

Table 14

Participants Advocating for Gifted Programming

Theme	Technical, Adaptive, Both	Participant Quotes
Change Current Program	Adaptive	-When students miss "regular" class time for GT programming is often a conflict worth battling. -I am currently working towards more inclusive programming and less pull-out programming at my school. -Facilitation of academic needs for students as something other than a pull-out program or "independent study"
Off Topic Responses	Technical	-I would love to have more then a 1/2 time teacher but we have never even been given the option of making this a priority. -Just recently I lost the funding at my building to test students. Now I am relying on the District level personnel to test students. We made requests in July. It is the middle of October and these students have still not been tested.
Student, not Program	Technical	-When a student from a different district came in with a GT identification but the assessment and identification process for that district was different, therefore the Gifted status of the student was questioned. -We had a student who needed differentiation well beyond his grade. Parents did not want to grade accelerate him, so it was important to place him with a general education teacher who embraced the philosophy of meeting kids at their academic level. She worked closely with our instructional coach and me to ensure he was appropriately challenged.

Question 22: As a principal, what are the three most important elements you feel are needed to further strengthen your school's GT program?

Four strong themes emerged when the participants were asked to explain the three most important elements needed to strengthen the school's GT program (Table 17). The first theme which surfaced from this question was principals felt increased funding, staffing, and resources were needed to strengthen the school's GT program. This theme was coded as technical since these needs do not touch on people's priorities, beliefs, habits, and loyalties (Heifetz, Grashow,

and Linsky, 2009). Heifetz, Grashow, and Linsky (2009) state:

The most common leadership failure stems from trying to apply technical solutions to adaptive challenges. Authorities make this mistake because they misinterpret or simplify the problem, fail to see how the organizational landscape has changed, or prefer a 'solution' that will avoid disruption or distress in the organization. Sometimes throwing a technical fix at the problem will solve a piece of it and provide a diversion from the tougher issue, though only temporarily (p. 71).

Therefore, simplifying building a strong program through stating the increased need for improved funding, staffing, or resources is an ineffective approach. Furthermore, in today's state of underfunding for Colorado's public schools, waiting for technical fixes to build a stronger GT program could have the adverse effects. This waiting for technical solutions could prevent some principals from accepting the responsibility for implementing adaptive elements to create a stronger GT program.

The next theme principals expressed as an important element to further strengthen their school's GT program was teacher professional development and support. This particular theme was difficult to code as technical or adaptive based on participants' responses and was almost coded as both technical and adaptive. Since professional development responses didn't lend themselves to one code over the other, the researcher reflected on personal experience with professional development and coded this theme as technical. This code was selected as much of the professional development around differentiation focuses on strategies and various other technical elements rather than the adaptive elements of impacting teacher's beliefs. When adaptive elements are included, they are normally included at the onset of the professional development through the brief look at statistics.

The third theme was around identification practices, which was in agreement with previous the question which communicated identification practices was a topic of perceived high self-understanding. This was coded as both adaptive and technical. Adaptive since participants believe the current process to be biased and unreliable. Technical because changing an identification process includes changes steps and procedures.

The last theme which emerged from this question was the need for increased parent and community communication and participation. This particular theme was then coded as technical since participants listed technical fixes, such as parent meetings and broad increased communication. Adaptive elements were not included within participant responses.

These four themes taken together revealed principals' methods of strengthening programs within their school relies mostly on technical solutions rather than adaptive solutions. Perhaps this type of action is a factor in ineffective gifted programs across the nation thus contributing to the nationwide excellence gap (Plucker, Burroughs, & Song, 2010).

Table 15

Elements to Strengthen School Programming

Theme	Technical, Adaptive, Both	Participant Quotes
Increased Funding, Staffing, Resources	Technical	-Funding -Money -FTE [full time employee] -More FTE - More high-level resources already created for teachers that are for daily lessons -Variety of performance based tasks
Teacher Professional Development or Support	Technical And Adaptive	- PD for regular classroom teachers - Support for my teachers - Teacher collaboration on best practices in differentiation - Continuing to dig into complex daily objectives so that teachers can readily define grade-level vs. advanced vs. highly advanced mastery - Provide professional development regarding the under identification of minority students in gifted education and the reasons for the under identification. Provide professional development about the social and emotional needs of gifted and talented students as these are overlooked while the focus is on high academic performance and attainment of skills.
Improved Identification Processes	Technical	-An un-biased identification process - Using a body of evidence to identify, identification of a more representative portion of our minority population
Parent or Community Communication or Participation	Technical	-Community meetings to assure parents we are meeting their children's needs -Communication for parents -Parent participation

Question 23: As a principal, what are the largest barriers you face in terms of building a stronger GT program?

This question was meant to reveal the participants' knowledge base by asking principals to reflect upon barriers to their gifted programs. Much like the previous question, the largest theme which emerged as a barrier was the lack of funding and staffing for the program. Again, these are technical elements dealing with needing more resources without changing the mindset

or belief structure of the system.

The next theme was the barrier of current identification practices, which contains elements of both technical and adaptive challenges (Table 18). The first is technical because identification is achieved through a set of processes grounded in research and best practice; however, it is likewise adaptive since participants hold the belief current processes are not adequately identifying gifted learners in underserved populations. Participants believe students from these populations are gifted, yet are not adequately being identified. Current research in the area of gifted identification supports this belief (Olszewski-Kubilius & Clarenbach, 2012; VanTassel-Baska & Stambaugh, 2007; Esquierdo & Arrequin-Anderson, 2012).

The third barrier identified as a theme is the lack of time within schools. Depending on how time is viewed, it can be technical or adaptive. Creating a schedule, determining timing of processes, and developing expectations around how time was utilized can be technical work. However, underlying all of these decisions are adaptive elements. Time is dedicated to those matters leaders believe are important. The more imperative a topic or idea is viewed by leaders, the more time is devoted to it. Therefore, this theme was coded was both technical and adaptive.

The last theme which arose as a barrier was the lack of district support. This is the one theme which the researcher was unable to code as either technical or adaptive as the participants' responses were vague. The researcher would not assume to interpret such inexplicit statements. Perhaps the district does not have clear processes in place making the lack of support more technical. Or feasibly any lack of support could be seen as a lack of belief in the need for strong gifted programming making this theme more adaptive. This could be yet another area for future research within the field.

Table 16

Barriers to Gifted Program

Theme	Technical, Adaptive, Both	Participant Quotes
Lack of Funding & Staffing	Technical	-Not enough personnel -Biggest barriers would include budgetary needs to increase FTE -Funding
Identification Practices	Both	- Minority population being identified - Determining if a student is truly G/T or just a hard worker with great parent support - Identifying our minority populations
Lack of Time	Both	-Time. Trying to cut down on onerous paperwork, including too-long ALP documents, so that teaching itself has time and space to improve. -Priorities of addressing many initiatives and getting teachers trained in those areas.
Lack of District Support	Unsure	-The District's lack of support. -District support

Question 25: What do you think are the three most important topics to see at a principals' professional development session offered by CASE on gifted and talented programming?

Three themes arose from question 25, which investigated the three topics the participants would most like to see offered by CASE, the researcher's community partner for this study (Table 19). The first was on a continuum of services; however, the services the participants discussed were solely technical in nature. These technical elements included scheduling, strategies, curriculum, and resources.

The next theme was likewise technical, and it was training principals in how to provide professional development and support for their teachers. Again, these were on specific technical elements including the needs of gifted learners, how to differentiate, and specific tools to assist teachers when differentiating.

The final theme was on meeting the needs of underserved populations, which is both

technical and adaptive. Meeting the needs of underserved populations is technical because it means new processes and systems must be put in place as the current methods are ineffective. Likewise, meeting the needs of underserved populations additionally is adaptive as it highlights the belief certain students within these populations need more than the regular curriculum can provide to them.

Table 17

Three Professional Development Sessions to be Offered by CASE

Theme	Technical, Adaptive, Both	Participant Quotes
Continuum of Services	Technical	-Creative scheduling -Instructional strategies and curriculum planning -Structure of curriculum and programming, available resources of value, support ideas -Free or cheap G/T resources
Professional Development to Train Teachers	Technical	-Differentiation for teachers - Small, specific steps like the Hess' rigor matrix that specifically grow teachers' skills in practical, measurable ways. - Clear training on how social-emotional needs impact the whole child, discipline strategies
Meeting Needs of Underserved Populations	Both	- Serving the needs of minority students in gifted and talented programs. Culturally Relevant teaching for ALL students. -Identification of less obvious students who are GT such as EL's -Minority identification

One overall noteworthy theme which arose from the open responses to the online survey was the majority of the answers were technical in nature. However, Heifetz, Grashow, and Linsky (2009) encourage leaders to go beyond listening to words of people within the system to truly understand "the song beneath the words" (p. 76). One piece to keep in mind is "an o rganization's problem-solving defaults can provide insights into the way [the] organization operates as a system – and it's adaptability. Defaults are the ways of looking at situations that lead people to behave in ways that are comfortable and that have generated desirable results in

the past" (Heifetz, Grashow, & Linsky, 2009). With this in mind, the participants' responses show a default behavior of addressing problems as more technical instead of adaptive. Heifetz, Grashow, and Linsky (2009) stress, "problems do not always come neatly packaged as either 'technical' or 'adaptive'…Most problems come mixed, with the technical and adaptive elements intertwined" (p. 19). It is by failing to understand and address the adaptive elements, the priorities, beliefs, habits, and loyalties of the people within the system which causes failure.

Interview

The next section will analyze the themes which emerged from the one-time, semi-structured interviews during which two rural principals, two suburban principals, and two urban principals were interviewed. Principals willing to participate in this interview were found via the researcher's professional network across the state of Colorado, and willing principals were contacted via email to determine interview locations and timing. All interviews took place at a date, time, and location convenient to the principals. Interviews took place throughout the state of Colorado so as to include a wide variety of perspectives from urban to rural. The farthest interview took place six and half hours away from Denver. To protect each participants' identity, pseudonyms were assigned in place of each participants' name.

The interview protocol, available in Appendix A, shows the opening and questions used with all participants. Based on the participants' responses, the researcher asked a variety of subsequent questions to attempt to understanding participants' knowledge base and advocacy around their school's gifted program.

Data Analysis Procedures

A similar process was utilized to analyze the data collected through the semi-structured interviews as was employed to code the open responses from the online survey. A blend of a

priori or preexisting codes and open coding was applied to determine categories of information (Creswell, 2013). The a priori codes employed were derived from themes which emerged from the online survey. The survey was closed and the data analyzed prior to completing the interviews. However, the researcher was open to the emergence of additional codes during the interview data analysis (Creswell, 2013). Each theme which surfaced during the data analysis was additionally viewed through the lens of technical and adaptive challenges (Heifetz, Grashow, & Linsky, 2009), similar to the data collected from the online survey.

In order to code the interviews, the transcription of each interview was uploaded to Dedoose, an online platform created to analyze qualitative data. Once the interviews were uploaded, a priori codes were entered into the application. Additional codes were added as they emerged throughout the data analysis. The subsequent section in this chapter discusses the major themes from the one-time, semi-structured interviews.

Three strong themes emerged while analyzing the interviews which are communicated in Table 18. These themes were (a) principals' lack of knowledge, (b) principals' lack of advocacy for gifted programming, and (c) competing demands impact gifted programming. Throughout the remainder of this chapter, each theme was discussed in depth by exploring theme related components and theme assertions, all of which are supported by a diverse selection of numerous participant direct quotes. Prior to examining the three themes, the current state of GT programming within the participants' schools was provided as an overview to offer context.

Table 18

Interview Themes, Theme Related Components, and Assertions

Theme	Theme Related Components	Assertions
Principal Lack of Knowledge	Principals lack training in gifted education.	Principals do not have the training to understand the how to create a strong gifted program.
	Teacher and admin preparation programs provide limited knowledge about gifted education.	Principals' espoused theories regarding gifted education are different from his or her actual practices.
	Principal's Goals are Impacted by Lack of Knowledge	Principals understand barriers to the gifted program but do not possess the personal knowledge to overcome the barriers
	Myths about gifted learners drive principal actions.	
	Conflict between espoused and enacted values	
Principal Lack of Advocacy for Programming	Principals lack training in gifted education.	Principals are more likely to advocate for individual gifted students than gifted programming.
		Principals lack of knowledge impacts ability to advocate for gifted programming.
Competing Demands Impact Gifted Programming	Federal, State and district mandates influence principal focus.	Principals do not have the training to support staff to develop necessary differentiation skills.
	Focus on closing achievement gaps leaves little time for addressing excellence gaps.	Principals do not have knowledgeable school or district support to focus on gifted programming.

Qualitative Data Analysis

Current State of GT Programming

This section serves to provide context around the current gifted programming occurring within the interview participants' schools. One idea which recurred throughout the interview process was the current knowledge level of staff responsible for facilitating gifted education. A continuum of services has limited ineffectiveness without highly qualified teachers delivering the

services. Few teachers were formally trained in meeting the needs of gifted learners in terms of holding GT Endorsements from the state of Colorado, a masters in the field, or other specialized coursework. The interviewees' stated the overwhelming majority of teachers relied on passion and experience to guide their way in working with gifted learners rather than evidence based skills learned through formal education. However, it is important to note interviewees all regarded teachers as wonderful, hard-working professionals with students' best interests at heart. One participant stated:

> The reality over here is that we have a great staff and we have very committed staff who are all in for kids here, and you know we have a great school as a result of it. But I'd be curious to know in this whole area of the state how many people have GT certifications. You know? It wouldn't be many (Sharon, Inteview, 2016)

Of all the participants in these interviews, only one of the six schools had a staff member with a gifted endorsement facilitating the gifted program. All other participants were either unsure of the staff members certification in gifted education or knew the staff member did not have specific qualifications. Alex (2016) stated:

> I'd love to have a quality GT person… Someone with a vision to create a program to help all kids. Would create incentives for our GT students who are leaving for charter schools to come back. To correctly identify, to come up with creative ideas and services. And really provide what the kids need here because I think they've lacked that for a long time (Interview, 2016)

Beth (2016) explained she does have an endorsed teacher at her school, but only on a limited basis. She stated, "Our school's gifted program consists of a .25 teacher, which means we have a teacher who focuses just on gifted student programming for one day out of the week." Other

participants found others on staff to try to pull some knowledge and coaching from to help teachers work with gifted students. Nicole (2016) remarked, "We have our literacy interventionist who kind of helps us even though they are mainly focused on struggling students. They also do a little bit with the teachers on writing ALPs and how to maybe how to differentiate some things to meet some needs" (Interview, 2016).

Furthermore, every interviewee discussed the idea most classroom teachers were not trained in differentiating for advanced and gifted learners; instead the classroom teachers were more knowledgeable and able to differentiate for students struggling to learn. In some schools, GT Teachers and Instructional Coaches worked with classroom teachers to increase their knowledge and ability level to differentiate for the needs of advanced and gifted learners; however, competing demands, which was discussed in a following section, continue to prompt classroom teachers to spend the majority of their time and energy on their struggling learners. Additionally, several of the schools did not employ a full time GT Teacher, which further limits the impact those individuals can have on classroom teachers' instruction. Even when interviewees did have staff who could coach classroom teachers on differentiating, those same interviewees discussed the need for increased knowledge and support in the area. Several participants discussed having district support in terms of a district GT Coordinator. However, much like school-based staff, interview participants were mostly unaware of the district GT Coordinator's qualifications regarding endorsements and higher education around meeting the needs of gifted learners. Several interviewees spoke about the need for an increase of staff, both at the district and school level, who are highly knowledgeable regarding current best practices in meeting the various needs of gifted learners. Conner (2016) stated, "It would be great if we had someone who did have their gifted endorsement or whatever and knew how to

coach those teachers a little bit better" (Interview, 2016). After experiencing a high turn over in district level positions, another participant stated:

> We had a not very good experience this year because we've been through several District GT Teachers and Coordinators. I can't even tell you, I can't even count, I've been at my school 13 years. I can't even count how many GT Teachers and Coordinators we've been through. So there's never any continuity of process or support, which is hard… The turnover in support is difficult because every new GT person comes in and assumes you don't know anything, so you feel like you're starting at square one (Tony, Interview, 2016)

Other participants were more optimistic regarding the possibilities of obtaining District Gifted Coordinator or Director. Conner (2016) stated:

> A couple years back they hired a full time district GT Coordinator you know who oversees all the schools so that person is able to be a resource and provide more direction so that there are more similarities or things like that within the different schools… She'll [a district GT Coordinator] meet with each, they'll meet as a group, like a GT team so that they'll communicate the different ideas that they have, but then she'll do site visits so she'll, she can make sure the paperwork is the way it needs to be, that our communication is adequate, and those types of things (Interview, 2016)

Tony (2016) agreed and stated, "They [district support services] come out and do it with the teachers [write ALPs] or they'll come out and provide support to help the teachers write the goals" (Interview, 2016). Sharon (2016) added on:

> In the last 18 months, for sure, we added a Gifted and Talented Coordinator [district level]. And I think I have really positive hopes for that long term. I view that hire as a

> definite step in the right direction to put someone who can oversee it and has some experience in that area and can really drive it forward. Up to this point, a lot more of the conversation, and I think it's natural, has revolved around when are we going to CogAT test and just some of the more logistical questions, but I'm confident that alignment will all start to come together and we can push forward (Interview 2016)

Additionally, much of the district provided support appeared to be focused on paperwork, such as Advanced Learning Plans (ALPs), assessments, such as universal screeners and other identification tools, and general communication between schools and the community. Not addressed is specific next steps with guided support on a school-by-school basis on how to strengthen programming for gifted learners. When professional development is offered through the district, communication and overcrowding can at times interfere with principals and teachers attending the trainings. One participant explained, "Barriers would be I think when you're in a district as large as ours is support. It's access to PD that promotes that success for, for gifted children, yes, but all children. There are times when we don't hear about professional development until it's full" (Tony, Interview, 2016).

Current gifted programming options within the interviewees' schools varied from school to school. One participant stated, "The program itself meets after school twice a week. It doesn't start right at the beginning of the year but it starts after our October break. Then it runs all the way until our district has kinda a gifted and talented showcase, is what they call it. So different things that they have going on and it is very project based" (Sharon, Interview, 2016). This was the only school where gifted programming was exclusively offered outside of the regular school day.

Of the remaining five schools, two locations' had a pull out program either one day or afternoon a week, and the other three locations were trying to meet the needs of gifted learners within the regular education classroom. Of these last three locations, one location continually clusters identified gifted learners.

Several specific instructional strategies were discussed as pieces of the current gifted programming within the schools. When discussed the GT Teacher who is at her school one day a week, one participant stated:

> She does pull them out but she incorporates skills, she works with them on Socratic Seminar, they do a lot of independent projects, she does a project every year called Courts to Classroom where attorneys come in and students actually create viable arguments and defenses all around literacy. She's done some of the great literacy, I think they're called great books, literacy works with students. She also works with math with some of our students. She does math, again it's all around defending your argument for solving problems certain ways so really pushing students' thinking a little bit above but also going a little bit deeper with their thinking (Interview, 2016)

Other commonly discussed strategies included project based learning, independent learning, and small group instruction.

One idea which continued to permeate through the current gifted programming within schools is how there are disparities within the staff's abilities to meet the needs of advanced and gifted learners. Beth (2016) stated:

> Four days a week, all the k-5 classrooms have what they call Star Time, and that is when no new content is being taught, and ideally that is when we're, you know, giving more challenge to gifted kids or meeting some of the ALP needs, meeting IEP [Individualized

> Educational Plan] needs, MTSS [Multi-Tiered Systems of Supports] plans, all those things at that time. I would say that 99% of the time, the focus is on our MTSS kids and our READ Act kids. But some teachers do a better job at it than others (Interview, 2016)

Adding on, Tony (2016) reported:

> One of our big initiatives, processes, or instructional strategies is small group instruction, so we do that across contents, so reading, writing, and math for sure. So teachers really try to target and pull on those strengths for those kids that are really high, high… Some independent learning plans for kids if they're really interested in something and not every teacher is great at that (Interview, 2016)

This lack of staff knowledge and ability again appears when discussing the themes which emerged from these interviews.

Overall, all six schools had a limited continuum of services within their gifted program. Absent from interviewee responses was any discussion around current programming to address the social emotional needs of gifted learners; therefore, it is unclear as to the extent of this facet of gifted programming in these schools.

Interview Themes

Principals' Lack of Knowledge

Three assertions are foundational to this first theme, which is principals have a general lack of deep knowledge on gifted programming. The assertions are (a) principals do not have the training to create and refine a strong gifted program; (b) principals understand barriers to a gifted program but do not possess the personal knowledge to overcome the barriers; and (c) principals' espoused theories regarding gifted education are different from their actual practices.

Interview participants, much like the survey participants, cited on the job training and personal interest as the pathways to acquire knowledge on giftedness and gifted programming. Alex (2016) explained, "In the past, as a teacher, I often had the GT cluster in my classroom" (Interview, 2016). Nicole (2016) mirrored this sentiment stating:

> I don't have an endorsement in gifted education but I, at the other school, even as a classroom teacher, it's always been something that has been interesting to me. I have two of my own children who are identified gifted. We clustered, we did the cluster model at the school I was at previously, and I was the cluster teacher for several years… I've been to different gifted conferences (Interview, 2016)

Sharon (2016) responded:

> When I was a teacher at Colorado Middle School, I ran a gifted program there, so I've always had kinda an interested in the gifted and talented program…[But], I've never attended a training. I've never attended any extra course work… We'll get emails occasionally, so I kinda breeze through an email and that's kinda your GT update, right? Try to stay current (Interview, 2016)

Nicole was the only principal interview participant to indicate she had been to a conference focused on meeting the needs of gifted learners, and no participants indicated acquiring knowledge through their teacher or administrator preparation programs.

Principals' knowledge base includes a perception of what barriers are impacting the growth of their school's gifted program, but the participants did not possess the knowledge regarding how to overcome these barriers. Additionally, as briefly discussed above, principals also cannot rely on staff highly qualified in the field of gifted education to assist in problem

solving how to overcome these barriers. Throughout the interviews, participants recognized a general lack of personal gifted programming. One participant stated:

> It's one that honestly is kinda a next in development of me…I think that there are ways we can enhance it. Some I've looked at closely, and others I think I probably need to do some digging so I can get there…I don't have a solution yet…I'm sure there are people out these in schools who are just rocking gifted programs, right? Just doing a tremendous job. I don't know who they are, and I haven't had that exposure to them (Sharon, Interview, 2016)

Another participant's comments agreed. Alex (2016) reflected:

> I would like to see goals for my school's gifted program. I would like to see an actual plan of what we want, where we're at now, and where we'd like to go. And I think that's missing right now…More so where we need to go, but I guess knowing where we're at now and where we'd like to be eventually and then kinda backwards planning that so we can have steps along the way… I'm not even exactly sure what the vision is right now district-wide for our program (Interview, 2016)

Still, there were other remarks which veiled lack of understanding. For instance, when asked about barriers and next steps, one participant reported, "I don't think we really have a lot of barriers…I mean, maybe having two days a week, so a little more funding, but we actually we operate pretty good with what we have" (Beth, Interview, 2016). Remarks such as this highlight a lack of understanding of the continuum of services a solid gifted program can and should encompass.

One topic many of the participants were either more knowledgeable about or more passionate thus focused more on was identification. There was apparent frustration about the

process in general. One participant stated, "I haven't always agreed or really felt completely confident and comfortable with how we designate gifted students and how they are identified to begin with" (Sharon, Interview, 2016). For several other participants, the issue was centered around equity and the underrepresentation of students, which illustrated the principals' strong, positive belief in the students served within the school. Nicole (2016) remarked, "I would also say that there are some barriers in identification being that we do have a large Spanish speaking population" (Interview, 2016). Alex (2016) went into more depth and stated:

> I think traditionally one thing that has affected our gifted program, and this might fit into one of the other questions later on, is that I think we are under identifying kids, especially kids who speak Spanish or have a Latino background as being gifted. I don't think the tests that we are currently using identify well… I would think that using a body of evidence versus a test might be a better idea. I also think that if you have kids who learned a second language and have mastered that second language especially not just speaking but in reading and writing while still in elementary school that's probably an indicator of giftedness of by itself (Interview, 2016)

Tony is the principal at a suburban school which has a dual language program, instructing students in both English and Spanish. Tony (2016) echoed Alex's sentiments and stated:

> I have a hard time believing that we don't have 10% of our population [identified]…I hate the red tape. I hate the, you know, you have to score at this level. You know when everything says on any given day that kid would have scored that level…You know but it's those things where it seems like sometimes there are so many hoops to jump through to qualify kids that it's hard…Seven year olds in a dual language program who are just acquiring mastery of English, they do not have enough mastery to pass a language heavy

> test like CogAT, so we used the Naglieri; it was okay for visual spatial identification, but that is really about it…I still find that so many of my second language learners, by the time they're in fifth and sixth grade, they have such a mastery of language in their first language and their L2 [second language] elevates and so they're processing in so many different ways than my English speakers. So those are the kids we're picking up in in fifth and sixth grade typically (Interview, 2016)

These comments reveal an unawareness held by the principal, staff members, and, perhaps, district coordinators around talent pools. The use of talent pools to identify and develop potential talent within students, as mandated by the Colorado's Exceptional Children's Education Act (ECEA), is not an area of focus and development within these schools. This finding suggests talent pools are an area of future education for all stakeholders across Colorado, which was further discussed in the next chapter.

The final assertion within the theme of principals' lack of knowledge is principals' espoused theories regarding gifted education and programming were different from their actual practices. To understand this assertion, several pieces were examined, including participants' beliefs in enduring myths around giftedness, beliefs around gifted programming, beliefs around purposes and objectives for building strong gifted programs, and future goals for gifted programs within their school.

Two myths around beliefs of gifted learners were apparent throughout the interviews. The first being all students are gifted (NAGC, n.d.) and therefore students need not be labeled. Conner (2016) stated:

> I do, I feel like all kids are gifted and even though I know it's a gifted labeling I guess I feel like I can live with that but I'm not really someone who wants to label kids as gifted

> or not gifted… How do we also incorporate these opportunities so they are appropriate for all kids? They're really cool activities they have them do and, and all kids would benefit I think (Interview, 2016)

Sharon (2016) repeated similar opinions and acknowledged:

> I guess we're just at the spot, especially the school, where we're just not talking about tags as much. And I don't' know what that means for gifted programs and gifted learning either, but if we just make a designation for a student to be gifted in mathematics but we ignore that a student who didn't quite get that same score but can tell you what 88 times 88 is or is gifted in an area of mathematics, should we still cater to that student in that area to keep enriching and extending and whether they have a gifted tag next to them or not, I guess is my thought (Interview, 2016)

Both ideas question the need to label specific groups of students to ensure adequate programming; however, it is not clear if each feels this way about gifted learners or if each feels this way about all populations of students, such as students labeled as having special education needs and are therefore on an IEP.

The second myth is gifted programming is elitist (NAGC, n.d.), particularly pull out programs. Sharon (2016) stated, "I think that's just something we have to get away from is this idea that these certain finite very select students go off in this special room and go do something extra special…[Gifted education is] what we want for all of our kids" (Interview, 2016). She continues by sharing, "That's kinda my conundrum with giftedness though and gifted and talented programs specifically. It's because I want to show our really talented, budding students about those parts of the world so they can start to broaden their horizons but then I want to show that to all of our students" (Interview, 2016). These statements and more confirm underlying

beliefs in both myths, which ultimately reveals a lack of knowledge around gifted learners' unique needs.

The current gifted programming in place at interviewees' schools, such as project based learning, independent learning, and Socratic seminar, are indeed good for all learners and should not be reserved for a single population in the school. These beliefs grounded in myths about gifted education lead first to an adaptive challenge around the impact of individual biases regarding this population of learners. However, this also reveals technical challenges as the principals lack the personal understanding and the knowledgeable staff to put these structures in place and differentiate them to make them appropriate for all learners including gifted learners.

The next component to explore is around the participants' beliefs around gifted programming, which leads to conflicting ideas, particularly when thinking about the belief in the myths explained above. In contrast with the beliefs discussed above, most of the interviewees discussed the belief gifted students need and deserve more than what they are currently offered within their school. Sharon (2016) stated, "It [the school based gifted program] still feels like its missing the boat… I think I probably need to do some more digging so I can get there [develop a strong gifted program]… I want to give it much more attention" (Interview, 2016). Conner (2016) reported:

> These kids, I feel like they do deserve a chance to work with their peers on a consistent basis, and when I say peers, I mean like maybe intellectual or giftedness peers that have the similar you know aptitude or skills and personalities… If we do a good job at it, they will be excited to learn, they will be excited to push themselves to their limits (Interview, 2016)

Nicole (2016) agreed further and said:

> I do think that just in my experience, that it's [gifted programming is] a huge area we could work in in most schools… Just meeting the needs of kids. That's the best benefit is that we're keeping them engaged in school, we're pushing them to think, we're challenging them…It's just good for kids. It's what we should be doing… I think we focus on the low end a lot and I understand the whys of that, but I think some of our kids suffer for that and they think…it does harm later for, for gifted kids, like in high school and college, I think. I think they, they don't learn how to study, they don't learn a lot of skills that will help them get through those tougher programs because they've never had to (Interview, 2016)

Principal interviewees discussed the need to improve gifted programming across all schools and discussed the perils for gifted students of not building stronger gifted programs. The conflict within the participants' responses highlights a difference between their espoused and enacted beliefs on gifted education and programming.

In addition, another conflicting belief was regarding the purpose behind the creation of a strong gifted program. Several participants stated the belief in the need for a strong gifted program because having an ineffective gifted program could translate into the community having an unfavorable impression of the school. Sharon (2016) stated:

> If we have gifted kids who are bored, not motivated that's going to come out in the way they act in our school, it's going to come out in interactions and conversations they have at home, which will reflect poorly on our school, you know so just for the whole branding and idea of who we are as a school (Interview, 2016)

Tony (2016) discussed the importance of having strong parent advocates supporting the school and stated, "I think on the parent side, I think those parents are ones that are active in the school

and we want them to definitely be supportive in what we're doing, so if we have a strong program, I think we have a really strong advocate with those parents" (Interview, 2016). This manner of thinking revealed a lack of knowledge around gifted learners because it revealed the participants do not understand how a strong continuum of services supports and nurtures the gifted child.

Another idea is a strong gifted program is essential as it supports overall achievement of the school. Tony (2016) shared:

> A strong gifted program elevates everybody's success. Those kids really challenge teachers to think beyond and to think what is possible and once that key is turned for teachers, I believe, and I feel like they apply that across other I guess other competencies, kids that aren't achieving at quite that same level, but they wonder, what's possible here? (Interview, 2016)

Nicole (2016) agreed stating, "Having our high kids be able to reach their potential actually raises the bar naturally for everyone. So I think it, it just kinda helps bring everyone along to that high level of learning and critical thinking" (Interview, 2016). Alex (2016) further explained by revealing:

> We live in a world where your school does get a rating based on test scores and if your most intelligent kids aren't taking those tests because they're leaving to other schools, then it's going to negatively affect your rating. So a strong program that gave parents confidence that their kids are getting what they need, the enrichment that they need, would attract more of those kids to be at the school and help the overall rating of the school (Interview, 2016)

Tony (2016) also stated, “It [a strong gifted program] can attract people to our school” (Interview, 2016). Again, the idea is a gifted program is for the common good and school accreditation more than it is for the gifted learner.

Interestingly, interview participants discussed the purposes for a strong gifted program include community positive impressions of the school and overall higher success of all students within the school. However, yet in further conflict with espoused and enacted values, the principal interviewees must not see these as strong enough reason to strengthen the gifted program. The majority readily discussed the need yet also readily discussed how it has yet to be a focus or priority within the school.

The majority of the principal interviewees had strong future goals for gifted programming within their schools. Several participants discussed one goal for the program was to identify more students for the program (Alex, Interview, 2016; Tony, Interview, 2016; Nicole, Interview, 2016). Once students qualify for the program, interviewees discussed how the goal is then to grow the students. Beth (2016) explained, “So, with any of our goals for learning with our students, it’s so students feel successful and are gaining and learning the skills they need to further their education and write, do whatever they want” (Interview, 2016). One participant included increasing test scores as an end result of growing students and stated:

> The goal would be that we are providing these kids the skills and the way to express themselves in a way that will help them in their achievement so that if they are going beyond the regular curriculum that would hopefully show in the state assessments and things like that (Conner, Interview, 2016)

Numerous participants also discussed the goal of having gifted programming occur within general education classrooms through targeted differentiation. One participant stated, “I

think the goals instructionally are to help teachers differentiate (Tony, Interview, 2016). Sharon (2016) agreed and further explained:

> I just know that long term I really want our typical, you know, our day-to-day instruction to really elevate and then beyond that continuing to build in that autonomy for students, continuing to partner with families and get involved in a way that allows us to really seek out opportunities with students that are exciting and meaningful and that can you know lead to that next step in their development and they're excited to come to school each day… I really want it to not just have it be this separate entity that is structured outside of our school day but to find ways to integrate it and to get those students more opportunities to be leaders inside of our school day. (Interview, 2016)

Another participant discussed the need to shift teachers' current mindset around differentiation in order to help teachers adequately differentiate for advanced and gifted learners. He explained:

> I think most of the differentiation they still do right now is the other direction. It is more of the remedial. They are more focused on getting the bottom up than raising the highest up. That's one thing that we did, you know, stress when we went over our school performance framework of how the growth scores are a lot more important than the achievement scores and that's all kids not just the low kids that you have to get the high kids to grow too to be able to get those points (Alex, Interview, 2016)

The lack of staff training and knowledge, as mentioned throughout this section, continued to be a notable need of focus in all sections of the principal interviews.

Another goal principals had for the schools' gifted program was to provide an avenue of exposure to a variety of experiences and opportunities for gifted learners. Sharon (2016) stated, "I think even if you have a student who shows giftedness in mathematics, I think that student

should still be exposed to a bunch of different learning experiences and environments and diversity (Interview, 2016). Conner (2016) agreed and stated, "Really give them an opportunity to do things outside the regular classroom that enhance their learning. Just to kind of give them I guess a way to push them more than you can within the regular classroom (Interview, 2016). Beth (2016) added on explaining:

> The goal with the GT program is to provide some of those opportunities to students that will impact them as they go forward, so creating a love of learning…It's just creating more opportunities and more experiences for students to, to build a bigger bank of schema around for their learning (Interview, 2016)

These goals revealed principals wanted to engage gifted learners in authentic learning and enhancing the abilities of the teachers in order to further meet the needs of gifted learners. Once more, these goals show the foundation belief the majority of principal interviewees believe in growing every child within their school because it is what every child deserves. This is in contrast to the principal interviewees' statements around the largest overarching benefit for a strong gifted programming is to increase the community's perception of the school and the overall achievement of the school.

Principal Lack of Advocacy for Programming

Rather than only looking at data which was present within the interviews to determine themes, this sections examines data which was not present. In the six interviews, only one piece of data was collected to demonstrate the degree to which the principals discussed advocating for the gifted program within the school. The participant stated:

> We had seven kids one year that were kinda on watch since in second grade they didn't qualify, so we kept differentiating for them and they kept out performing everyone else

> on their tests, and we were like they really qualify so why, you know, we need to get them into the thing called the Purple Team at our middle school because that's the gifted track and uh so my teachers did some research and were so upset by our Resource Teacher that year because they said you never, you never brought us that information on how to get them into that, and now you're telling me the deadline passed? So the teachers put in a ton of time doing what are the inventories? Like the teacher inventories that they do and the parent inventories that they do to get those kids qualified to even get into that program. To get access… They were not denied access, but part of that is because I work closely with the principal (Anonymous, Interview, 2016).

Much like the survey data, this highlights principals do not typically advocate for gifted learners and rarely, if ever, advocate for gifted programming. This finding leads to a further assertion, which is principal's lack of knowledge, discussed at length above, negatively impacts principals' ability to advocate for gifted programming.

Competing Demands Impact Gifted Programming. The next theme which emerged was competing demands negatively impact gifted programming. With each day comes a myriad of issues, programs, and goals a principals must divide their attention and focus between, and this is likewise true for all other staff members within a school. Throughout this analysis and description of themes, several ideas have been discussed about the lack of focus on gifted programing within participants's school. These include principal's lack of knowledge on gifted learners' needs, a continuum of services within gifted programming, and, at times, a lack of clarity on the school's and district's vision of gifted programming. Also discussed was the staff's ability levels to differentiate for advanced and gifted learners with training around differentiation training needed in almost all participants' schools. This section delves deeper into

possible reasons behind why gifted programming has not been a true priority and focus within participants' schools.

To begin, state and federal mandates and laws heavily influence school initiatives which directs how time is utilized within a school. The largest federal mandates mentioned throughout the interviews were Special Education, state assessments, and English Language Development. Nicole (2016) stated:

> So I know people worry a lot about students like on READ Act plans and things like that getting growth, but I, I feel like a lot of times our gifted kids are getting the kind of growth they need because they are not getting the push they need to make that growth, they kinda coast, so to speak. So I would say that would probably be the biggest goal. Just working with those teachers on how to really push their gifted kids. But we haven't talked about it as a school being a new leadership team (Interview, 2016)

Sharon (2016) shared similar sentiments stating:

> It's kinda I guess when it comes to, especially as you know in your area, there's so much more money and pressure put on SPED and IEPs and meeting those types of things that if I have, I'll have 20 IEP/SPED related meetings to every 1 on an ALP/gifted meeting. At least 20 (Interview, 2016)

State mandates include Read Plans, which are literacy plans for students demonstrating a significant reading deficiency as well as a statewide focus on high-stakes standardized assessments. The results of these high stakes assessments determine the school's state accreditation, with poor results ultimately triggering the closing of the school. One participant explains, "But we're at 39% free and reduced lunch, we have a pretty large ELL population, so

you know we're really focused on raising the bar for all those kids first and unfortunately our gifted kids usually suffer for that" (Nicole, Interview, 2016).

In order to ensure compliance, school based initiatives revolve around the above mandates, the corresponding programs, and ensuring first-best instruction is in place. One participant stated:

> My two years here as principal, we've adopted a new language arts program k-5, a new math program k-5, and I've implemented what we call our positive choices system, which you'll also see at other schools, which is a behavioral support system. And so with all those things going on, I think that my focus in my first two years has just been really focusing more on quality instruction day-to-day… So I think that kinda goes along with the whole thought that just trying to maintain the status quo a little bit while we have all this other going on and then once we as a school and as a staff are feeling more rooted to these major program changes then maybe looking to stir that up a little bit and get some new thoughts and ideas from people involved (Sharon, Interview, 2016)

The end result of these competing demands in schools is the lack of time to address gifted programming. For principals, gifted programming is always the next step, but it is rarely the actual next step.

An overall feeling communicated was there is only so much time in a day. Beth (2016) stated, "I think one of the barriers has been the time element. There's so much to do within any given day within the regular instructional piece that even if we had say you know could provide this for every student, where would that extra time come from?" (Interview, 2016). Heifetz, Grashow, and Linsky (2009) explain:

> To resolve such competing commitments, organizational leaders must often make painful choices that favor some constituencies while hurting others. And this constitutes another adaptive challenge archetype. Because these decisions are so difficult, many leaders simply avoid making them, or they try to arrive at a compromise that ultimately serves no constituency's needs well. As a result, the organization's commitments continue to be conflict (p. 81)

This suggests that no matter how strongly these leaders believe in serving every child, including gifted children, competing demands from mandates continue to ultimately inform what populations schools primarily serve. In essence, participants have been so focused on closing the achievement gap it leaves little time for addressing excellence gaps.

Conclusion

This chapter communicated the data collected through both the online survey and the in-person, one-time interviews. The data collected through the online survey was broken into two sections, one focusing on the quantitative data collected through closed-ended questions and the other concentrating on the themes which emerged through the open-ended questions. Although the low response rate keeps the data from being generalized to the larger population, interesting information was gathered and can be used to inform future research, which was discussed in the following chapter.

Next, the themes which emerged through six, one-time interviews with two urban, two suburban, and two rural principals were discussed as well as information to provide context to the themes. These interviews provide further support to the current research base around leadership and gifted programming.

The subsequent and final chapter synthesizes this information by discussing the findings in regards to this study's research questions. Additionally, lesson learned, limitations, and implications for practice and further research was discussed.

CHAPTER FIVE: FINDINGS

Overview

The purpose of this study was to explore the impact of elementary principals' knowledge-base and advocacy on gifted and talented (GT) programming within their school in a site-based district. The problem this study was investigating was the perceived limited amount of knowledge principals possess on gifted and talented programming and the associated lack of attention and advocacy on the school's gifted program. The research questions which have served to guide this study are: How does the knowledge-base of a principal impact gifted and talented programming within his or her school? How does the advocacy behaviors of a principal impact gifted and talented programming within his or her school? How do principals acquire knowledge about gifted programming?

This overview section is followed by several sections making up the final chapter of this study. The next section begins with a brief overview of the theoretical framework utilized within this study, which is the theory of adaptive leadership, developed by Heifetz, Grashow, & Linksy (2009). Next, the data collected through both the anonymous online survey and the semi-structured interviews was synthesized to answer each of the three guiding research questions for this study. This synthesis likewise included discussion of the data and results utilizing the lens of the theoretical framework of this study, which is adaptive leadership (Heifetz, Grashow, & Linksy, 2009). This was done by examining the integrated data and results to each research question and categorizing the results as adaptive and/or technical challenges based on the foundational elements and necessary next steps (Heifetz, Grashow, & Linksy, 2009).

Following this section, the researcher's lessons learned through engaging in this research study, including the creation, implementation, and analyses of the data, were explored.

Discussion in this section will include how the researcher has personally grown throughout the process as well as specific learning which inform future research studies.

The next section within this chapter address limitations of the study and the data collected within the study. Limitations discussed include limitations around the instruments, the response rate, and the manner in which the instruments were utilized. The ways in which these limitations affect the ability to generalize the results of this study to the larger population will additionally be discussed.

After the discussion of limitations, implications for practice and future research based on the results of this study was discussed. Again, it is critical to note the results and synthesis of this data cannot be generalized to the larger population. However, this study can still serve to move the field of gifted education further both in terms of next steps for professionals within the field and in working with those outside the field. As a professional within the field of Gifted Education, the researcher's next steps will likewise be explored. Furthermore, possible topics for future research studies were addressed.

Response to Research Questions

Three research questions were the driving force of this mixed methods study. The questions were: How does the knowledge-base of a principal impact gifted and talented programming within his or her school? How does the advocacy behaviors of a principal impact gifted and talented programming within his or her school? How do principal acquire knowledge about gifted programming? Each question was discussed independently utilizing a synthesis of data from both the online survey and the semi-structured interview. However, before delving into each question, the theoretical frame the researcher utilized as a logical model will briefly be

reviewed. Following this section, each question is discussed in depth using a combination of the online survey data, the interview data, and the theoretical frame.

Theoretical Frame

The theoretical frame used in this study was adaptive leadership (Heifetz, Grashow, & Linksy, 2009). This theory of leadership explains a system must first be diagnosed and then exposed challenges are determined to be either adaptive or technical (Heifetz, Grashow, & Linksy, 2009). Based on the determination of challenges being adaptive, technical, or, in many instances, both adaptive and technical, effective solutions can be implemented to impact change. Heifetz, Grashow, and Linsky (2009) explain, "While technical problems may be very complex and critically important, they have known solutions that can be implemented by current know-how…Adaptive challenges can only be addressed through changes in people's priorities, beliefs, habits, and loyalties" (p. 19). However, Heifetz, Grashow, and Linsky (2009) go on to stress, "problems do not always come neatly packaged as either 'technical' or 'adaptive'…Most problems come mixed, with the technical and adaptive elements intertwined" (p. 19). Thus effective solutions must contain elements of both technical and adaptive change. Still, Heifetz, Grashow, and Linsky (2009) state, "it is the adaptive elements that threaten success" (p. 21). Therefore, using this theoretical frame as a logic model, emphasis was placed on adaptive challenges.

Research Question One

How does the knowledge-base of a principal impact gifted and talented programming within his or her school?

The first question sought to understand how a principals' knowledge base around gifted programming impacts gifted programming within their school. Study participants were found to

possess a limited knowledge base around gifted programming which impacted their school based programming in a variety of ways. A discussion around study participants' knowledge base was followed by how this knowledge base impacted schools' gifted programming.

The first data collected which demonstrated the study participants' level of knowledge was how the participants self-reported their level of knowledge around gifted programming. This highlighted how the participants' viewed themselves and their abilities to create and support a strong school based gifted program. Study participants' self-reported level of knowledge around gifted programming provided conflicting data, yet overall the data collected suggested the study participants held a limited knowledge base around gifted programming. Furthermore, the data which surrounded this self-reported data additionally revealed an intertwining of technical and adaptive challenges.

Overall, survey participants self-reported their knowledge-base to be basic (three participants), moderate (seven participants), or expert (four participants). Not one of the survey participants indicated their knowledge base as limited or somewhat limited. In contrast, all six of the interview participants were forthcoming regarding their general lack of knowledge around gifted programming. The technical challenges involved with this result include developing processes and opportunities to provide training to current along with deciding the most imperative elements which need to be included to support principals in developing strong, school based gifted programs.

Even more important in this realm is the adaptive challenges this self-reported data presented. The survey participants self-reported their knowledge base as fairly strong, but their lack of knowledge shone through in their responses to other survey questions, which was addressed in upcoming paragraphs. Additionally, data collected through the interviews

suggested the interview participants believed in myths about gifted learners, and these beliefs informed their actions in terms of their school based gifted program. This led to a conflict between espoused and enacted values on the part of the interview participants. Taken together, both survey and interview participants require adaptive changes in the way they view gifted learners, gifted programming, and, in some respects, their own actual level of knowledge concerning gifted learners and programming.

The study participants' lack of knowledge continued to be revealed in various other ways. When addressing specific topics relevant to gifted programming, this lack of knowledge continue to present itself. The following paragraphs will discuss what results were collected in terms the study participants' knowledge base of relevant topics within gifted programming. These include the GT identification process, talent development and Exceptional Children's Education Act guidelines (Colorado State Board of Education Code of Colorado Regulations, 2015), meeting the academic needs of gifted learners, and meeting the social emotional needs of gifted learners. Throughout this section, the survey and interview participants provided both complimentary and conflicting data results, all of which contained interconnected technical and adaptive challenges.

Survey and interview participants alike expressed knowledge regarding the GT identification process. Survey participants self-reported having the greatest amount of knowledge around this topic, and the majority of the interview participants additionally spoke along this topic. Additionally, many survey and interview participants discussed the need for changes within the process to better identify underrepresented populations of students, including Culturally and Linguistically Diverse (CLD) students and students qualifying for free or reduced lunch. The limitations of the interview participants' knowledge base were revealed when probed to expand upon potential practices. During this probe, interview participants indicated the

inability to solve this barrier due to their lack of expertise around gifted programming. Survey participants were unable to be questioned in this way; however, several survey participants indicated equitable identification practices as a need in their school suggesting this is a barrier the principal does not have the knowledge base to overcome or the time to address. Other barriers study participants were unable to overcome through their schools' gifted programming included limited funding, staffing, and district support.

These results suggest a technical challenge. Study participants indicated a belief many of their students are gifted yet are not formally identified due to the identification process, which the study participants felt needs to be modified. Therefore, creating processes and trainings based around evidence based equitable identification practices is essential.

However, this also suggests an adaptive challenge. Students, particularly students from underrepresented groups, must be differentiated for and taught advanced curriculum in advance of formal identification procedures thereby shifting the role of the school from programming for students with already identified gifts and talents to nurturing all students who have potential gifts and talents (Olszewski-Kubilius & Clarenbach, 2012; Worrell, 2014). The notion of talent development highlighted an area where both survey and interview participant responses were similar. Both groups reported a lack of knowledge around the Exceptional Children's Education Act (Colorado State Board of Education Code of Colorado Regulations, 2015), of which one shift is the mandate for talent development within all Colorado schools (Colorado State Board of Education Code of Colorado Regulations, 2015). This act mandates it is not only a school's responsibility to serve students once they are formally identified as gifted and talented, but it is also the school's responsibility to develop the talent of each student (Colorado State Board of Education Code of Colorado Regulations, 2015). Principals' beliefs around what schools' roles

are in talent development must shift, which reveals an adaptive challenge. This adaptive challenge calls for principals' as instructional leaders to prioritize school programs to nurture and develop gifts and talents within in all students rather than programming solely for students with previously identified gifts and talents (Olszewski-Kubilius & Clarenbach, 2012; Worrell, 2014).

Meeting the academic needs of gifted learners was another area where survey participants indicated possessing a larger knowledge base whereas most interview participants continued to indicate a lack of knowledge. In 2010, the National Association for Gifted Children – Council for Exceptional Children (NAGC-CEC) developed national programming standards to serve as foundational supports to create and evaluate gifted programming to meet the unique needs of gifted learners (NAGC, 2010). To meet GT learner's academic needs, the following programming standards were developed:

1. Curriculum Planning. Students with gifts and talents demonstrate growth commensurate with aptitude during the school year.
2. Talent Development. Students with gifts and talents become more competent in multiple talent areas and across dimensions of learning.
3. Talent Development. Students with gifts and talents develop their abilities in their domain of talent and/or area of interest.
4. Instructional Strategies. Students with gifts and talents become independent investigators.
5. Culturally Relevant Curriculum. Students with gifts and talents develop knowledge and skills for living and being productive in a multicultural, diverse, and global society.
6. Resources. Students with gifts and talents benefit from gifted education programming that provides a variety of high quality resources and materials.
7. Variety of Programming. Students with gifts and talents participate in a variety of evidence-based programming options that enhance performance in cognitive and affective areas (NAGC, 2010)

Although survey participants indicated a strong knowledge base around meeting the academic needs of gifted learners, when asked specifically about how the school's GT program addressed each of these student outcome standards, large inconsistencies were found. Within each student outcome standard, survey participants' responses were similar in the fact the levels to which participants' schools were currently addressing each standard varied greatly. For each standard, responses varied from a zero or almost a zero, meaning the standard was "not currently being

addressed" to 100, meaning the standard was "currently a strength area with no room for growth".

Survey participants' knowledge base regarding meeting the academic needs of gifted learners is further called into question since they indicated the greatest benefit to having a strong gifted program was to offer enrichment opportunities. This suggests the survey participants' knowledge base around meeting the academic needs of GT learners is around enriching learning rather than providing other programming models, such as curriculum compacting or grade acceleration. Further indication of a lack of knowledge base around meeting the academic needs of gifted learners is shown through the stated need for professional development for teachers. Again, this shows the lack of knowledge for the principals to personally address this need or the lack of time to do so. Survey participants did express knowledge around the creation of Advanced Learning Plans (ALPs), documents which should drive all gifted programming (Colorado Department of Education, 2016); however, they communicated a lack of knowledge around the implementation of ALPs, again showing a limited knowledge base around programming for gifted learners.

Interview participants likewise indicated a lack of knowledge around meeting the academic needs of gifted learners. Like the survey participants, the need for professional development for teachers was continually discussed as a critical need within all the schools. Interview participants further discussed not having the support or knowledgeable staff to train teachers, expressing they lacked the personal knowledge to do complete this task. Not only did interview participants not have the personal knowledge around gifted programming, but they lacked exposure to strong programs through formal and informal education they could realistically emulate. School based gifted programs varied across interview participants'

schools; however, only one school had advanced, differentiated instruction embedded throughout the day, and even then, the principal indicated it was done with different levels of success based on the teachers' knowledge and skills.

This lack of knowledge around meeting the academic needs of gifted learners suggests both technical and adaptive challenges. Technical challenges include educating principals around the needs of gifted learners and assisting them in providing professional development around evidence based, best practices in gifted programming to staff. Another technical challenge is facilitating observation of strong gifted programs mirroring the different demographics and settings of Colorado so principals can examine and emulate such programs within their own school.

There are also several adaptive challenges underlying these technical next steps. First, the continued myths around gifted children must be addressed (Fetterman, 1999; NAGC, n.d.) and the belief in these myths must be challenged and altered. Through the interviews, one of the theme related components identified was myths about gifted learners drive principal actions leading to the assertion principals' espoused theories regarding gifted education are different from their actual practices. Therefore, one adaptive challenge is to align principals' beliefs and practice, shown through his or her school's gifted program, with current research and best practices in gifted education.

Another adaptive challenge includes educating principals so gifted programming is prioritized as a vital professional development component. Many survey and interview participants discussed how competing demands created a focus on closing the achievement gap rather than focusing on addressing excellence gaps or teaching to advanced levels of understanding. Based on these competing demands, the way time is currently prioritized in

buildings is focused on meeting the needs of struggling students and students who are close to or barely reaching levels of proficiency. Therefore, examining belief structures of principals must be continually embedded within their knowledge acquisition because with an increased knowledge base comes a sense of purpose, and with a clear sense of purpose comes time allocation (Heifetz, Grashow, and Linsky, 2009).

Yet another area of programming which reveals a lack of knowledge is around the social emotional needs of gifted learners. Although survey participants indicated it was an area of stronger knowledge, there was great variance once again in the national student outcome standard (NAGC, 2010). This suggests either a disconnect between knowledge and practice or a limited knowledge base which cannot be translated into practice.

This was also seen through the interview participants. A few participants discussed the idea not all identified gifted students like being formally identified. However, beyond this issue, social emotional needs of gifted learners were not discussed by any interview participants. Furthermore, no mention of embedding the social emotional needs of gifted learners into a continuum of services within the school based gifted program was discussed.

The need for integration of programming to support the social emotional needs of gifted learners includes several adaptive challenges. First, principals must be educated to change the beliefs around the needs of gifted learners to encompass social emotional needs, then incorporating supports must be prioritized into the gifted program. Principals must understand and believe in unique social emotional needs of gifted learners to change current programming to encompass this type of learning in the current era of high stakes achievement testing.

The study participants' general lack of knowledge was seen throughout both the online survey as well as the semi-structured interviews, and this lack of knowledge impacted the school

based gifted programs in numerous ways. Gifted programs within schools were inconsistent and often incredibly limited. In most schools, identified gifted students received gifted programming only a few hours a week, and, at some schools, identified gifted students only received specialized programming outside of the traditional school day.

The study participants' lack of knowledge was also translated into the inability to program to solve current barriers impacting school based gifted programs. Continually during interviews, gifted programming was discussed as a next step, but due in part to the lack of knowledge base, gifted programming was never the next step as time and focus was allocated to meeting the needs of other groups of students. Furthermore, when asked what elements were needed to further strengthen the school's GT program, both survey and interview participants revealed a reliance on technical solutions, such as the need for increased funding, staffing, and support, rather than adaptive solutions. A possible adaptive solution could include analyzing the beliefs behind why funding and staffing are ear-marked for specific programs at the detriment of other programs and engaging in creative problem solving centered around belief systems which truly are centered nurturing growth within every child. As Heifetz, Grashow, and Linsky (2009) state, "The most common cause of failure in leadership is produced by treaing adaptive challenges as if they were technical problems" (p. 19). Participants limited knowledge base around gifted programming have them waiting for technical fixes to come from someone else, such as politicians or district officials, before attending to the gifted programs within their schools. Perhaps this type of action or inaction is a factor in ineffective gifted programs across the nation thus contributing to the nationwide excellence gap (Plucker, Burroughs, & Song, 2010), but it is difficult to solve adaptive challenges as these challenges cannot be solved with current know how (Heifetz, Grashow, & Linsky, 2009).

To sum up, with site based leadership, comes great responsibility and a great need for principals to understand the numerous populations within their school, each populations' unique needs, and how to best meet each populations' diverse needs through curriculum, instruction, and programming (Ouchi, 2006; Lynch, 2012). Principals need a stronger knowledge base around gifted programming to meet the needs of gifted learners within their schools. However, providing professional development for principals focused on knowledge acquisition is not enough. The learning must involve reflection around beliefs for principals to prioritize gifted education within their buildings.

Research Question Two

How does the advocacy behaviors of a principal impact gifted and talented programming within his or her school?

The next question focused on the principals' behaviors in advocating for their school's gifted program. This was an attempt to gather information regarding each participant's attitudes regarding gifted programs with the underlying assumption a person advocates for programs the person has a positive attitude towards. Both the survey and interview responses provided data which indicated an almost total lack of advocacy behaviors for school-based gifted programs.

When survey responses were reviewed, few participants stated advocating in any way for their schools' gifted program. Of the survey participants who did report advocacy behaviors, these behaviors were focused on the delivery model of the services they would like their schools' gifted program to encompass. Interestingly, these survey participants advocated for gifted programming to be included solely within the general education classroom yet discussed staff in general did not have the knowledge to meet the needs of gifted learners with the general education classroom.

This same line of thinking was also seen within several interview participants. Interview participants shared similar goals to embed all gifted programming within general education classrooms even though classroom teachers were currently unable to differentiate for this group of learners. However, this idea was stated as a goal. Not one interview participant reported any advocacy behaviors towards their schools' gifted program. One interview participant reported advocating for a group of GT learners, as did several survey participants, which suggests study participants were more likely to advocate for individual or groups of GT learners than the schools' gifted program.

This question revealed a general lack of advocacy behaviors by participants in this survey as the majority of principals who responded did not indicate ever advocating for a gifted and talented program within their school. When viewed with the results to the first research question, the technical and adaptive challenges are similar. Principals need a stronger knowledge base around the needs of gifted learners and how to meet these needs through their schools' gifted programs. Likewise, principals need to analyze their beliefs along with the beliefs of their staff to ensure their espoused values and matching their schools' programming options for all groups of students. If there espoused values do not match their actions, as was found with the participants in this study, then the principals must advocate to ensure effective programming for all students, including gifted learners.

Research Question Three

How do principals acquire knowledge about gifted programming?

The last question explored was how principals' acquired their knowledge about gifted programming. In regards to this question, the survey and interview participants revealed complementary data. The manners in which most attained knowledge around giftedness was through teaching students who were gifted or by having children who were identified as gifted. Both situations led the participants to seek out professional development personally in order to learn information on how to best serve this population.

Another piece of complementary data from both survey and interview participants was how little knowledge was obtained through formal education, such as teacher or administrative preparation programs. Six survey participants reported gaining any knowledge around gifted learners or programming through their teacher preparation programs. Only two survey participants reported any knowledge acquisition from their principal preparation programs. When asked to rank order knowledge acquisition pathways in terms of most valuable to least valuable, survey participants ranked these two pathways as the lowest. Likewise, two theme related components which emerged from the interview participant's data was principals lack training in gifted education and teacher and principal preparation programs provide limited knowledge about gifted education.

Again, results to this question emphasize both technical and adaptive challenges similar to the first two research questions. Technical challenges include providing pathways for current and future principals to gain knowledge around the specific needs of gifted learners and specific elements to include within school based gifted programs to meet these needs. Adaptive challenges continue to include analyzing belief structures and school priorities. However, this question brings forth a new adaptive challenge. It is not only principals who must analyze beliefs and adjust priorities to include gifted learners, so must universities which house teacher

and principal preparation programs. Heifetz, Grashow, and Linsky (2009) state, "There is no such thing as a dysfunctional organization, because every organization is perfectly aligned to achieve the results it currently gets" (p. 17). Through the results as reported by the study participants, they possess a limited knowledge base around gifted learners and their formal education has done little to remedy this. This suggests possible areas of exploration in terms of combating underrepresentation and excellence gaps begins not with the school but in the training of all staff within the schools through their required university education.

Lessons Learned

Several lessons were learned throughout this research study, which shaped both the researcher personally and how the researcher will approach research in the future. First discussed in this section was the personal growth of the researcher focusing on communication, analytic, and leadership skills.

The researcher's communication skills, both oral and written, have developed exponentially as a result of this process. Communicating concisely to ensure clarity of purpose in oral and written communications has been essential when building the community partnership with CASE, when working with peers and advisors to refine thinking, and when creating this document and all accompanying documents.

Analytical skills were likewise essential, and throughout this process, the researcher's abilities to employ such skills were fine tuned. To be successful, the adeptness to break ideas apart, conceptualize ideas, support positions with relevant literature, both current and historical, and interpret and synthesize data were critical.

Another set of skills honed during this doctoral research project has been reflective skills. To do this, one must first analyze one's influence and foundational philosophies. From this, one

can reflect on learning from experiences by analyzing one's contributions, action, and reactions to an experience. Utilizing this set of skills, one can continually reflect on existing and potential impact within systems and the field.

The last major set of skills which were expanded upon throughout this research process was leadership skills. Furman (2012) explained leadership skills gained through doctoral research projects can be transformative for the participant. The researcher learned how to listen to understand, not to merely react or retort, while prompting others to develop a true understanding of needs. Through these actions, the researcher has improved the practice of diagnosis systems for technical and adaptive needs, the theoretical framework utilized in this study. Further, the researcher developed persistence, which every effective leader must embody. It provides the resolve and drive to be a change agent and leader within this ever-changing field.

The researcher additionally learned lessons to impact future research. First, building partnerships and working collaboratively has continued to push the researcher's thinking. This was done through the formal partnership with Colorado Association of School Executives, but also through informal partnerships with the Colorado Department of Education Office of Gifted and Talented and the Colorado Association of Gifted and Talented. More than any of these, the researcher has valued the collaboration with colleagues from the doctoral cohort and from within the field. Collaborating on projects will continue to be an aspect in the researcher's professional life.

Another learning was around methodology. The researcher developed a preference for interviews rather than surveys as interviews enable the researcher to ask deep, follow up questions for clarity and expand understanding of the topic to create technical and adaptive solutions. If the researcher does use surveys in the future, the researcher will have have at least

one expert in survey development and analysis review the survey in addition to the content experts. Additionally, if surveys are used, the researcher will build in multiple pathways to recruit participants to hopefully avoid a low response rate.

Finally, the researcher learned the importance of addressing a persistent problem of practice in a passion area. This allowed for the concentrated, prolonged focus required to fulfill the conditions which come along with long-term, in-depth projects such as this one. Furthermore, understanding the potential impact on the persistent problem of practice continually assisted on staying dedicated and determined to the project.

Limitations

The largest limitation of this study was the low response rate to the anonymous internet survey. This low response rate makes the data through the online survey unable to be generalized to the larger population. Additionally, the online survey contained questions with a variety of data collection methods. This was done to allow participants to rank their perceived values and communicate personal thoughts, experiences, and opinions. However, due to this and coupled with the low response rate, the researcher was unable to run inter-item reliability statistical analysis, such as Cronbach's alpha.

Implications

This study holds implications for the researcher's practice, implications for the field's practices, and implications for future research. Implications for the researcher's practice include working with professionals throughout the field of education to build in opportunities to continually educate and support not only teachers but also administrators. Through the position of board member on the Colorado Association of Gifted and Talented (CAGT) and based on the results of this study, the researcher created a proposal for a program awarding scholarships to

current principals to attend the annual state CAGT conference along with an unshared hotel room at the conference hotel. The proposal has been accepted and fully funded for two principals for the 2017 CAGT annual conference in October. The participating principals will attend the conference and select an area of new learning to implement within their school's gifted program as an impact project. Furthermore, each participating principal will be partnered with a mentor to assist and support during the impact project execution.

This study also holds implications for field of gifted and talented as well as for the field of education. To begin, knowledge and strategies around meeting the needs of advanced and gifted learners must be integrated into both teacher and administrator preparation programs. Additionally, school district must employ highly qualified personnel to provide support beyond communication and Advanced Learning Plan creation. School administrators require targeted school-specific support to create, evaluate, and strengthen gifted programming. Principals need continued education behind implementation, best practices, and state mandates, such as those set forth in the Exceptional Child Education Act (ECEA). One large section of the ECEA which needs to be focused on in terms of education and implementation is the development of talent pools within schools to continually nurture potential in all students.

Future Research

Future research based on this study's findings are large. One focus area is on higher education. This could be done in many ways. What are the root causes for university officials to continue to be disinclined to include gifted education into both teacher and principal preparation programs? What programs are providing future teacher and principals with the knowledge base to build a sustainable comprehensive program designed to meet the needs of gifted leaners? What are the strengths and areas of growth of teacher and principal preparation programs within

the state of Colorado in terms of instilling knowledge to meet the needs of gifted learners? What are the strengths and areas of growth of nationally renowned teacher and principal preparation programs in terms of instilling knowledge to meet the needs of gifted learners?

Several areas of future research can also be found within schools and districts. How are consistent, district-wide programs developed? What supports do such programs need at the district and school level? What supports are necessary to build a sustainable school gifted program in schools faced with similar issues as the ones in this study? How have principals overcome barriers such as the ones listed in this study, such as limited support, funding, and staffing, to create sustainable gifted programs?

Other areas of future research include understanding linguistic giftedness and sub-groups from larger ethnic groups, for instance Hispanics. These areas would support principals and school leaders with increasing their understanding around their school populations as well as the different ways students can be gifted and show their giftedness.

Summary and Conclusions

This study sought to understand principals' knowledge base and advocacy behaviors, the impact of each on their schools' gifted programming, and how they acquired their knowledge. In summary, this study suggests participants possessed a limited knowledge base around gifted education, which was impacted by not being exposed to evidence-based practices in gifted education through their teacher and principal preparation programs. This lack of knowledge furthermore impacted participants' abilities to advocate for their school based gifted program because without knowledge it is difficult to have clear goals to work towards and attain (Heifetz, Grashow, & Linksy, 2009). Although the data collected through this study cannot be generalized

to the larger population, the researcher feels these results can still be useful within specific contexts and to move the field of gifted education forward.

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APPENDIX A

University of Denver

Consent Form for Participation in Research

Title of Research Study: Principals' Power: The Impacts of Principals' Knowledge and Attitudes on Gifted Programming in Site-Based Districts

Researcher(s): Colleen Urlik, Doctoral Candidate, University of Denver

Study Site: The state of Colorado

Purpose

You are being asked to participate in a research study. The purpose of this research is to explore the impact of elementary principals' knowledge-base and attitude on gifted and talented programming within their school in a site-based district.

Procedures

If you participate in this research study, you will be asked to:

Complete a one-time, 10-15 minute online survey

Voluntary Participation

Participating in this research study is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. You may choose not to continue with the survey at any time without penalty or other benefits to which you are entitled.

Risks or Discomforts

There are not believed to be any potential risks and/or discomforts of participation in this study.

Benefits

There are not direct benefits to subjects participating in this study. However, participation in the research study is an opportunity to share your knowledge, experience, needs, and barriers within gifted and talented programming in your school on a state-wide platform. The audience for this study includes, but is not limited to, universities (particularly those universities involved in teacher and administrator preparation programs), policy makes (national, state, and district), district and school leadership, advocates and advocate groups, teachers, students, and

parents. Indirect benefits could include influencing policy at various levels and impacting university preparatory programs for teachers and administrators.

Confidentiality

The study consists of one online survey, which will take about 10-15 minutes. All surveys are completely anonymous. Access of all data will be limited to myself, the sole researcher in the study. The findings from this study will be utilized within a dissertation but may additionally be used in meetings, conferences, or other published works.

Before you begin, please note that the data you provide may be collected and used by Qualtrics as per its privacy agreement. This research is only for U.S. residents over the age of 18 (or 19 in Nebraska). Please be mindful to respond in private and through a secured Internet connection for your privacy. Your confidentiality will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by any third parties. The research records are held by researchers at an academic institution; therefore, the records may be subject to disclosure if required by law. The research information may be shared with federal agencies or local committees who are responsible for protecting research participants.

Questions

If you have any questions about this project or your participation, please feel free to ask questions now or contact Colleen Urlik at colleen.urlik@du.edu at any time. Questions or concerns can also be made to the faculty advisor, Norma Hafestein at nhafenst@du.edu, at any time.

If you have any questions or concerns about your research participation or rights as a participant, you may contact the DU Human Research Protections Program by emailing IRBAdmin@du.edu or calling (303) 871-2121 to speak to someone other than the researchers.

Please take all the time you need to read through this document and decide whether you would like to participate in this research study.

- ❍ Yes, I have read the above consent form and will participate in this study by completing the following survey. (1)
- ❍ No, I will not participate in this study. (2)

If No, I will not participate ... Is Selected, Then Skip To End of Survey

Q1 How long have you been a principal at your current school? (Select one)

- ❍ Less than 1 year. (1)
- ❍ 1-3 years (2)
- ❍ 4-6 years (3)
- ❍ 7-10 years (4)
- ❍ More than 10 years (5)

Q2 How long have you been a principal? (Select one)

- ❍ Less than 1 year (1)
- ❍ 1-3 years (2)
- ❍ 4-6 years (3)
- ❍ 7-10 years (4)
- ❍ More than 10 years (5)

Q3 What school/program did you attend for your principal preparation program?

Q4 How long were you an educator prior to becoming a principal? (Select one)

- ❍ 0-3 years (1)
- ❍ 4-6 years (2)
- ❍ 7-10 years (3)
- ❍ 11-15 years (4)
- ❍ More than 15 years (5)

Q5 What school/program did you attend for your teacher preparation program?

Q6 Site-based decision making enables principals to have autonomy in their decisions to meet the needs of the unique population within their school. What percentage of your decisions are site-based?

- ❍ 0%-10% (1)
- ❍ 11%-20% (2)
- ❍ 21%-30% (3)
- ❍ 31%-40% (4)
- ❍ 41%-50% (5)
- ❍ 51%-60% (6)
- ❍ 61%-70% (7)
- ❍ 71%-80% (8)
- ❍ 81%-90% (9)
- ❍ 91%-100% (10)

Q7 What is the total population of students in your school? (Select one)

- ❍ Under 100 students (1)
- ❍ 101-200 students (2)
- ❍ 201-300 students (3)
- ❍ 301-400 students (4)
- ❍ 401-500 students (5)
- ❍ 501-600 students (6)
- ❍ 601-700 students (7)
- ❍ 701-800 students (8)
- ❍ 801-900 students (9)
- ❍ Over 900 students (10)

Q8 Which term best describes your school?

- ❍ Rural (1)
- ❍ Suburban (2)
- ❍ Urban (3)

Q9 What is your school's current status with the state of Colorado? (Select one)

- ❍ Accredited with Distinction (1)
- ❍ Accredited with Performance (2)
- ❍ Accredited with Improvement (3)
- ❍ Accredited with Priority Improvement Plan (4)
- ❍ Accredited with Turnaround Plan (5)

Q10 What is the percentage of students meeting the criteria for Free and Reduced Lunch in your school?

- ❍ 0%-10% (1)
- ❍ 11%-20% (2)
- ❍ 21%-30% (3)
- ❍ 31%-40% (4)
- ❍ 41%-50% (5)
- ❍ 51%-60% (6)
- ❍ 61%-70% (7)
- ❍ 71%-80% (8)
- ❍ 81%-90% (9)
- ❍ 91%-100% (10)

Q11 What is the percentage of identified English Language Learners in your school?

- ❍ 0%-10% (1)
- ❍ 11%-20% (2)
- ❍ 21%-30% (3)
- ❍ 31%-40% (4)
- ❍ 41%-50% (5)
- ❍ 51%-60% (6)
- ❍ 61%-70% (7)
- ❍ 71%-80% (8)
- ❍ 81%-90% (9)
- ❍ 91%-100% (10)

Q12 What is the percentage of identified Gifted and Talented learners in your school?

- ❍ Less than 1% (1)
- ❍ 1%-2% (2)
- ❍ 3%-4% (3)
- ❍ 5%-6% (4)
- ❍ 6%-7% (5)
- ❍ More than 7% (6)

Q13 How many full-time certified employees are at your school who are a GT Teacher, GT Coordinator, or GT Specialist?

- ❍ 0 (1)
- ❍ 1 (2)
- ❍ 2 (3)
- ❍ 3 (4)
- ❍ More than 3 (5)

Q14 How many part-time certified employees are at your school who are a GT Teacher, GT Coordinator, or GT Specialist?

- ❍ 0 (1)
- ❍ 1 (2)
- ❍ 2 (3)
- ❍ 3 (4)
- ❍ More than 3 (5)

Q15 How many classified employees at your school work directly for the GT program?

- ❍ 0 (1)
- ❍ 1 (2)
- ❍ 2 (3)
- ❍ 3 (4)
- ❍ More than 3 (5)

Q16 As a principal, what do you feel are the greatest benefits to having a strong GT program within a public elementary school?

Q17 Rate your personal knowledge around the overall needs of GT students.

- ❍ Expert Level of Personal Knowledge (1)
- ❍ Moderate Level of Personal Knowledge (2)
- ❍ Basic Level of Personal Knowledge (3)
- ❍ Somewhat Limited Level of Personal Knowledge (4)
- ❍ Limited Level of Personal Knowledge (5)

Q18 Rank order the topics based on your level of personal knowledge, 1 being the topic you are most knowledgeable about (Click and drag)

_____ The GT identification process (1)
_____ The creation of Advanced Learning Plans (ALPs) (2)
_____ The implementation of Advanced Learning Plans (ALPs) (3)
_____ The gifted and talented sections within the Colorado Exceptional Children's Education Act (4)
_____ The academic needs of GT learners (5)
_____ The social emotional needs of GT learners (6)

Q19 Describe a time where you have had to take a particularly strong stance regarding a gifted and talented program.

Q20 In what ways have you acquired knowledge about GT students? Select all that apply.

- ❑ My teacher preparation program. (1)
- ❑ My administrator preparation program. (2)
- ❑ Being a classroom teacher with GT students in my class. (3)
- ❑ Being a GT teaching in a self-contained or pull-out class. (4)
- ❑ Being the parent of a GT student. (5)
- ❑ Being a GT student myself. (6)
- ❑ School provided professional development. (7)
- ❑ District provided professional development. (8)
- ❑ Personally seeking out my own professional development. (9)
- ❑ Other: (10) _____

Q21 Rank order the ways you have acquired knowledge about GT students in terms of value, 1 being the most valuable way you personally acquired knowledge about GT students. (Click and drag)

_____ My teacher preparation program. (1)
_____ My administrator preparation program. (2)
_____ Being a classroom teacher with GT students in my class. (3)
_____ Being a GT teacher in a self-contained or pull-out class. (4)
_____ Being the parent of GT student. (5)
_____ Being a GT student myself. (6)
_____ School provided professional development. (7)
_____ District provided professional development. (8)
_____ Personally seeking out my own professional development. (9)
_____ Other: (10)

Q22 As a principal, what are the three most important elements you feel are needed to further strengthen your school's GT program?

Q23 As a principal, what are the largest barriers you face in terms of building a stronger GT program?

Q24 Move the slider to indicate the level each of the following student outcomes are addressed within your school's current gifted program. 0 - Not currently addressed and is an area for growth50 - Adequate100 - Currently a strength area with no room for growth

_____ Curriculum Planning. Students with gifts and talents demonstrate growth commensurate with aptitude during the school year. (1)
_____ Talent Development. Students with gifts and talents become more competent in multiple talent areas and across dimensions of learning. (2)
_____ Talent Development. Students with gifts and talents develop their abilities in their domain of talent and/or area of interest. (3)
_____ Instructional Strategies. Students with gifts and talents become independent investigators. (4)
_____ Culturally Relevant Curriculum. Students with gifts and talents develop knowledge and skills for living and being productive in a multicultural, diverse, and global society. (5)
_____ Resources. Students with gifts and talents benefit from gifted education programming that provides a variety of high quality resources and materials. (6)
_____ Variety of Programming. Students with gifts and talents participate in a variety of evidence-based programming options that enhance performance in cognitive and affective areas. (7)
_____ Socio-emotional Development. Students with gifts and talents develop socially and emotionally as a result of educators who have participated in professional development aligned with national standards in gifted education and National Staff Development Standards. (8)

Q25 What do you think are the three most important topics to see at a principals' professional development session offered by CASE on gifted and talented programming?

Thank you for sharing your time to complete this survey! If you have any questions, please contact Colleen Urlik at colleen.urlik@du.edu or Norma Hafenstein at nhafenst@du.edu.

APPENDIX B

Interview Protocol:

Thank you so much for spending the time to meet with me and for signing the consent form. Before we begin, do you have any questions about the consent form, the interview, or the audio-taping of the interview?

This interview consists of seven open-ended questions, so let's begin.

1. Tell me about your school's gifted program.

2. What factors have influenced your school's gifted program?

3. What are goals for your school's gifted program?

4. What are barriers for your school's gifted program?

5. What are overarching benefits of having a strong gifted program within your school?

6. What have been your experiences with gifted education? Include any experiences from your current school and outside your current school.

7. Do you have anything else you would like to add?

APPENDIX C

CASE Community Partner Agreement

Ryan Harrison via casecol.onmicrosoft.com 4:22 PM (20 hours ago)

to me

Hi Colleen,

Thanks so much for reaching out. I'm incredibly sorry, but I'm just not sure I can make tomorrow work. We're less than three weeks out from our 1200 person event and every second counts for us. I'm swamped right now!

However, I can detail a bit more of the process I see for sending this out to principals, and hopefully that suffices:

1. We would ask the Colorado Association of Elementary School Principals (CAESP) board (our department board for the principals' department) to review the survey.

2. The president and president-elect of the board would draft a message inviting members to take the survey, which we would send out with the survey invitation to all members of the department (currently around 500 -- we are right in the middle of membership renewal, so an exact number is unknown).

3. An outstanding question would be whether or not we want to send this out to prospective members as well -- we'd be happy to do that with a similar message or one directly from CASE leadership, rather than department leadership.

4. We could identify the submission window as well as when reminders would need to be sent. We would be sending blind reminders out, as we will not keep track of who has responded to the survey on our end. It's important to note that because of the fluidity of membership, one person may get only a reminder as their initial invitation to participate, depending on when they join CASE. If that's an issue, we can filter by "current member or member prior to XX date" to help control that pool.

Hopefully that helps -- if other details need to be sorted, I can try to provide those via email. Just let me know. In the meantime, CASE is happy to partner with you and we look forward to working together in the future. If you need anything else as an official "endorsement" of our work together, please let me know.

Thanks,

Ryan Harrison
Associate Director of Professional Learning

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