A NEEDS ASSESSMENT OF K-5 GIFTED SERVICES IN A RURAL SCHOOL DIVISION

A Capstone Project

Presented to

The Faculty of the Curry School of Education

University of Virginia

In Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

By

Lee Ann Whitesell, B.S., M.Ed.

March, 2018

Executive Summary

Consistent, coherent, and purposefully designed gifted programs that are effectively implemented by local school divisions are necessary to best serve gifted students. While there are mandatory components to be included in gifted program in Virginia (2012), local school divisions have the autonomy to design, implement, and evaluate their program as fits their needs. As a result, there is a wide variability among localities regarding definitions and philosophy of giftedness, skill in designing gifted programs, accountability for outcomes of gifted programming, and fidelity in implementing the program as planned.

The purpose of this study was to conduct a needs assessment of the K-5 gifted program for River Run Public Schools (RRPS) and to provide data to the school division for decision making, planning, and improving educational services. The philosophy, operational definitions of giftedness, program goals, program design and delivery, and curriculum and instruction were the primary program components examined in this needs assessment.

Researcher developed instruments (classroom observation protocols, interview protocols, surveys and document reviews) were used to collect data about the K-5 gifted program from teachers, gifted and talented coordinators, principals and instructional supervisors in the school division's nine elementary schools.

Results from the needs assessment informed division leaders of the current status of gifted programming in relationship to the critical program components (philosophy, definitions of giftedness, program goals, program design and delivery, and curriculum and instruction). Major findings were:

Finding 1. Program goals were defined in terms of process or procedural objectives and were

not defined in terms of long term outcomes for the gifted program or measurable student learning objectives.

Finding 2. The identification of students for eligibility in the gifted program is inconsistent among identification areas (i.e. academic areas vs. fine/performing arts) and between schools indicating

Finding 3. The use of cluster grouping was encouraged by the division.

Finding 4. Schools primarily used differentiated curriculum and instruction, grouping strategies, and enrichment, as service delivery options to address the needs of gifted students. The use of these strategies varied greatly across schools and pointed to a need for more frequent, consistent and effective practices.

Finding 5. Differentiation was considered an important part of curriculum and instruction by teachers and principals but strategies used to provide differentiated curriculum and instruction were limited in scope, used infrequently, and were not consistently implemented across schools. This led to a limited program of differentiated curriculum and instruction that did not consistently meet the needs of gifted students in RRPS.

Finding 6. Challenges such as teacher skill and understanding about differentiation, focus on raising achievement of students below grade level, and time affect how teachers implement differentiation in their classroom.

Finding 7. There is evidence the Local Plan reflects the VDOE requirements and is aligned with some evidence-based practices as defined in the NAGC.

These findings indicated that multiple areas of the K-5 gifted program would need to be addressed to re-align the gifted program with regulations and standards and to systematically and

consistently implement the program in practice in order to improve the K-5 gifted program. The following recommendations outline a process to help the school division manageably focus their efforts in addressing a specific area of the K-5 gifted program to meet minimal regulations and standards for best practice. The division should address concerns in one area, improve and align practice in that area with regulations and standards, and re-assess that area to verify improvement in consistency and reduction of gaps. The division can then continue to systematically examine and address other program components similarly.

Recommendation 1: *Identify one component or area for improvement based on the findings presented where a gap exists between implementation in practice and the Local Plan and state regulations.*

Recommendation 2: *Create and define action steps to address inconsistencies and gaps between practice and the designed and required program.*

Recommendation 3: *Evaluate the results of actions taken to address inconsistencies and gaps in terms of fidelity in implementation to state regulations and standards for best practice in gifted education.*

ACKNOWLEDGMENTS

This capstone study is a culmination of a long journey, which would have not been possible without the support of many people and I wish to express my gratitude to those who were instrumental I helping me through this process.

- To the school division personnel who participated in this study, thank you for allowing me to work with you.
- To my parents and family, thank you for your support and continuous encouragement.
- To wonderful colleagues and mentors I am proud to call friends - Elaine Almarode for encouraging me to start this journey, Janet Hamilton for helping keep me on track as a teacher and student, and Anne Jeffrey for believing in me and helping me persist through in overcoming those last challenges.
- To Dr. Susan Mintz, thank you for your steadfast support, wise advice and expertise, and never-failing guidance.
- To Dr. Catherine Brighton, thank you for your patience and flexibility in supporting a part-time student, and your constructive and practical feedback.
- To Dr. Tonya Moon, thank you for generously sharing your expertise and time in providing ideas and feedback and serving on my committee.
- To Dr. Eleanor Wilson, thank you for your kindness, assistance, and continuous encouragement throughout the process.

I am extremely grateful and thankful to have had the opportunity to work with each of you.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter One: Introduction

Background and Context for Problem

Policy initiatives regarding gifted education are largely based on the same premise for making general education policy (Frantz & McClarty, 2016). Educational policy is an outgrowth of our society's values and priorities and defines processes that divide resources to meet those priorities (Gallagher, 2015). There are two basic priorities which influence policy regarding gifted education in the United States. Those two priorities are issues surrounding equity and excellence and the investment of resources for competition with other nations.

First, the United States is a country built on the principle that there is equal opportunity for everyone to excel and reach their potential and that there is fair access to resources and equitable reward of that pursuit (Dai, 2013). In educational policy, issues of equity and excellence are complicated by subjectivity in defining excellence, in pursuing excellence without promoting elitism, and in providing equity without mediocrity (McDaniel, 2002). Concerns regarding excellence and equity are prevalent in education for students with exceptionalities such as special education or gifted education.

Gifted education is based on the premise that there are individual differences in ability and potential for high levels of performance (Subotnik, Olszewski-Kubilius & Worrell, 2012), that high ability and potential is distributed among different demographic groups (Ford & National Research Center on Gifted and Talented (NRC/GT, 2004), and that excellence can be achieved in different domains (Feldhusen & Saylor, 1990). The process of identifying high ability and potential is complex as one's intellectual performance and the realization of one's individual potential are influenced by social and economic advantages (Borland, 1997; Gardner, 1993; Renzulli, 1986, Sternburg, 1995; Subotnik, Olszewski-Kubilius & Worrell, 2012). Screening, referrals and identification of gifted students are traditionally linked to issues of bias

in favor of or against students from certain demographic groups. Demographic groups such as African-American, English Language Learners (ELL), or low SES are traditionally underrepresented in gifted programs (Ford & Grantham, 2003; Plucker & Callahan, 2014).

Experts in gifted education recommend that there be a defined conception of giftedness on which the selection criteria is based before students are identified as gifted. The conception of giftedness provides a framework for defining giftedness, the identification of gifted students, and developing educational programming which matches the needs of gifted students. In this sense, the concept of giftedness guides what that programming looks like and who is served (Brighton, 2010).

Many conceptions of giftedness exist and each has different implications in practice for identifying gifted students and developing gifted programs. The lack of agreement on a concept of giftedness and competing advice in the field of gifted education makes it difficult for practitioners and policy makers to make effective decisions regarding gifted programs (Callahan & Moon, 2008). Conceptions of giftedness which guide the identification process range from traditional psychometric definitions of intelligence to theories which acknowledge the role of environmental and sociocultural factors in talent development (Plucker & Callahan, 2014; Reis, & Renzulli, 2009). In practice, a continuum of theories of giftedness is defined by the objective assessment of abilities based on narrow and more restrictive definitions on one extreme and the subjective assessment of abilities based on broader definitions of giftedness which are more inclusive on the other extreme (Renzulli, 2011). This feeds ongoing tensions regarding excellence and equity in gifted education (Brown & Garland, 2015).

Second, a nation's resources are invested to compete with other nations, to foster prosperity, and secure the future (Frantz and McClarty, 2016). Gifted education both produces

and consumes resources. Human capital is grown by nurturing talent development in young people and is seen by many as the purpose of gifted education (Gallagher, 2015; Subotnik & Rickoff, 2010). Historically, each decade has seen major reports guiding policy makers in the talent development of our nation's brightest students as political and societal interests shift. Despite these reports, progress in addressing their recommendations has been limited (Gallagher, 2015). See Table 1.1 for a summary of these reports and their effect on gifted education

Table 1.1

Summary of Reports Affecting Gifted Education

Report	**Author**	**Major Points**	**Effect**
Marland Report: Education of the gifted and talented (1972)	S.P. Marland	- Need for specialized interventions for gifted children	Supplied a definition of giftedness widely used in educational practice
A Nation at Risk: The Imperative for Educational Reform (1983)	National Commission on Excellence in Education	- Academic underachievement on national and international scale - Recommendations for educational reform	Incited an active period of educational reform
National Excellence: A Case for Developing America's Talent (1993)	U.S. Department of Education - Office of Educational Research and Improvement	- Need for specialized curriculum and experiences for gifted students -Focus on developing the talents of minority, low socio-economic and twice- exceptional student groups.	Limited affect on policy changes but increased attention to identification and needs of underrepresented gifted populations
A Nation Deceived: How Schools Hold Back America's Brightest Students (2004)	Belin-Blank Center at the University of Iowa	-Recommends increased use of acceleration practices as an effective intervention for gifted students	Stimulated research on acceleration practice
A Nation Empowered: Evidence Trumps the Excuses Holding Back America's	Belin-Blank Center at the University of Iowa	-Supplies evidence that acceleration is an effective intervention for gifted students.	Pending

Brightest Student (2015)			

The Sputnik launching in 1957 prompted a renewed focus on math and science education and on nurturing talent in those areas. This was a reaction to a perceived threat and society's need for security not to address the needs of gifted students (Jolly, 2009). In 1983, concern regarding developing a competent workforce in the face of globalization prompted interest in major educational reforms and improved achievement for all students. However, these reforms brought new accountability standards and standardized testing which narrowly focused curriculum and instruction more to a one size fits all model and often deviated from best instructional practices and high expectations for learning (Moon, Brighton & Callahan, 2003). Schools responded to new accountability standards by shifting instructional focus to skill development aligned with standards and high stakes testing, to preparation for simulated testing scenarios, and away from academic rigor and curriculum which promoted depth and complexity. As a result, higher achieving students showed little improvement in achievement or intellectual growth (Kettler, 2016).

There had been a simultaneous reduction in political and societal support for gifted education with an increased focus on underachieving students and closing the achievement gap with No Child Left Behind (Gentry, 2006; No Child Left Behind, 2002). Funds and resources were diverted from gifted programs to support interventions for struggling students (Bui, Craig, & Imberman, 2014). However, recent legislation has provided renewed support for gifted education as the U.S. Congress reinstated funding for the Jacob Javits Gifted and Talented Students Education Act in 2014 after having suspended funding in 2011 (Shaunessy-Dedrick & Cotabish, 2014). A primary funding source for advancing research in gifted education since

1988, the Javits Act funds the National Center for Research on Gifted Education which focuses on needs in the field, identification, and research studies related to modifying curriculum for gifted learners (Gubbins, Callahan & Renzulli, 2014).

In the absence of sustained efforts, policy development and inconsistent funding have slowed advocacy and research initiatives regarding socio-emotional issues of gifted and identification of underrepresented populations (Jolly & Robins, 2016; Plucker & Callahan, 2014). Research regarding the effectiveness and efficacy of gifted education is limited and shows little scientific evidence of positive impacts on developing academic talent (Mandelman & Grigorenko, 2013). As a result, strong evidence to support increased investment of resources in gifted education or to change current mechanisms and infrastructures for distributing educational resources is lacking (Gallagher, 2015).

Leadership, program development and implementation, and accountability are all required to provide gifted services which address both equity and excellence issues and societal priorities (Plucker, Burroughs & Song, 2010; Swanson, 2007). The difficulty in applying gifted education research in practice, the complexity of identifying advanced learners, the lack of expertise in program development, and lack of resources have hindered the planning and implementation of effective programming in gifted education (Tomlinson, Bland & Moon, 1993). To better understand these challenges, one must first understand several issues in gifted education such as 1) a lack of consensus about the concept of giftedness; 2) limited research regarding gifted curriculum and programs; and 3) a need for assessing gifted programs. A discussion of these issues is presented here.

Lack of Consensus about Concept of Giftedness

The concept, philosophy, and definition of giftedness is the critical foundation for a gifted program. A lack of consensus among experts about the concept of giftedness creates confusion about how to identify gifted students and how to serve them best (Renzulli, 2012; Van Tassel Baska, 2006). The nature of giftedness is complex and is studied predominantly by educators whose focus is educational practice and psychologists whose focus is developmental theory (Dai, Swanson, & Cheng, 2011). The identification of gifted students has traditionally been based on cognitive ability as measured through a single intelligence test implying intelligence is innate and fixed. Newer conceptions of giftedness include psychosocial factors such as motivation, interest and creativity and other elements which support talent development implying a malleable construct of giftedness. Current practice promotes the use of multiple measures for identification of gifted students (Callahan, Moon & Oh, 2017, National Association for Gifted Children, 2015). Non-traditional assessments such as non-verbal assessments, above grade level assessments, performance based assessments, and rating scales are used to assess multiple factors which support talent development in schools (Steenbergen-Hu, S., & Olszewski-Kubilius, 2016).

In addition to different practices for identifying gifted students, there are many different curriculum models in gifted education derived from various concepts of giftedness. For example, Stanley's talent search model, used initially in the Study of Mathematically Precocious Youth (SMPY) (1991), is based on high scores on above grade level testing, is prescriptive in nature, and is focused acceleration of content to enhance academic and skill development. Sternberg's triarchic theory (1995) is grounded in understanding the metacognitive processes of intelligent behavior defined by creativity, knowledge acquisition and practical performance. Curriculum based on the triarchic theory focuses on a broader definition of intelligence and

matches curriculum, instruction, and assessment to one's abilities. Gardner's theory of multiple intelligences (1993), Renzulli's three ring conception (1986), and Gagne's Differentiated Model for Talent Development are based on components of intelligence and focus on talent development and potential. These theoretical models broaden the definition of giftedness and promote curriculum models that include opportunities for students to pursue areas of interest and talents through enrichment, mentoring, and authentic learning. Curriculum models used in schools are based on conceptions of giftedness and operational definitions defined by local, state or national standards of gifted education.

Limited Research Regarding Gifted Curriculum and Programs

In a review of gifted education literature from 1998-2010, Dai, Swanson and Cheng (2011) noted a gap between theory and practice as most research conducted was psychological studies that were not always easily understood or applied in practice by educators. Educators often adopt models that have little research documenting effectiveness of the model, may implement a curriculum with varying degrees of fidelity to the model itself, or may use no particular curriculum model (Ambrose, Van Tassel-Baska, Coleman & Cross, 2010; Callahan, 1985; Jolly & Kettler, 2008; VanTassel-Baska, 2006).

In a 2007 study, VanTassel-Baska and Brown analyzed 11 curriculum models prevalently used by schools including Schoolwide Enrichment Model (SEM), the Purdue Three Stage Enrichment Model (PACE), Triarchic Model, Integrated Curriculum Model (ICM), and the Parallel Curriculum Model (PCM). Other curriculum models reviewed in the study were Gardener's Multiple Intelligence approach, the Maker matrix, Stanley's Model of Talent Identification and Development, the Schlichter Models for Talents Unlimited Inc. and Talents Unlimited to the Secondary Power (TU2), the Kaplan grid, and the Autonomous Learner model

(Betts, 1985). They compared the effectiveness of each model based on criteria which shows a positive impact on learning, quality curriculum materials, ease of model implementation, sustainability of the model, evidence of implemented models, alignment to standards, and longitudinal evidence of effectiveness with gifted learners. Six of the eleven models examined had some evidence of effectiveness with gifted learners though longitudinal studies have limited evidence of student gains.

On a national study in 2013, 39.1% of rural school divisions reported using no particular model for elementary gifted programming as compared to 25% for urban areas and to 29.1% for suburban areas (Callahan et al., 2017). In the same survey, the most popular curricular model used by 43.4% of school divisions was Tomlinson's (1999) Differentiated Instruction model. The Differentiated Instruction model relies on teachers to first recognize individual learner differences such as readiness and interest and then to match the learning experiences they provide to meet the learner's need (Tomlinson, 1999). Despite strong theoretical evidence for the Differentiated Instruction model, research with observational evidence and measurable outcomes are limited but growing.

Research on curricula for gifted students is hindered by difficulty in defining measurable outcomes, attributing the model to specific outcomes through scientific experimentation, and issues in fidelity in implementation of the model (Oh, Hailey, Azano, Callahan & Moon., 2012). Various methodological challenges such as a lack of standardized instruments without ceiling effects that match the desired outcomes of gifted programs, difficulty in replicating and generalizing research, finding appropriate comparison groups, and determining causality make empirical research in gifted education difficult (Plucker & Callahan, 2014). Given these issues, designing, implementing and assessing gifted curricula becomes problematic for practitioners in

gifted education. In contrast, research on acceleration and grouping practices in gifted education has a stronger research base to provide direction in service delivery options (Plucker & Callahan, 2014;VanTassel-Baska, 2006).

Need for Assessing Gifted Programs

Since the mid 1980's, experts in gifted education have reiterated the need for program assessments to ensure equitable access in identifying and providing high quality programs in serving gifted students and have published many resources guiding gifted program development and evaluation (Jolly & Kettler, 2008; Callahan, 2004; Renzulli, 1992; Tomlison, 1993; United States, 1993; Van Tassel Baska, 2006). Most recently, The National Association for Gifted Children (NAGC) and the Council of State Directors of Programs for the Gifted (2015) jointly stated:

> This year's report shows a majority of states in the U.S. report a mandate related to gifted and talented education for identification or services or both. We are heartened by this data, but our nation must offer more consistency to ensure quality. This report notes a lack of centralized data collection, measurement, and accountability to systematically monitor and improve the service of students with gifts, talents, and unidentified potential in our public schools. (p. 5)

In this report, 61% (n=36) of states surveyed indicated that gifted program assessment was an issue most in need or in need of attention in gifted education (NAGC, 2015). In most states, decisions about gifted programming such as content-based instruction, differentiated instruction, and time required to attend to gifted students is left to the LEA with only 24 of 40 states reporting that they required gifted services be provided (NAGC, 2015).

Assessing gifted programs is important to improve instruction and student learning (Tomlinson, Bland & Moon, 1993). In a recent study of school divisions' practices in gifted education, only 53.6% of elementary schools reported using the NAGC standards for gifted program to guide planning and few had defined program outcomes or program evaluations

(Callahan et al., 2017). Few elementary schools have aligned their program framework with the standards and do not assess how the gifted program is serving students or if it is effectively meeting student needs. In a national survey of LEA's, Callahan, Moon, & Oh (2017) found that most gifted programs do not have a defined set of student learning outcomes which drives the organization and design of the program. Without a clearly articulated set of student learning outcomes, it is difficult to determine if the program is meeting its goals and effectively meeting the needs of gifted students.

Beyond the purpose of improving instruction and student learning, assessments of gifted programs provide measures of accountability in competition for funding and resources. Recent trends of increased accountability for school programs, such as Every Student Succeeds Act (ESSA) (2015) policies, advocate the need for evidence that supplemental resources are required for appropriate education of all students including gifted students (Kettler, 2016; Preskill, 2008). In others words, does differentiated curriculum and gifted programming for gifted students provide better achievement for high ability students and is it a good investment of resources? The revised and reauthorization of the ESSA (2015) provides for the use of additional funds for gifted education and funding for data collection and professional development. In addition to these funds, states are now required to provide information on the achievement of advanced learners and local education agencies (LEA's) must collect, disaggregate and report data as their state requires.

Statement of Problem

Given the political and social context and the limited research on effectiveness of gifted programming, it is important that gifted programs have well- defined policies and procedures to ensure alignment with standards and to provide programming for gifted learners that meet

identified program goals (Callahan et al., 2017). In Virginia, the Local Plan for the Gifted provides documentation of the school division's gifted program including the state's mandatory components of program philosophy and program goals, the identification process, service options, curricular programs and access to those programs, plans for professional development, and procedures for reviews of effectiveness (Virginia Department of Education (VDOE), 2012). While the components to be included in the local plan and a technical review of local plans are mandated by state legislation, local school divisions have the autonomy to design, implement and evaluate their program as fits their needs. As a result, there is a wide variability among localities regarding definitions and philosophy of giftedness, skill in designing gifted programs, accountability for outcomes of gifted programming, fidelity in implementing the program as planned, and resources designated to implement the gifted program. Consistent, coherent, and purposefully designed gifted programs that are effectively implemented by local school divisions are necessary to best serve gifted students. The problem is that given such autonomy school divisions may or may not design and implement a gifted education program that effectively meets the needs of their gifted learners

The River Run Public Schools (RRPS) school board recently approved their Local Plan for the Gifted 2017-2022 in accordance with state requirements for a comprehensive plan documenting the services provided for gifted student (RRPS, 2017). RRPS has experienced many changes in the past 10 years that have directly affected the division's gifted program. There have been several shifts in division leadership in the gifted program and variable shifts in the division's gifted leader's other instructional responsibilities limiting the time allotted for leading the gifted program (i.e. part-time, third ,¼ of responsibility to supervising gifted program). There has not been a significant internal review of the gifted program policies and

procedures and a gifted program evaluation has never been done. A large investment of resources to implement RtI in the division has been accompanied by a diversion of resources from gifted education (e.g. loss of the division's only two differentiation specialists to add data specialists for RtI).

Given these events, it is hypothesized that RRPS's gifted program has drifted from its intended program, may not be currently aligned with current NAGC standards for gifted programming, and may have procedures, policies and elements that are not part of a cohesive and comprehensive program design. It is important to understand the current status of gifted programming in the school division given these recent changes. To best assess the current status of the gifted program, it is essential to identify gaps with current practice in the division and the new gifted plan. Results from the needs assessment can be used to inform division leaders of the current status of gifted programming in relationship to the critical program components (philosophy, definitions of giftedness, program goals, program design and delivery, and curriculum and instruction).

Conceptual Framework

A conceptual framework for this study was developed based on the researcher's assumptions and the basic elements of a needs assessment.

Researcher assumptions. The researcher assumptions that support this capstone study were: 1) gifted programs should be purposefully designed and include multiple components(i.e. program goals, identification, and service delivery), (Brighton, 2010); 2) the program may or may not produce the desired results or achieve program goals based on that design, elements or other factors; and 3) the program may or may not be aligned with best practices based on the beliefs and assumptions of teachers and program administrators.

A needs assessment of the K-5 gifted program in RRPS was an appropriate first step since a new local plan for gifted education was adopted, there have been many changes in leadership and investment of resources in the gifted program, and there have been no previous formal evaluations of the gifted program. A needs assessment provides a systematic and proactive process to assess the current situation and identify gaps in services and is usually considered a first step in examining a new or beginning program (Funnell & Rogers, 2011; Kauffman, 1979).

Needs assessment. A needs assessment is used to compare what the situation is at some point in time with what it is desired as future outcomes (Watkins and Kavale, 2014). The needs assessment model, originally proposed by Witkin and Atlschuld in 1995, has three stages – pre-assessment, assessment, and post-assessment (Altschuld & Kumar, 2010). This model is primarily used on improving processes and achievement of short-term goals in small organizations (Altshuld & Watkins, 2014).

Based on Witkins and Altshuld's three phase model (1995), the researcher first examined documents to identify the best way to conduct the needs assessment to understand the current status of the program. Data collection and analysis were conducted to identify any gaps between the intended and enacted program in the analysis phase. In the final phase of the needs assessment, the researcher presented a summary of findings to the division with recommendations and steps to facilitate and support improvement of the gifted program. A summary of the researcher's process for designing the needs assessment is shown below in Table 1.2.

Table 1.2

Application of the Three Phase Model for Needs Assessment (Witkins & Altshuld, 1995)

Phase	**Purpose**	**Plan in Capstone Proposal for Each Phase**
Phase 1 – "Identify"	-identify the scope of the needs assessment based on existing information	-review on-line documents (i.e. Local Plan for Gifted, VDOE regulations) -informal interview of instructional supervisors
Phase 2 – "Analyze"	-use a systematic method to collect and analyze relevant data -identify needs based on gap between current status and desired outcomes	- interviews, surveys, classroom observations, document reviews
Phase 3 – "Decide"	- Share resulting information from needs assessment which can be used to make recommendations and decisions - develop a plan to monitor post-assessment plans	-provide a summary of the needs assessment, prioritize recommendations and action steps to the school division

Note: Adapted from *Needs Assessment: An Overview*, Altschuld & Kumar (2010).

The scope of the needs assessment included assessing and analyzing the practices of the teachers, gifted and talented coordinators, administrators, and instructional supervisors who implement the RRPS K-5 gifted program at various levels (i.e. classroom, school, division). Kaufman's Organizational Elements Model (OEM; 1972) applied a systems approach to address the connections between multiple organizational levels. Kaufman identified the following organizational elements to be examined: inputs, processes, products, outputs, and outcomes. The elements of this needs assessment were aligned with Kauffman's OEM and are summarized Table 1.3 below.

Table 1.3

Application of the OEM for Needs Assessment *(Kaufman, 1972)*

Organizational Element	**Element of RRPS K-5 Gifted Program**

Inputs	-resources invested (i.e., personnel, materials)
Processes	-interventions, methods (i.e, interactions between individuals, decision making processed, curriculum design processes)
Outputs	- what happens in gifted program, actions, interventions, service delivery, curriculum and instruction
Outcomes	- results of interventions, program outcomes

Note: Adapted from *Needs Assessment: An Overview,* Kaufman (1972).

A model of the conceptual framework reflects the basis for the needs assessment and is shown below (Figure 1.1). The primary focus for the needs assessment was an examination of Kauffman's organizational elements of processes (i.e. roles of teachers, gifted and talented coordinators, administrators and instructional supervisors in designing and delivering the gifted program) and outputs (i.e. gifted program philosophy, operational definition of giftedness, program goals, program design and delivery, and differentiated curriculum and instruction). Essentially, the researcher examined what is happening in the gifted program, who is responsible for implementing various components of program, what are they doing, and how are they doing it.

Based on a preview of RRPS's Local Plan for the gifted by the researcher, it was found that program outcomes defined by RRPS were not related to instruction or student achievement growth so gaps between intended and current results of program interventions could not be assessed since they were not defined. RRPS defined program goals in terms of processes that were observable and were included in the study. Inputs were defined as resources available for the program and were assessed but were not a significant focus for his study since the Local Gifted Plan was written based on current and available resources.

A proposed conceptual framework (see Figure 1.1 for a graphic model) was used as the basis for designing the needs assessment. The conceptual framework represents a comparison of

the division's K-5 enacted gifted program to its own designed program as outlined in the Local Plan for the Gifted. A comparison of the division's designed program to best practices in gifted education was examined to verify that the program included the basic tenets for gifted education. While there are no definitive set of best practices for gifted education, the NAGC standards and VDOE regulations were used as a basis of comparison.

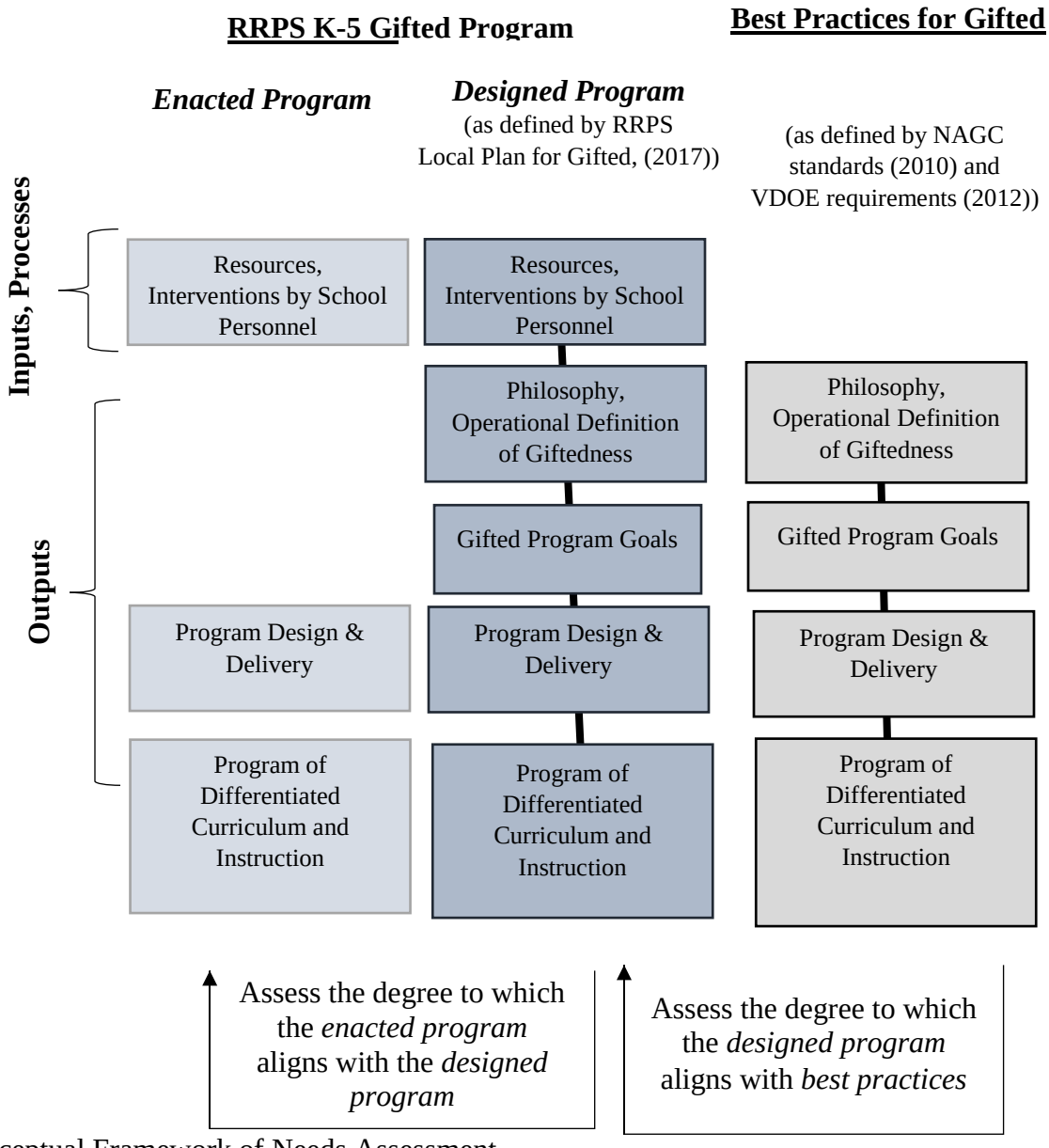


Figure 1.1 Conceptual Framework of Needs Assessment

Theoretical Basis for Conceptual Framework. Ideas from program theory, systems thinking and best practices in gifted education provided a theoretical basis for the conceptual framework. Each are described in the section below.

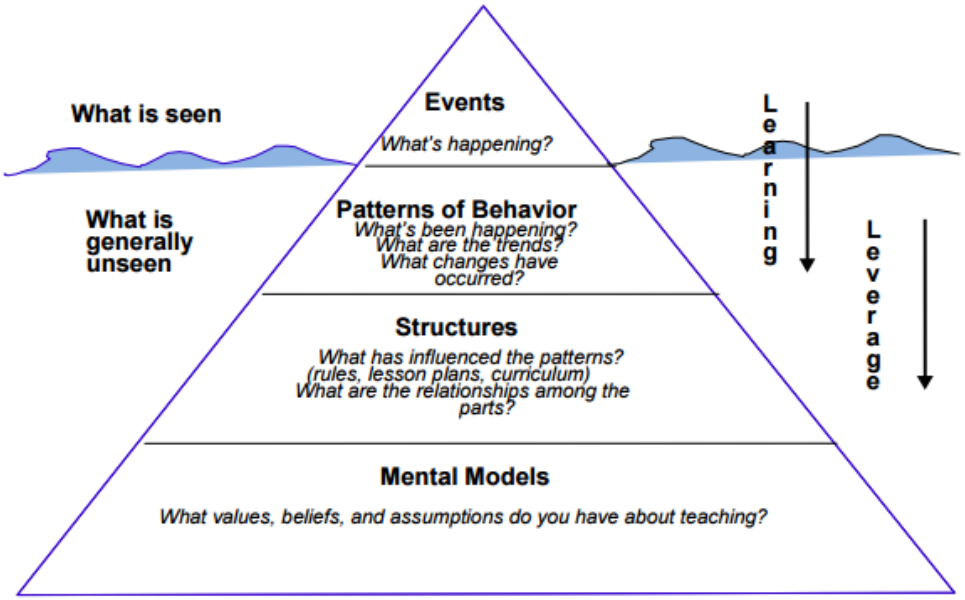
Program theory. Program theory clarifies the purpose of a program and assists in providing information to improve the program. It provides a definition to understand how a program works, why a program works or doesn't, what the program outcomes are, and what needs to happen to achieve the desired outcomes. The processes of the program and the relationships between activities and program results are important connections that influence the programs effects (Bickman, 2000). Contextual elements associated with the program are believed to affect program results. To offer recommendations for improvement, it is not only critical to analyze program results but to understand how the results were achieved. There are two basic components to program theory: theory of change and theory of action (Funnell & Rodgers, 2011). The theory of change focuses on the central processes that drive the program to meet its goals. The theory of action focuses on how programs are constructed to propel theories of change. Using program theory, the researcher worked to understand the central processes between delivering a gifted program and improved learning for gifted children.

Systems thinking. In a systems approach, identifying patterns, understanding what structures affect these patterns and analyzing what and how structures might be changed to improve results are supplements to observations of specific program activities (Goodman, 2002). Goodman's iceberg model (see Figure 1.2) includes events, patterns, structure and mental models. In the iceberg analogy, patterns, structures and mental models are hidden below the surface and are not easily visible but require further exploration. Patterns are identified by examining trends and how the program has changed. Structures are explored by examining relationships that influence

patterns and relationships between the program elements. Mental models outline the underlying value and beliefs of the system.

The Iceberg Model

The iceberg model is a systems thinking tool designed to help an individual or group discover the patterns of behavior, supporting structures, and mental models that underlie a particular event.



Source: Adapted by ASCD, 2010 from The Iceberg Model by M. Goodman, 2002. Hopkinton, MA: Innovation Associates Organizational Learning.

Figure 1.2 Iceberg Model - Systems Thinking in Education

The largest investment of resources in the gifted program by RRPS was personnel (RRPS, 2017). To understand how the gifted program worked it was important to understand the roles of and interactions between those individuals charged with designing, delivering and assessing the program. This approach provided information and understanding about how the

program was delivered, how curricula were developed, and instruction was delivered to gifted students.

Best practices in gifted education. Defensible programs are based on theory and research driven practice (Callahan, Moon, Oh, Azano & Haily, 2015; Tomlinson, Bland & Moon, 1993). Even with careful attention to theory in planning and in using best practices, it cannot be assumed that the gifted program is effective in meeting the desired goals and student needs as intended (Plucker & Callahan, 2014). Brighton's (2010) graphic model (see Figure 1.3), The Education of Gifted Learners, outlines the basic components of a gifted program as related to stakeholders, reinforces the sequential developmental elements of a program development, and reflects the iterative nature of continuous improvement.

This study was focused on internal factors such as the program goals, program design and program service delivery. These factors are determined by the division and were the primary focus. It was imperative to consider the operational definitions and program goals that should be the basis for all decisions about programming. Other factors such as availability of resources, community values, leadership and professional development were also considered to enhance understanding of the division's challenges and needs in delivering the K-5 gifted program and to provide meaningful information to the division.

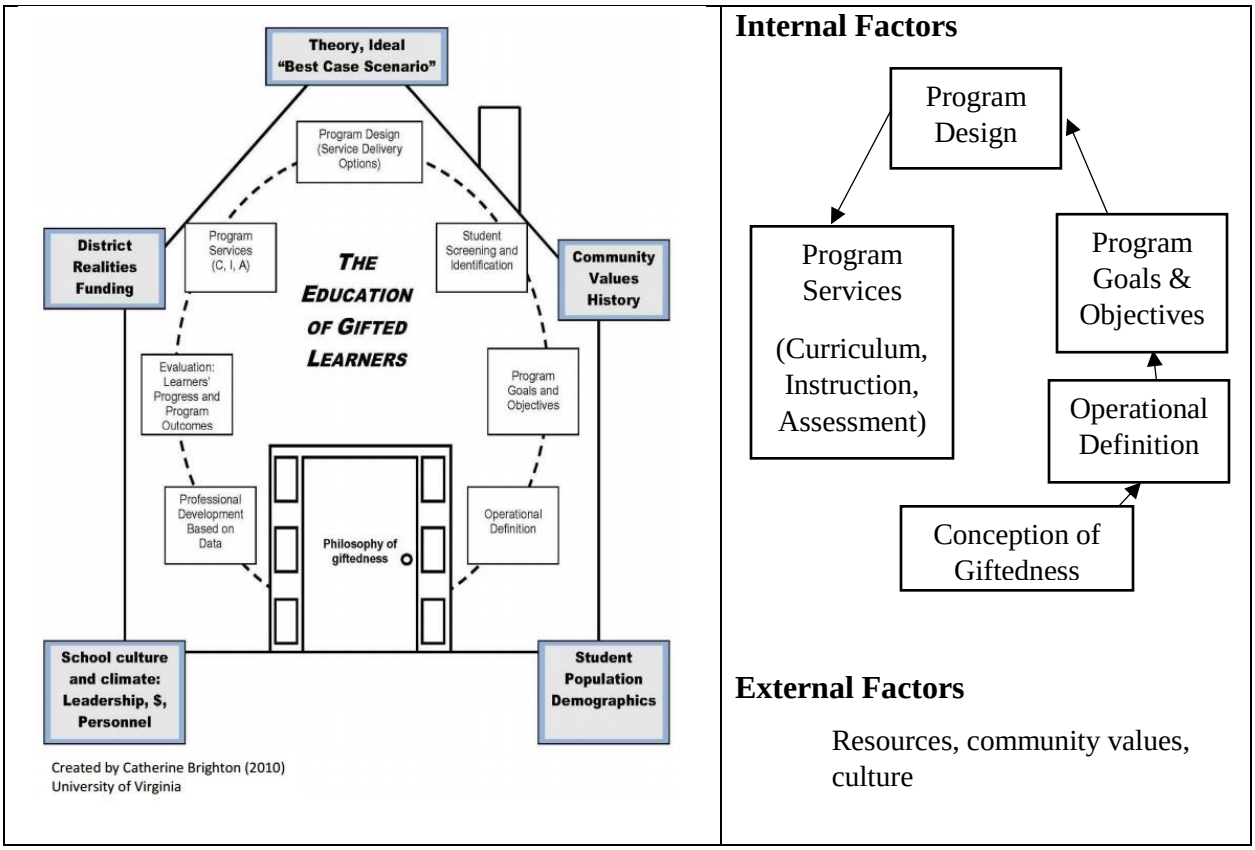


Figure 1.3 Elements of a Gifted Program in Best Practice Compared to Elements Being Examined in this Study

First published in 2000 and revised in 2010, the National Association for Gifted Children (NAGC) provides direction for educators to provide systematic services for gifted students. The NAGC Pre-K-Grade 12 Gifted Programming Standards set forth for learning, curriculum and development, assessment, programming and professional development and are focused on student outcomes (Johnsen, 2012; Landrum, Callahan & Shakelee, 2000). The utility of these standards to inform and guide practice is hindered by lack of a common language and different meanings of important terms such as screening and variability of policy among states and localities (Matthews & Shaunessy, 2010). The 2014-15 report titled, *State of the States in Gifted Education*, produced by the NAGC and the Council of State Directors of Programs for the Gifted, notes progress in use of instructional strategies, new requirements for pre-service

teachers, and increased funding but identifies a lack public accountability in reporting progress of gifted students (NAGC, 2015).

With no federal mandates for gifted education, state policy and its interpretation by local school divisions are the most influential factors in determining services for gifted learners (Robinson, Cotabish, Wood, & O'Tuel, 2014; Zirkel, 2005). State educational agencies provide guidance regarding standards and adherence to legislative policy but these standards are not typically aligned with national standards or do not require local plans submitted to state agencies for approval (NAGC, 2015; Robinson, Cotabish, Wood & O'Tuel, 2014). In Virginia, state legislation requires identification of gifted learners, parental notification, local plans, annual reports, local advisory committees, and gifted programming but local school divisions decide the specifics of how those elements are implemented (VDOE, 2012). A technical review is required to assess the compliance of the gifted plan of each of the Virginia's localities with current state policies. The review is conducted by an external team of gifted educators. The technical review does not include assessment of program effectiveness, data on student outcomes, or documented growth of gifted students. School divisions are charged to identify and provide services for gifted and talented learners but have little accountability for documenting program effectiveness or the achievement of gifted learners.

Principals and teachers work to implement curriculum and instruction that is responsive to diverse learners and various special populations including the gifted (Long, Barnett and Rogers, 2015). Gifted students require modified curriculum and instruction that include challenging and rewarding work, independent learning, adjustments for pace, breadth and expectations, and activities that nurture their interests and passions (Tomlinson, 2005). Teachers

should be knowledgeable of characteristics of gifted learners, identify gifted learners, and be able to develop and implement strategies to meet the needs of gifted learners.

Summary of Conceptual Framework

The purpose of this study was to conduct a needs assessment of RRPS' K-5 gifted program to identify program strengths and areas for improvement and to provide information regarding program design and implementation. The conceptual framework of the study is supported and informed by several theories. Needs assessment models and program theory provide the theoretical rationale for comparing the alignment of RRPS' gifted program to its own program goals and procedures and how those procedures contribute to their desired results. The iceberg model is an example of applying systems theory in education and guides the program needs assessment. The program structure and organization, patterns of how the program components functions together, and the interrelationship between components, and not just the individual components themselves are examined. The processes, context, and the relationship between components, activities, and outcomes are critical elements of understanding how the gifted program works. The elements of best practices provide the theoretical basis for standards with which should be reflected in the Local Gifted Plan and program components.

Definition of Terms

1. Acceleration: Interventions which provide appropriate curriculum through changes in placement, changes such as early admission to school, grade advancement, or enrollment in accelerated programs.
2. Differentiated curriculum and instruction: Curriculum and instruction modified by content, process, and product to accommodate accelerated learning aptitudes of students in their identified area of strength (Tomlinson, 1999; VDOE, 2012).

3. Gifted Student: Student Pre-K-12 who demonstrates high levels of achievement or potential for higher levels of accomplishment when compared to peers of same, age, or experience and require special programs to meet their educational needs (VDOE, 2012).
4. Identification: Process for identifying students eligible for gifted services.
5. Referral: Formal process through which parents, teachers, students and other professionals request evaluation for qualification for gifted services (VDOE, 2012).
6. Screening: Process for creating a pool of candidates for gifted services through multiple criteria and assessment data and then referring them (VDOE, 2012).

Purpose of Study and Needs Assessment Questions

The purpose of this study is to conduct a needs assessment of the K-5 gifted program for River Run Public Schools (RRPS) to provide data for decision making, planning, and improving educational services. The proposed needs assessments will provide program developers with information regarding strengths and areas for improvement to assist them in improving current programming. There are four primary questions:

1. How does RRPS define the goals of their K-5 gifted program?
2. In what ways does RRPS enact two critical components of a gifted program -program design and delivery and differentiated curriculum and instruction?
3. In what ways are the stated goals and designed program aligned with one another?
4. In what ways does the designed program align with best practices in K-5 gifted education?

Significance of Study

The Code of Virginia requires that each school division develop a Local Plan for the Gifted to document the education of gifted students. The RRPS gifted program has submitted

their Local Plan for the Gifted 2017-2022 to the state having been approved by the RRPS school board. This process developing a Local Plan for Gifted has typically served as self-evaluation and reflection on current services, but no formal program needs assessment or evaluation has ever been completed. Given significant changes in recent years in focus and resources, a needs assessment of the RRPS gifted education program is indicated to review the current level of services and how the needs of gifted students are being met. Results of the needs assessment will inform the school division and provide recommendations for improving the education of gifted students.

Chapter 2: Literature Review

In order to understand the purpose and scope of the needs assessment of River Run Public Schools' gifted program, one must understand who is being served, how and why they are being served, and who makes decisions related to gifted services. The literature review provided in this chapter provides the research basis for this program needs assessment. The chapter is then divided into four major components relevant to gifted programs: concept of giftedness, identification of gifted students, program design and delivery, and differentiated curriculum and instruction.

The concept of giftedness is the underpinning of all other elements of gifted programs. While the identification of gifted students is not a predominant element explored in this needs assessment, it is important to know how students are selected for the gifted program and understand the nature of the learners being served to develop gifted programs. Various service delivery options for programming are used to serve gifted students and assist in talent development of advanced learners. A program of differentiated curriculum and instruction is important to provide appropriately matched learning experiences to gifted students.

Concept of Giftedness

Experts in gifted education have many diverse perspectives and lack consensus regarding key elements in the field, elements such as the definition of giftedness, the use of definitions to identify students or even determine whether they should be identified, and the effectiveness of various instructional and curricular models designed specifically to meet the needs of gifted students. Theorists in gifted education have emphasized different aspects of giftedness when developing their conceptual models, aspects such as intellectual traits, performance based activities, talent development and the characteristics of talented adults as compared to those of

gifted children (Moon and Dixon, 2015). An examination of different perspectives on the concept of giftedness follows. This section is structured to address four main theoretical approaches in defining the concept of giftedness: trait driven theories, state driven theories, talent development theories, and no concept of giftedness. An overview of each approach, its advantages, and its shortcomings will be discussed.

Trait Driven Theories

For this discussion, a trait will be defined as a stable and permanent attribute which is useful for discriminating between individuals and for predicting performance (Hertzog & Nesselroade, 1987). In this context, giftedness is a natural phenomenon based on inherited traits and genetic dispositions. In nature versus nurture arguments, trait driven theories reflect the constructs of proponents of nature as the primary component of giftedness (Dai & Coleman, 2005).

Overview. In the early 20th century, Lewis Terman (1925) and Leta Hollingsworth (1927) based their groundbreaking work on the premise that high intellectual ability was the critical component which differentiated the gifted population from the general population. They proposed that intelligence could be measured by IQ test scores that those students demonstrating high ability should have educational opportunities that enhance their development. Theories which proposed that intelligence is constructed of multiple traits followed (Gardener, 1983; Guilford, 1966; Sternberg, 1995). Torrance (2003) advocated that creativity is another component of intellectual ability and developed the Torrance Tests of Creative Thinking (1966) and the Creative Motivation Scale (1971).

Advantages. Traits are more easily measured objectively than other constructs such as passion or motivation. Attributes based on intellectual traits have been quantified using

psychometric measures such as IQ tests in which validity and reliability can be measured. Because of their extensive and historical use in gifted education, much research has been conducted on the use of IQ tests. Research has shown that IQ test scores have a strong correlation with school performance and life achievement, can be normed across countries and can be used throughout the lifespan (Sternberg, Jarvin & Grigorenko, 2010). Because of the functionality of trait based measures, they have been used to differentiate those who are gifted, to differentiate among those who are gifted in terms of their level of giftedness, and to differentiate within gifted subgroups such as twice exceptional students, gifted underachievers, or ethnic groups (Dai & Chen 2013).

Issues. Many scholars in education and psychology have rejected the narrow scope of giftedness as defined by traits and aptitudes and sought to include performance, product and achievement as evidence of giftedness. Opponents of trait and aptitude based theories have noted a lack of diversity in students identified as gifted using trait based measures and have been concerned about the under representation of females, minority groups and lower socioeconomic groups. Although, today's theorists believe exceptional intellectual ability as an inherited trait is an important factor in giftedness, the complexity of intelligence has led to the consideration of environment, emotional and psycho-social as other factors contributing to giftedness (Worrell, Olszewski-Kubilius and Subotnik, 2012). Though the use of multiple criteria and methods is considered best practice, normed testing is still a primary tool for identifying gifted students (Dai & Chen, 2013).

State-Driven Theories

In response to the limitations of trait based theories of giftedness, other theories emerged which promoted broader definitions of giftedness to include performance oriented constructs and

authentic performance in specific domains (Gagne, 1995; Gardener, 1983; Renzulli, 1986). For this discussion, a state has fluctuating attributes based on various factors and circumstances which are useful for discriminating between one point in an individual's life and another (Hertzog & Nesselroade, 1987). In this context, giftedness entails high aptitude and performance and is influenced by factors such as the environment, psychosocial factors, and motivation. These theories are predominantly situated in educational approaches and focus on the student's development at a given point in time. They are child centered and seek optimal matches between a student's ability and educational options to facilitate growth.

Overview. Csikszentmihalyi (1977) asserted that giftedness is not a stable trait, but fluctuates over a person's lifespan based on the interaction between the individual and the environment. The major elements of state driven theories are the recognition of student needs, the adaptation of education to meet those needs, and the revision of education based on both current and evolving needs. In the context of gifted education, learning environments must stimulate gifted learners to capitalize on their aptitudes and to challenge them to meet their potential. Vygotsky (1978) proposed the "zone of proximal development" as the place that develops skills by moving students from what they can do without help forward to meeting their potential by doing challenging work that they need help to do. Differentiation models are based on modification to curriculum and instruction based on learner needs and are seated specifically in educational practice (Tomlinson, 2005). In this model, curriculum and instruction are modified in terms of context, instructional pacing, grouping practices, depth, complexity, process, and product based on student readiness, interest and learning style (Tomlinson, 1999).

Advantages. By considering states, these theoretical models account for individual differences and consider variables such as intellectual development, psychosocial development,

and environmental influences. Theoretically, models such as differentiation promote continuity of a rich and appropriately matched learning experience for gifted learners and support continuous development. Because models such as differentiation focus on student learning needs as opposed to student characteristics or aptitude, the need for gifted identification is reduced because modification of curriculum and instruction is prompted by individual need not by determining who receives gifted services (Dai & Chen, 2013). Proponents of inclusive educational practices and opponents of specific gifted education programming embrace the differentiation and responsive models that can be implemented within the classroom and provide benefits to all students (Borland, 1997; Sapon-Shervin, 1996). Because gifted students spend the majority of their time in regular classroom settings, it is important that curriculum and instruction are adapted to ensure their continued growth. Within the classroom setting and school structure of learning by academic subject, differentiation and responsive models tend to focus more on domain specific abilities and performance than on innate general abilities, aptitudes or traits (VanTassel-Baska & Stambaugh, 2005)

Issues. Differentiation and responsive models are predominantly situated in the classroom and school settings. Effective implementation of these models relies heavily on the skill of the classroom teacher and supportive leadership. Research shows that teachers do not adjust their curriculum or instruction to meet the needs of diverse learners such as the gifted effectively (Callahan, Moon, Oh, Azano & Hailey, 2015). Teachers often do not see a need to differentiate; they acknowledge the different needs of students but do not address those in practice or do so ineffectively (Tomlinson, 2003). A lack of empirical research on the effectiveness of these models persists although more recently several studies focus exclusively on these models (Plucker and Callahan, 2014).

Talent Development Theories

Talent development theories focus on actualizing an individual's potential to attain high achievement and performance goals such as eminence. To predict future performance, one must have an understanding of how factors such as the environment, psychosocial factors, passion and motivation affect talent development as they change and fluctuate over the individual's lifespan. Interventions are designed to nurture high achievement and to timely address needs at various points on developmental trajectories.

Overview. Grounded in psychological sciences, talent development theories are based on human growth and development over a lifespan. In this context, giftedness requires high ability, is focused on production and performance in specific domains such as creativity and leadership, and promotes talent development of human capital to better society as a primary goal (Dai & Chen, 2013). Understanding variables that influence talent development allows gifted programming or other experiences to be designed more effectively to help talented students achieve their potential in domain specific areas.

In the early 21st century, talent development theories encompass the latest theoretical models in gifted education but also stem from earlier roots (Flanagan, 1979; Passow, 1962). In 2012, Subotnik, Olszewshi-Kubilius, & Worrell presented a talent development *megamodel* integrating components from previous models. This model asserts that an individual's ability is a key factor, that different talent domains have different developmental trajectories, and that interventions provided at critical times can advance talent development and that psychosocial factors are important factors in students realizing their potential. In this context, giftedness is defined by malleable set of talents that can be maximized with timely opportunities, has differential performance trajectories, and is indicated by what individuals achieve in specific

domains, not by their general intellectual attributes (Subotnik, Olszewshi-Kubilius, & Worrell, 2012).

Advantages. Talent development theories include a broader range of talents such as creativity in specific domains and promote a dynamic view of talent that is developmental, that can be nurtured, and is emergent. This model contrasts with the static gifted child model which relies primarily on standardized test performance. In talent development theories, talent, effort, and achievement are distinctly different but interrelated concepts. Newer research on human behavior as related to achievement supports the inclusion of psychosocial factors such as motivation, task commitment, and persistence in talent development theories. Individuals who have a *growth mindset* believe intelligence and talents can be developed and are more likely to take risks with new challenges and be resilient to failure (Dweck, 2016). Duckworth and Gross (2014) proposed that self-control and *grit* are both required to sustain pursuit of a goal and achieve success. The inclusion of psychosocial factors in talent development models counter the perception that giftedness is effortless and contends that achievement to realize potential requires effort.

Talent development theories stress the unique societal contributions made by diversely talented individuals that appeal to policymakers (Robinson, 2012; Subotnik & Rickoff, 2010). Big C creativity refers to innovative contributions in a particular domain that significantly influence that field (Kaufman & Beghetto, 2009). These creative individuals propel societies forward so developing their talent enables nations to compete better in global economy (Gallagher, 2015). This outcomes based model's focus is on the betterment of society is more attractive to policymakers than the whole child model which focuses on bettering the individual

(Plucker, 2012). Subotnik et al. (2012) argue that actualizing one's potential leads to individual satisfaction as well as contributions to society.

Issues. Finding individuals with hidden talent in inauspicious circumstances and providing support to help them develop their talents remain areas to be addressed in gifted education. Talent development models endorse eminence as an end goal for gifted education with only a small percentage of the population having the ability and potential to achieve at that level (McBee, McCoach, Peters & Matthews, 2012). Some experts fear eminence maybe equated with elitism and question issues of equity for underrepresented populations (Grantham, 2012; Ford, 2004).

Talent development models place significance on experiences, such as mentorships or specialized work with a professional outside of the school. The equitable existence of opportunities varies based on geography, locale, and economy, often providing fewer opportunities in gifted education for underrepresented students (Baker & McIntire, 2003). Although talent development models may be more inclusive in recognizing a broader range of talents in a diverse populations, access and resources to assist individuals in developing those talents may be limited (Kettler, Russell & Puryear, 2015).

No Concept of Giftedness

A few experts argue that giftedness is a social construct derived to describe a subset of children and is an unnecessary characterization of and even a barrier to serving high-ability children (Borland, 1997).

Advantages. With no concept of giftedness, the fact that no delineation between gifted and non-gifted students exists lessens issues of equity and elitism. High-ability students are served under the same umbrella which promotes an appropriate curriculum and responsive

instruction such as differentiation for all students (Borland, 2009; Sapon-Shevin, 1996). Concerns about the efficacy of specialized gifted programs and the limited research on gifted programming are minimized (Zeigler, 2012).

Issues. Although differentiation for all learners to meet their needs is desired, it is often difficult to achieve consistently in practice. Teachers often focus on struggling students with less interventions for gifted students (Brighton, Hertberg, Callahan, Tomlinson, & Moon, 2005). Teachers often have misperceptions about differentiation that can be counterproductive to gifted students. They may see differentiation primarily as an intervention for struggling students or use collaborative activities where the gifted student is in a tutoring role to assist other students. It is unrealistic to expect teachers to be experts in multiple content areas and in differentiation instruction at the level of intervention gifted students need (Hertberg-Davis, 2009).

Current constructs of giftedness provide educators with structure in which to frame their work with high ability students and deliver services. Existing systems at federal, state and local levels offer mechanisms to support and allocate resources for gifted students based on identification of exceptionality (Gallagher, 2015). Adherence to the no concept of giftedness would initiate major paradigm shifts and counteract existing policies and practice.

The gifted program's philosophy, operational definition of giftedness, and program goals emanate from the conception of giftedness. Given the varied definitions and theories of giftedness among experts, it is reasonable to expect that there are equally varied views among educational practitioners in identifying and serving gifted students and a lack of consensus about best practices in gifted education. The following sections will focus on the elements of the gifted program examined in this needs assessment. These elements are the identification of gifted students, program design and delivery, and differentiated curriculum and instruction and an

overview of each element in the following sections will demonstrate the research basis for the gifted needs assessment.

Identification of Gifted Students

Again, while the identification of gifted students is not a predominant element explored in this needs assessment, it is important to know how students are selected for the gifted program and understand the nature of the learners being served to develop gifted programs. Identification in gifted education is a multistage process that includes referrals, nominations, screening, assessment, identification and placement (Johnsen, 2013). This process has been contentious within the field and has been the topic most researched in gifted education (Dai, Swanson, & Cheng, 2011; Heller, 2004). Multiple definitions and the complexity of giftedness, concerns over bias in standardized testing used to assess intellect and achievement, and a lack of valid assessments for domains in creativity or performance have elicited much debate. In 2017, Azano, Callahan, Brodersen, and Caughey noted in an ongoing research study of gifted programs in rural schools that myths regarding the traditional conception of giftedness and reliance on national normed tests prevail even when schools identify no students. The following discussion examines the criteria of giftedness, measurements used in identification, and the implications of both on educational practice.

Criteria for Giftedness

Before a person who exhibits a specific construct can be clearly identified, the construct itself must be clearly articulated. Identification processes begin by establishing a definition of giftedness based on a consensus about the concept of giftedness. The dominant framework for identification by state and local gifted programs is grounded in the Marland Report's definition (Zirkel, 2005). In 1972, the Marland Report provided a federal definition of the gifted and

talented which included areas of general intellectual ability, specific academic ability, creative and productive thinking, leadership ability, visual and performing arts, and psychomotor ability. As theories emerged, domain specific areas of giftedness were defined and specified in the Marland report. As a result of the theoretical evolution of the concept of giftedness to include multiple factors and traits, best practices for gifted identification include multiple methods of assessing students gifts, talents, and potential (Brown et al., 2005; Coleman, 2003).

Data from the report, *State of the States: Gifted and Talented Education Report* (NAGC, 2015), show that 32 out of 40 states that responded employ some form of legal mandate for identifying gifted students. According to that same report, states may have their own definition of giftedness and local school divisions are responsible for their own criteria and process in 21 out of the 40 states that responded. Referrals for eligibility for gifted identification come primarily from parents and teachers.

The Virginia Department of Education calls for a multi-staged process including division-wide screening, referrals, and determination of eligibility by the school division's identification committee based on valid data and multiple criteria (VDOE, 2012). Virginia students may be identified as gifted in general intellectual aptitude, specific academic aptitude, career and technical aptitude, and visual or performing arts aptitude as determined the locality. RRPS began identifying students for general intellectual aptitude in 2017 having previously identified for specific academic areas of English, mathematics and science. RRPS also identifies students in fine and performing arts areas of instrumental music, vocal music, theatre and visual arts (RRPS, 2017).

Identification Process and Procedures

The following discussion provides an overview of methods used to identify gifted students. The underlying assumption for identification is that some students are gifted, and that others are not, and that those who are gifted need special services. Standardized intelligence and achievement tests are widely used and mandated more than other assessments or subjective data in gifted identification (Brown et al., 2005). Intelligence tests are intended to measure general intellectual aptitude, which includes mental capability and ability to reason, and provide information about a student's capacity to learn and academic achievement.

Commonly used tests by educators and psychologists include the Stanford- Binet Intelligence Scales (Roid, 2003), the Wechsler Intelligence Scale for Children(WISC; Wechsler, 2003), the Cognitive Abilities Test (CogAT; Lohman & Hagen, 2001), achievement tests, such as the Scholastic Aptitude Test (SAT; Educational Testing Service, n.d.) and the Iowa Test of Basic Skills (ITBS; Hoover et. al., 2003), measure expertise in a specific area. Professional development and training are needed to ensure the appropriate use of these assessments and the accurate interpretation of their results (Johnsen, 2013). These instruments provide quantitative measurement, have established reliability and validity, are based on norms, and are established as objective, valid and reliable predictors of academic performance so they are seen as objectively discerning gifted students among their peers. IQ tests are often helpful in identifying twice exceptional students by showing discrepancies between ability and achievement (Assouline, Nicpon & Whiteman, 2010).

Traditional assessments assume a narrow construct of giftedness based on general intelligence and measures that specific element. In the latest theories, giftedness is described as a dynamic and multi-faceted construct. The exclusive use of traditional assessment for identification of gifted is criticized because elements of giftedness such as creativity or other

performance-based domains cannot be assessed by these measures (Dai & Chen, 2013). The use of different and multiple measures, which include traditional assessments, is advocated to identify the varied ways students show giftedness in different domains.

Non-traditional Assessment. The purpose of assessments in gifted identification is to provide additional information about student ability and inform educators what curricular, instructional and programming opportunities are appropriate (Callahan, Renzulli, Delcourt & Hertberg-Davis, 2013). As concepts of giftedness have expanded to include the many ways students may exhibit giftedness, new ways for assessing and identifying these new constructs of giftedness are required. Non-traditional assessments include non-verbal assessments, off grade level assessments, performance based assessments, portfolios, observation, and rating scales.

Non-verbal assessments are designed so that no element of language will influence the individual's score (Naglieri & Prewett, 1990). Some researchers believe this helps to minimize the effects of cultural and ethnic bias in the identification process while other disagree (Naglieiri & Ford, 2005; Lohman, 2005). The two non-verbal assessments used most often in gifted education are the Raven's Progressive Matrices (RPM; Raven, Raven & Court, 2000) and the Naglieri Non-Verbal Ability Test (NNAT; Naglieri, 2003). The RPM features items that measure an individual's ability to identify patterns and relationships and construct meaning from complex information. Its content is considered non-biased, and it is easy to administer but has limited research support for its use as an effective tool to identify high ability in under-represented populations (Mills & Tissot, 1995). The NNAT also uses progressive matrices like the RPM but has documented and standardized properties and a broad research base supporting its use with individuals from diverse backgrounds (Naglieri & Ford, 2005). Despite their growing use, some argue that non-verbal assessments are not effective tools when used as the

only instrument to identify gifted students and advocate using multiple types of assessment inside of one instrument (Carman & Taylor, 2010; Lohman, 2005).

Off-grade level assessments are designed to test older students but are also used to assess younger gifted individuals when on grade level assessments are an inadequate estimate of their aptitude. Potential ceiling effects of on grade level assessments may not effectively capture the full scope of a gifted student's abilities. Off grade level assessments may be used to compare achievement between gifted students and their older peers. They are a valued measure to gauge the current developmental progress and potential of gifted students in their specific area of talent, and have been widely used in talent search programs. These assessments provide additional information about student strengths and weaknesses, document students' developmental progression in specific areas, and provide educators with relevant information to help them design appropriate programming which matches student needs (Olszewski-Kubilius & Thomson, 2014).

Performance-based assessments, portfolios, observation and rating scales are other criteria used to identify talented students. Performance-based assessments involve open-ended responses for students using authentic demonstrations of their ability through products or performances. Although these assessments have potential for identifying a more diverse range of gifted students, issues related to reliability, training assessors and cost in evaluating products, performances and portfolios are necessary to consider in using performance-based assessments in gifted identification. Performance-based assessments allow gifted students to demonstrate their learning and are valuable tools in assessing growth and the outcomes of differentiated curriculum (VanTassel-Baska, 2014).

Observations and rating scales of students are used widely for screening as part of the identification process. They are completed by teachers and assess behavioral characteristics of students as compared to those expected from gifted students. Teachers see students perform over a period of time and this may better identify consistent ability in a learning context than they can with a single test which provides only a snapshot. Underachieving gifted students or underrepresented students may not be fairly assessed using behavioral assessments since the bias of an individual rater is inherent, based on that rater's concept of giftedness. Observations and rating scales are used to provide additional information, require rater training to provide helpful information, and are not the only assessment (Moon, 2013).

Multiple Methods and Matrices. Concerns over both traditional and non-traditional assessments as valid measures of newer concepts of giftedness have led to the use of multiple assessments as best practice to screen and identify gifted students with greater validity, reliability, and fairness. In practice, school districts and states employ their own identification process, often using a quantitative matrix with multiple assessments weighted differently. Items used include intelligence/ability/aptitude testing, achievement, observations, behavioral checklists, grades, and student interest.

With many assessments and multiple combinations of those assessments, it can be difficult to develop a matrix for the identification process that is a fair and valid measure of giftedness (Acar, Sen, & Cayirdag, 2016). If students must meet specific criteria for each measurement, identification using the matrix may become too exclusive and threaten equity. Similarly, if students must meet only some criteria, identification may become overly inclusive, leading to questions regarding excellence. Psychometric measures such as sample size and rules related to the matrix as a system of collective assessments should be considered (McBee, Peters

& Waterman, 2014). It is not how many or which measures are used, but how they are used that is important (Plucker & Callahan, 2014). A comprehensive identification system for gifted education should account for how each assessment reflects the definition of giftedness being used, use both traditional and non-traditional assessments, and combine multiple data sources in a way that can be justified based on good assessment practice (Moon, 2013).

Regardless of what assessments are used, people ultimately make decisions related to identification not the measure or instrument itself (Callahan, Tomlinson, Hunsaker, Bland & Moon, 1995). It is important that those making decisions regarding identification are well trained, understand what information assessments provide, and how that relates to established identification criteria and programming offered.

Program Design and Delivery

Van Tassel- Baska and Stambaugh (2005) noted many challenges to serving gifted students in the regular classroom, such challenges as a teacher's limited knowledge in certain subject areas, skill in modifying curriculum, and insufficient planning time to develop and implement effective differentiation for gifted learners. Given these challenges, specialized programming for gifted students is currently the primary model for meeting the needs of gifted students (Hertberg-Davis & Callahan, 2013). It is believed that gifted programs will assist high ability students in reaching their potential, will stimulate and maintain high interest in learning, and will provide opportunities to learn and grow from peers of similar abilities and interests. However, research on the effect of gifted programs is largely theoretical and not conclusive (Plucker and Callahan, 2014; Shore & Delcourt, 1996; Slavin, 2008).

Gifted programs utilize a variety of service delivery and specific logistical options such as specialized grouping or acceleration and define where and how gifted learners may be served.

The following discussion examines service delivery options of acceleration by grade, acceleration by content, enrichment programs, and grouping. Each option will be described and its value and limitations considered. In this section, a literature review of the program delivery options for the K-5 gifted program which were used by RRPS as indicated in their Local Plan for the Gifted are presented.

Acceleration by grade

Acceleration practices have been one of the most researched topics in gifted education and have been recognized as an effective option for advanced learners (Plucker & Callahan, 2014; Rogers, 2004). In 1986, Feldhusen, Proctor & Black advocated a system which provides high ability students with appropriate challenge and offered suggestions for grade acceleration in educational practice. Several meta-analyses summarizing over 50 years of research have noted a significant effect of positive academic achievement and less definitive positive or neutral effect on social emotional development (Kulik & Kulik, 1984; Kulik, 2004; Rogers, 2004; Southern & Jones, 1991; Steenbergen-Hu & Moon, 2011). An extensive report titled *A Nation Deceived: How Schools Hold Back America's Brightest Students* (Colangelo, Assouline, & Gross, 2004) provided research evidence to dispel misconceptions about acceleration and promote acceleration practices as an effective intervention for high ability learners.

Acceleration practices are grounded in the belief that not all students develop at the same rate or require the same pace to continue to develop their talents. Acceleration practices offer one resolution to asynchronous development of ability level and age level by making educational placements that match the ability, complexity, and readiness to learn of gifted students. Acceleration strategies are usually characterized as either acceleration by grade or acceleration by content (Colangelo, Assouline & Gross, 2004).

The goal of acceleration is to provide an appropriate education for high ability learners by altering the level, complexity, and pace of curriculum and instruction to match their achievement, aptitude, and motivation (Colangelo, Assouline & Marron, 2013). Acceleration by grade is defined as students completing their K-12 education in fewer years than the number of years expected by their peers (Pressey, 1949; Rogers, 2004). This includes many forms of acceleration, such as early admission to kindergarten, grade skipping and early entrance to college (Colangelo, Assouline & Gross, 2004; Southern & Jones, 1991).

The value of acceleration by grade for academic achievement has been well documented. Outcomes of student acceleration result in higher academic achievement (i.e. GPA, standardized test scores) for accelerated students as compared to the achievement of high ability non-accelerated peers or older students (Kulik & Kulik, 1984). Long term positive effects of acceleration by grade include higher college grades and greater number of advanced college degrees (McClarty, 2015; Steenbergen-Hu & Moon, 2011). Research on the effect of acceleration on social-emotional development has been mixed in terms of benefit but has discredited myths that acceleration is harmful to social- emotional development. Some studies have cited positive self-esteem and high motivation and others have shown no significant benefit.

Acceleration practices are embedded into the existing school program and offer economical alternatives for high ability learners (Colangelo, Assouline, & Gross, 2004; Feldhusen, Proctor & Black, 1986; Southern & Jones, 2004). In rural areas with limited resources and access to technology, acceleration practices offer a cost –effective option to meet the needs of high ability learners (Jones & Southern, 1994). As a service delivery option, the practice of acceleration by grade positively supports academic achievement, does not negatively affect the social-emotional development of students, and offers a cost effective intervention.

Despite the research support and benefits of acceleration practices, acceleration by grade is underutilized as a service delivery option for high ability students. School personnel and parents are typically concerned about the long term social impact of separating high ability students from their peers in age to join their peers in intellectual ability and about political issues of equity (Colangelo, Assouline & Gross, 2004). Siegle, Wilson and Little (2013) examined teacher and administrator perceptions of acceleration practices and found that acceleration by subject, which may require more preparation to adapt curriculum, was favored over acceleration by grade, which is easier to implement noting social emotional concerns not academic concerns. In another study, teachers who had a negative experience with student acceleration were reluctant to support acceleration as a practice (Hoogeveen, van Hell &Verhoeven, 2005). Concerns about the inherent issues with meta-analyses research, the difficulty in designing experiments with randomization and control groups, with the complexity in assessing social and emotional development, and with the varied definition and implementation of acceleration practices hinder the accepted, widespread use of acceleration practice (Cornell, Callahan, Bassin & Ramsay, 1991; McClarty, 2015).

Acceleration by Content

Acceleration by content or subject is based in the belief that not all students develop at the same rate or require the same pace to continue to develop their talents in a specific domain. Talent search programs such as Study of Mathematically Precocious Youth (SMPY) the Center for Talented Youth (CTY) and the Talent Identification Program (TIP) use above grade level testing to identify students who would most benefit from acceleration and enrichment activities in specific domain areas (Lee, Matthews & Olszewski-Kubilius, 2008).

Students may remain with their peers for the majority of the day but participate in options for instruction at a higher grade level (Colangelo, Assouline, & Marron, 2013). At the elementary and middle school level, students accelerated by content are given above grade level curriculum and materials. Students may be engaged in self-paced or independent instruction, use a learning contract, be provided compacted curriculum, be placed in an upper grade class for that particular content or discipline, or work with a mentor after-school.

Distance learning may be used to provide increased access to advanced educational opportunities in rural areas, to enrich offerings for gifted students, or to deliver instruction for students in a non-traditional setting, students such as those who are homeschool or those who are unable to attend school for special reasons (Olszewski-Kubilius & Corwith, 2011). Distance learning has many significant advantages as a delivery option for gifted students. It is more cost efficient than traditional course offerings which require additional highly qualified teachers able to deliver advanced academic courses. Distance learning removes some barriers in accessing advanced and enriching courses in rural areas where staffing can be difficult because of smaller enrollments, where lower per-pupil expenditures are common, and where recruiting teachers to teach advanced courses or dual enrollment courses is challenging (Belcastro, 2002; Picciano & Seaman, 2007).

Distance learning may also provide different opportunities for elementary students for similar reasons. For example, a gifted elementary student may be intellectually ready and have interest in learning a foreign language or explore advanced math but the current elementary school staff cannot feasibly provide those advanced opportunities. Many talent development centers such as the Center for Talented Youth (CTY) at Johns Hopkins University, the Center for Talent Development (CTD) at Northwestern University, and the Education Program for Gifted

Youth (EPGY) at Stanford University have designed distance learning programs or unique course offerings to meet the specific needs of gifted learners (Olszewski-Kubilius & Corwith, 2011). Distance learning continues to expand the availability of advanced opportunities to gifted students at all grade levels.

Enrichment programs

Enrichment programs have been widely used as a curriculum and instructional model for gifted learners. For the purpose of this study, enrichment programs are defined as curriculum or instruction which is modified to provide more breadth and depth than traditional curriculum and instruction and which promotes higher order thinking and creative production (Kim, 2016). Enrichment activities are rooted in constructivist learning theory where students create their own meaning and knowledge through investigation of real-world situations (Renzulli, Gentry & Reis, 2003). Learners connect their previous experiences and knowledge to new information. This leads to greater understanding and ability to transfer new information to different situations. (Bransford, Brown & Cocking, 2000). Enrichment activities are highly collaborative as students engage with their intellectual peers to solve problems and explore new topics. Enrichment activities may be delivered as pull-out, after school, or summer programs. Many enrichment program are developed by university talent search centers and universities (Olszewski-Kubilius & Clarenbach, 2012). The cost of such programs can be prohibitive to under-represented groups with barriers such as finance and transportation (Kaul, Johnsen, Saxon & Witte, 2016).

Grouping

Grouping by ability has been widely debated in education. Proponents of grouping by ability cite gains for advanced learners who are grouped with their gifted peers whereas opponents cite concerns for inequity and negative effects on low achieving students (Gentry &

Owen, 1999). Ability grouping that provides for flexibility in regrouping to meet students' needs for appropriate levels of challenge is different from tracking where students are divided into full-time groups based on ability, (Feldhusen & Moon, 1992; Fiedler, Lange & Winebrenner, 2002). Research has shown positive effects for cognitive growth and positive or no effects for socio-affective growth with ability grouping (Feldhusen & Saylor, 1990; Kulik & Kulik, 1991). Results meta-analysis study of literature regarding grouping practices, students benefitted from with-in class grouping, subject grouping and pull-out practices but no significant difference was found for cross-grade grouping (Steenbergen-Hu, Makel and Olszewski-Kubilius, 2016). This supports previous research findings that most forms of ability grouping and accelerative practices are beneficial to students and considered best practices in gifted education (Missett, Brunner, Callahan, Moon, & Azano, 2014).

Ability grouping can be divided into three major categories: pull-out programs, cluster grouping and with-in class grouping. Pull-out programs are defined as models where students are removed from the general education classroom and provided enriched curriculum for a period of time. There are many variations of pull-out programs in terms of total time gifted students are served outside the classroom, number of students, and grade level. Models range from students leaving the classroom once every other week to work with a special curriculum or full-time or self-contained pull-out such as a magnet school. Full-time gifted programs or special schools exist but are not common models due to resources for specialized staff and facilities. Part-time pull-out models provide a logistically efficient way to group gifted students for services. Results of a meta-analysis of research studies indicted small and medium cognitive gains in pull-out programs (Vaughn, Feldhusen & Asher, 1991). Roberts, Ingram & Harris (1992) compared schoolwide enrichment and resource room enrichment programs for gifted

children in grades 3-5. Gifted students made significantly greater gains in problem solving and cognitive processing than did gifted students receiving no pull-out enrichment.

However, inconsistency in curriculum, lack of teacher experience, lack of understanding of a student's responsibility for missed work in the regular class and poor communication or understanding between classroom teachers and pull-out teacher may negatively affect the learning experience in pull-out programs. (Gubbins, 2013). The effectiveness of what students experience when they are pulled out and understanding how students are served when they are not pulled is not easily studied and are important considerations in the implementation and monitoring of programs.

Cluster grouping is used to place small groups of gifted students with those of regular achievement within the traditional classroom where teachers differentiate curriculum and instruction in that classroom (Gentry, 2014). Cluster grouping depends on teachers who have background, experience or interest in working with gifted students. It often complements but does not replace pull-out programs which usually have a specially trained teacher providing a continuum of services (Winebrenner, 2001). Cluster grouping uses resources efficiently and is believed to offer a more inclusive approach to education, matching current trends in budget and accountability for student performance (Brulles & Winebrenner, 2011). Research comparing student gains in clustered versus non-clustered classrooms indicated positive gains in achievement particularly in the area of math achievement and greater gains when differentiated curriculum was used (Matthews, Ritchotte, & McBee, 2013; Missett et al., 2014).

A variation on traditional cluster grouping, total school clustering goes beyond just focusing on gifted students but expands to promote thoughtful considerations of grouping all students to improve student performance (Gentry & MacDougall, 2009). In total school

clustering, gifted education is embedded in the regular classroom consistently, and instructional practices for talent development of all ability levels promotes increased achievement of all students (Brulles, & Winebrenner, 2011). Professional development and ongoing support for teachers in total school clustering is crucial to promote strong differentiation practices, the understanding of gifted learners, and talent development for effective program implementation (Gentry & Paul, 2014). Typically, total school clustering may take up to three years to implement as teachers learn how to adapt the model in their classrooms and then reflect on and refine their work (Gentry & Keilty, 2004).

With-in class grouping, also known as small group instruction, provides gifted students with special services while remaining in the regular classroom setting. This type of grouping provides a format for students who demonstrate readiness to receive differentiated pace of instruction or curriculum (Brulles, Saunders, & Cohn, 2010). Gifted students may be homogenously or heterogeneously grouped as selected by the teacher based on interest, ability or task. Grouping is intended to be flexible and not permanent (Gentry & MacDougall, 2009). Teachers who are oriented to consider individual student needs tend to utilize grouping strategies that provide differentiation more than teachers who emphasize group needs (Missett et al., 2014).

Program of Differentiated Curriculum and Instruction

Gifted education has served as a catalyst for innovative instructional practices that promote critical thinking, metacognition, and enriched curricula beyond the traditional instruction based on textbook content and organization (Tomlinson & Callahan, 1992). Appropriate curriculum for gifted learners emphasizes development of critical and creative thinking skills, deep exploration of concepts, application of skills in authentic settings, and independent learning (Hertberg-Davis & Callahan, 2013). These curricular characteristics are

the tenets of good curriculum which is beneficial to all learners, but curriculum for gifted learners differs from other curriculum by pace, complexity, depth, and ambiguity, promotes skills and habits of independent learners and professional experts, and is responsive and flexible based on the learner's needs (Hockett, 2009; Tomlinson, 1999).

In a recent national study, the Differentiated Instructional Model was identified as the model most often used to guide elementary gifted programs with 43.3% of 169 school districts while 32.1% responded they used no specific model (Callahan et al., 2017). Of the 43 rural school districts responding, 39.1% indicated they used no particular model as compared to 25% of urban and 29.1% of suburban districts who used no model. RRPS uses no specific curricular model but provides a program of differentiated curriculum and instruction as the primary delivery option in their gifted program. The following section provides an overview of Tomlinson's Differentiated Instruction Model, best practices for differentiation of curriculum and instruction, and challenges to implementing a program of differentiated curriculum and instruction.

Overview of Tomlinson's Differentiated Instruction Model

Differentiation is an instructional philosophy designed to systematically address student differences with the goal of maximizing each student's growth (Tomlinson, 1999). In this model, teachers adjust content, process, pace, and learning environment to match student readiness and interest, and develop the passions of gifted learners. These strategies are used in conjunction with flexible grouping practices to provide a structured but dynamic process to delivering instruction that best fits students' needs. These components are tenets of good teaching and applicable to all students. Gifted students can be served within the regular

classroom setting with the Differentiated Instructional Model. Based on that distinctive feature, this model is embraced as it minimizes concerns regarding equity, access and limited resources.

Foundational components of differentiation, such as tailoring instruction to student readiness, interest, and learning profile, are individually supported with research on differentiation as a holistic model is still needed. The idea of *flow* connects interest to motivation, positing that learners will be highly motivated when learning opportunities support their interests or passions (Csikszentmihalyi, Rathunde, & Whalen, 1993). Vygotsky (1978) posed that students learn best in the "zone of proximal development" – a place where students are pushed outside their comfort zone with appropriate challenge and support for continued growth. Providing students optimal challenge is the driving force in developing and assessing the efficacy of differentiated curriculum and instruction for gifted students (Kaplan, 2016).

Not all gifted learners are alike in how they learn, in their cognitive processes, or social-emotional skills. Multiple approaches are needed to address student differences. Instruction which provides different options in the way content is delivered, the way students engage with the content, and what they do with it (learner products) offer learners their best chance to match their learning profile with instruction (Tomlinson et al., 2003). The differentiation model is highly learner centered and provides a framework for developing curriculum and instruction that is beneficial to students of all abilities. Differentiated curriculum is grounded in the standards and core curriculum providing different experiences but the same concepts, understanding, knowledge, and skill development.

Best Practices for Differentiation of Curriculum and Instruction

Best practices for effective differentiation include modifications to curriculum and instruction in content, process, and products which match individual student readiness, interests

and learner profile (Tomlinson & Jarvis, 2009). A program of differentiated curriculum and instruction should be planned and deliberate not be improvised, reactive or left to chance (Tomlinson et al., 2003). Goals and expectations for differentiation should be defined in terms of a program or model that addresses a large scope and range of student differences not merely individual class activities (Moon, Tomlinson & Callahan, 1995). Effective differentiation will be systematically and consistently implemented in daily classroom practices.

Differentiated curriculum is grounded in quality curriculum knowledge, conceptual understanding, and skills. Quality curriculum includes clear expectations for knowledge and conceptual understanding to make meaning of facts and to develop transferable skills applicable in other disciplines or authentic situations (Kaplan, 2013; Tomlinson et al., 2003; Wiggins & McTighe, 2005). State and national standards are usually defined in terms of basic knowledge and skills and are embedded in differentiated curriculum (Wiggins & McTighe, 2005).

The use of flexible grouping, modified pacing and increased challenge, varied activities, and different materials and resources are collectively used to provide differentiated curriculum and instruction. Flexible grouping provides opportunities for teachers to more effectively deliver different curriculum and instruction to small groups of learners for specific learning goals and is an important but small part of differentiation (Tomlinson, 1999). Flexible grouping provides opportunities for teachers to provide learners different curriculum or materials designed to meet student's level of readiness, interests or learner profile. The use of different materials and modification of curriculum and instructional activities along with flexible grouping provide greater gains in student achievement than in just using grouping alone (Kulik & Kulik, 1992; Lou at el, 1996). Modified learning tasks or class activities should actively engage students in a

quality curriculum, should be relevant to the learner, and should be respectful and equally engaging for all student groups.

Differentiation is a deliberate response learner needs by the classroom teacher. These responses are based on the teacher's understanding of their students in terms of intellectual level, interests, and learning profile. Ongoing assessment provides information about the student so teachers can best understand what students know and how students learn (Tomlinson et al., 2003). These assessments include pre-assessments to determine student readiness and existing knowledge and formative and summative assessments to monitor student progress and evaluate student growth and performance best (Tomlinson & Jarvis, 2009).

Challenges to Implementing a Program of Differentiated Curriculum and Instruction

Differentiation of curriculum and instruction is reported to be used to meet the needs of elementary gifted learners more than any other curricular or instructional model (Callahan et al., 2017). Research indicates that differentiation for gifted learners occurs infrequently or is not effectively used (Westberg & Daoust, 2004). Some challenges and barriers to the effective use of differentiation include: 1) the teacher's interest and skill in developing appropriately modified curriculum; 2) the teacher's knowledge of advanced content; 3) difficulty in finding and assessing appropriate materials and resources; and 4) need for effective professional development to deliver advanced curriculum.

In inclusive classrooms, learners are varied, and teachers must be skilled in recognizing their variations and in responding effectively to promote learning. A program of differentiated curriculum and instruction requires teachers to plan multiple paths for student learning, to anticipate and effectively manage how that will look in their classroom, and to assess student learning as they move through those paths (Callahan et al., 2015; Tomlinson et al., 2003;

Tomlinson, 2005). Teachers are reluctant to modify curriculum due to concern about accountability on high-stakes tests so gifted students receive limited differentiation in learning activities (Callahan et al., 2015; Reis et al., 1998). Research indicated that curriculum modifications designed by teachers were more likely to be responsive or improvised than planned or were minimal modifications (Schumm & Vaughan, 1995; Westberg & Daoust, 2004). In a recent study, elementary school language arts teachers were more likely to modify curriculum with negative effects on achieving the learning goals than with positive ones (Moon & Park, 2016).

Teachers must have an understanding of content knowledge beyond the regular content area or standards to modify content for gifted students. A lack of understanding of advanced content affects the pedagogy used to deliver advanced content in a meaningful and effect way (Shulman, 1987; NAGC & Council for Exceptional Students, 2013). This has been a particular concern in the area of elementary mathematics (Ball, 1990). In a 2005 research study of elementary school teachers of mathematics, Hill, Rowan and Ball found that the teacher's mathematical knowledge was significantly related to student achievement in mathematics. Rural schools are less likely to provide resources that support developing highly qualified teachers for gifted students (Howley, Rhodes & Beall, 2009).

Multiple resources are often needed to modify curriculum for acceleration, enrichment or student interest (Tomilinson, 1998). Providing adequate teaching resources for gifted education is often more difficult in rural schools due to geographic and economic challenges (Azano, Callahan, Missett, & Brunner, 2014). Elementary educators are challenged to find materials that are intellectually higher but has age-appropriate content with regard to social development (VanTassel-Baska & Stambaugh, 2005).

Professional development to promote teacher skill and confidence in managing instruction for mixed-ability classrooms is important to implementing effective differentiation (Dixon, Yssel, McConnell & Hardin, 2014). This includes developing teacher knowledge and skill in delivering curriculum for high ability learners that challenge students appropriately (U.S. Department of Education, 1993). Both the NAGC standards (2010) and VDOE template for Local Gifted Plans includes components designating expectations for professional development in gifted education including understanding of individual learning differences, knowledge of curriculum and use appropriate modifications, and the ability to adapt instructional strategies as needed..

In a 2002 NRCGT report of a five-year research study of professional development practices using gifted education strategies, Gubbins et al. found that gifted education specialists rarely provided professional development to classroom teachers. In the study, local liaisons were trained as local experts to deliver professional development modules to elementary and middle school teachers for using gifted education strategies of modifying curriculum, differentiating curriculum and providing enrichment. Key findings were that teachers benefitted from long term and ongoing professional development, differentiated professional development approaches (i.e. peer coaching, on-line modules) are needed to effectively work with different teachers, and administrative support and reflective and metacognitive practices for teachers are key elements in changing classroom practices.

Although differentiation is based on sound education principles and best practices and is desirable in all classrooms, some argue that it is but one component to address gifted learners and is complex and difficult to implement effectively or that it does not adequately meet all the needs of gifted learners (Hertberg-Davis, 2009; VanTassel-Baska, 2005). The use of

differentiation as the sole curriculum or instructional model for gifted students may become a liability without fidelity to the model. Practices may drift from the defined framework to justify different learning goals or a pre-determined path that does not consider or meet the needs of students (Kaplan, 2007). It is important have clear expectations for the use of differentiated curriculum and ongoing professional development to support understanding and effective implementation of differentiated program of curriculum and instruction that meets the needs of gifted learners.

Summary of Literature Review

There is a lack consensus among experts and educators regarding the definition of giftedness, the use of definitions to identify students, and the effectiveness of various instructional and curricular models designed specifically to meet the needs of those identified as gifted students (Dai & Coleman, 2005; Renzulli, 2012; Van Tassel Baska, 2006). The identification of gifted students is a multistage process which includes referrals, nominations, screening, assessment, identification and placement based on a criteria of giftedness typically defined by the Local Education Agency (Johnsen, 2013; NAGC, 2015; VDOE, 2012). Regardless of the process or instruments used, people make decisions about identification and should be well-trained, understand the identification process, and be able to effectively apply assessment tools or methods used in that process (Callahan et al., 1995).

Specialized programming for gifted students is the primary model for meeting the needs of gifted students though research of the effect of gifted programs is largely theoretical and not conclusive (Hertberg-Davis & Callahan, 2013; Plucker & Callahan, 2014; Shore & Delcourt, 1996; Salvin, 2008; Van Tassel Baska & Stambuagh, 2005). Gifted programs should be designed based on the established operational definition of giftedness and determine where and

how gifted learners may be served. Gifted programs should have well-defined goals and measurable outcomes (Kettler, 2016). Gifted programs are designed using a variety of service delivery options for gifted students. The primary service delivery options used in RRPS supported by research as appropriate practices in gifted programs are:

- acceleration by grade or content (Colangelo, Assouline, & Gross, 2004; Kulik, 2004; Rogers, 2004; Southern & Jones, 1991; Steenbergen-Hu & Moon, 2011),
- grouping strategies (Brulles & Winebrenner, 2011; Feldhusen & Saylor, 1990; Gentry & Owen, 1999; Kulik & Kulik, 1991; Steenbergen-Hu, Makel and Olszewski-Kubilius, 2016)
- enrichment (Kim, 2016; Renzulli, Gentry & Reis, 2003; Olszewski-Kubilius & Clarenbach, 2012)
- differentiated curriculum and instruction (Kaplan, 2013; Kulik & Kulik, 1992; Tomlinson et al, 2003; VanTassel-Baska & Stambaugh, 2005)

This model includes tenets of good curriculum that are beneficial to all learners, is responsive and flexible based on the gifted learner's needs differing and differs from other curriculum by pace, complexity, depth, and ambiguity (Hockett, 2009; Tomlinson, 1999).

Chapter Three: Study Design and Methods

This chapter describes the design and method for the capstone project. The chapter is divided in the following sections 1) purpose and needs assessment questions; 2) methodology and assumptions; 3) study design; 4) study site and participants; 5) data collection; 6) data analysis; and 7) ethical considerations.

Purpose and Needs Assessment Questions

The purpose of this capstone study was to conduct a needs assessment of the K-5 gifted program for River Run Public Schools (RRPS) to provide data to the school division for decision making, planning, and improving educational services for gifted students. A needs assessment is based more on the characteristics and reflective discussion of practice and professional judgment than assessing outcomes as compared to a set of standards (Grant, 2002). The proposed needs assessments will provide data regarding the current status of the gifted program and will provide the division gifted curriculum supervisor with information regarding strengths and areas for improvement to assist in improving current programming.

There were four primary questions:

1. How does RRPS define the goals of their K-5 gifted program?
2. In what ways does RRPS enact two critical components of a gifted program -program design and delivery and differentiated curriculum and instruction?
3. In what ways are the stated goals and designed program aligned with one another?
4. In what ways does the designed program align with best practices in K-5 gifted education?

These particular questions were based on research discussed in the literature review in Chapter 2 regarding elements of gifted programs (i.e., definition of giftedness, identification and

assessment of giftedness, program design and service delivery, and differentiated curriculum and instruction) and best practices in gifted education. The K-5 gifted program as designed was the basis for identifying and understanding gaps between current services with the intended program. The first question was included to provide details about the K-5 gifted program in RRPS as an initial step in examining and answering questions 2 and 3. The fourth question was intended to provide verification that the RRPS gifted program is designed with consideration of the basic tenets of best practices in gifted education.

Methods and Assumptions

Prior to discussing the design of the study, it is important to understand the researcher's assumptions and the implications of those assumptions in guiding the needs assessment. The researcher believes the definition and conception of giftedness is the driving force in gifted program planning and defines a framework for developing program components. It is important to understand how the giftedness is defined, how the teacher, principal, instructional supervisors interpret that definition, how they apply that meaning in practice, and how those practices align with program goals. In other words, who are the people involved and what does giftedness and gifted education mean to them? What does that look like in practice?

In this sense, the methods used for this needs assessment was grounded in the experiences of those who design and deliver the gifted program. This stance promoted an inquiry method which would best provide relevant and useful information at the conclusion of the needs assessment. Classroom teachers and administrators are more likely to be influenced by research based in practice that increases their understanding about how their specific classroom works than educational theory research (Bolster, 1983).

It was important for the researcher to understand what was happening in the gifted program and then construct meaning to understand those realities. Subtle realism is a middle ground between realism and relativism and provides a practical framework to approach the needs assessment of this localized and site specific study (Seale, 1999). The ontological and epistemological assumptions in subtle realism are that a reality exists independent of one's knowledge but that understanding that reality relies on one's assumptions, interpretation, and perspective and that there are multiple ways to understand that reality (Hammersley, 1992; Maxwell, 2012). This position requires that researchers make explicit how their interpretations are plausible, credible, and relevant given existing knowledge and what would be reasonably expected in the situation (Seale, 1999). Strategies used to conduct a credible needs assessment were purposeful sampling of participants (Patton, 2002), standardization of interview and observations through specific protocols (Erikson, 1986), triangulation of themes among different data sources (Greene, Caracelli & Graham, 1989), member checking (Creswell & Miller, 2000), and searching for disconfirming evidence (Miles & Huberman, 1994).

The researcher assumed that focusing on the definition of giftedness as defined by RRPS, the context in which the gifted program was designed and enacted, and what and how program services were delivered was necessary to obtain information about how the gifted program was designed and delivered. The scope of the needs assessment was limited to the goals of the gifted program, program delivery and design and differentiated curriculum and instruction. These were components of the program that are most easily developed and managed by school personnel unlike other components or factors such as community values, funding, or program history. The researcher assumed that these components needed to be assessed to determine the current status

of the program and prior to a program evaluation or determining professional development needs.

Study Design

The conceptual framework of the study supported an examination of program mechanisms, organizational patterns, and relationships in how teachers, gifted and talented coordinators, principals, and instructional supervisors work at different levels (i.e. classroom, school, division) to implement the gifted program. The needs assessment was designed to explore the participants' understanding of their gifted program goals and how their practice is aligned to meet those goals. Data were collected through interviews, surveys, and classroom observations. There were four units of analysis for this study - the general education elementary classroom teacher, gifted and talented coordinators, elementary school administrators, and division instructional supervisors. See Figure 3.1 for a representation of the study design.

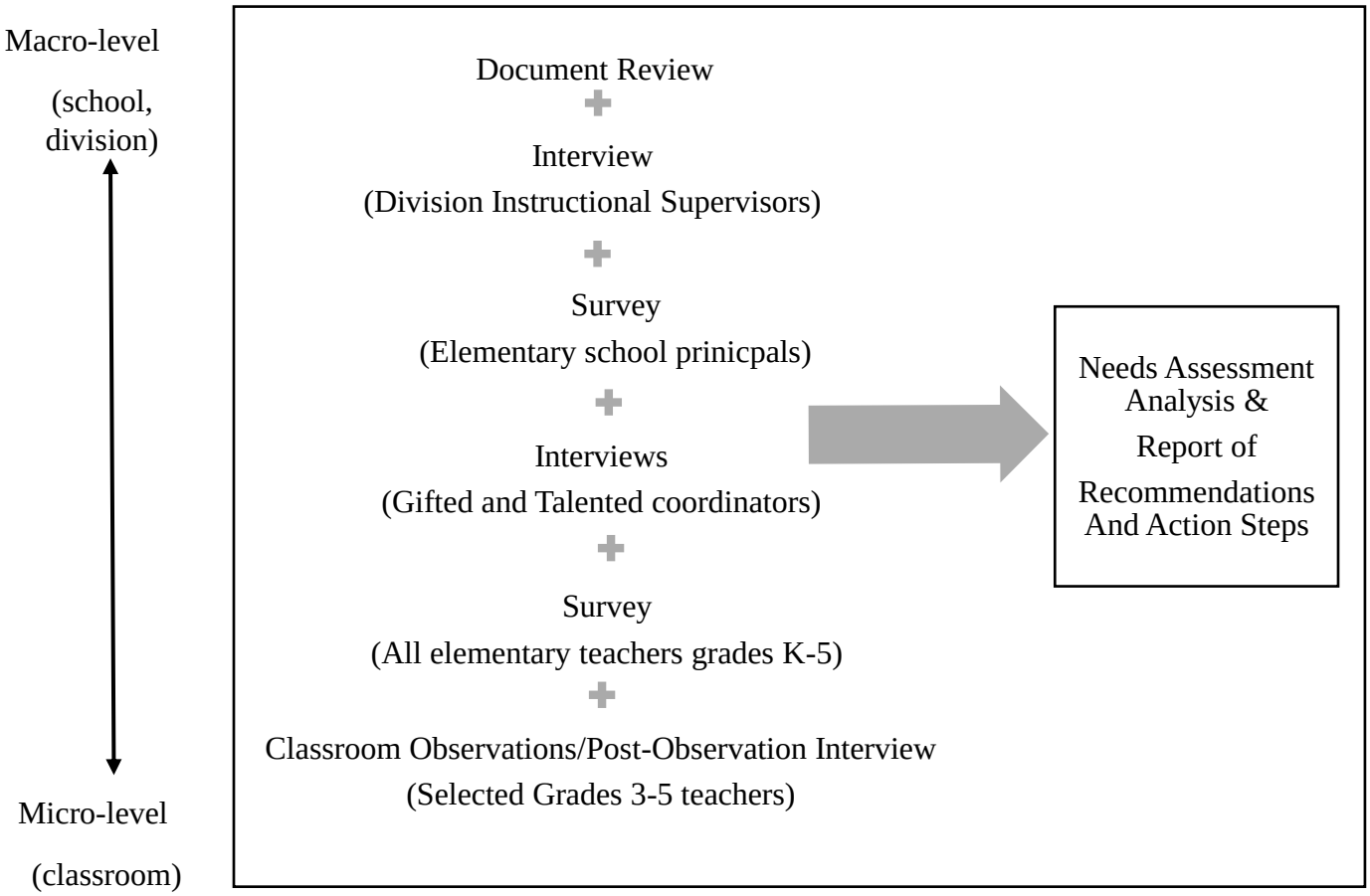


Figure 3.1 Study Design

Site of Study and Participants

Site of Study

River Run is geographically the second largest county in Virginia. The region is primarily rural with agriculture as its main economic base. Estimated median household income in River Run for 2011-2015 was $54,558 with a 9.3% poverty rate as compared with a median income of $65,015 with an 11.2% poverty rate for the state of Virginia. In River Run, 22% of residents completed a Bachelor's degree or higher as compared with 36.3% of residents in the state of Virginia (U.S. Census, 2016). The ethnicity in River Run was 93.5% white, 4.2% African-American, 2.1% Hispanic and .2 % other ethnicities, according to the 2016 United States census. The school division has a similar ethnic profile in student enrollment with 89.1% white, 4.9%

Hispanic, 2.6% Black, .8% Asian, .3% American Indian, and 2.3% two or more races. Approximately 45% of River Run school students qualified for free and/or reduced lunch through the National School Lunch Program.

Gifted students in RRPS grades K-5 were identified proportionally at the same rate in most ethnic groups but Hispanic students or students of two more races were identified at a lower rate than based on the percentage of those ethnic groups enrolled in K-5. The following table shows a comparison of RRPS students identified as gifted in grades K-5 broken down by ethnicity as compared with total enrollment in grades K-5.

Table 3.1

Comparing Ethnicity of RRPS K-5 Students Identified as Gifted with Total Enrollment

Ethnic Group	% of RRPS K-5 Students Identified as Gifted (n= 553)	% of RRPS K-5 Total Student Enrollment (n=4495)
American Indian or Alaskan Native	.7%	.5%
Asian	1.6%	1.0%
Black not of Hispanic Origin	2.5%	2.0%
Hispanic	1.4%	5.3%
White not of Hispanic Origin	92.4%	88.2%
Native Hawaiian or Pacific Islander	0%	0%
Non-Hispanic, two or more races	1.3%	3.0%

The River Run School division consists of nine elementary schools, four middle schools and five high schools with a total enrollment of 10, 472 students for the 2015-16 school year

(VDOE, 2017) and has 4, 495 students in enrolled in elementary school (K-5). In 2014-15, the student teacher ratio for grades K-7 in River Run was 13:1 with all teachers of academic core subjects meeting the federal definition of highly qualified.

Eight of the nine elementary schools were fully accredited and one being partially accredited based on Virginia's definition of accreditation status. The school division's performance on state assessment tests in reading and mathematics is shown in the table below. River Run's pass rate performance is fairly equivalent to the state average. However, the proportion of River Run students scoring in the advanced pass range was lower than the proportion of state students scoring in the advanced for all grade levels in reading. In mathematics, the proportion of River Run students scoring in the advanced pass range was not significantly different than the proportion of state students scoring in the advanced for all grade levels in mathematics in grades 4 and 5 but was lower in grade 3.

Table 3.2

Virginia State Assessments

		2013-14		**2014-15**		**2015-16**	
		*Standard Pass Rate (%)	Advanced Pass Rate (%)	*Standard Pass Rate (%)	Advanced Pass Rate (%)	*Standard Pass Rate (%)	Advanced Pass Rate (%)
River Run	**Grd 3 Rdg**	**50**	**10**	**52**	**19**	**56**	**12**
State Average	Grd 3 Rdg	53	16	54	21	59	17
River Run	**Grd 4 Rdg**	**50**	**15**	**55**	**18**	**58**	**16**
State Average	Grd 4 Rdg	52	18	56	21	57	20
River Run	**Grd 5 Rdg**	**48**	**11**	**58**	**15**	**54**	**13**

State Average	Grd 5 Rdg	52	21	55	24	55	27
River Run	**Grd 3 Math**	**52**	**11**	**63**	**15**	**61**	**13**
State Average	Grd 3 Math	51	16	58	16	58	19
River Run	**Grd 4 Math**	**56**	**18**	**55**	**29**	**51**	**27**
State Average	Grd 4 Math	54	26	55	29	54	29
River Run	**Grd 5 Math**	**53**	**23**	**57**	**26**	**52**	**28**
State Average	Grd 5 Math	49	24	55	24	53	26

**Standard Pass Rate (%) does not include the Advanced Pass Rate (%) but is only the rate of students who passed but were not advanced pass as defined by Virginia definitions.*

The Virginia Department of Education (VDOE) annually collects data regarding student demographics and program services for the gifted programs from each school division. Data comparing the percentage of students identified as gifted in specific academic areas such as English or mathematics and in performing or visual arts between RRPS and Virginia is shown in the table below. The percentage of K-5 students as gifted for visual and performing arts in RRPS was more than eight times the percentage of students identified for the state of Virginia in that area (VDOE, 2017). The percentage of K-5 students identified as gifted in specific academic areas was lower for Virginia (2.9%) than RRPS (4.3%).

Table 3.3

Percentage of Identified Gifted Students of 2015-16 Total Enrollment in River Run Public School and Virginia in Grades K-5

Grade	RRPS Specific Academic	Virginia Specific Academic	RRPS Performing/ Visual Arts	Virginia Performing/ Visual Arts

K	0.3%	0.8%	0.8%	0.0%
1	1.5%	1.7%	1.4%	0.0%
2	4.6%	2.7%	2.8%	0.2%
3	5.6%	3.3%	5.0%	0.4%
4	5.6%	4.6%	16.9%	0.8%
5	7.4%	5.0%	18.9%	1.2%
Total K-5 %	4.3%	2.9%	8.0%	.4%

Note: VDOE also reports 5.1% of Virginia's K-5 students identified as general intellectual ability in the 2015-16 Gifted Annual Report. In this report, students identified in multiple areas are counted in each area of giftedness they are identified.

Participants

Teachers, gifted and talented coordinators, elementary principals, and instructional supervisors were responsible for delivering the gifted program in RRPS. This section describes the participants and how they were recruited.

Classroom teachers. Criterion sampling of general education elementary classroom teachers was used to select eight participants for classroom observations in grades 3-5 reading or math classes. The teachers selected for classroom observations represented six of the nine elementary schools. Teachers were recommended for selection by the instructional supervisors and confirmed by the school principal based on the following criteria 1) the teacher's past work with gifted students in enrichment activities or who have specific training in instructing gifted students, or 2) effective teaching as defined by the instructional supervisor based on high student achievement on state assessments, high levels of student engagement in classroom activities, and high skill levels in providing differentiated curriculum and instruction.

Each teacher was invited by email after contacting the school principal. Selections were finalized based on the teacher's willingness to participate in the study. Two additional teachers were selected with one opting not to participate and one who went on unexpected medical leave during the timeframe of the study. All the teachers were female. Four had been teaching more than 15 years and four had been teaching five or less years. All had previous experience teaching at the grade level and subject in which they were observed.

All elementary school teachers were provided an opportunity to participate in a teachers' survey about classroom practices. The response rate for the survey was 28% with both general education teachers (N =62) and specialists (N= 18) responded. Respondents indicated their teaching experience as shown in the table that follows.

Table 3.4

Teaching Experience of Respondents to the Teacher Survey

Years Experience	Number of General Education Teachers	Number of Specialists
0-3	8	2
4-7	11	1
8-10	5	2
11-15	15	5
16-20	12	4
20+	11	3

Gifted and talented coordinators. Each school had a regular classroom teacher who is designated as the school's gifted and talent coordinator. Their role was to facilitate enrichment opportunities for gifted students in their school and to allocate and manage gifted program funds

of $550 provided to each school by RRPS for supplies and materials. Gifted and talented coordinators have a full teaching load and receive an additional stipend of $1,428 for coordinating the gifted program outside of their regularly assigned classroom duties. Four elementary schools had two gifted coordinators that shared duties for coordinating enrichment activities and the gifted identification process.

Nine gifted and talented coordinators were interviewed representing eight of the nine elementary schools. All the gifted and talented coordinators interviewed were female. Five had served as their school's gifted and talented coordinator for 10 years or more and four were only in their first year as gifted and talented coordinator. One gifted and talented coordinator was endorsed in gifted education.

Principals. All elementary school principals (n = 9) were surveyed with seven principals responding to the survey for a response rate of 78%. Each elementary school had one principal and with three elementary schools having an assistant principal due to larger student enrollment. All principals and assistant principals had had their primary professional experience at the elementary level. There was a wide range of administrative experience among elementary principals ranging from two to 20 years of service. One elementary principal served as one of two of the division's only elementary differentiation specialist for several years prior to the position being cut for financial reasons.

Instructional supervisors. Three division level instructional supervisors who supervise gifted education and elementary education were interviewed. One division supervisor was assigned gifted education part-time, one was assigned elementary math and science full-time, and one was assigned elementary reading, writing and social science full-time. One supervisor was a former elementary school principal and teacher and another was a former elementary school teacher.

All have been in their current positions less than three years and each has over 20 years of teaching and administrative experience.

Instrumentation and Data Collection

Multiple data sources were used in this study to gain a rich understanding of the elements, processes, relationships and practices that drive the division's K-5 gifted program. Data were collected from classroom observations, interviews, surveys, and a document review. These data sources provided multiple perspectives from stakeholders directly involved in developing and delivering the RRPS K-5 gifted program. Data collected were applicable to the study's questions to examine current understanding of giftedness, how those understandings are translated into practice, and how those practices align with the intended goals of the RRPS gifted program and best practices in gifted education. A summary of the data collection is shown in the table below.

Table 3.5

Summary of Data Collection

What did I need to know	Why did I need to know this	What kind of data answered this question
What did teachers identify as their conception of giftedness?	To examine the relationship between the teacher's understanding of the divisions definition of giftedness and classroom practices	Teacher survey, gifted and talented coordinator interviews, teacher interviews
What did school administrators and division leaders identify as their conception of giftedness?	To examine the relationship between the administrator's understanding of the division's definition of giftedness and their leadership practices	Administrator survey, division leader interview

To what extent were teacher's reported and observed classroom practices consistent with the division's definition of giftedness?	To examine how the teachers' understanding of the division's definition of giftedness was translated to classroom practice	Teacher survey, classroom observations with follow-up interviews
To what extent were teachers' reported and observed classroom practices aligned with the school division's gifted program goals as defined by the Local Plan for the Gifted?	To examine how the gifted program designed by the school division is implemented	Teacher survey, classroom observations with follow-up interviews, interviews with gifted and talented coordinators, administrator survey, division leader interviews, document review
To what extent was the K-5 gifted program designed by the school division aligned with best practices as defined by NAGC standards and VDOE requirements?	To examine how the program designed by the school division aligned with best practices	Interviews with gifted and talented coordinators, administrator survey, division leader interviews, document review

General education classroom teachers were observed to examine classroom practices. I observed eight classrooms over the course of three weeks. Surveys were distributed to all RRPS elementary school teachers, principals and assistant principals. This survey was designed to find out about teachers and administrators concepts of giftedness, assumptions about the needs of gifted children, and practices exhibited in their classroom. Interviews were conducted with gifted and talented coordinators at each elementary school and division instructional supervisors for gifted education and elementary education. The gifted and talented coordinators were interviewed by phone or in person regarding their role in the gifted programs, their understanding of the goals of the division's gifted program, and their perception of current practices. Division instructional supervisors of gifted education and elementary education were also interviewed in person. These data sources provided multiple perspectives from stakeholders directly involved in developing and delivering the RRPS K-5 gifted program. A summary of

data collection activities including dates, type of activity and participants is shown below in Table 3.6 below.

Table 3.6

Summary of Data Collection Activities

Dates	Activity	Instrumentation	Participants
December 2017	Classroom Observations	Observation Protocol (Appendix A)	RRPS Regular Education Classroom Teacher (N = 8)
November, 2017		Pre-Observation Questionnaire (Appendix B)	RRPS Regular Education Classroom Teacher (N = 8)
November 2017	Teacher Survey	Conceptions of Giftedness and Classroom Practices – Teacher Survey (Appendix C)	RRPS Elementary Teachers (N = 87)
November 2017	Principal Survey	Principal Survey about RRPS Elementary Gifted Program (Appendix D)	RRPS Elementary Principals (N= 7)
October - November 2017	Gifted and Talented Coordinator Interviews	Gifted and Talented Coordinator Interview Protocol (Appendix E)	RRPS Elementary Gifted and Talented Coordinators (N = 8)

September –October 2017	Division Instructional Supervisor Interviews	Division Instructional Supervisor Interview Protocol (Appendix F)	RRPS Instructional Supervisor for Gifted Education RRPS Instructional Supervisor for Elementary Humanities RRPS Instructional Supervisor for Elementary STEM
June – December 2017	Document Review	Document Review Protocol (Appendix G)	RRPS Instructional Supervisor for Gifted Education

Teacher Data

Data were collected from teachers in two ways – classroom observations and survey. Two researcher created instruments, the Observation Protocol (see Appendix A) and the Pre-Observation Questionnaire (see Appendix B) were used for collecting classroom observation data.

Classroom observations. The classroom observation provided a way to see educational practice with students identified as gifted. In this sense, results of the classroom observation illustrated how classroom practices align with the goals of the division's program and align with best practices in gifted education. It was important to understand how curricular and instructional practices in the regular classrooms provide high quality and appropriately challenging curriculum for gifted students since there is not a formal instructional program or specialized teachers for teaching gifted students in River Run.

The Observation Protocol was based on best practices in gifted education as noted previously in the literature review. The observation protocol included three sections - classroom

setting and context, curriculum delivery, and instructional strategies. The classroom setting and context section included physical description of the classroom, resources used, student demographics, classroom routines, student/teacher interactions and learning environment. The curriculum delivery sections described the specific content, what students are learning, elements of critical thinking and creative strategies, and expectations for student performance. The instructional strategies section included instructional activities, teacher instructional behaviors and student responses.

The protocol identified indicators that the curriculum and instruction are a good fit with gifted learners. These indicators were derived from best practices and are listed below:

- include concept-based curriculum (Bransford, Brown & Cocking, 2000; Kaplan, 2013)
- use of multiple resources, varied pacing (Coangelo, Assouline & Marion, 2013; Tomlinson, 2005)
- students being assessed in variety of ways beyond grade level expectations (Olszewski-Kubilius & Thomson, 2014),
- inquiry-based collaboration (Gallagher, 1997; Johnsen, 2012)
- lessons adapted in response to student readiness (Tomlinson et al., 2003)
- multiple options for assignment/activities for all (Callahan et al., 2015; Renzulli, 2012)
- flexible grouping (Brulles & Winebrenner, 2011; Gentry, 2014)
- strong emphasis on student interests and opportunities for student choice (Betts, 1985; Tomlinson, Kaplan & Renzulli, 2008).

The observation protocol was a tool used to document the context of the classroom, curriculum and instructional strategies observed. One classroom observation of 40 minutes was conducted with each selected teacher in a reading class (N=5), math class (N=2), and a class or all gifted students with enrichment (N=1)

A Pre-Observation Questionnaire (see Appendix B) provided the researcher with context of the particular classroom and lesson or activity. The Pre-Observation Questionnaire was presented to selected teachers either via email or in person based on their preference. The Pre-Observation Questionnaire survey consisted of three sections - instructional context, classroom demographics, and teacher demographics. The questionnaire was used to identify objectives for lesson to be observed, grouping information (e.g. heterogeneous/homogenous, students/teacher selected grouping, whole/small/individual instruction, grouping based on interest/abilities) and how or if the lesson is situated into a larger planning unit. Informal post-observations interviews with each teacher were conducted to provide clarification as needed and to ask follow-up questions.

Teacher survey. All K-5 teachers in each elementary school were emailed a link to an electronic survey with instructions describing the purpose of the survey. Information regarding participation was provided in an informational letter. Participant consent was documented by their voluntary participation in the survey.

The teacher survey, Classroom Practices and K-5 Gifted Education – Teacher Survey (see Appendix C), consisted of three sections: classroom practices, differentiated curriculum and instruction, and demographic information. The section for classroom practices was based on best practices for curriculum and instruction also described previously in the literature review. The section for differentiated curriculum and instruction was based on the curricular and

instructional strategies outlined in RRPS's Local Plan for Gifted for a program of differentiation. Demographic information included data on teacher experience, position in the school, current and previous grade assignment, demographics of their classroom and their understanding of the gifted program of RRPS.

The on-line survey was delivered electronically through Qualtrics to elementary teachers in all subject areas by their principal using their distribution email list. Both open and closed questions were included. Some closed questions used a Likert rating scale and others required a choice of listed items. The survey was completed anonymously.

Principal Data

Each elementary school principal was delivered a survey to elicit information regarding their understanding of the needs of gifted children, their role as instructional leaders, how that influences or guides education for gifted children at their school, and their understanding of the RRPS gifted program. The format of this survey was similar to the teacher survey with an additional section related to instructional leadership. The principal survey, Principal Survey about School K-5 Gifted Program (see Appendix D), was an on-line survey delivered via email with an electronic link. Email addresses were obtained using the division's directory and invitations to participate were sent through email. Information regarding participation was provided with an informational letter in the email. Participant consent was documented by their voluntary participation in the survey.

School Gifted and Talented Coordinator Data

The Gifted and Talented Coordinator Interview Protocol (see Appendix E) and the Division Instructional Supervisor Protocol (see Appendix F) included pre-determined topics with questions outlined but the interviewer adapted the order and wording of the questions as the

interviewee responded (Patton, 2002). Since the focus of this study was to understand the outputs and processes through a needs assessment, this type of interview provided a holistic approach for comprehensive data collection from different individuals.

The gifted and talented coordinators were interviewed using the Gifted and Talented Coordinator Interview Protocol. The purpose of these interviews were to examine the practices and opportunities for gifted students that were facilitated beyond the classroom and the coordinator's role in facilitating those activities. Interviews were 30 minutes. The gifted and talented coordinator works closely with the division supervisor and principal as a liaison between administrators who design, manage and monitor the program and teachers delivering the program. An interview provided the researcher the opportunity to clarify information about gifted program activities and processes. Questions in the interview protocol were focused on the role of the gifted and talented coordinator, the identification process, the gifted program in their school, and the role of the division instructional supervisors and administrators in the gifted program.

Division Instructional Supervisor Data

Interviews were conducted with three division instructional supervisors using the Division Instructional Supervisor Interview Protocol. Interviews were 30 minutes. The protocol focused on gifted program goals, objectives, service delivery options, curriculum and instruction. These interviews provide the researcher with information on the goals of the gifted program, priorities for planning and delivery as well as challenges to delivering the program.

Document Review

A document review provides a different data source which helps to corroborate data collected from other sources and add credibility to findings (Patton, 1990). In this study, the

purpose of the document review is to collect data on the K-5 gifted program as defined by RRPS. This included a review of RRPS's current local gifted plan as required by the VDOE, divisions administrative policies related to gifted students (e.g. identification, acceleration, grade skipping), demographic information on students referred and identified, patterns in teacher and parent referrals, operating procedures, and professional development. Documents serve as stable and official record to be used as data. A Document Review Protocol (see Appendix G) will be used to examine appropriate documents for voice and representation, intended audience, and content.

Data Analysis

Quantitative data obtained from teacher and principal surveys were summarized with descriptive data analysis (frequencies of responses). Qualitative data from open-ended survey questions, classroom observations and interviews was analyzed using the method defined by Miles and Huberman (1994). This method of data analysis uses three phases: data reduction, data display and conclusion making. Data reduction is a necessary step to make sense of the data by examining data in terms of the study's questions and by remaining open to interpreting new meaning not anticipated. In this sense, both deductive and inductive reasoning were used to analysis data. Data from interviews and observations were documented through field notes. Observer comments regarding low level inferences of the tone of observation or interview, observer notes summarizing activities noted, and theoretical notes about how the observed activities relate to conceptual framework were recorded concurrently with the data collection. A methodological log was used to document decisions made about collecting data, about how the methodology may be affecting data collection, and how any problems with methods are

addressed. The researcher read through the observation notes, survey results, interview transcripts, field notes and documents prior to analyzing data to gain a holistic sense of the data.

Coding categories for open-ended questions, interviews and document reviews were predetermined given the specific focus of the needs assessment. Data from observations and interviews were coded based on a priori codes developed from the elements outlined in the conceptual framework (definition of giftedness, program goals, program design and delivery, and differentiated curriculum and instruction) and were coded thematically. The initial list of codes were consolidated into a manageable and relevant list of categories prior to reporting. A summary of codes used are listed in Appendix H List of Codes. Many codes were used to represent major concepts and each participant role (e.g. classroom teacher, principal). It was important to clarify the thoughts and understandings about the RRPS gifted education program at the classroom, school and division level to understand various effects of each participant's role in delivering the gifted program as designed.

A data display was used to organize and visualize data in a way that demonstrates differences in responses and facilitates drawing conclusions. Matrices were used to present and summarize information in a visual format that allowed the researcher to draw conclusions. The displays and matrices provided tools to help the researcher compress information to better assess the meaning of the data.

One question for this needs assessment required the examination of the extent that the K-5 gifted program in RRPS was enacted based on their definition of giftedness, program goals and program processes. Data were collected from general education teachers, gifted and talented coordinators, administrators, and division instructional supervisors to look at activities at different system levels (i.e. classroom, school and division). A matrix display, see Appendix I

System Levels Analysis of RRPS K-5 Gifted Program, provided a visual organization and summary of themes and patterns of responses from surveys, observations and interviews. Another needs assessment question examined the extent to which RRPS K-5 gifted program was aligned with best practices and is shown in Appendix J Analysis of Alignment of Best Practices in Gifted Education with RRPS K-5 Gifted Program.

Conclusion drawing involved analyzing the reduced and displayed data for explanations of variations, understanding the role and effect of different variables, and the meaning of the phenomenon being studied. This process of systematic comparison and triangulation with data from interviews and the document review resulted in conclusions that are supported and defensible. Consideration of disconfirming evidence and providing plausible explanations for discrepancies was important in establishing validity (Erickson, 1986; Corbin & Strauss, 1998). Data analysis was conducted concurrently as data were collected. Quotes from interviews, open-ended survey questions, teacher pre-observation interviews and post-observation communication were used to support analysis and recommendations in the report.

Classroom Observation

The researcher focused on relevant data regarding the experience of gifted students in the regular classroom and how differentiated curriculum and instruction was implemented (or not implemented) in the classroom. Data from each observation were recorded in one table in order to summarize the data. The observation data were coded based on priori themes using the codes in Appendix H in the deductive phase of data analysis. The observation data was then examined for any emergent themes or patterns in an inductive process for data analysis. Member checking through pre-observations interviews and informal interviews after the observation for

clarification provided confirming or disconfirming information to support the researcher's observation.

Teacher Survey and Principal Survey

Quantitative data obtained from teacher and administrator surveys provided frequencies of responses and descriptive statistics were used to provide a summary of responses. Responses to open-ended survey questions were analyzed for trends and patterns deductively using the codes listed in Appendix H. Responses were coded for each question. For example, all responses for the first open-ended question were coded, then all responses coded for the next question and so forth. The observation data were then be examined for any emergent themes or patterns in an inductive process for data analysis. One principal was interviewed to provide feedback to assess the adequacy and accuracy of preliminary results.

Interviews with School Gifted and Talented Coordinator and Division Instructional Supervisor

Data from the interview extended the researcher's understanding of the gifted program, each participant's role in the gifted program and their thoughts about the gifted program. Interview data were coded using the pre-defined codes in Appendix H and assessed for emerging themes and patterns.

Document Review

Information from documents were triangulated with data from surveys, observations and interviews to provide a comprehensive and coherent understanding of RRPS K-5 gifted program.

Researcher as Instrument

The process of using interviews and classroom observations for data collection required that the researcher make interpretations and meaning through his or her own lens and conceptual

framework. The understanding of the researcher's experiences, biases and perspective were an important consideration in providing credible and useful data. My interest in gifted programs stems from my current role as the director of a specialized gifted program for high school juniors and seniors. The role of this program in the community includes providing enrichment activities to elementary and middle school gifted students in three local school divisions. As the director of this program, I work with gifted and talented coordinators and instructional supervisors for gifted in three school divisions. Varied patterns of student participation by schools in these enrichment activities and collegial discussion with teachers working with gifted students provide additional insight into the organizational structure, components of different gifted programs, and the challenges teachers and schools having in meeting the needs of gifted students. In my professional capacity with a regional educational program, I work with personnel in the RRPS school division and have previously taught in RRPS. As a result of these positions, I have a strong working knowledge of the school division and understanding of participants which allowed me to interact productively and effectively with participants in conducting the needs assessment. I had no professional supervisory or evaluative authority over any participants. Throughout the data collection process, I monitored and systematically reflected on any professional biases by looking for both confirming and disconfirming evidence and noting rationale for methodological decisions based on evidence and the data collected.

Criteria for Trustworthiness

The typical standard for evaluating qualitative research is based on five criteria for trustworthiness proposed by Lincoln and Guba (1985, 1994). These criteria are credibility, dependability, confirmability, transferability, and authenticity. Transferability is not applicable in this study. Other criteria are discussed below.

Credibility

Credibility refers to how well the participants' views are reflected in the researcher's work. In this study, the researcher used engagement with participants having different roles of the gifted program being studied, classroom observations, follow-up interviews with the observed teacher to corroborate or clarify the researcher's understanding, triangulation of multiple data sources to confirm evidence, and maintenance of an audit trail for documentation.

Dependability

Dependability describes the consistency in data and results if the study were replicated. While this needs assessment was conducted by a single researcher, participants were conferred with periodically to check plausibility of findings. Since data was analyzed concurrently while being collected, findings can be checked out with participants throughout the study.

Confirmability

Confirmability is associated with the researcher's ability to document the participants' experiences and response without bias. Documentation of the researcher's decisions, interpretation of data and conclusions demonstrated how findings were drawn directly from the data. The use of vignettes and direct quotes collected from participants substantiated that conclusions evolved from their responses. The triangulation of data and a review of examples and counter examples helped to confirm findings.

Authenticity

Authenticity refers to the extent to which the researcher has captured the participants' feelings as accurately as possible. By surveying all elementary teachers and observing and interviewing others, a broad scope of responses from multiple resources is obtained. This is

hoped to counteract limited field time with few participants which may lead to a lesser degree of trust and rapport.

Ethical Considerations for Needs Assessment

This study was reviewed and approved by the UVA Institutional Review Board for the Social and Behavioral Sciences. The researcher informed participants in classroom observations and interviews of the scope of their participation and the purpose through verbal presentation of the consent form. Participants interviewed or observed will provided their verbal consent to participate in the study. The participant was able to withdraw from the study at any time. Teachers and administrators received information about the study and a link to the survey via email and voluntarily choose to participate. Teachers and administrators anonymously completed the survey which represented minimal risk to participants. Participants were notified in the email that they provide their consent by choosing to complete the survey. In this study, there were also considerations related to access, anonymity, and confidentiality.

Access

Meetings with division leaders and the superintendent were previously held regarding the scope and purpose of the project. In addition, the researcher was familiar with the common language used by the divisions' instructional personal and with division concerns regarding resources that reinforced rapport and trust in the process. Access for the researcher to classroom teachers and email distribution lists were approved by division leaders. It was important to show appropriate awareness of the nature of each individual school and division initiatives and to display courtesy regarding their schedule and daily function.

The researcher was familiar with the student demographics, schools, programs, division policies and school and community cultures. As such, the researcher's role was that of an

observer-participant. As an observer- participant, the researcher used rapport and worked to blend into the setting being observed so participants were comfortable and trusting then removed themselves from the situation to objectively analyze and report what was observed (Bernard, 1994). The researcher displayed a non-judgmental attitude and showed a genuine interest in what is happening.

Anonymity of Surveys

Survey responses were not linked to an individual since information identifying schools or participants were not collected. Survey information was assigned a number or pseudonym to ensure individuals could not be identified in any report. Any information identifying in open-ended questions regarding a participant's school were removed.

Confidentiality of Interviews

Observations and interviews of individuals will remain confidential during data collection and data analysis. The report will be carefully constructed to protect the individuals and schools by eliminating any identifying information. All documents related to the study will be stored on a password protected storage device. At the conclusion of the study, raw data and researcher notes were saved and stored in a secured location accessible only to the researcher.

Chapter Four: Results of Needs Assessment

The purpose of this chapter is to detail the findings of the needs assessment for RRPS's K-5 gifted program. The data were collected through interviews, surveys, classroom observations, and document reviews as described in Chapter 3. The implications and recommendations resulting from these findings will be discussed in Chapter 5.

Data were collected from various participants with different roles at the division, school and classroom level who are engaged in in implementing the K-5 gifted program. Three instructional supervisors (IS), one in gifted education and two in elementary education, were interviewed. The ISs are responsible for overseeing instructional areas for the division and working with schools and principals to design and implement instructional programs. The IS for gifted is responsible for facilitating the implementation of the gifted plan. Gifted and talented coordinators (GTC) at seven of the nine elementary schools in the division were interviewed. The GTC's are charged with facilitating the gifted identification process, coordinating enrichment activities for gifted students in their school and providing assistance to parents and teachers to support the education and development of gifted students. Elementary school principals and elementary school teachers were surveyed to understand what current practices are implemented in their school and classroom which support learning for gifted students. Eight general education classrooms were also observed. Document reviews of the RRPS Local Plan, VDOE requirements and NAGC standards were also conducted.

In this chapter, the four questions of the needs assessment are presented with relevant findings and supporting evidence noted for each question. As discussed in the conceptual framework, the program goals, program design and delivery, and curriculum and instruction were the primary components of the gifted program examined in this needs assessment.

First, the goals of the RRPS gifted program were reviewed to determine how the program is defined and what it is intended to accomplish. Second, findings and supporting evidence regarding how the program design and delivery and how curriculum and instruction is enacted in practice and to what degree that is aligned with the program goals is discussed. Third, the RRPS gifted program goals were then compared to VDOE regulations and NAGC standards to evaluate if those regulations and standards were reflected and addressed in the RRPS program goals. Findings and supporting evidence are presented regarding what RRPS intends for their gifted program, what they do in practice, and if those practices are aligned with the intended program.

Needs Assessment Question 1 - How does RRPS define the goals of their K-5 gifted program?

Summary of data/results. A document review of the Local Plan for the Education of the Gifted for RRPS (2017) was conducted to identify the philosophy, goals, and operational definitions for the K-5 gifted program. The RRPS Local Plan followed the VDOE template and format including components identified in the state regulations. These components included philosophy, operational definition for giftedness, program goals and objectives, screening, referral and identification procedures, evidence of appropriate service options, program of differentiated curriculum and instruction, policies and procedures for accessing advanced courses, professional development, procedure for annual review of effectiveness, and a local advisory committee (VDOE, 2017). The components of philosophy, program goals and objectives, and operational definition for giftedness defined in the Local Plan were examined. Procedures for screening, referrals and identification were also reviewed. The needs of gifted

students in the program inform the program design so it is pertinent to understand the students being identified. Results of the document review of the Local Plan follows.

In the school division's philosophy of education for gifted in the Local Plan, it is stated that 1) gifted students require different experiences; 2) gifted students need to interact with their intellectual peers and those of different ability; 3) gifted education is facilitated by school and community members; and 4) instructional opportunities for gifted students are provided through acceleration, enrichment, and differentiation (RRPS, 2017, p. 4). This philosophy reflects an understanding that gifted students have different needs and the school division's desire to leverage family and community support to provide enrichment opportunities supplementing those provided by school staff.

The goals of the gifted program for RRPS were defined as process or procedural goals noting specific objectives for program components - identification, delivery of services, curriculum and instruction, professional development, equitable representation of students, and community involvement. These objectives included maintaining an accurate database of identified students, providing enrichment activities, developing differentiated lessons for gifted students, implementing training related to identification and differentiation for teachers, and maintaining the website to promote gifted opportunities. There are two stated goals regarding service delivery options and two stated goals regarding differentiated curriculum and instruction in the RRPS Local Plan. Please refer to Table 4.1 below that defines the stated goals and strategies and best practices used to provide services and differentiated curriculum and instruction.

Table 4.1

Stated Goals and Relevant Strategies and Best Practices as Defined in the RRPS Local Plan for Gifted (RRPS, 2017)

Stated Goal	Strategies and Best Practices
Program Design and Delivery	
Goal 1: Evaluate the use of cluster grouping for identified students. Goal 2: Provide enrichment activities and opportunities for students.	• Clustering of gifted students/ability leveled classrooms (recommended) • Differentiated instruction in reading, mathematics, science, fine and performing arts • Daily enrichment groups meet to further differentiate language arts, math, and science instruction. • Acceleration by grade/content • Summer Enrichment program
Differentiated Curriculum and Instruction	
Goal 1: Develop differentiated lessons and activities for gifted students. Goal 2: Create an on-line depository for resources teachers can use to differentiate lessons and measure growth.	• Ability-leveled reading groups, leveled materials, acceleration • Differentiated math instruction, curriculum compacting and content acceleration in math • Differentiated science instruction w/problem based learning, real world problems, student choice in scientific investigation • Critical thinking/real world problems • Class/small group discussion • Higher level thinking skills • Alternate assignments • Projects which encourage creativity • Student Choice in Topic/Product • Use of rubrics • Emphasis on core concepts and themes • Resource teacher

The needs of students who are identified as gifted guide the program design and delivery. The school division's operational definition of giftedness provides the basis for how and which students are identified. The operational definition for giftedness defined in RRPS's Local Plan (2017) generally defines gifted students as "those with outstanding ability who are capable of

high performance." Each specific area of giftedness in which students are identified is based on the division's screening, referral and identification process. Specific definitions of giftedness in the following areas are included in the local plan: general intellectual aptitude, specific academic aptitude in English, mathematics and science, and visual and/or performing arts aptitude. Those areas are further defined by noting characteristics of advanced learners in each area. Superior reasoning, persistent curiosity, and creativity beyond their same age peer and grade level peers were listed as characteristics of gifted learners.

Beginning with the 2017-18 school year, students will no longer be identified for specific aptitude areas but will now be identified for general intellectual aptitude only. Students previously identified in specific aptitude areas will continue to be served in those areas. The IS for gifted education noted the decision to change the identification areas from specific to general intellectual ability was to align with the majority of surrounding school divisions who identify for general intellectual aptitude only, to reduce testing time for students, to reduce cost, and to provide more flexibility in serving students. The primary normed-referenced test used in the for identification of specific aptitude used by RRPS prior to 2017-18 was the ITBS Skills (Hoover et. al., 2003) which took five and a half hours to administer with five hours of testing time for students. Beginning in 2017-18, the primary normed-referenced test will be the Otis-Lennon School Ability Test Eighth Edition (OLSAT8; Pearson, 2003) with 50 minutes of testing time for students to assess general cognitive ability.

Teachers, parents and students may make referrals to determine eligibility for gifted identification for both intellectual aptitude and fine or performing arts. All 2nd graders are screened for general intellectual aptitude using the Naglieri Nonverbal Ability Test, 3rd Edition (NNAT3). Teacher observation reports, a parent questionnaire, and records of previous

academic achievement are used to support the referral. Students who meet set criteria on the NNAT3 or those who are referred by a teacher, parent or self are administered the OLSAT8. In the Local Plan for the Gifted (2017), it is stated that a combination of points from the OLSAT8 and teacher and parent forms determines the student's eligibility. In a brochure titled "Gifted Education – A Parent's Guide" (2017) developed by RRPS for parents, it is stated that "Scores on these assessments (OLSAT8) will determine eligibility." (p. 4)

Screening procedures for fine and performing arts are conducted by teachers in those areas who then make referrals based on their assessment. Students referred for fine or performing arts submit a portfolio, taped audition or performance based assessment which is judged by a team of adjudicators. The adjudicators are primarily a group of RRPS teachers who are specialists in the fine or performing arts area being assessed. Locally developed rubrics are used to assess performance and skill.

Based on this document review and supporting evidence from interviews with ISs and GTCs, the following two findings regarding Needs Assessment Question 1 are presented next.

Finding 1: Program goals were defined in terms of process or procedural objectives and were not defined in terms of long term outcomes for the gifted program or measurable student learning objectives. Some gifted program goals were explicitly defined (i.e. establish a database of identified students, a repository for differentiated lessons, and update the website). Other gifted program goals were more generally defined (i.e. provide enrichment activities, develop differentiated lessons, design and implement training for teachers) and were not defined in measurable terms. Gifted program goals were defined in the Local Plan as short-term outcomes that could easily be measured as completed or not completed but did not assess the

degree to which program goals are met and did not include measurable outcomes for student learning.

Interviews provided evidence of how gifted program goals are viewed and implemented in practice. Eight gifted and talented coordinators (GTC) and three instructional supervisors (IS) were also interviewed and were asked "What the goal of the RRPS gifted program?" The IS for gifted education responded "to serve students who are identified as gifted" and that she hoped "gifted programs would broaden student's horizons in learning new things and peaks interests" (IS Interview 1, p.4, 2017). Both ISs for elementary education noted that gifted programs vary depending on how the GTC chooses to use resources and implement the program. Six of the eight GTCs who were interviewed referenced that the goals were included in the Local Plan but did not offer any definition, clarification or additional description other than "the goal is stated in the local plan." Two GTCs stated the goal of the gifted program was to provide rigor and challenge for continued student growth and talent.

Responses from he GTCs indicate limited understanding of program goals as defined in the Local Plan and little acknowledgement of student learning or instructional objectives as part of the program goals or as implemented in practice. Student learning outcomes or instructional goals were not defined as part of the gifted program goals, were not noted anywhere in the local plan, and were not addressed specifically in practice.

Finding 2: The identification of students for eligibility for the gifted program is inconsistent among identification areas and between schools. There was evidence of disproportional referral and identification of gifted students in fine and performing arts as compared to areas of general intellectual/specific aptitude. The percentage of K-5 students in RRPS identified as gifted in fine and performing arts (8.0%) is almost double the percentage of

students identified as gifted in intellectual areas (4.3%). In 2015-16, 93.3% of students in Virginia identified as gifted for specific/general intellectual ability and 6.2% for fine/performing arts. This data shows fewer RRPS students are identified in academic areas than in visual and performing arts area that is contradictory to state and national trends where the majority of students identified as gifted are in the academic areas (VDOE, 2016).

There were few referrals from teachers and parents for the identification area of general intellectual aptitude. Teachers, GTCs and principals expressed concern about the disproportional identification of gifted students in fine and performing arts areas noted concern that are few teacher referrals for the academic areas and that most teacher referrals and identification are in fine and performing arts. One stated that there are a "very limited number of referrals from teachers for the academic areas of intellectual aptitude and very few parent referrals." The IS for gifted noted: *"I feel like teachers rely on the screener and don't see the value in referring students. Gifted and talented coordinators are to explain the process. Some schools didn't test anyone for the academic areas"* (p.4, 2017). Several GTCs and ISs noted that the use of the NNAT as a screening tool for all second graders was implemented three years ago to broaden the selection pool but they are not sure of the overall effect of using the NNAT in the identification process.

Most GTCs indicated part of their role was to inform and assist teachers in the referral process when asked about their role with stakeholders. When asked about interactions with parents, half of GTCs indicated they would assist as needed but they are rarely involved with parents other than coordinating the identification process and that parents rarely initiate the referral process. The IS for gifted education and two GTCs noted concerns about lack of training for adjudicators for fine/performing arts identification who are new to the process and wondered about fidelity to

the identification criteria for fine/performing arts. Eligibility for academic areas were determined by normed assessments and for fine/performing arts is determined by a local adjudication process.

These finding regarding the identification process is significant though it is not directly addressed in a needs assessment question. All of the schools GTCs stated they review the students in their school identified as gifted and consider their needs in their area of identification to plan gifted program activities. The design and delivery of the gifted program at each school is based on disproportional identification of students between academic areas and fine/performing arts.

Needs Assessment Question 2 & 3 (Program Design and Delivery) - In what ways does RRPS enact service delivery options and to what ways are the stated goals and enacted program aligned with one another or are not aligned with one another?

Summary of data/results. Data that assessed the design and delivery of RRPS K-5 gifted program were collected at three different organizational levels –division, school, and classroom. Interviews with ISs provided information about current instructional initiatives, general observations regarding the implementation of the gifted program, and areas of concern for continued work. Interviews with GTCs and a survey of elementary school principals provided information about the design and delivery of the gifted program at each school. A teacher survey and classroom observations provided data regarding classroom practices and what curricular and instructional strategies were used to meet the needs of gifted students. The examination of the K-5 gifted program at each organizational level provided opportunities to identify gaps between the intended program as designed and the enacted program in practice, to understand possible sources of those gaps including where and when they occur in the implementation process.

A document review of the Local Plan was conducted to identify the intended design of the program and the delivery options. The delivery options for the gifted program in the Local Plan were defined as: 1) continuous and sequential options; 2) instructional time with age –level peers and with intellectual and academic peers; 3) instructional time to work independently; 4) intellectual and academic growth, and 5) assessment of academic growth. This following section will be based on what delivery options are provided and how those options are enacted in practice.

Data from a survey of elementary principals provided information on what delivery options were provided in their schools and how often those options were used. A survey question regarding delivery options included a closed set of items that derived from the delivery options articulated in the Local Plan. Principals were asked to rate the frequency in using various service delivery. A principal's rating of "always" was assigned a value of 5, a rating of "most of the time" was assigned a value of 4 and respectively for all ratings. Means and standard deviations regarding how often various service delivery options were used were calculated to summarize the principal's responses and variability in their responses and are shown below in Table 4.2.

The use of the options indicated by principals were consistent with those observed in the classroom. Principals noted two options that were used "most of the time" in program delivery - the use of a program of differentiated curriculum and instructed for core academic areas and flexible grouping. Differentiated curriculum and instruction for general education classes were observed in 62.5% of the classrooms observed. Flexible grouping was observed in all general education classrooms (87.5%) but not in the classroom with the enrichment group. Acceleration

in content was not observed in classrooms but indicated by principals to be used about "half the time".

Table 4.2

Frequency of Use Service Delivery Options for Gifted Students K-5 in RRPS

	% of General Education Classrooms Observed With Service Delivery Option Implemented N = 8	Frequency of Use of Service Delivery Options Reported in Principal Survey N=7		
	%	Rating	M	SD
Service Delivery Options				
Clustering grouping (school)	37.5%	Half of the time	3.20	1.79
Flexible grouping (classrooms)	87.5%	Most of the time	3.50	.84
Differentiated instruction in reading, mathematics, science	62.5%	Most of the time	3.83	.41
Differentiated instruction in fine and performing arts	-	Half of the time	2.67	.52
Daily enrichment groups	12.5%	Half of the time	2.50	.84
After-school enrichment	-	Half of the time	2.67	1.21
Acceleration by grade	0.0%	Rarely	1.33	.82
Acceleration by content	0.0%	Half of the time	2.67	1.21

*Ratings: 5 – Always, 4 – Most of the Time, 3 – About half of the time, 2 – Sometimes, 1 - Rarely

Data from the principals' survey, classroom observations and interviews with ISs, GTCs, and classroom teachers indicate the use of three primary service delivery options in RRPS:

differentiated curriculum and instruction, flexible/cluster grouping, and enrichment. A summary of data indicating the use of these three primary service options and other options follows.

Differentiated Curriculum and Instruction. Differentiated instruction is the primary service delivery option that aligns with the gifted plan. Differentiated instruction in the general education classroom (M= 3.83, SD = .41) was the most frequent and consistently used service option used in elementary schools as indicated in the principal survey. The routine use of ability leveled groups and leveled materials (i.e. books, reading selections, on-line reading resources) to differentiate for student readiness in reading was noted by all ISs, GCTs and teachers and was evidenced in all six reading lessons observed. Differentiation in mathematics instruction was noted as a bigger challenge and happened less frequently or effectively as indicated by ISs, GTC and a principal. The ISs for elementary education stated "reading is easier to differentiate because students choose text among leveled readers". An elementary principal interviewed noted that:

> *"The math curriculum is a struggle. Reading is differentiated daily, but math has very little differentiation and is not effective. Math is differentiated by pace sometimes but not by enrichment or materials; guided reading based on level so it is more easily differentiated."(Principal Interview 1, p.2, 2017)*

The ISs for elementary education said "math teachers may not be as familiar with content to know how to extend content or determine what is next appropriately leveled task."

Several teachers noted more extensive use of open-ended projects that were provided through the division's new initiative for developing a STEAM (science, technology, engineering, arts and mathematics) curriculum. One GTC noted that "lots of teachers struggle with open-ended problems and advanced content and need specific strategies and activities for

differentiation because they don't have time to plan." The principal said that "the majority of the class needs grade level instruction for math and science and teachers would have to learn advanced content to provide more enrichment or extension."

Differentiated instruction in the specialist classroom (M= 2.67, SD = .52) was used less frequently than differentiated instruction in the general education classroom (M= 3.83, SD = .41) in elementary schools as indicated in the principal survey. Two of the GTC coordinators interviewed were specialists in performing arts. When asked about differentiation in their classroom and school, both noted they talked to teachers about differentiation for gifted students and listed examples of differentiation in reading. One GTC who was a specialist in fine arts noted using different materials or grouping in her classroom to differentiate for students. The other GTC who was a specialist noted differentiation in enrichment activities but not in her classroom.

The general consensus from teachers and principals was that the needs of fine and performing arts students are met through enrichment activities or that fine and performing arts instruction is automatically differentiated because of the creative and products/performance based nature of the curriculum. One GTC who was also a specialist in performing arts said, "I don't hear as much as I used to about that (differentiation), but I think it is happening every day. It is just the way teachers teach" (GTC Interview 3, p.3, 2017). In the teacher survey (N=87), three of four teachers who responded differentiation was "not a significant part" of their classroom identified themselves as specialists that included fine and performing arts teachers.

Flexible/cluster grouping. In RRPS, gifted students are primarily with their age-level peers throughout the school day. Cluster grouping within the school and flexible grouping within the classroom provide gifted students the opportunity to work with their intellectual peers.

In the teacher survey, 68% of teachers responding indicated they used flexible grouping within in their classroom daily or several times a week. In all the classrooms observed, flexible grouping was used within the classroom and in 63% of the classrooms observed flexible grouping practices were used in combination with differentiated instruction.

Cluster grouping (M = 3.20, SD = 1.79) was being used in three of the nine elementary schools extensively at all or most grade levels, were clustered at the beginning of the year, and will remain clustered through the completion of the school year Students at schools using cluster grouping were assigned using high-medium reading levels and medium –low level reading levels. Several teachers who were observed and GTCs who were interviewed noted mixed feelings about cluster grouping. One fourth grade teacher in a school using cluster grouping in all grades said:

> *"It (cluster grouping) has worked out well for my classroom as it is easier to work with fewer levels(reading ability) but I know my colleague has struggled having more low achieving students in the same class. I think most of the K-2 teachers like it (cluster grouping) but not the 4th and 5th grade teachers as they are concerned about low achieving students being prepared for state testing."*

Decisions about cluster grouping were made by the principal or grade level teams and the primary criteria for grouping was the student's reading level. Three elementary schools used no cluster grouping as a service option.

Enrichment. Enrichment activities provide specific opportunities for gifted students outside of the general education classroom. These activities may occur during the school day, afterschool, or during the summer. Principals reported using enrichment after-school (M = 2.67, SD = 1.21) and enrichment in-school (M= 2.50, SD = .84) about half of the time. The use of

daily enrichment groups was specifically noted as a service delivery option in the Local Plan and is used in about half (44%) of the schools. Principals, ISs, GTCs and teachers stated while previously all schools used daily enrichment groups, many schools opted to provide extended time in core classes instead of providing time in the day for daily enrichment or remediation periods. Enrichment activities (after-school, in-school, and summer) are provided for gifted students and are funded by the division.

Each school designated a gifted and talented committee led by the school's GTC. This committee reviewed the identification of students to be served by the gifted program, developed a plan for the gifted and talented program based on those student's needs for the year, and submitted the plan to the IS for gifted education. A document review of the plans for each individual school's gifted program indicated the plans were a list of enrichment activities provided for students. For each activity, the area of giftedness and number of students to be served by that activity were noted.

Principals and ISs agreed the gifted program of enrichment activities was typically determined by the individual interest and initiative of the GTC. One GTC was endorsed in gifted education. GTCs do receive a stipend for facilitating the gifted program. Funding was provided to each school to support enrichment activities and was based on the number of students identified as gifted. Enrichment activities were conducted by teachers or by community members. Topics for enrichment activities were often based on a teacher's interest and willingness to offer activity or the availability of volunteers or outside experts willing to conduct enrichment activities. Some activities were a single activity and others might occur with several weekly sessions. RRPS also offers a summer enrichment program that provides week-long

workshops in various topics and is typically offered by RRPS teachers. Summer enrichment programs were offered to all division gifted students.

Other Service Delivery Options. Acceleration and independent learning and research were referred to as a service delivery options multiple times in the Local Plan but were used infrequently if at all. Acceleration by content (M = 2.67, SD = 1.21) was not consistently used among all schools with survey response ratings ranging from "most of the time" to "rarely" and acceleration by grade was "rarely" used. The IS for gifted education noted that "acceleration is a school administration decision made on individual basis. It (acceleration) doesn't happen often and is not encouraged" (IS Interview 1, p.4, 2017). The IS's for elementary instruction said "Acceleration doesn't happen. It is school generated not parent generated. There is some content acceleration for mostly math" (IS Interview 2, p.1, 2017). Two GTC coordinators noted that "acceleration isn't really encouraged or used because of concerns with social skill development of gifted students" (GTC Interview 4, p. 2, 2017) and the "need to hold students accountable for grade level work" (GTC Interview 5, p. 1, 2017). Other GTC's interviewed responded briefly "acceleration is done by administration" (GTC Interview 1, p.1) or "I am not sure" (GTC Interview 2, p.1, 2017) with no further knowledge or description when asked about acceleration practices.

This option for independent learning and research is described very briefly in the Local Plan and is stated as follows" "teachers provide advanced learners ongoing opportunities to investigate, research and work independently through advanced study, and independent projects" (RRPS, 2017). In the principal survey, respondents noted "individual instructional programs/learning contracts/distance learning" as the least used delivery option. In the teacher

survey, 37% of respondents noted offering projects that encourage student creativity and independent research less than once a month and 10% of respondents never offered such projects

Finding 3: The use of cluster grouping was encouraged and supported by the division but the use of cluster grouping varied significantly among schools.

RRPS's first goal for program design and delivery was to evaluate the use of cluster grouping which supports efforts to promote the use of cluster grouping by schools. The division encouraged schools to implement school wide grouping strategies that were intentionally designed instead of maintaining the use of traditional strategies to make student assignments. Traditional strategies in assigning students or school grouping were based on random selection, teacher recommendations, and parent requests. This signifies a recent shift in thinking about grouping strategies.

The Local Plan specifically denoted that cluster grouping was "recommended". Responses in interviews from GTCs, ISs, and classroom teachers noted that some schools had a single grade or classroom clustered as a pilot or based on grade level decisions and there was a wide range of use, understanding, and interest in using cluster grouping among teachers and administrators. The use of the use of cluster grouping was determined by the school principal and varied across division elementary schools based on if and how the principal choose to use that strategy. Principals stated in open-ended responses that "there are too few expectations for gifted education. Unless it (any school wide initiative) comes from principal and if they (principals) are not held accountable, it doesn't happen."

The data suggest that the current status of cluster grouping in RRPS seems to be in the beginning stages of implementation and that more information and time is needed to evaluate the use of cluster grouping. Actions by three schools were aligned with the RRPS's

recommendation to use cluster grouping. The IS for gifted education and some principals agree more directive and accountability from the school division may be needed to fully implement cluster grouping in RRPS. ISs and prinicpals also agreed the current long standing climate of autonomy for each school making decisions about grouping and student assignments may be a barrier to fully implementing the use of cluster grouping in all schools.

Finding 4: Schools primarily used differentiated curriculum and instruction, grouping strategies, and enrichment, as service delivery options to address the needs of gifted students. The use of these strategies varied greatly across schools and pointed to a need for more frequent, consistent and effective practices.

RRPS's second goal for program design and delivery was to provide enrichment opportunities. All of the schools GTCs stated they look at the students in their school identified as gifted and consider their needs in their area of identification to plan enrichment activities. The gifted plans submitted by most schools (78%) aligned their specific enrichment activity with the area students were identified as gifted and provided a broad range for all identified gifted students.

Each school was required to submit a plan for their gifted program of enrichment activities to the IS for gifted education as documentation for funding. A review of the gifted and talented plans of several schools revealed lots of variability in the range of topics and number of enrichment activities offered. The gifted plans submitted by most schools provided a many (10+) activities and a broad range for all identified gifted students. Other plans included 1-2 activities described enrichment activities in only one or two areas. For example, one school noted a single enrichment activity that was the school play open to all students. Another school noted 10 activities such as drama and art workshops, sign language classes, computer coding workshop,

Minecraft workshop and visits to local high schools and colleges for outreach activities. Both schools had about the same number and similar profile of students identified as gifted and the same financial resources to provide enrichment.

GTCs noted the time and energy required to find and coordinate resources to provide enrichment activities is extensive. One GTC in her first year in that role specifically stated "This (being a GTC) requires a tremendous amount of time to find and coordinate enrichment activities with students, parents and teachers. I would have to think twice before I agreed to continue" (GTC Interview 1, p.4, 2017). Teachers and GTCs often referenced the school play (open to all students) as an enrichment activity for students identified as gifted in the arts stating "larger parts are reserved for students who are identified as gifted in theater" and "gifted arts students work on making the set for the school production". School productions were noted in 44% of school plans for their gifted program.

Most schools were aligned strongly with the goal to provide opportunities for enrichment as outlined in the Local Plan but the range and number of enrichment opportunities varies greatly. These data indicate discrepancies in access to consistent enrichment opportunities for students across the school division and a lack of alignment between the enacted program and the Local Plan.

Some elements of differentiated curriculum and instruction were evident in the classroom observations and information shared by teachers, GTCS, principals and ISs but the use of differentiation varied in frequency and effectiveness. For example, in five of the eight classrooms observed, students were grouped by readiness level and observed reading independently or working independently on regular class assignments. In three classrooms observed, students were grouped by readiness level and were working independently on

differentiated assignments and individual projects. The program of differentiated curriculum and instruction will be discussed in detail in the next section.

Needs Assessment Question 2 & 3 (Differentiated Curriculum and Instruction) - In what ways does RRPS enact the program of differentiated curriculum and instruction and to what ways are the stated goals and enacted program aligned with one another or are not aligned with one another?

Summary of data/results. A document review of the Local Plan provided information on the program of differentiated curriculum and instruction as defined by RRPS and the practices they used to support that program. Best practices for a program of differentiated curriculum and instruction as defined in RRPS's Local Plan for Gifted were: 1) cluster grouping with intellectual peers when assigning teachers; 2) cluster grouping during daily enrichment time (power-up); 3) acceleration of subject or grade level in individual cases; 4) in-class differentiation by general education classroom teacher; and 5) use of resource teacher and student choice.

The use of cluster grouping in the general classroom, the use of cluster grouping during daily enrichment time, and acceleration has been discussed in the previous section describing service delivery options. Daily enrichment groups were used by few schools (N=3), acceleration by content was used rarely, acceleration by content was used by some schools, and there were no gifted resource teachers in the division. This section will focus on how differentiation of curriculum and instruction is enacted in the classroom.

Data from a survey of teachers provided information on what strategies to support differentiation were used in their classrooms and how often those strategies were used. Data from observations of general education classrooms supported survey data. The teachers observed were recommended by ISs as a best case or exemplary example of instruction for

providing differentiated curriculum and instruction. The practices observed in the classrooms were provided weekly or daily according to the teachers who were observed and their principals. This indicated that data from the classroom observations were reflective of typical practices in that teacher's classroom.

A teacher survey question about strategies used for differentiation included a closed set of items that derived from these listed in the Local Plan. Teachers were asked how often they used the various strategies noted in the Local Plan to support a program of differentiated curriculum and instruction. A teacher's rating of "daily" was assigned a value of 4, a rating of "weekly" was assigned a value of 3 and respectively for all ratings. Means and standard deviations regarding how often these strategies were used were calculated to summarize the teachers' responses and the variability in their responses. Survey data were disaggregated by both general education teachers and specialists given that students are specifically identified in academic/intellectual areas and fine/performing arts. Classroom observation data supported the survey results in terms of what strategies teachers responded they used most often and provided additional information on how those strategies were implemented in classrooms that were expected to reflect best case scenarios. Data from teacher surveys and classroom observations regarding strategies for differentiated curriculum and instruction are shown below in Table 4.3.

Table 4.3

Frequency of Strategies Used for Differentiated Curriculum and Instruction in RRPS

		Frequency of Strategy Used as Reported in Teacher Survey	
Strategies for Differentiated Curriculum and Instruction	% of General Education Classrooms Observed	General Education Teachers N=62	Specialists N=18

	With Strategy Implemented N = 8						
	%	Rating	M	SD	Rating	M	SD
Using flexible grouping strategies such as cluster grouping	87.5%	Weekly	3.18	.93	Monthly	2.44	1.67
Critical thinking/real world problems	62.5%	Monthly	2.42	.88	Weekly	2.73	1.28
Class/small group discussion	75.0%	Daily	3.73	.58	Weekly	3.19	.98
Higher level thinking skills	62.5%	Weekly	2.82	.74	Monthly	2.31	1.01
Alternate assignments	37.5%	Monthly	2.18	1.14	Monthly	2.13	1.41
Projects that encourage creativity	25.0%	Monthly	1.56	.76	Monthly	1.87	1.19
Student choice in topic/product	37.5%	Monthly	1.84	1.09	Monthly	2.00	1.46
Use of rubrics	37.5%	Monthly	2.10	.95	Monthly	1.94	1.29
Emphasis on core concepts and themes	50.0%	Weekly	2.98	.88	Monthly	2.25	1.13
Ability-leveled reading groups, leveled materials, acceleration	100% (N=5)	-	-	-	-	-	-
Differentiated math instruction, curriculum compacting, content acceleration in math	0.0% (N=2)	-	-	-	-	-	-

Overall, very few strategies that were indicated in the Local Plan for providing differentiation were reported as being used more than a few times a month. Responses from the teacher survey indicated “class discussions” as the strategy used most frequently and they were seen in most of the classrooms observed. In over half of the classrooms observed, small group discussions were seen when students were working in small groups with a teacher discussing the

book they were reading or an assignment. The discussions observed were predominantly between the students and the teacher and one classroom had students discussing materials or content directly with each other.

Flexible grouping strategies were indicated as being used weekly by general education teachers and were seen in most of the classrooms observed. About half of the classes observed used grouping strategies in combination with other strategies such as providing differentiated assignments or materials. In other classrooms, students were grouped by ability and moved through regular class assignments in a rotation of various stations with different activites. The use of "alternative assignments" and "student choice in topic/product" were reported by teachers surveyed as being used "monthly", had a large variation of how frequently they were used, and were observed in few classes.

The data suggest the practices seen during classroom observations occurred more frequently in those classes than teachers reported using in their classroom in the survey. Strategies for differentiation were not implemented consistently in all classrooms, were predominantly used in reading, and were used minimally or did not provided differentiated experiences. This data suggests a limited integration of the strategies defined in the Local Plan to provide and support differentiated curriculum instruction that is the predominant service delivery option.

The first goal for differentiated curriculum and instruction noted in the Local Plan was "to develop differentiated lessons and activities for gifted students". No specific initiative or process to create differentiated activities beyond general expectations for providing a differentiated curriculum is currently in place. Teachers, GTCs and principals agreed that

planning for differentiation requires skill and time and that teachers were more likely to implement activities and lessons that are already created and could be easily adapted.

Reading was differentiated in all schools using leveled reading materials and ability grouping. Mathematics was differentiated less than reading and curriculum compacting and acceleration are used infrequently. Principals and ISs agreed mathematics is more of a challenge for teachers to differentiate due to limited resources, materials, lack of advanced content knowledge by the teacher and lack of time to review and find materials and gain knowledge. Science was differentiated through special projects and enrichment activities.

Differentiation in fine and performing arts included open-ended assignments which met the criteria outlined in the Local Plan for differentiation in those areas. The general consensus from teachers and principals was that the needs of fine and performing arts students were met through enrichment activities or that fine and performing arts instruction was automatically differentiated because of the creative and products/performance based nature of the curriculum. One fine/performing arts teacher who was also a GTC noted, "I don't hear as much as I used to about that (differentiation), but I think it is happening every day. It is just the way teachers teach" when asked about the role of differentiation as part of the gifted program" (GTC Interview 5, p.4, 2017).

In the teacher survey (N=87), three of four teachers who responded differentiation was "not a significant part" of their classroom identified themselves as specialists that includes fine and performing arts teachers. The data suggested the use of differentiated curriculum and instruction and subsequently the development of differentiated activities and lessons for gifted students in fine and performing arts classes in limited.

The second goal for differentiated curriculum and instruction noted in the Local Plan was to "create an on-line repository for resources teachers can use to differentiate lessons and measure student growth" (p. 6, 2017). Several teachers and GTC mentioned the existence of a "google classroom" space setup specifically for gifted education but they hadn't looked at it or used it. The data suggested that the current status of creating usable activities in all academic areas and having them available in an easily accessible repository in RRPS was in the beginning stages of implementation. No specific initiative or process to create differentiated activities beyond general expectations for providing a differentiated curriculum was currently in place. The RRPS's Local Plan for the Gifted spans five years (2017-2022).

Three major findings regarding the program of differentiated curriculum and instruction in RRPS emerged from this data: 1) differentiation strategies used to provide a differentiated curriculum and instruction and how often those strategies were used varied greatly among teachers; 2) challenges such as teacher skill and understanding about differentiation, focus on raising achievement of students below grade level, and time affect how teachers implement differentiation in their classroom; and 3) varied understandings (and misconceptions) about and challenges to implementation differentiation led to a limited program of differentiated curriculum and instruction in RRPS.

Finding 5: Differentiation was considered an important part of curriculum and instruction by teachers and principals but strategies used to provide differentiated curriculum and instruction were limited in scope, used infrequently, and were not consistently implemented across schools. This led to a limited program of differentiated curriculum and instruction that did not consistently meet the needs of gifted students in RRPS.

Respondents to the principal survey and teacher survey, ISs and GTCs indicated differentiated curriculum in the general education classroom as the dominant service delivery option for gifted students in RRPS. As described earlier, differentiated instruction in the general education classroom (M= 3.83, SD = .41) was the most frequent and consistently used service option used in elementary schools as indicated in the principal survey. Most teachers (84%) responded in the teacher survey that differentiation was a significant or very significant part of their classroom. The IS for gifted education stated that in an annual survey regarding the RRPS gifted program in 2016-17 teachers indicated that professional development in differentiating instruction as their highest need.

Frequencies and percentages for data collected from the teacher survey showed how often teachers used various classroom practices. Results are shown below in Table 4.4. Classroom practices listed in the teacher survey were aligned with the best practices noted by RRPS in their Local Plan as "strategies to ensure the intellectual and academic growth of all students" (p. 26, 2017)

Table 4.4

Percentages of How Often Classroom Practices Are Used by Classroom Teachers (n=83)

	N	0 - Never	1 - Once a month or less	2 - A few times a month	3 - A few times a week	4 - Daily
Using flexible grouping strategies such as cluster grouping	82	6.1%	8.5%	17.1%	22.0%	46.3%
Emphasize core concepts, themes, issues and ideas across disciplines	83	3.6%	6.0%	22.9%	43.4%	24.1%
	82	1.2%	8.5%	43.9%	32.9%	13.4%

Provide opportunities to practice critical thinking through non-routine, real-world problem-solving						
Use class or small group discussion	83	1.2%	2.4%	4.8%	20.5%	71.1%
Provide opportunities for the use of higher level thinking skills (i.e. analysis, synthesis, and evaluation)	83	2.4%	7.2%	27.7%	47.0%	15.7%
Provide alternative assignments	82	7.3%	23.2%	26.8%	23.2%	19.5%
Provide opportunities for student choice in topic and final product	83	12.0%	25.3%	38.6%	10.8%	13.3%
Offer projects that encourage student creativity and independent research	81	9.9%	37.0%	42.0%	8.6%	2.5%
Use rubrics to define levels of accomplishment for students	83	8.4%	19.3%	42.2%	20.5%	9.6%

A large portion (91.6%) of teachers reported using classroom discussions and most (68.3%) reported that flexible grouping was used daily or a few times a week. The item "using flexible grouping such as cluster grouping" had the highest standard deviation of all practices listed in the survey suggesting more variability among different classrooms in how often it is used as a strategy. In open-ended responses about how teachers differentiated in their classroom, general education teachers (n =56) stated they used mostly grouping strategies (50%) Comments from teachers (19.6%) who indicated using only grouping strategies to differentiate were "use small groups", "small group instruction", "small groups and cooperative little learning" and "differentiate with grouping" but how instruction happened in the groups or what students did in each group wasn't described.

Providing alternative assignments, student choice and independent research were strategies used infrequently. Most teachers surveyed (53.6%) used differentiated assignments to match readiness level of students but only 42.7% of teachers surveyed reported they provided alternative assignments daily or weekly. Many teachers (30.5%) indicated they never provided alternate assignments or provided them less than once a month. Teachers who indicated using assignments differentiated to readiness level were "differentiating books/assessments for instruction level in reading", "creating the same activity, but modifying the difficulty and complexity to meet the needs of all learners- high and low" and "providing leveling math and reading assignments". Few teachers reported using projects that encourage student creativity and independent research (11.1%) or providing opportunities for student choice in topic and final product (23.3%).

Few teachers (26.8%) indicated they used a combination of both grouping strategies and differentiated or alternate assignments or other strategies. The following vignette summarizes open-ended responses from those teachers who use multiple strategies to differentiate curriculum and instruction in their classroom:

> *"In both reading and math, students are split into groups based on ability so that all students are met where they are and can be given instruction based on their current levels and goals. Small groups are used where the work is differentiated with alternate assignments. I adapt or modify the difficulty level of the activity to meet the needs of each student who is participating in the activity. I do not change the information I am teaching, but I do change the way each student accesses the information. If students need extra support, higher questioning levels or enrichment, it is provided through projects and assignments.*

For example, I have students with varying needs in a particular content area. I teach understanding of concepts from concrete through abstract (very simple math to more complex, multi-step math). All students may be working on addition, but some may be learning a counting on strategy, one student may be working on addition with regrouping, one student may be working on multi-step word problems. If a child has mastered the concepts being taught, I will provide independent enrichment or extension activities for that student to work on while I am continuing to instruct the other students"

Survey responses indicated that about half of teachers used multiple strategies to differentiate in their classrooms while other teachers used a single strategy (grouping or modifying assignments) to differentiate in their classroom. These data were self-reported by teachers and not observed. The data suggests variability in teachers' understanding of what effective differentiation strategies are and how to implement them into their classrooms.

Data from classroom observations echoed this result. Teachers invited the researcher to observe specific classes that featured differentiation. This ideally constituted best case scenarios for seeing differentiation in classroom practice. As with responses from the teacher survey, some teachers who were observed used primarily grouping practices only and some teachers who were observed used a combination of strategies for differentiation. Examples from two classroom observations are provided below. The first example is a summary of a lesson that used grouping practices were used but with no other differentiation strategies.

Example 1: Classroom Using Grouping Practices Only

The teacher explained that students were grouped by reading level based on fall growth assessments and that each group would rotate through four learning stations. The 3rd class began with the teacher providing a whole group review activity of elapsed time that was not

completed the day before. The review activity involved skill practice in the form of a game. Students were each given a clock as manipulative to support the activity. After each "round", students volunteered to work problems on the board. The teacher directed students to work certain problems then check and that pattern repeated. One student asked "if I have time, can I do all the problems" to which the teacher replied positively "of course!" Students were very engaged in the practice game. After ten minutes, the review activity was completed and the teacher explained the rotation and learning station activities for the day. Students rotated through four stations – 1) a guided activity with the teacher; 2) working independently on a class assignment practicing more elapsed time problems; 3) checking previous days homework with a teacher's aide, and 4) working independently on a computer program (IXL) to complete various math skills practice. The teacher started her guided activity rotation with struggling students and provided scaffolding for the activity by asking very direct questions and filling in some parts of the activity with them. The more advanced learners worked first on the class assignment. They worked diligently and quickly and were intent on completing each problem. The teacher recognized they were finishing before the rotation was complete and offered them other choices such as rewriting the questions, writing their own problems, or working with "magic squares" puzzles. The advanced learner group rotated to the teacher guided activity last. The teacher adapted her questioning level and students quickly understood the activity within a few minutes and began working independently without need for guidance. At that point, the teacher then moved around the room to assist other students who were beginning to have more trouble focusing and working independently as more time passed. Students in the advanced learner group remained at the teacher station and were compliant and engaged in completing the task individually with little discussion among them. (Classroom Observations 2,3,5 & 7, 2017).

In Example 1, students were grouped by ability level but there were no other differentiation strategies such as modifications to the assignment or materials used. Advanced students moved quickly through assigned problems and were offered additional choices once they finished. The instructional value and meaningfulness of those choices in contributing to student growth seemed minimal. Two of the three classrooms observed with similar classroom practices as described in Example 1 were math classrooms. This resonates with earlier concerns from principals and ISs that math is more challenging for teachers to differentiate effectively.

Example 2 is a summary of a lesson that used multiple strategies for differentiation.

Example 2: Classroom Using Multiple Strategies for Differentiation

The teacher explained that students were grouped by reading level based on fall growth assessments and that each group would rotate through four learning stations. The 5th class began rotating immediately following the teacher's instructions. Students rotated through four stations – 1) a guided activity with the teacher; 2) working independently reading a book of choice; 3) working on a menu of different language arts assignments with a teacher's aide, and 4) working independently on a computer program (Read Theory) to complete short passages with questions on comprehension based on student reading level. The teacher started her guided activity rotation with struggling students and provided scaffolding for the activity by asking very direct questions and filling in some parts of the activity with them. The advanced learners worked first on the menu of language arts assignments with the teacher's aides. The menu provided four different products that students could choose from to practice their weekly spelling and vocabulary words. All students had the same menu and choose the product they most liked. Students talked about which product they choose and what they were doing with

> *their words with the teacher's aide. Next, the advancer learners moved back to their seats and worked on reading independently a book of their choice. Some students had multiple books they were reading. Two students went to the back bookshelf and asked the teacher which shelf. She responded you can read from shelf 2 as the books were arranged by reading level. Students read quietly.. The next rotation, the advanced learner group moved to the guided activity with the teacher. The teacher adjusted her level of questioning and increased the pace of the activity saying "let's skip down to part three". The advanced learner group was then asked to create a story that provided a counter example to cause and effect saying retell the same story with different criteria you choose. The teacher asking guiding questions to check for understanding. With time in the rotation still remaining, the teacher began a book discussion about the last chapters of a book the advanced learner group was reading together. Students eagerly volunteered a summary of the last chapters and were asked to make predictions about what would happen next. Students were engaged in thinking and listening and responding to each other and the teacher. The advanced learner group rotated to the computer activity last. (Classroom Observations 1,4 & 6, 2017).*

In Example 2, a similar rotation format was used as in Example 1, but there were various other strategies of differentiation used with each group and each activity. These included modification of pace, materials and expectations, use of leveled readers, and opportunities for student choice in book selection and product. Advanced learners were engaged in discussions with intellectual peers and worked independently with differentiated material – some of their choosing. Teachers acknowledged there are many resources available to accommodate different reading levels and worked to incorporate them in their classroom.

Responses from general education teachers that specifically addressed gifted or high ability students in how they differentiate curriculum and instruction in their classroom are summarized in the following two vignettes:

> *"I like to plug my higher level thinkers with my lower level. For the lower readers we have lots of partnered support. The higher readers get the opportunity to be the expert and teacher. When students finish their readings tasks for the day they have their choice between several reading activities, this is motivating for the gifted readers because they finish their tasks quickly and can move onto a program or book tailored to their level."*

> *"The gifted readers in my class have also started a literacy center that is student run, they enjoy the time to discuss their book and represent their knowledge in different ways. Higher students do sometimes have more project-based work, and higher level thinking activities. For example, some students are just learning about non- fiction, while others are reading biographies and creating their own oral/visual reports on their famous person. Gifted and high achieving students are engaged in literature circles rather than guided reading groups, which gives them more responsibility in response and quantity of work to be completed."*

Comments such as "higher readers have the opportunity to be the expert and teacher" (Teacher Survey #34, p.21, 2017) and "this is motivating for gifted readers to finish their work quickly so they can move to a book tailored to their level" (Teacher Survey #57, p.24, 2017) indicates a lack of understanding about differentiation. While many high readers might enjoy working with lower readers and there may be social benefits, it may not address the needs of the gifted student to continue to grow intellectually and academically. There was a consensus from principals, ISs and GTCs that many teachers still must see that advanced learners complete all the same assignments with the class prior to being offered

differentiated or enriched opportunities. GTCs noted that they were careful to respect the instructional time of general classroom teachers when planning enrichment activities during the school day since teachers get "frustrated that students are leaving class". Many principals and teachers expressed concern that how differentiation was implemented may not be aligned with instructional best practices for gifted students.

Finding 6: Challenges such as teacher skill and understanding about differentiation, focus on raising achievement of students below grade level, and time affect how teachers implement differentiation in their classroom.

There was a general consensus among principals, ISs and GTCs that differentiation did not happen consistently or effectively in all classrooms. In open-ended survey responses, principals noted:

> *"Spots are enriched curriculum and are good but are not consistent. It (differentiated curriculum and instruction) is often a shot in the dark with not enough extended time, sustained focus, or incentive to include in everyday classroom practices."*

Concerns about teacher skill and understanding in differentiation, time for planning, and competing instructional priorities were noted as challenges to an effective and consistent program of differentiation. In open-ended survey responses, one principal noted:

> *"It is difficult to get some teachers to buy into the concept of compacting and other means of differentiating to meet the needs of gifted learners as most folks need to see that students are able to do the grade level content."*

GTC coordinators were asked about the role of differentiation as part of the gifted program. Responses of GTC who were also general education teachers are summarized as follows:

> *"It only happens in certain classrooms, and happens at different levels. Lots of times, students are told if you finish early, you can go to work on something else. We are getting*

better at differentiation and are recognizing more now it is not just more worksheets - not more, just different."

While one challenge was helping teachers better understand what differentiation is, the accompanying concern is providing teachers the time and support to implement differentiation in practice. One principal noted "differentiation takes time and the increased demands on teachers for different kind of planning is significant" and a GTC said "lots of teachers struggle with open -ended problems and advanced content and need specific strategies and activities for differentiation as teachers don't have time to plan" (Principal Survey 7, p. 8, 0217)

In responses from an open-ended question on the teacher regarding challenges to implement differentiation, about half (48%) of teacher respondent indicated "finding time to assess different materials and develop activities to extend their (student) knowledge" was the biggest challenge to implementing differentiation for all students. Other respondents indicated "having enough time to adequately prepare project-based lessons and activities for these students while still making regular plans for others", "it can become challenging when there are only one or 2 students who are gifted when the rest of the class is in a whole group setting working on the same problems" and "it's hard to focus on enrichment when I am trying to meet the needs of 40 different students." These responses indicate a lack of understanding about differentiation practices in the classroom as differentiation is not enrichment or only for gifted students. Some teachers (30%) indicated concerns regarding their skill to implement differentiation and "that general knowledge in how I can differentiate" a few noted lack of materials that were easily accessible and assessed for use with gifted students. Several teachers (28%) responded that meeting the needs of mixed ability students in the classroom were difficult.

Principals and teachers agree most of their time and resources focus on students functioning below grade level as indicated by a summary of comments by principals to open-ended survey questions is shown below:

> *"The biggest challenge is meeting the needs of a small number of gifted students while also meeting the needs of the larger number of struggling students. We have such a large group of students who are below grade level that the focus is frequently on these students. Teachers have had not doing enrichment beat into them because what we are doing is raising low achievement. Accountability forces teachers to make struggling learners the priority. Sometimes (or often), there is not time/energy/effort left for high ability differentiation. Students in crisis with mental health/behavior issues demand much attention, energy, time and resources. Weaker students have more one-on-one or small group instruction with an adult. Our aides are typically the ones providing many enrichment opportunities because teachers must provide necessary interventions for struggling students."*

In general, principals and ISs recognized the need to reframe curriculum and instruction in terms of depth and rigor instead of just focusing on basic skills. The ISs for elementary education were more positive regarding some initial progress that was being made in providing curriculum with depth and complexity following recent professional development on that topic. Progress was evidenced by classroom walk-throughs completed by the ISs who said "we weren't meeting the rigor, so hopefully teachers will dig deeper."

Principals and teachers generally felt that personnel, resources and time are not adequate to provide a program with enriched curriculum and differentiated instruction for all students. Some teachers and principals advocate the addition of "a teacher in every elementary school

focusing on gifted instruction and differentiation to act as a case manager for the students" to help provide more quality opportunities for enriched curriculum and differentiated instruction. Others were more cautious in advocating for additional personnel to support the gifted program.

Needs Assessment Question 4. **To what degree does the designed program align with best practices in K-5 gifted education as defined the NAGC standards?**

It is important to verify that the RRPS designed program for K-5 gifted, as defined in the division's Local Plan for Gifted, reflected standards and best practices in gifted education. In this needs assessment, the NAGC (2012) standards for evidence-based practices and VDOE regulations (2012) were chosen to provide guiding sets of expectations for gifted education.

Finding 7: There is evidence the Local Plan reflects the VDOE requirements and is aligned with some evidence-based practices as defined in the NAGC.

The RRPS Local Plan for Gifted was aligned with several NAGC evidence-based practices. Alignment is defined in terms of the use of similar language and concepts which define or describe the components included in the gifted program and does not presume that the implementation of the program in practice is consistent with the written plan. These include the use of enrichment options, acceleration, the use of multiple forms of grouping, implementing a program of differentiate curriculum and instruction appropriately modified for gifted learners, access to guidance services, providing opportunities for independent research, and using strategies to develop critical thinking. These practices primarily on program design and delivery, curriculum and instruction and identification procedures, were well documented in the Local Plan, and used language and terms similar to those found in the NAGC standards and VDOE regulations.

There were other NAGC evidence-based practices that were not found in the Local Plan or were noted with little description. Evidence-based practices regarding diversity, cultural sensitivity, and twice exceptional learners were not addressed in the Local Plan. No division policies were defined for acceleration or other program components but are defined specifically for the identification of gifted students. The use of assessment data to monitor and assess student growth was noted in the Local Plan but there was little description as to how that would be accomplished. Differentiation was noted many times in the Local Plan but was not defined or described in terms of content levels or challenge as indicated in the NAGC standards. The role of the administrator and evidence of engaging stakeholders in the gifted program were not found.

This comparison suggests the Local Plan reflects the VDOE minimal requirements and is aligned with some best practices. In many cases, best practices noted in the Local Plan were not framed with specifics as to how they were used to provide learning experiences matching the needs of gifted students. This result will provide guidance for prioritizing recommendations in Chapter 5.

In summary, Table 4.5 below shows the relevant findings for the first four needs assessment questions.

Table 4.5 Overview of Findings for Each Needs Assessment Question

GOALS
Needs Assessment Question 1 - How does RRPS define the goals of their K-5 gifted program?
Finding 1: Program goals were defined in terms of process or procedural objectives and were not defined in terms of long term outcomes for the gifted program or measurable student learning objectives.
Finding 2: The identification of students for eligibility in the gifted program is inconsistent among identification areas and between schools.
PROGRAM DESIGN and DELIVERY

Needs Assessment Question 2 & 3 (Program Design and Delivery) - In what ways does RRPS enact service delivery options and to what ways are the stated goals and enacted program aligned with one another or are not aligned with one another?

Finding 3: The use of cluster grouping was encouraged by the division.

Finding 4: Schools primarily used differentiated curriculum and instruction, grouping strategies, and enrichment, as service delivery options to address the needs of gifted students. The use of these strategies varied greatly across schools and pointed to a need for more frequent, consistent and effective practices.

DIFFERENTIATED CURRICULUM and INSTRUCTION

Needs Assessment Question 2 & 3 (Program Differentiated Curriculum and Instruction) - In what ways does RRPS enact the program of differentiated curriculum and instruction and to what ways are the stated goals and enacted program aligned with one another or are not aligned with one another?

Finding 5: Differentiation was considered an important part of curriculum and instruction by teachers and principals but strategies used to provide differentiated curriculum and instruction were limited in scope, used infrequently, and were not consistently implemented. This led to a limited program of differentiated curriculum and instruction that did not consistently meet the needs of gifted students in RRPS.

Finding 6: Challenges such as teacher skill and understanding about differentiation, focus on raising achievement of students below grade level, and time affect how teachers implement differentiation in their classroom.

VDOE REQUIREMENTS and NAGC STANDARDS

Needs Assessment Question 4 - To what degree does the designed program align with best practices in K-5 gifted education as defined the NAGC standards?

Finding 7: There is evidence the Local Plan reflects the VDOE requirements and is aligned with some evidence-based practices as defined in the NAGC.

Chapter Five: Implications for Practice and Recommendations

This chapter purpose of this chapter is to discuss implications of the findings in practice and to provide recommendations as possible ways to improve the RRPS K-5 gifted program.

Implications for Practice

The findings from the needs assessment discussed in the previous chapter reveal significant inconsistencies and gaps between the intended program as defined in the Local Plan and the K-5 gifted program that is enacted in practice. It is important for the school division to concede these gaps, review the VDOE regulations, and acknowledge areas in which regulations are not being met in practice. Concurrently, RRPS should assess their availability of resources in delivering a K-5 gifted program to determine if the current resources might be expanded or utilized more effectively by focusing service in fewer areas of giftedness. With existing resources, opportunities for improvement of the K-5 gifted program are likely best found by narrowing the scope of the program and then redesigning a more focused, quality program that is enacted in practice to meet state regulations and standards for gifted education.

Recommendations

In review, the philosophy and goals of a program provide the critical foundation for elements of the program including who the program is designed to serve, what services are provided to students and how the program is delivered (Clarenbach & Eckert, 2013). Program goals defined in terms of students learning are necessary to frame the program activities and to assess if student learning objectives for the gifted program and the overall success of the program in meeting the needs of the students it is intended to serve (Callahan, 2013; Kettler, 2016).

In RRPS, extensive work would be required to rewrite goals in terms of student learning objectives. Identification practices need to be assessed given findings of inconsistent patterns in referrals and disproportional identification in areas of giftedness. Various service delivery options such as enrichment and grouping were used inconsistently and infrequently among schools.

Differentiated instruction is a significant part of the division's gifted program and is identified by ISs, principals, GTCs, and teachers as the primary option used to address the needs of gifted students. Again, strategies used to provide differentiated curriculum and instruction were limited in scope, used infrequently, and were not consistently implemented. This led to a limited program of differentiated curriculum and instruction that did not consistently meet the needs of gifted students in RRPS. Improving differentiation in RRPS will require significant long-term professional development with ongoing support (Dixon et al., 2014; Gubbins et al., 2002).

These findings indicated that multiple areas of the K-5 gifted program would need to be addressed to re-align the gifted program with regulations and standards and to systematically and consistently implement the program in practice in order to improve the K-5 gifted program. The following recommendations outline a process to help the school division manageably focus their efforts in addressing a specific area of the K-5 gifted program to meet minimal regulations and standards for best practice. The division should address concerns in one area, improve and align practice in that area with regulations and standards, and re-assess that area to verify improvement in consistency and reduction of gaps. The division can then continue to systematically examine and address other program components similarly.

Recommendation 1*:* *Identify one component or area for improvement based on the findings presented where a gap exists between implementation in practice and the Local Plan and state regulations.*

Findings indicated gaps and significant inconsistencies between the written plan and practice in areas of defining program goals, identification, grouping, enrichment, differentiated program of curriculum and instruction. The division should identify one area for immediate focus.

Recommendation 2: *Create and define action steps to address inconsistencies and gaps between practice and the designed and required program.*

Action steps provide details of how the division would specifically address concerns in a specific area. For example, let's assume identification was an area that the division choose to address. The division should then review and evaluate current practices to ensure the use of identification procedures consistently in all grades and all areas of identification. Other action steps might include: 1) reviewing recent patterns of identification by school since beginning the use of NNAT3; 2) assessing the number of teacher and parent referrals; 3) creating and providing reports to schools noting concerns in the identification process; 4) ensure the screening and identification process is implemented consistently in all areas, at all schools, and across all grade levels and 5) professional development regarding the characteristics of gifted learners and identification procedures.

Recommendation 3: *Evaluate the results of actions taken to address inconsistencies and gaps in terms of fidelity in implementation to state regulations and standards for best practice in gifted education.*

The division should develop a process to systematically monitor the how things are working and to evaluate the outcomes and results of the corrective actions taken to improve inconsistencies and gaps and alignment between practice and regulations and standards for gifted education in the specific area of the gifted program they selected to address.

Limitations of Study

Following are potential limitations of this study:

1. Responses on survey questions depend on the respondents' interpretation of terminology and conceptual understanding of different elements of the gifted program (i.e. differentiation). Responses to open- ended survey questions were self-reports based on the teacher or principal's interpretation and understanding and were not specifically observed in practice. Given a very specific and targeted population, local terminology and language was used in surveys when appropriate.
2. Participants surveyed may have strong positive or negative opinions regarding gifted education or may feel pressured to provide expected responses instead of reporting curriculum and instructional realities.
3. Many teachers who were sent a survey declined to respond (response rates of 28%). This may have affected findings if the data from non-respondent teachers was significantly different from teachers who did respond.
4. There was limited time and a narrow scope of classroom observations. More sustained time in the field observing teaching practices with multiple observations of the same classrooms, of the same gifted students in different classrooms, and of different areas beyond math and reading would have provided different confirming or disconfirming evidence to assess the current status of gifted programming in RRPS.

References

Acar, S., Sen, S., & Cayirdag, N. (2016). Consistency of the performance and nonperformance methods in gifted identification. *Gifted Child Quarterly, 60(2), 81-101*. doi:10.1177/0016986216634438

Ambrose, D., VanTassel-Baska, J., Coleman, L. J., & Cross, T. L. (2010). Unified, insular, firmly policed, or fractured, porous, contested, gifted education? *Journal for the Education of the Gifted, 33(4), 453-478.* doi:10.1177/016235321003300402

Assouline, S. G., Colangelo, N., & VanTassel-Baska, J. (2015). *A nation empowered: Evidence trumps the excuses holding back America's brightest students* (Vol. I). Iowa City: University of Iowa, Connie Belin & Jacqueline N. Blank International Center for Gifted Education and Talent Development.

Assouline, Susan G., Nicpon, Megan Foley, & Whiteman, Claire. (2010). Cognitive and psychosocial characteristics of gifted students with written language disability. *Gifted Child Quarterly*, v54 n2 p102-115. doi:10.1177/0016986210396436

Altschuld, J. W. & Kumar, D. D. (2010). *Needs Assessment KIT: Needs assessment: An overview* (Vols. 1-1). Thousand Oaks, CA: SAGE Publications Ltd. doi: 10.4135/9781452256795

Altschuld, J. W., & Watkins, R. (2014). A primer on needs assessment: More than 40 years of research and practice. In J. W. Altschuld & R. Watkins (Eds.), Needs assessment: Trends and a view toward the future. *New Directions for Evaluation*, 144, 5–18.

Azano, A. P., Callahan, C. M., Brodersen, A.V. & Caughey, M. (2017). Responding to the challenges of gifted education in rural communities. *Global Education Review, 4(1), 62-77.*

Azano, A. P., Callahan, C. M., Missett, T. C., & Brunner, M. (2014). Understanding the experiences of gifted education teachers and fidelity of implementation in rural schools. *Journal of Advanced Academics, 25, 87-99.* doi: 10.1177/1932202X14524405

Baker, B. D., & McIntire, J. (2003). Evaluating state funding for gifted education programs. *Roeper Review, 25, 173–179.* doi:10.1080/02783190309554225

Ball, D. L. (1990). The mathematical understandings that prospective teachers bring to teacher education. *Elementary School Journal, 90, 449–466.* doi: 10.1086/461626

Belcastro, F. P. (2002). Electronic technology and its use with rural gifted students. *Roeper Review, 25(1), 14.*

Betts, G. T. (1985). *Autonomous learner model: For the gifted and talented.* Greeley, Colo.: Autonomous Learning Publications and Specialists.

Bickman, L. (2000), Summing up program theory. *New Directions for Evaluation, 2000: 103–112.* doi:10.1002/ev.1186

Bolster, A.S., Jr. (1983). Toward a more effective model of research on teaching. *Harvard Educational Review, 53(3), 294-308.* doi: 10.17763/haer.53.3.0105420v41776340

Borland, J. H. (1997). The construct of giftedness. *Peabody Journal of Education (0161956X), 72(3-4), 6-20.* doi:10.1080/0161956X.1997.9681863

Borland, J. H. (2009). Myth 2: The gifted constitute 3% to 5% of the population. moreover, giftedness equals high iq, that is a stable measure of aptitude spinal tap psychometrics in gifted education. *Gifted Child Quarterly, 53(4), 236-238.* doi:10.1177/0016986209346825

Bransford, J. D., Brown, A. L., & Cocking, R. R. (2000). *How people learn: Brain, mind, experience, and school.* Washington, DC: National Academy Press.

Brighton, C. (2010). [Graph illustration The Education of Gifted Learners September, 2010]. Brighton graphic access from presentation by Callahan, C.M. (2010) Lessons learned from evaluating programs for the gifted. Retrieved from http://www.k12.wa.us/HighlyCapable/Workgroup/pubdocs/PresentationbyCallahan9-16-10.pdf

Brighton, C., Hertberg, H., Callahan, C., Tomlinson, C., & Moon, T. (2005). *The feasibility of high end learning in academically diverse middle schools* (Research Monograph 05210). Storrs,CT: National Research Center on the Gifted and Talented.

Brighton, C. M., Moon, T. R., Jarvis, J. M., & Hockett, J. A. (2007). *Primary grade teachers' conceptions of giftedness and talent: A case-based investigation* (Research Monograph 07232). Storrs: University of Connecticut, The National Research Center on the Gifted and Talented.

Brown, E. F., & Garland, R. B. (2015). Reflections on policy in gifted education: James J. Gallagher. *Journal for the Education of the Gifted,, 38(1), 90-96.* doi:10.1177/0162353214565558

Brown, S. W., Renzuli, J. S., Gubbins, E. J., Siegle, D., Zhang, W., & Chen, C. (2005). Assumptions underlying the identification of gifted and talented students. Gifted Child Quarterly, 49(1), 68-79. doi:10.1177/001698620504900107

Brulles, D., Saunders, R., & Cohn, S. J. (2010). Improving performance for gifted students in a cluster grouping model. *Journal for the Education of the Gifted, 34, 327-350.* http://web.a.ebscohost.com.proxy01.its.virginia.edu/ehost/pdfviewer/pdfviewer?vid=11&sid=f8cd2ef4-e6a5-4194-8da7-7c3a027e33bd%40sessionmgr4007

Brulles, D., & Winebrenner, S. (2011). The schoolwide cluster grouping model: restructuring

gifted education services for the 21st century. *Gifted Child Today, 34(4), 35-46.* doi:10.1177/1076217511415381

Bui, S. A., Craig, S. G., & Imberman, S. A. (2014). Is gifted education a bright idea? Assessing the impact of gifted and talented programs on students. *American Economic Journal: Economic Policy, 6(3), 30-62.* doi:10.1257/pol.6.3.30

Callahan, C., & ERIC Clearinghouse on Handicapped and Gifted Children, R. V. (1985). *Evaluation of Programs for the Gifted and Talented.* 1985 Digest, Revised.

Callahan, C. M., & Moon, T. R. (2007). Sorting the wheat from the chaff: What makes for good evidence of effectiveness in the literature in gifted education?. *Gifted Child Quarterly, 51(4), 305-319.* doi: 10.1177/0016986207306317.

Callahan C. M., Moon T. R., Oh S. (2017). Describing the status of programs for the gifted: A call for action. *Journal for the Education of the Gifted, 40(1), 20 – 49.* doi.org/10.1177/0162353216686215

Callahan, C. M., Moon, T. R., Oh, S., Azano, A. P., & Hailey, E. P. (2015). What works in gifted education: Documenting the effects of an integrated curricular/instructional model for gifted students. *American Educational Research Journal, 52(1), 137-167.* doi:10.3102/0002831214549448

Callahan, C. M., & Reis, S. M. (2004). *Program Evaluation in Gifted Education. Essential Readings in Gifted Education Series.* Corwin Press.

Callahan, C.M., Renzulli, J.S., Delacourt, M.A.B., & Hertberg-Davis, H. (2013). Considerations for Identification of Gifted and Talented Students: An Introduction to Identification. In Callahan, C. M., & Hertberg-Davis, H. L. (Eds.), *Fundamentals of Gifted Education:*

Considering Multiple Perspectives. (pp 83-92). New York, NY: Routledge. Perspectives. New York, NY: Routledge.

Callahan, C. M., Tomlinson, C. A., Hunsaker, S. L., Bland, L. C., Moon, T., National Research Center on the Gifted and Talented, S. C., & Virginia Univ., C. (1995). *Instruments and Evaluation Designs Used in Gifted Programs.* *https://www.eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED429391*

Carman, C. A., & Taylor, D. K. (2010). Socioeconomic status effects on using the Naglieri Nonverbal Ability Test (NNAT) to identify the gifted/talented. *Gifted Child Quarterly, 54,75–84.* doi:10.1177/0016986209355976

Csikszentmihalyi, M. (1977). Ecology of adolescent activity and experience. *Journal of Youth & Adolescence, 6281-294.* doi:10.1007/bf02138940

Csikszentmihalyi, M. Rathunde, K., & Whalen, S. (1993). *Talented Teenagers: The Roots of Success and Failure.* New York: Cambridge University Press.

Colangelo, N., Assouline, S. G., & Gross, M. U. M., Templeton Foundation., Connie Belin & Jacqueline N. Blank International Center for Gifted Education and Talent Development., & National Association for Gifted Children (U.S.). (2004*). A Nation Deceived: How Schools Hold Back America's Brightest Students.* Iowa City, Iowa: Connie Belin & Jacqueline N. Blank International Center for Gifted Education and Talent Development, University of Iowa. http://www.eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED535138

Colangelo, N., Assouline, S. G., & Marron, M. (2013). Evidence trumps belief: academic

acceleration is an effective intervention for high-ability students. In Callahan, C. M., & Hertberg-Davis, H. L. (Eds.), *Fundamentals of Gifted Education: Considering Multiple Perspectives (pp 161-163).* New York, NY: Routledge.

Coleman, M. R. (2003). The identification of students who are gifted. East Lansing, MI: National Center for Research on Teacher Learning. http://www.eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED480431

Corbin, J. & Strauss, A. (2008). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (3rd ed.). Thousand Oaks, CA: Sage.

Cornell, D. G., Callahan, C. M., Bassin, L. E., & Ramsay, S. G. (1991). Affective development in accelerated students. In W. T. Southern & E. D. Jones (Eds.), *The Academic Acceleration of Gifted Children (pp. 74–101).* New York, NY: Teachers College Press.

Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory Into Practice, 39(3), 124.* doi: 10.1207/s15430421tip3903_2

Dai, D. Y. (2013). Excellence at the cost of social justice? Negotiating and balancing priorities in gifted education. *Roeper Review, 35(2), 93-101.* doi:10.1080/02783193.2013.766961

Dai, D. Y., & Chen, F. (2013). Three paradigms of gifted education: In search of conceptual clarity in research and practice. *Gifted Child Quarterly, 57(3), 151-168.* doi: /10.1177/0016986213490020

Dai, D. Y., & Coleman, L. J. (2005). Introduction to the special issue on nature, nurture, and the development of exceptional competence. *Journal for the Education of the Gifted, 28(3/4), 254-269.* doi:10.4219/jeg-2005-337

Dai, D. Y., Swanson, J. A., & Cheng, H. (2011). State of research on giftedness and gifted

education: A survey of empirical studies published during 1998-2010 (April). *Gifted Child Quarterly, 55(2), 126-138.* doi: 10.1177/0016986210397831

Dixon, F. A., Yssel, N., McConnell, J. M., & Hardin, T. (2014). Differentiated instruction, professional development, and teacher efficacy. *Journal for the Education of the Gifted, 37(2), 111-127.* doi: 10.1177/0162353214529042

Duckworth, A., & Gross, J. J. (2014). Self-control and grit: Related but separable determinants of success. *Current Directions In Psychological Science, 23(5), 319-325.* doi:10.1177/0963721414541462

Dweck, C. S. (2016). The remarkable reach of growth mindsets. *Scientific American Mind, 27(1), 36-41.*

Educational Testing Service. (n.d). College Entrance Examination Board Scholastic Aptitude Test.

Erickson, F. D. (1986). Qualitative methods in research on teaching. In M. C. Wittrock (Ed.), *Handbook of Research On Teaching (3rd Ed., Pp. 119–161).* New York, NY: MacMillan.

ESSA (2015). *Every Student Succeeds Act of 2015, Pub. L. No. 114-95 § 114 Stat. 1177 (2015-2016).*

Fang, Z. (1996). A review of research on teacher beliefs and practices. *Educational Research, 38(1), 47-65.* doi: 10.1080/0013188960380104

Feldhusen, J. F., & Moon, S. (1992). Grouping gifted students: Issues and concerns. *Gifted Child Quarterly, 36, 63–67.* doi:10.1177/001698629203600202

Feldhusen, J. F., Proctor, T. B., & Black, K. N. (1986). Guidelines for grade advancement of precocious children. *Roeper Review, 9, 25–27.*

Feldhusen, J., & Saylor, M. (1990). Special classes for academically gifted youth. *Roeper*

Review, 12(4), 244–249.

Fiedler, E. D., Lange, R. E., & Winebrenner, S. (2002). In search of reality: unraveling the myths about tracking, ability grouping, and the gifted. *Roeper Review, 24(3), 108-111.*

Flanagan, J. C. (1979). Findings from ProjectTALENT. *The Educational Forum,43, 489–490.*

Ford, D. Y., & Grantham, T. C. (2003). Providing access for culturally diverse gifted students: From deficit to dynamic thinking. *Theory into Practice, 42, 217-225.* doi:10.1207/ s1543042.

Ford, D. Y., & National Research Center on the Gifted (2004). Intelligence Testing and Cultural Diversity: Concerns, Cautions, and Considerations. National Research Center on the Gifted and Talented. https://eric.ed.gov/?id=ED505479

Frantz, R. S., & McClarty, K. L. (2016). Gifted education's reflection of country-specific cultural, political, and economic features. Gifted & Talented International, 31(1), 46-58. doi: 10.1080/15332276.2016.1220794

Funnell, S. C. (2000). Developing and using a program theory matrix for program evaluation and performance monitoring. *New Directions for Evaluation, 2000(87), 91-101.*

Funnell, S. C., & Rogers, P. J. (2011). *Purposeful program theory: Effective use of theories of change and logic models.* San Francisco, CA: Jossey-Bass.

Gagne, F. (1995). From giftedness to talent: A developmental model and its. *Roeper Review, 18(2), 103.*

Gallagher, J. J. (2015). Political issues in gifted education. *Journal for the Education of the Gifted, 38(1), 77-89.*doi: 10.1177/0162353214565546

Gallagher, S. A. (1997). Problem-based learning: Where did it come from, what does it do, and

where is it going? *Journal for the Education of the Gifted, 20(4), 332-362. https://eric.ed.gov/?id=EJ553973*

Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences.* New York: Basic Books.

Gardner, H. (1993). *Multiple intelligences: The theory in practice.* New York: Basic Books.

Gentry, M. (2006). No Child Left Behind: Neglecting excellence. *Roeper Review, 29(1), 24-27.*

Gentry, M. (2014). *Total School Cluster Grouping and Differentiation: A Comprehensive, Research-Based Plan for Raising Student Achievement and Improving Teacher Practice.* Waco, Tx. Prufrock Press.

Gentry, M. & Keilty, B. (2004). Rural and suburban cluster grouping: reflections on staff development as a component of program success. *Roeper Review, 26(3), 147-155.*

Gentry, M., & MacDougall, J. (2009). Total school cluster grouping: Model, research, and practice. In J. S. Renzulli, E. J. Gubbins, K. S. McMillen, R. D. Eckert, & C. A. Little (Eds.), *Systems and Models for Developing Programs for the Gifted And Talented (2nd Ed., Pp. 211-234).* Mansfield Center, CT: Creative Learning Press.

Gentry, M., & Owen, S. V. (1999). An investigation of total school flexible cluster grouping on identification, achievement, and classroom practices. *Gifted Child Quarterly, 43, 224-243. doi:10.1177/001698629904300402*

Gentry, M. & Paul, K.A. (2014). Developing a professional learning plan to support TSCG implementation: Supporting teachers and educating the community. In Gentry, M. (ed) *Total School Cluster Grouping and Differentiation: A Comprehensive, Research-Based Plan for Raising Student Achievement and Improving Teacher Practice (2nd Ed., Pp 55-74).* Waco, Tx. Prufrock Press.

Goodman, M. 2002. *The Iceberg Model*. Hopkinton, MA: Innovation Associates Organizational Learning. Retrieved from http://www.ascd.org/ASCD/pdf/journals/ed_lead/el200910_kohm_iceberg.pdf.

Grant, J. (2002). Learning needs assessment: assessing the need. BMJ, 324(7330), 156-159. doi:10.1136/bmj.324.7330.156

Grantham, T. C. (2012). Eminence-focused gifted education: Concerns about forward movement void of an equity vision. *Gifted Child Quarterly, 56(4), 215-220.* doi: 10.1177/0016986212456074.

Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation & Policy Analysis, 11255-274.* doi: 10.3102/01623737011003255

Guba, E., & Lincoln, Y. (1994). Competing paradigms in qualitative research. In N. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research (pp. 105–117).* Thousand Oaks, CA: Sage.

Gubbins, E. J. (2013). Outcomes of Pull-Out Programs. In Callahan, C. M., & Hertberg-Davis, H. L. (Eds.), *Fundamentals of Gifted Education: Considering Multiple Perspectives. (pp 161-163).* New York, NY: Routledge.

Gubbins, E. J., Callahan, C. M., & Renzulli, J. S. (2014). Contributions to the affect of the javits act by the national research center on the gifted and the talented. *Journal of Advanced Academics, 25(4), 422-444.* doi:10.1177/1932202X14549355

Gubbins, E. J., Westberg, K. L., Reis, S. M., Dinnocenti, S. T., Tieso, C. L., Muller, L. M., Park, Sunghee; Emerick, Linda J.; Maxfield, Lori R.; Burns, Deborah. (2002). *Implementing a Professional Development Model Using Gifted Education Strategies with All Students.*

(Research Monograph 02172). Storrs: University of Connecticut, The National Research Center on the Gifted and Talented. https://eric.ed.gov/?id=ED481293

Guilford, J. P. (1966). Measurement and creativity. *Theory Into Practice, 5186-189.* doi: 10.1080/00405846609542023.

Hammersley, M. (1992). *What's Wrong With Ethnography? – Methodological Explorations.* London: Routledge.

Heller, K. A. (2004). Identification of gifted and talented students. *Psychology Science, 46, 302-323.*

Hertberg-Davis, H. (2009). Myth 7: Differentiation in the regular classroom is equivalent to gifted programs and is sufficient--classroom teachers have the time, the skill, and the will to differentiate adequately. *Gifted Child Quarterly, 53, 4, 251-253.* doi.10.1177/0016986209346927.

Hertberg-Davis, H. & Callahan, C.M. (2013). Contexts for instruction: An introduction to service delivery options and programming models in gifted education. In Callahan, C. M., & Hertberg-Davis, H. L. (Eds.), *Fundamentals of Gifted Education: Considering multiple perspectives.* (pp 161-163). New York, NY: Routledge.

Hertzog, C., & Nesselroade, J. R. (1987). Beyond autoregressive models" some implications of the trait--state distinction for the structural modeling of developmental change. *Child Development, 58(1), 93.* doi:10.1111/1467-8624.ep7264156

Hill, H. C., Rowan, B., & Ball, D. L. (2005). Effects of teachers' mathematical knowledge for teaching on student achievement. *American Educational Research Journal, 42, 371-406.* doi:10.3102/00028312042002371

Hockett, J. A. (2009). Curriculum for highly able learners that conforms to general education and gifted education quality indicators. *Journal for the Education of the Gifted, 32(3), 394-440. https://files.eric.ed.gov/fulltext/EJ835866.pdf*

Hollingworth, L. S. (1927). *Gifted Children, Their Nature and Nurture.* New York: The Macmillan Company.

Hoogeveen, L., van Hell, J. G., & Verhoeven, L. (2005). Teacher attitudes toward academic acceleration and accelerated students in The Netherlands. Journal for the Education of the Gifted, 29, 30–59.

Hoover, H. D., Dunbar, S. B., Frisbie, D. A., Oberley, K. R., Ordman, V. L., Naylor, R. J., & ... Qualls, A. L. (2003). Iowa Tests of Basic Skills(r), Forms A and B.

Howley, A., Howley, M. D., Howley, C. B., & Duncan, T. (2013). Early College and Dual Enrollment Challenges: Inroads and Impediments to Access. Journal Of Advanced Academics, 24(2), 77-107. doi:10.1177/1932202X13476289

Howley, A., Rhodes, M., Beall, J. (2009). Challenges facing rural schools: Implications for gifted students. *Journal for the Education of the Gifted, 32, 515-536. https://files.eric.ed.gov/fulltext/EJ849550.pdf*

Johnsen, S. K. (2012). *NAGC Pre-K-Grade 12 Gifted Education Programming Standards: A Guide to Planning and Implementing High-Quality Services.* Prufrock Press Inc.

Johnsen, S. K. (2013). Traditional perspectives on identification. In Callahan, C. M., & Hertberg-Davis, H. L. (Eds.), In Callahan, C. M., & Hertberg-Davis, H. L. (Eds.), *Fundamentals of Gifted Education: Considering Multiple Perspectives. (pp 92-104). New York, NY: Routledge.*

Jones, E. D., & Southern, W. T. (1994). Opportunities for rural gifted students: Improving

educational options through acceleration. *The Journal of Secondary Gifted Education, 5(4), 60–66. https://eric.ed.gov/?id=EJ494771*

Jolly, J. L. (2009). Historical perspectives: Sidney P. Marland, Jr. (1914-1992). *Gifted Child Today, 32(4), 40-65.* doi: 10.1177/107621750903200411

Jolly, J. L. & Kettler, T. (2008). Gifted education research 1994-2003: A disconnect between priorities and practice. *Journal for the Education of the Gifted, 31(4), 427-446. https://files.eric.ed.gov/fulltext/EJ799758.pdf*

Kaplan, Sandra N. (2007). Advocacy: Differentiation: asset or liability for gifted education?. *Gifted Child Today, 30(3), 23-24.* doi: 10.4219/gct-2007-43

Kaplan, S. (2009). The grid: A model to construct differentiated curriculum for the gifted. In J. S. Renzulli, E. J. Gubbins, S. K. McMillen, R. D. Eckert, & C. A. Little (Eds.), *Systems & Models for Developing Programs for the Gifted & Talented (2nd ed., pp. 211–234).* Mansfield Center, CT: Creative Learning Press.

Kaplan, S. N. (2013). Depth and complexity. In C.M. Callahan & H. Hertberg-Davis (Eds.), *Fundamentals of Gifted Education: Considering Multiple Perspectives (pp. 277-286).* New York: Routledge.

Kaplan, S. N. (2016). Challenge vs. differentiation: Why, what and how. *Gifted Child Today, 39(2), 114-115.* doi: 10.1177/1076217516628916

Kaufman, J. C., & Beghetto, R. A. (2009). Beyond big and little: The Four C model of creativity. *Review of General Psychology, 13(1), 1−12.* doi:10.1037/a0013688

Kaufman, R. A., & English, F. W. (1979). *Needs assessment: Concept and application.* Englewood Cliffs, N.J: Educational Technology Publications.

Kaul, C. R., Johnsen, S. K., Saxon, T. F., & Witte, M. M. (2016). Project Promise. *Journal for*

the Education of the Gifted, 39(2), 83-102. doi:10.1177/0162353216640938

Kettler, T. (2016). Why are economists evaluating the impact of gifted education?. *Journal Of Advanced Academics, 27(2), 81-89.* doi:10.1177/1932202X16636172

Kettler, T., Puryear, J. S., & Mullet, D. R. (2016). Defining rural in gifted education research. *Journal of Advanced Academics, 27(4), 245-265.* doi:10.1177/1932202X16656896

Kim, M. (2016). A meta-analysis of the effects of enrichment programs on gifted students. *Gifted Child Quarterly, 60(2), 102-116.* doi:10.1177/0016986216630607.

Kulik, J. A. (2004). Meta-analytic studies of acceleration. In N. Colangelo, S. G. Assouline, & M. U. M. Gross (Eds.), *A Nation Deceived: How Schools Hold Back America's Brightest Students (Vol. II, Pp. 13-22).* Iowa City, IA: Connie Belin and Jacqueline N. Blank International Center for Gifted Education and Talent Development.

Kulik, J. A., & Kulik, C. C. (1984). Effects of accelerated instruction on students. *Review of Educational Research, 54, 409-425.* doi: 10.3102/00346543054003409

Kulik, J. A., & Kulik, C. C. (1991). Ability grouping and gifted students. In N. Colangelo & G. A. Davis (Eds.), *Handbook of Gifted Education (pp. 178-196).* Needham Heights, MA.

Kulik, J. A., & Kulik, C. C. (1992). Meta-analytic findings on grouping programs. *Gifted Child Quarterly, 36(2), 73 – 77* doi: 10.1177/001698629203600204

Landrum, M. S., Callahan, C. M., & Shaklee, B. D. (2000). *Aiming for excellence: Gifted program standards: Annotations to the NAGC Pre-K–Grade 12 Gifted Program Standards.* Waco, TX: Prufrock Press.

Lee, S., Matthews, M. S., & Olszewski-Kubilius, P. (2008). A national picture of talent search and talent search educational programs. *Gifted Child Quarterly, 52(1), 55-69.* doi:10.1177/0016986207311152

Lincoln, Y.S., & Guba, E.G. (1985). *Naturalistic Inquiry*. Newbury Park, CA: Sage.

Lohman, D. F., Hagen, E. P. (2001). Cognitive Abilities Test (Form 6). Itasca, IL: Riverside.

Lohman, D. F. (2005). Review of the Naglieri and Ford (2003): Does the Naglieri Nonverbal Ability Test identify equal proportions of high-scoring white, black, and hispanic students?. *Gifted Child Quarterly, 49(1), 19-28.* doi: 10.1177/001698620504900103

Long, L. C., Barnett, K., & Rogers, K. B. (2015). Exploring the relationship between principal, policy, and gifted program scope and quality. *Journal for the Education of the Gifted, 38(2), 118-140.* https://eric.ed.gov/?id=EJ1061278

Lou, Y., Abrami, P., Spence, J., Poulson, C., Chambers, B., & d'Apollania, S. (1996). Within-class grouping: A meta-analysis. *Review of Educational Research, 66, 423-458. doi: 10.3102/0034654306600442*

Mandelman, S. D., & Grigorenko, E. L. (2013). Questioning the unquestionable: reviewing the evidence for the efficacy of gifted education. *Talent Development & Excellence, 5(1), 125-137.*

Marland, S. P., Jr. (1972). *Education of the gifted and talented: Report to the Congress of the United States by the U.S. Commissioner of Education and background papers submitted to the U.S. Office of Education, 2 vols*. Washington, DC: U.S. Government Printing Office. (Government Documents Y4.L 11/2: G36)

Matthews, M. S., Ritchotte, J. A., & McBee, M. T. (2013). Effects of schoolwide cluster grouping and within-class ability grouping on elementary school students' academic achievement growth. *High Ability Studies, 24(2), 81-97.* doi:10.1080/13598139.2013.846251.

Matthews, M. S., & Shaunessy, E. (2010). Putting Standards into Practice: Evaluating the Utility

of the NAGC Pre-K-Grade 12 Gifted Program Standards. *Gifted Child Quarterly, 54(3), 159-167.* doi: 10.1177/0016986209356708

Maxwell JA (2012). What is realism, and why should qualitative researchers care?. In Maxwell JA (ed.). *A Realist Approach for Qualitative Research.* Thousand Oaks,CA: Sage.

McBee, M. T., McCoach, D. B., Peters, S. J., & Matthews, M. S. (2012). The case for a schism: A commentary on Subotnik, Olszewski-Kubilius, and Worrell (2011). *Gifted Child Quarterly, 56(4), 210-214.* https://eric.ed.gov/?id=EJ978173

McBee, M. T., Peters, S. J., & Waterman, C. (2014). Combining scores in multiple-criteria assessment systems: the affect of combination rule. *Gifted Child Quarterly, 58(1), 69-89.* doi: 10.1177/0016986213513794

McClarty, K. L. (2015). Life in the fast lane: Effects of early grade acceleration on high school and college outcomes. *Gifted Child Quarterly, 59(1), 3-13.* doi:10.1177/0016986214559595

McDaniel, T. R. (2002). Mainstreaming the gifted: Historical perspective on excellence and equity. *Roeper Review, 24(3), 112.* doi: 10.1080/02783190209554144

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook.* Thousand Oaks: Sage Publications.

Missett, T. C., Brunner, M. M., Callahan, C. M., Moon, T. R., & Azano, A. P. (2014). Exploring teacher beliefs and use of acceleration, ability grouping, and formative assessment. *Journal for the Education of the Gifted, 37(3), 245-268.* doi: 10.1177/0162353214541326

Moon, S. M., & Dixon, F.A. (2015). Conceptions of giftedness in adolescence. In Dixon, F.A. & Moon, S. M., & National Association for Gifted Children (U.S.). (2015). *The Handbook of Secondary Gifted Education.* Waco, TX, US: Prufrock Press.

Moon, T.R. (2013). Not just a test: Utilizing no-test assessments in identifying gifted and talented students. In C.M. Callahan & H. Hertberg-Davis (Eds.), *Fundamentals of Gifted Education: Considering Multiple Perspectives (pp. 128-134).* New York: Routledge.

Moon, T. R., Callahan, C. M., & Brighton, C. M. (2003). School Characteristics Inventory: Investigation of a quantitative instrument for measuring the modifiability of school contexts for implementation of educational innovations. *Journal for the Education of the Gifted, 27(2/3), 146-176.* https://files.eric.ed.gov/fulltext/EJ787918.pdf

Moon, T. R., & Park, S. (2016). Fidelity of intervention of English/language arts elementary curriculum for gifted students. *Journal for the Education of the Gifted, 39(1), 62-79.* doi:10.1177/0162353215624161

Naglieri J.A. (2003). *Naglieri Nonverbal Ability Tests.* In: McCallum R.S. (eds) Handbook of Nonverbal Assessment. Springer, Boston, MA

Naglieri, J. A., & Ford, D. Y. (2005). Increasing minority children's participation in gifted classes using the NNAT: A response to Lohman. *Gifted Child Quarterly, 49(1), 29-36.* doi: 10.1177/001698620504900104

Naglieri, J. A., & Prewett, P. N. (1990). Nonverbal intelligence: A selected review of instruments and their use. In R. W. Kamphaus & C. R. Reynolds (Eds.), *Handbook of Psychological And Educational Assessment: Volume I, Intelligence And Achievement (pp. 348-370).* New York: Guilford Press.

National Association for Gifted Children. (2010). *Pre-K–Grade 12 Gifted Programming Standards.* Washington, DC: Author. Retrieved November 2, 2015 from http://www.nagc.org/sites/default/files/standards/K-12programmingstandards.pdf

National Association of Gifted Children. (2015). *2014-2015 State of the States in Gifted*

Education: Policy and Practice. Retrieved November 2, 2015 from National Association of Gifted Children website: http://www.nagc.org/resources-publications/gifted-state/2014-2015-state-states-gifted-education.

Oh, S., Hailey, E., Azano, A., Callahan, C., Moon, T. (2012). *What works in gifted education-documenting the model-based curriculum for gifted students.* Evanston, IL: Society for Research on Educational Effectiveness. *https://eric.ed.gov/?id=ED535658*

Olszewski-Kubilius, P., & Clarenbach, J. (2012). *Unlocking Emergent Talent: Supporting High Achievement Of Low-Income, High-Ability Students.* Washington, DC: National Association for Gifted Children. Retrieved from http://files.eric.ed.gov/fulltext/ED537321.pdf

Olszewski-Kubilius, P., & Corwith, S. (2011). Distance education: Where it started and where it stands for gifted children and their educators. *Gifted Child Today, 34(3), 16-24.* doi:10.1177/107621751103400306

Olszewski-Kubilius, P. & Thomson, D. (2014). Talent search. In J. A. Plucker and C. M. Callahan (Eds.), *Critical Issues and Practices in Gifted Education: What the Research Says.* Waco, Tx. Prufrock Press.

Otis, A. S., & Lennon, R. T. (1997). Olsat: Otis-Lennon school ability test. San Antonio: Harcourt Brace Educational Measurement.

Passow, A. H., & Goldberg, M. L. (1962). The talented youth project: A progress report. *Exceptional Children, 28(5), 223-231.* doi: 10.1177/001440296202800501

Patton MQ. *Qualitative Research and Evaluation Methods.* 3rd Sage Publications; Thousand Oaks, CA: 2002.

Pearson. (2003). Otis-Lennon School Ability Test(r), Eighth Edition.

Picciano, A. G., & Seaman, J. (2007). K-12 online learning: a survey of u.s. school district administrators. *Journal of Asynchronous Learning Networks, 11(3), 11-37. https://eric.ed.gov/?id=ED530103*

Plucker, J. A. (2012). Positively influencing gifted education policy. *Gifted Child Quarterly, 56(4), 221-223.* doi: 10.1177/0016986212456071

Plucker, J. A., Burroughs, N., Song, R., & Indiana University, C. P. (2010). *Mind the (Other) Gap! The Growing Excellence Gap in K-12 Education.* Center for Evaluation and Education Policy, Indiana University. https://eric.ed.gov/?id=ED531840

Plucker, J. A., & Callahan, C.M. (2014). Research on giftedness and gifted education: Status of the field and considerations for the future. *Exceptional Children, 80(4), 390-406.* doi: 10.1177/0014402914527244.

Pressey, S. L. (1949). *Educational acceleration: Appraisals and basic problems.* Columbus: Ohio State University.

Raven, J., Raven, J. C., & Court, J. H. (2000). Manual for Raven's progressive matrices and vocabulary scales. Section 3: The standard progressive matrices. Oxford, UK: Oxford Psychologists Press; San Antonio, TX: The Psychological Corporation.

Reis, S., & Renzulli, J. (2008). Differentiation and enrichment. *District Administration, 44(7), 22-23.*

Renzulli, J. S., Gentry, M., & Reis, S. M. (2003). Enrichment Clusters: A Practical Plan For Real-World, Student-Driven Learning. Mansfield Center, CT: Creative Learning Press.

Renzulli, J. S. (1986). The three ring conception of giftedness: A developmental model for creative productivity. In R. J. Sternberg & J. E. Davidson (Eds.), *Conceptions of Giftedness (pp. 51-92).* New York: Cambridge University Press.

Renzulli, J. S. (2012). Reexamining the role of gifted education and talent development for the 21st century: A four-part theoretical approach. Gifted Child Quarterly, 56(3), 150-159. doi: 10.1177/0016986212444901

Renzulli, J. S., Reid, B. and Gubbins, J. (1992). Setting an Agenda: Research Priorities for the Gifted and Talented through the Year 2000. Storrs, CT: University of Connecticut, The National Research Center on the Gifted and Talented.

River Run Public Schools.(2011) Local Plan for the Education of the Gifted 2012-2017.

River Run Public Schools. (2017). Local Plan for the Education of the Gifted 2017-2022.

Roberts, C., Ingram, C., & Harris, C. (1992). The effect of special versus regular classroom programming on higher cognitive processes of intermediate elementary aged gifted and average ability students. *Journal for the Education of the Gifted, 15, 332-343. doi: 10.1177/016235329201500403*

Robinson, A. (2012). Psychological science, talent development, and educational advocacy: lost in translation?. *Gifted Child Quarterly, 56(4), 202-205. doi:10.1177/0016986212456077*

Robinson, A., Cotabish, A., Wood, B. K., & O'Tuel, F. S. (2014). The effects of a statewide evaluation initiative in gifted education on practitioner knowledge, concerns, and program documentation. *Journal of Advanced Academics, 25(4), 349-383.* doi:10.1177/1932202X14549356

Rogers, C. R. (1983). *Freedom to learn for the 1980's*. Merrill.

Rogers, K. B. (2007). Lessons learned about educating the gifted and talented: A synthesis of the research on educational practice. *Gifted Child Quarterly, 51, 382-384. doi:10.1177/0016986207306324*

Rogers, K. B. (2004). The academic effects of acceleration. In N. Colangelo, S. G. Assouline, & M. U. M. Gross (Eds.), *A Nation Deceived: How Schools Hold Back America's Brightest Students (Vol. II, Pp. 47-57).* Iowa City, IA: Connie Belin and Jacqueline N. Blank International Center for Gifted Education and Talent Development.

Roid, G. H.(2003). *Stanford Binet intelligence scales.* Itasca, IL:Riverside Publishing.

Sapon-Shevin, M. (1996). Beyond gifted education: building a shared agenda for school reform. *Journal for the Education of the Gifted,, 19(2), 194-214.* doi:10.1177/016235329601900206

Seale, C (1999) Quality in qualitative research. *Qualitative Inquiry, 5, 465–78.* doi:10.1177/107780049900500402

Siegle, D., Wilson, H. E., & Little, C. A. (2013). A sample of gifted and talented educators' attitudes about academic acceleration. *Journal of Advanced Academics, 24, 27–51.* doi:10.1177/1932202X12472491 Shaunessy-Dedrick, E. & Cotabish, A. (2014). Special Issue: Recent Findings From Jacob K. Javits Gifted and Talented Education Act Grants. Journal of Advanced Academics, 25(4), 335-337. doi:10.1177/1932202X14549510

Shore, B. M. and Delcourt, M. A. B. 1996. Effective curricular and program practices in gifted education and the interface with general education. Journal for the Education of the Gifted, 20(2): 138–154.

Shulman, L. (1987). Knowledge and teaching: Foundations of the new reform. Harvar Educational Review, 57(1), 1–22.

Siegle D., Wilson H. E., Little C. A. (2013). A sample of gifted and talented educators' attitudes

about academic acceleration. *Journal of Advanced Academics, 24(1), 27-51*. doi:10.1177/1932202X12472491

Slavin, R. E. (2008). What works? Issues in synthesizing educational program evaluations. *Educational Researcher, 37(1), 5-14. http://www.bestevidence.org.uk/assets/what_works_2008_ER.pdf*

Southern, W. T., & Jones, E. D. (2004). Types of acceleration: dimensions and issues. In N. Colangelo, S. G. Assouline, & M. U. M. Gross (Eds.), *A Nation Deceived: How Schools Hold Back America's Brightest Students (Vol. II, Pp. 5-12).* Iowa City, IA: Connie Belin and Jacqueline N. Blank International Center for Gifted Education and Talent Development.

Southern, W. T., & Jones, E. D. (Eds.). (1991). *The Academic Acceleration of Gifted Children.* New York, NY: Teachers College Press.

Steenbergen-Hu, S., Makel, M. C., & Olszewski-Kubilius, P. (2016). What one hundred years of research says about the effects of ability grouping and acceleration on K–12 students' academic achievement. *Review of Educational Research, 86(4), 849-899.* doi: 10.3102/0034654316675417.

Sternberg, R. J., National Research Center on the Gifted and Talented, S. C., & Yale Univ., N. C. (1995). *A Triarchic Approach to Giftedness.*

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

Swanson, J. D. (2007). Policy and practice: A case study of gifted education policy implementation. *Journal for the Education of the Gifted, 31(2), 131-164.* doi:10.4219/jeg-2007-679

Subotnik, R. F., Olszewski-Kubilius, P., & Worrell, F. C. (2012). A proposed direction forward for gifted education based on psychological science. *Gifted Child Quarterly, 56(4), 176-188*. doi: 10.1177/0016986212456079

Subotnik, R. F., & Rickoff, R. (2010). Should eminence based on outstanding innovation be the goal of gifted education and talent development? Implications for policy and research. *Learning and Individual Differences, 20(4), 358-364.* https://eric.ed.gov/?id=EJ890981

Terman, L. M. (1925). *Genetic Studies of Genius: Vol. 1. Mental and Physical Traits of a Thousand Gifted Children*. Stanford, CA: Stanford University Press.

Tomlinson, C. A. (2005). Quality Curriculum and Instruction for Highly Able Students. *Theory Into Practice, 44(2), 160-166.* doi: 10.1207/s15430421tip4402_10

Tomlinson, C. A. (1999). *The Differentiated Classroom. Responding to the Needs of all Learners.* Alexandria, Va: Association for Supervision and Curriculum Development, 1999.

Tomlinson, C., Bland, L. & Moon, T. (1993). Evaluation utilization: A review of the literature with implications for gifted education. *Journal for the Education of the Gifted, 16(2), 171-89.* doi: 10.1177/016235329301600206

Tomlinson, C. A., Brighton, C., Hertberg, H., Callahan, C. M., Moon, T. R., Brimijoin, K., & ... Reynolds, T. (2003). Differentiating instruction in response to student readiness, interest, and learning profile in academically diverse classrooms: a review of literature. *Journal for the Education of the Gifted, 27(2-3), 119-145.* doi: 10.1177/016235320302700203

Tomlinson, C. A., & Callahan, C. (1992). Contributions of gifted education to general education in a time of change. *Gifted Child Quarterly, 36, 183-189.* doi:10.1177/001698629203600403

Tomlinson, C. A., & Jarvis, J. (2009). Differentiation: Making curriculum work for all students through responsive planning and instruction. In Renzulli, J. S., Gubbins, E. J., McMillen, K. S., Eckert, R. D., Little, C. A. (Eds.), *Systems and Models for Developing Programs for the Gifted and Talented (Pp. 599-628).* Storrs, CT: Creative Learning Press.

Tomlinson, C. A., Kaplan, S. N., Renzulli, J. S., Purcell, J. H., Leppien, J. H., Burns, D. E., Strickland, C. A., Imbeau, M. B. (2008). *The Parallel Curriculum: A Design to Develop Learner Potential and Challenge Advanced Learners.* Thousand Oaks: SAGE Publications.

Torrance, E. P. (2003). The millennium: A time for looking forward and looking back. *Journal of Secondary Gifted Education, 15(1), 6.* https://eric.ed.gov/?id=EJ788922

Torrance, E. P. (1971).Creative Motivation Scale of the Personal-Social Motivation Inventory, Georgia Studies of Creative Behavior, Athens, GA.

Torrance, E. P., & Personnel Press. (1966). Torrance tests of creative thinking. Princeton, N.J: Personnel Press.

United States. (1993). *National Excellence: A Case For Developing America's Talent.* Washington, DC: U.S. Dept. of Education, Office of Educational Research and Improvement, Programs for the Improvement of Practice.

United States. National Commission on Excellence in Education. Department of Education. (1983). *A Nation At Risk : The Imperative For Educational Reform* : a report to the Nation and the Secretary of Education, United States Department of Education. Washington, D.C. :The Commission : [Supt. of Docs., U.S. G.P.O. distributor]

United States Census Bureau (2015). *Selected housing characteristics,* Quick Facts. Retrieved from http://www.census.gov/quickfacts/table/PST045215/51,00

VanTassel-Baska, J. (2005). Gifted programs and services: What are the non-negotiables?. *Theory Into Practice, 44(2), 90-97.* doi: 10.1207/s15430421tip4402_3

VanTassel-Baska, J. (2006). NAGC symposium: A report card on the state of research in the field of gifted education. *Gifted Child Quarterly, 50(4), 339-341.* doi: 10.1177/001698620605000406

VanTassel-Baska, J. (2014). Performance-based assessment: The road to authentic learning for the gifted. *Gifted Child Today, 37(1), 41-47.* doi: 10.1177/1076217513509618

VanTassel-Baska, J., & Brown, E. (2007). Toward best practice: An analysis of the efficacy of curriculum models in gifted education. *Gifted Child Quarterly, 51, 342-358.* doi:10.1177/0016986207306323

VanTassel-Baska, J., & Stambaugh, T. (2005). Challenges and possibilities for serving gifted learners in the regular classroom. *Theory Into Practice, 44(3), 211-217.* doi:10.1207/s15430421tip4403_5

Vaughn, V. L., Feldhusen, J.F. & Asher, J.W. (1991). Meta-analyses and review of research on pull-out programs in gifted education. *Gifted Child Quarterly, 35(2), 92-98. doi:10.1177/001698629103500208*

Virginia Department of Education. (2012). *Regulations Governing Educational Services for Gifted Students.* Retrieved November 2, 2015, from Virginia Department for Education website: http://www.doe.virginia.gov/instruction/gifted_ed/gifted_regulations.pdf.

Virginia Department of Education. (2017). *Format for Gifted Local Plan.* Retrieved November 2, 2015, from Virginia Department for Education website: http://www.doe.virginia.gov/instruction/gifted_ed/ed_services_plans/local_plan

Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes

Cambridge, Mass.: Harvard University Press.

Watkins, R., & Kavale, J. (2014). Needs: Defining what you are assessing. *New Directions For Evaluation, 2014(144), 19-31.* doi:10.1002/ev.20100.

Wechsler, D. (2003a). Wechsler Intelligence Scale for Children–Fourth Edition. San Antonio, TX: The Psychological Corporation.

Winebrenner, S., Devlin, B., & ERIC Clearinghouse on Disabilities and Gifted Education, A. V. (2001). *Cluster Grouping of Gifted Students: How To Provide Full-Time Services on a Part-Time Budget.* ERIC Digest E607.

Wiggins, G. P., & McTighe, J. (2005). *Understanding by Design.* Alexandria, VA: Association for Supervision and Curriculum Development.

Witkin, Belle Ruth and Altschuld, James W. (1995). *Planning and Conducting Needs Assessments: A Practical Guide.* Thousand Oaks, CA, London, New Delhi: Sage Publications.

Worrell, F. C., Olszewski-Kubilius, P., & Subotnik, R. F. (2012). Important issues, some rhetoric, and a few straw men: a response to comments on "Rethinking giftedness and gifted education". *Gifted Child Quarterly, 56(4), 224-231.* doi:10.1177/0016986212456080

Ziegler, A. N. (2012). Towards a systemic theory of gifted education. *High Ability Studies, 23(1), 3-30.* doi: 10.1080/13598139.2012.679085

Zirkel, P. A. (2005). State laws for gifted education: An overview of the legislation and regulations. *Roeper Review, 27(4), 228-232.* doi: 10.1080/02783190509554323

Appendix A

Observation Protocol

This observation will include three sections including - classroom setting and context, classroom activities, and instructional strategies. The classroom setting and context section will include physical description of the classroom, resources used, student demographics, classroom routines, student/teacher interactions and learning environment. The classroom activities sections will describe the specific content, what students are learning, elements of critical thinking and creative strategies, and expectations for student performance. The instructional strategies section will include instructional strategies, teacher behaviors, and student responses.

Observer "look fors" are defined below then translated to an observation form.

Section 1 - Classroom Setting and Context

Describe the classroom:

- ✓ What is the physical space like? How is the classroom arranged (desks arrangement, learning stations, flexible for grouping)?
- ✓ What instructional resources/materials are available? Are used?
- ✓ Describe classroom management techniques.

Describe the teacher/student interactions:

- ✓ How do students and teachers interact? What is the student's role? The teacher's role?
- ✓ How does the teacher respond to student questions? How are things modified/adjusted during the course of the lesson based on student's response?
- ✓ How do students respond to teacher?

Section 2 – Classroom Activities

What is being taught and how?

- ✓ What is the focus of the lesson's objective? basic skills? big ideas and concepts?
- ✓ Are students presented with options for acceleration or enrichment? Are students encouraged/allowed to work ahead or independently at their own pace?
- ✓ Is there variation of class materials or activities based on ability? Interests?
- ✓ Are activities based on standards, enrichment or open-ended problems?
- ✓ Are activities designed to promote critical and creative thinking? Thought provoking and challenging?
- ✓ Is content modified for student's needs? If so, how?
- ✓ Is success defined based on a single criteria/standard/competency or on growth or expectations that extend beyond competency?

Section 3 – Instructional Strategies

What grouping practices are utilized and how are they determined?

- ✓ Are gifted students grouped together? Homogenously? Heterogeneously?
- ✓ Are groups teacher? student selected?
- ✓ Are students presented opportunities which promote exploration in depth and understanding of content?
- ✓ Are students provided opportunities to brainstorm, reflect, articulate and elaborate on their ideas?
- ✓ Are students provided alternative choices of activity or assignments?
- ✓ Are students using technology to research? Create knowledge? Skill practice?

OBSERVATION FORM

Teacher #: Start/End Time:

Grade:

Description of Classroom Setting/Tone/Interactions:
Materials:

Teacher Behaviors* **Use defined "look-fors" as a guide*	**Advanced Learner Response**	**Whole Class Response**
1. Instructional Strategy		
2. Classroom Activities		
3. Use of Assessment		

Quick Checklist: Indicators for Curriculum and Instruction for Gifted Students

Indicators that the classroom activities and instruction is generally a good fit for advanced learners	**Indicators that the classroom activities and instruction is generally NOT a good fit for advanced learners**	**Degree to which each indicator was observed** (Not Observed, Partially Implemented, Fully Implemented)	**Observation Notes and Interpretations**
Concept based curriculum	Fact/skill based curriculum		
Multiple resources	Text driven		
Varied Pacing	Uniform Pacing		
Assessed in variety of ways with beyond grade level expectations	Test driven		
Inquiry based collaboration	"Right-answer" collaborative learning		
Adapts lesson in response to student readiness	Prescribed lessons taught without regard for student readiness		
Multiple options for assignment/activities for all	Same assignment/ activities for all		
Flexible grouping	Fixed grouping		
Strong emphasis on student interests and choice	Low emphasis on student interests and choice		

Appendix B

Pre-Observation Teacher Questionnaire

Instructions for interview (delivered at the beginning of the interview): As you know, I am conducting a needs assessment for the K-5 gifted education program in Augusta County Schools. The purpose is to describe what is currently happening and to provide recommendations on how to better support classroom teachers in meeting the needs of gifted students. Many curricular and instructional strategies in gifted education are beneficial for all students. I am interested in the classroom experiences of gifted students and how that is reflected in classroom instruction.

The information you provide will be handled confidentiality. You information will assigned a number or pseudonym to ensure you cannot be identified in any report. Any information identifying your school will be removed. If there are questions you do not feel comfortable answering, please feel free to leave that question blank.

This interview will consist of three sections - instructional context, classroom demographics, and teacher demographics. It should take about five -ten minutes.

Instructional Context

Questions in this section are asked to provide a context with relationship to classroom activities and instructional strategies used in your classroom during the observed lesson.

1. How would you characterize the purpose/goal of the lesson?

2. Describe how this lesson is situated in the unit of instruction (i.e. what was the purpose of the previous lesson and how was it related and what will you do the following day).

3. Are there aspects of the lesson, students or classroom you would like to clarify regarding the observation?

4. Describe your assessment plan for the unit and how you use assessments.

Classroom Demographics

This section will describe information about your students.

5. How many students in your class are eligible for special education services? ELL/ESL/LEP students are in your class?

6. How many students in your class are identified as gifted?

Teacher Demographics

This section will describe information about your professional experience.

7. How many years have you been teaching in Augusta County?

8. Please note any specialized certifications, classes or professional development related to teaching gifted students you have completed. Consider any professional development opportunities and school level as well as though you have pursued individually.

Appendix C

Classroom Practices and K-5 Gifted Education– Teacher Survey

**This survey is available on-line at*
https://virginiaeducation.az1.qualtrics.com/jfe/form/SV_40zKmfgjc0PHmjX

Dear Teachers,

Thank you for your interest in completing this survey. It will take about 10-15 minutes. The survey contains questions about your beliefs about giftedness, classroom practices, gifted programs, and professional demographic information.

This is survey is part of a needs assessment for the K-5 gifted education program in Augusta County Schools that is being conducted.

The purpose of this survey is to describe what is currently happening and to provide recommendations on how to better support classroom teachers in meeting the needs of gifted students. In this process, it is important to understand the classroom practices and experiences of gifted students.

Your input will be used to inform and facilitate planning for the gifted program. Your answers to the survey are completely anonymous. As the facilitator, I am the only one who will have access to the data and your responses cannot be in any way linked to personal or school information. The data are password protected. Only summarized data will be presented in publications, meetings or reports.

Your participation is voluntary. You are free to stop participating any time before you submit your answers. You may leave an answer blank. There is no risk to you in participating in this study. You give consent to take part in this needs assessment by completing the survey.

If you have questions regarding the survey or needs assessment, please contact Lee Ann Whitesell at 540-245-5088 or by email (whitesell@svgs.k12.va.us). If you have questions about your rights as a participant in this study, contact Dr. Tonya Moon, Chair of the University of Virginia Institutional Review Board for Social and Behavioral Sciences at (434) 924-5999 or irbsbshelp@virginia.edu.

You are invited and encouraged to complete the survey by October 30.

Sincerely,

Lee Ann Whitesell
Student, Curry School of Education, UVA

1. Below is a list of classroom practices. Please select the three (3) classroom practices below that you identify as the most important in helping gifted students grow and nurturing their talents. Click on that box to the left of your selection.

- ▢ Modifying activities to increase challenge
- ▢ Varying depth and complexity of curriculum
- ▢ Providing opportunities for students to work with their intellectual peers
- ▢ Providing choices in curriculum and activities to accommodate student interests
- ▢ Using acceleration in content or by grade
- ▢ Using real world problems to make learning meaningful
- ▢ Focusing on concepts to develop understanding
- ▢ Fostering creativity and imagination
- ▢ Having students find and use information to create new knowledge

2. Each statement below describes a classroom practice. Determine the frequency of that practice within your classroom. Select the appropriate response for the frequency from the drop-down menu for each group.

Frequency of use in your classroom

Using flexible grouping strategies such as cluster grouping
▼ 0 - Never (1) ... 4 - Daily (5)

Emphasize core concepts, themes, issues and ideas across disciplines
▼ 0 - Never (1) ... 4 - Daily (5)

Provide opportunities to practice critical thinking through non-routine, real-world problem-solving
▼ 0 - Never (1) ... 4 - Daily (5)

Use class or small group discussion
▼ 0 - Never (1) ... 4 - Daily (5)

Provide opportunities for the use of higher level thinking skills (i.e. analysis, synthesis, and evaluation)
▼ 0 - Never (1) ... 4 - Daily (5)

Provide alternative assignments
▼ 0 - Never (1) ... 4 - Daily (5)

Provide opportunities for student choice in topic and final product (23)
▼ 0 - Never (1) ... 4 - Daily (5)

Offer projects that encourage student creativity and independent research (11)
▼ 0 - Never (1) ... 4 - Daily (5)

Use rubrics to define levels of accomplishment for students
▼ 0 - Never (1) ... 4 - Daily (5)

3. To what extent is differentiation of curriculum and instruction a regular part of your weekly classroom practice?
- o Not a significant part (1)
- o A somewhat significant part (2)
- o A significant part (3)
- o A very significant part (4)

LOGIC - Display This Question IF:
To what extent is differentiation of curriculum and instruction a part of your classroom practice? = A somewhat significant part Or = A significant part Or = A very significant part

3a. Describe how you differentiate curriculum and instruction in your classroom.
_____
_____
_____
_____
_____

4. As a classroom teacher, what are the biggest challenges (if any) in meeting the needs of gifted students in your classroom? If you see no challenges, please explain your response.

_____
_____
_____
_____
_____

5. Counting this school year, how many years have you taught at each of the grade levels listed below?

	0 years	1-3 years	4-7 years	8-10 years	11-15 years	16-20 years	20+ years
Pre-K (1)	o	o	o	o	o	o	o
Kindergarten - Grade 2	o	o	o	o	o	o	o
Grade 3-5 (3)	o	o	o	o	o	o	o
Grade 6 or higher (4)	o	o	o	o	o	o	o

6. I am currently a
- o regular classroom teacher
- o specialist (i.e. art, music, PE, ELL/ESL, guidance, sped, library)

Appendix D

School K-5 Gifted Program– School Administrator Survey

Dear Principals,
Thank you for your interest in completing this survey. It will take about 20 minutes. The survey contains questions about the school's gifted programs and professional demographic information.

This is survey is part of a needs assessment for the K-5 gifted education program that is being conducted in Augusta County Schools. The needs assessment will provide information for Augusta County Schools to enact its Local Plan for the Gifted 2017-2022.

The purpose of this survey is to describe what is currently happening and to provide recommendations on how to better support teachers and administrators in meeting the needs of gifted students. In this process, it is important to understand the experiences of gifted students and how that is reflected in practice.

Your input will be used to inform and facilitate planning for the gifted program. Your answers to the survey are completely anonymous. As the facilitator, I am the only one who will have access to the data and your responses cannot be in any way linked to personal or school information. The data are password protected. Only summarized data will be presented in publications, meetings or reports.

Your participation is voluntary. You are free to stop participating any time before you submit your answers. You may leave an answer blank. There is no risk to you in participating in this study. You give consent to take part in this needs assessment by completing the survey.

If you have questions regarding the survey or needs assessment, please contact Lee Ann Whitesell at 540-245-5088 or by email (whitesell@svgs.k12.va.us). If you have questions about your rights as a participant in this study, contact Dr. Tonya Moon, Chair of the University of Virginia Institutional Review Board for Social and Behavioral Sciences at (434) 924-5999 or irbsbshelp@virginia.edu.

You are invited and encouraged to complete the survey by Nov. 1.

Sincerely,
Lee Ann Whitesell, M. Ed.
Student, Curry School of Education, UVA

1. Based on your professional knowledge, experience and observation, indicate approximately what percentage of students in your school would you categorize as on grade level, above or below grade level?

Students At or Near Grade Level (within +1/-1 grade level) (1)	
Students Above Grade Level (2 or more grades ABOVE current grade level) (2)	
Students Below Grade Level (2 grades or more BELOW current grade level) (3)	
	0% 100%

2. Describe your role as an instructional leader in developing student talents and the factors which influence that role. (i.e. factors such as curricular/instructional challenges, resources, community values, daily realities, etc.)

_____

_____

_____

_____

_____

3. Describe the role of the gifted and talented coordinator in your school. (i.e. What does he or she do to support gifted students? What is his or her interaction and relationship with other teachers? With parents? With students? With administration? How did he or she come to be assigned the role for GT coordinator?)

_____

_____

_____

_____

_____

4. Below are different models or strategies used to meet the needs of gifted students. Please indicate how often these models are used in your school. Please note that it is likely not all models will be used in every school.

	Always (1)	Most of the time (2)	About half the time (3)	Sometimes (4)	Rarely (5)
Academic competitions/programs	○	○	○	○	○
Acceleration in content	○	○	○	○	○
Acceleration by grade	○	○	○	○	○
Cluster grouping	○	○	○	○	○
Curriculum compacting	○	○	○	○	○
Differentiated curriculum in general education classroom	○	○	○	○	○
Differentiated curriculum in specialist classroom (i.e. art, music, etc)	○	○	○	○	○
Enrichment activities-afterschool	○	○	○	○	○
Enrichment activities - during school	○	○	○	○	○
Flexible grouping	○	○	○	○	○
Individual instructional programs/learning contracts/distance learning	○	○	○	○	○
"Pull-out" instruction	○	○	○	○	○
Students working with experts/mentors	○	○	○	○	○

5. As an instructional leader in your building, what are the biggest challenges (if any) in meeting the needs of gifted students in your school ? If you see no challenges, please explain your response.

_____

_____

_____

_____

_____

6. Provide any other input you feel would be helpful to the division in enacting the local plan for gifted. Describe any specific concerns you feel the division needs to address, if any, in order to better help gifted students reach their potential.

_____

_____

_____

_____

_____

End of Block: Serving Gifted Students in Your School

Start of Block: Block 3

7. Counting this school year, how many years have you been a school administrator of the grade levels listed below? Type the number in the box beside the corresponding level.

	0 years	1-3 years	4-7 years	8-10 years	11-15 years	15-20 years	20+ years
Elementary (1)	○	○	○	○	○	○	○
Middle School (2)	○	○	○	○	○	○	○
High School (3)	○	○	○	○	○	○	○
Other (4)	○	○	○	○	○	○	○

Appendix E

Gifted and Talented Coordinator Interview Protocol

Introduction. Thank you for taking the time to meet with me today. As you know, I am conducting a needs assessment of the elementary gifted education program for Augusta County Schools. I am especially interested in your role as gifted and talented coordinator, your ideas about gifted education, and how the current gifted program is enacted in your school and in Augusta County.

Your input will be used to inform and facilitate planning for the gifted program. Your confidentiality is protected. I will assign a pseudonym and your name will not be used. As the facilitator, I am the only one who will have access to the data and your responses will not be in any way linked to personal or school information. Only summarized data will be presented in publications, meetings or reports. If I ask you anything you don't feel comfortable answering, please feel free to tell me you would rather not answer.

To be sure I don't miss anything, I would like to tape the interview and will take notes. The tape will be secured and will only be accessed by me. Is that ok with you? Do you have any questions for me?

Role of Gifted and Talented Coordinator

1. Tell me how you came to be the gifted and talented coordinator for your school.
   Probe: Describe your *experiences* working with gifted students.

   Probe: Tell me about any *special training or professional development* regarding gifted students and gifted education.

2. Describe your role as gifted and talented coordinator in your school.
   Probe: What do you do to support gifted students?

   Probe: Describe your relationship with your teaching colleagues.

   How do your teaching colleagues benefit from your role as gifted and talented coordinator?

   Probe: What is your role in working with parents? Students?

   Probe: In this role, how do you work with school administrators and division instructional supervisors?

Identification Process

3. Tell me how gifted students are identified in your school.
   Probe: Describe how the screening/referral process works in your school.

   Probe: Describe the role of teachers in that process. Role of parents? Students?

4. What is your sense of the accuracy and reliability of this identification process?
   Probe: Do you notice differences of socio-economic status among gifted students you work with?
   Probe: Do you notice age differences among gifted students you work with?

   Probe: What factors do you feel influence identification the most? Least?

Gifted Program

5. Tell me how gifted students are served in your school (service delivery)
   Probe: Describe the regular classroom teacher's role in meeting gifted students' needs.
   Probe: Describe the experience a gifted student would typically have in a regular classroom.

   Probe: What instructional strategies are used with gifted students? When, where and how do those usually happen?

   Probe: Describe any differentiation in curriculum that happens. How often would that typically happen?

   Probe: What experiences do gifted students have outside of the regular classroom?

6. A program of differentiated curriculum and instruction is the focus of the local gifted plan. How would you describe the differentiated curriculum and instruction gifted students in your school experience?
   Probe: What types of instructional models, curriculum variation or other activities seem to work well and why? Which don't work well and why?

   Probe: What are good examples of differentiated curriculum and instruction in your school?

7. How well do you think the current program is working in meeting the needs of gifted students in your school?
   Probe: What do you look for as evidence that the needs of gifted students are met?

   Probe: What factors exist in your school, if any, do you feel constrain meeting the needs of gifted students?

   Probe: If you could change one thing about the gifted program at your school, what

would it be?

Resources for Gifted Program

8. What support is provided to teachers regarding the education of gifted students?
   Probe: What professional development activities do you feel are needed? Would be most helpful for general education teachers? For specialists?
   Probe: Are there other resources you feel are needed? Would be significantly beneficial?

9. How well do you think gifted education is supported in Augusta County?
   Probe: What is the role of division instructional leaders in assisting schools and teachers with gifted education?
   Probe: How is gifted education seen by teachers? Administrators? Parents? Students?
   Probe: How is gifted education seen by the community at large?

10. What should I have asked you but didn't think about?
    Probe: Provide any other input you feel would be helpful to the division in developing the local plan for gifted.
    Probe: Describe any specific concerns you feel the division needs to address, if any, in order to better help gifted students reach their potential.

Appendix F

District Instructional Supervisor Interview Protocol

Introduction. Thank you for taking the time to meet with me today. As you know, I am conducting a needs assessment of the elementary gifted education program for Augusta County Schools. I am especially interested in your ideas about gifted education, and how the current gifted program is enacted in your school and in Augusta County, and how well that fits with the division's ideal program.

Your input will be used to inform and facilitate planning for the gifted program. Your confidentiality is protected. I will assign a pseudonym and your name will not be used. As the facilitator, I am the only one who will have access to the data and your responses will not be in any way linked to personal or school information. Only summarized data will be presented in publications, meetings or reports. If I ask you anything you don't feel comfortable answering, please feel free to tell me you would rather not answer.

To be sure I don't miss anything, I would like to tape the interview and will take notes. The tape will be secured and will only be accessed by me. Is that ok with you? Do you have any questions for me?

<u>Program Design Components – Goals/Objectives/Service Delivery Options</u>

1. Describe the purpose of the gifted program in Augusta County Schools.

   Probe: What is Augusta County Schools' philosophy on gifted education?

   Probe: How is giftedness defined in the division?

   Probe: What are the goals/objectives of the gifted program?

2. What division policies regarding the gifted program are in place?

   Probe: Are there written policies on acceleration, grouping, grade skipping, early graduation, appeals*?*

   Probe: How are school programs aligned with division goals? What evidence supports your sense of how school programs are aligned in practice with division goals?

3. What types of models or options (i.e. cluster grouping, pull-out program) are used to provide services for gifted students?
   Probe: How do current services align with the division's definition of giftedness?

Probe: Are there specific grouping practices or expectations for differentiated curriculum for schools? Are these defined by policy?

Curriculum and Instruction

4. Describe the curriculum for gifted students K-5.
Probe: What variation in curricula do gifted students experience in their identified area of giftedness?

Probe: What evidence is there of enriched curriculum or acceleration options in content? How consistent is that between schools?

Probe: Describe how assessments are used to plan curriculum for gifted students. How are assessments used to demonstrate growth for gifted students?

5. How is instruction differentiated for gifted students?
Probe: How are learning experiences different for gifted students (i.e. variations in pace, depth, choice)?

Probe: How is learning in the regular classroom enriched (i.e. use of technology to create, focus on higher order thinking, research, advanced problem solving) for gifted students?

6. How do schools support and facilitate talent development of gifted students?
Probe: What activities in and outside the regular classroom provide enriched experiences to students (i.e. academic competitions, after-school enrichment activities)?

Probe: Describe how these activities provide a continuum of services to support talent development.

7. How well do you think the current program is working in meeting the needs of gifted students in the division?
Probe: What types of instructional models, curriculum variation or other activities seem to work well and why? Which don't work well and why?

Probe: What do you look for as evidence that the needs of gifted students are met?

Probe: What factors exist in the division, if any, do you feel constrain meeting the needs of gifted students?

Probe: If you could change one thing about the gifted program for Augusta County, what would it be?

8. What support is provided to teachers regarding the education of gifted students?

   Probe: What professional development activities do you feel are needed? Would be most helpful for general education teachers? For specialists?
   Probe: Are there other resources you feel are needed? Would be significantly beneficial?

9. What should I have asked you but didn't think about?
   Probe: Provide any other input you feel would be helpful to the division in developing the local plan for gifted.
   Probe: Describe any specific concerns you feel the division needs to address, if any, in order to better help gifted students reach their potential.

Appendix G

Document Review Protocol

Document #:
Document Source:
Date Received:

Name and Description of Document:

Intended Purpose and Audience for which document is associated:

Date Document was published:
Importance of document:

Brief Summary of Document Content:

APPENDIX H

List of Codes

CATEGORY	CODE	DEFINITION	REFERENCE TO CONCEPTUAL FRAMEWWORK
Demographics			
Participant • Observed Teacher • Surveyed Teacher • Gifted and Talented Coordinator • School Administrator • Division Instructional Supervisor	DEM- OTCHR DEM -STCHR DEM - GTC DEM -ADMIN DEM -DISUP	Facts regarding participants substantiated by data	Context for needs assessment
Definition of Gifted			
Defined	DG - DEF	Reference to division's definition of giftedness	Description of hypothesized definition giftedness
Gifted Program Goals			
Defined	PG - DEF	Reference to division's gifted program goals	Description of hypothesized goals of gifted program
Assumed • Gifted and Talented Coordinator • School Administrator • Division Instructional Supervisor	PG-OBV-GTC PG – OBV-ADMIN PG – OBV-DISUP	Reference to participant's understanding of program goals	Description of observed goals of gifted program
Program Design & Delivery			
Content Acceleration	SD-CTACCL	Reference to or use of content acceleration	Description of services delivered by gifted program
Grade Level Acceleration	SD - GRACCL	Reference to or use of grade acceleration	
Cluster Grouping (school)	SD - CG		
Flexible Grouping (classroom)	SD - FG	Reference to or use of flexible grouping	

Enrichment Activities – inside regular school hours	SD-EA	Reference to or use of enrichment activities	
Enrichment Activities – outside regular school hours	SD-EA	Reference to or use of enrichment activities	
Curriculum and Instruction			
Differentiated Curriculum • Student readiness • Interest	CI-DCSR CI-DCI	Reference to or use of differentiated curriculum and/or materials	Description of curriculum and instruction provided to gifted students
Differentiated Instruction • Student readiness • Interest	CI-DCSR CI- DII	Reference to or use of differentiated instructional strategies	

Appendix I

System Levels Analysis of RRPS K-5 Gifted Program

Level	**Acceleration by content and grade**	**Flexible Grouping**	**Cluster Grouping**	**Enrichment**	**Differentiated Curriculum and Instruction**	**Researcher Comments**
General Education Classroom Teacher						
Gifted and Talented Coordinator						
School Administrator						
Division Instructional Supervisor						

Appendix J

* "Aligned" is defined in terms of the use of similar language and concepts which define or describe the components included in the gifted program and does not presume that the implementation of the program in practice is consistent with the written plan.

VDOE Guide for Local Plans for Education of the Gifted (Virginia Regulations Governing Educational Services for Gifted Students)	**Evidence-Based Practices (NAGC)**	**Local Plan for Gifted (RRPS)**	**Discrepancies**
	Programming	**Program Design and Delivery**	
	5.1. Variety of Programming.		
Identified gifted students shall be offered placement in an instructional setting that provides:1) appropriately differentiated curriculum and instruction by personnel trained to work with gifted students 2) monitored and assessed student outcomes which are reported to parents (8 VAC20-40-20)	Multiple alternative approaches to accelerate learning.	Acceleration is possible in content area and grade level and is based on individual needs.	No specific policies regarding acceleration or other approached to accelerate learning are documented in Local Plan.
	Enrichment options to extend and deepen learning opportunities within and outside of the school setting.	Daily enrichment groups to differentiate language arts, math and science.	Aligned*
	Use multiple forms of grouping, including clusters, resource rooms, special classes, or special schools.	Cluster grouping is recommended. All classrooms have ability-leveled reading groups. In -class differentiation by regular classroom teacher: cluster, homogenously, heterogeneously, multi-age grouped	Aligned*

	Use current technologies, including online learning options and assistive technologies to enhance access to high-level programming.	-	No mention of use of technology to access higher level programming
	Support from administrators for gifted programs through equitable allocation of resources and demonstrated willingness to ensure that learners with gifts and talents receive appropriate educational services.	-	Administrator's role in gifted program is not addressed in Local Plan.
	5.2. Coordinated Services.		
Identified gifted students shall be offered placement in an instructional setting that provides:1) appropriately differentiated curriculum and instruction by personnel trained to work with gifted students 2) monitored and assessed student outcomes which are reported to parents (8 VAC20-40-20)	Plan, develop, and implement services for learners with gifts and talents with collaboration of educators in gifted, general, and special education programs, as well as those in specialized areas,	RRPS seeks to provide instructional opportunities through acceleration, enrichment and differentiation by classroom teachers, gifted talented coordinators, administrators and families.	Aligned*
	5.3. Collaboration.		

Identified gifted students shall be offered placement in an instructional setting that provides:1) appropriately differentiated curriculum and instruction by personnel trained to work with gifted students 2) monitored and assessed student outcomes which are reported to parents (8 VAC20-40-20)	Engage families and community members for planning, programming, evaluating, and advocating.	If a Local Advisory Committee is needed, then one will be assembled and would be composed of parents, teachers, administrators, and community members.	Minimal reference to engaging stakeholders.
	5.4. Resources.		
The comprehensive plan for the education of gifted students shall include:1) a statement of philosophy for gifted education and a local operational definition for giftedness; and 2) a statement of the division's education program goals and objectives for identification of services, curriculum and instruction, professional development. (8 VAC20-40-60)	Track expenditures at the school level to verify appropriate and sufficient funding for gifted programming and services.	-	Funding and resources are not specifically addressed in Local Plan.
	5.5. Comprehensiveness.		

Identified gifted students shall be offered placement in an instructional setting that provides:1) appropriately differentiated curriculum and instruction by personnel trained to work with gifted students 2) monitored and assessed student outcomes which are reported to parents (8 VAC20-40-20)	Develop thoughtful, multi-year program plans in relevant student talent areas, PK-12.	The program of differentiated curriculum and instruction is described by elementary, middle and high levels and is noted for general intellectual aptitude, specific academic aptitude and fine/performing arts.	Aligned*
	5.6. Policies and Procedures.		
The comprehensive plan for the education of gifted students shall include:1) a statement of philosophy for gifted education and a local operational definition for giftedness; and 2) a statement of the division's education program goals and objectives for identification of services, curriculum and instruction, professional development. (8 VAC20-40-60)	create policies and procedures to guide and sustain all components of the program, including assessment, identification, acceleration practices, and grouping practices, that is built on an evidence-based foundation in gifted education.	Policies and procedures for for students in K-5 are noted as : "Students in grades K-8 will have access to appropriate instruction through differentiated curriculum."	Policies and procedures are noted for identification but are not specific documented for other elements of the gifted education program.
	Curriculum and Instruction	**Program of Differentiated Curriculum and Discussion**	
	3.1. Curriculum Planning.		

8 VAC20-40-20 - Appropriately differentiated curriculum and instruction modified to accomodate the learning aptitudes of students in their indentified area of strength.	Use local, state, and national standards to align and expand curriculum and instructional plans.	-	Not addressed.
	Design and use a comprehensive and continuous scope and sequence to develop differentiated plans for PK-12 students with gifts and talents.	The program of differentiated curriculum and instruction is described by elementary, middle and high levels and is noted for general intellectual aptitude, specific academic aptitude and fine/performing arts.	Aligned*
	Adapt, modify, or replace the core or standard curriculum to meet the needs of students with gifts and talents and those with special needs such as twice-exceptional, highly gifted, and English language learners.	-	Twice-exceptional, highly gifted, and English language learners are not referenced in the Local Plan for the Gifted.
	Design differentiated curricula that incorporate advanced, conceptually challenging, in-depth, distinctive, and complex content for students with gifts and talents.	Gifted students require differentiated educational opportunities beyond those normally provided by the regular school program to realize their full potential.	Differentiation is noted many times in the Local Plan but is not defined or described in terms of content levels or challenge.

Identified gifted students shall be offered placement in an instructional setting that provides:1) appropriately differentiated curriculum and instruction by personnel trained to work with gifted students 2) monitored and assessed student outcomes which are reported to parents (8 VAC20-40-20)	Use a balanced assessment system, including pre-assessment and formative assessment, to identify students' needs, develop differentiated education plans, and adjust plans based on continual progress monitoring.	The division supervisor for gifted, principals, and professional staff will work with classroom teachers to determine assessment strategies for appropriately differentiated curriculum. Results are measured by universal assessments, products, performances, and/or portfolios.	Assessment strategies are noted they will be used but there is little description as to what and how.
	Use pre-assessments and pace instruction based on the learning rates of students with gifts and talents and accelerate and compact learning as appropriate.		
	Use information and technologies, including assistive technologies, to individualize for students with gifts and talents, including those who are twice-exceptional.	-	No mention of use of technology to access higher level programming
	3.2 & 3.3 Talent Development.		
Appropriately differentiated curriculum and instruction modified to accommodate the learning aptitudes of students in their identified area of	Design curricula in cognitive, affective, aesthetic, social, and leadership domains that are challenging and effective for students with gifts and talents.	-	No mention of use of curricula in other domains

strength. (8 VAC20-40-20)	Use metacognitive models to meet the needs of students with gifts and talents.	-	
	Select, adapt, and use a repertoire of instructional strategies and materials that differentiate for students with gifts and talents and that respond to diversity.	-	Responding to diversity is not mentioned in the Local Plan.
	Use school and community resources that support differentiation.	Guidance services addressing special needs of gifted in college/career counseling, small group sessions and individual counseling.	Aligned*
	Provide opportunities for students with gifts and talents to explore, develop, or research their areas of interest and/or talent.	Teacher provide advanced learners ongoing opportunities to investigate, research, and work independently through advanced study or independent projects.	Aligned*
	3.4. Instructional Strategies.		
Appropriately differentiated curriculum and instruction modified to accommodate the learning aptitudes of students in their identified area of	Use critical-thinking strategies to meet the needs of students with gifts and talents.	The sequential development of skills in critical thinking, creative thinking, problem solving, decision making and independent research... are emphasized for gifted learners.	Aligned*

strength. (8 VAC20-40-20)	Use creative-thinking strategies to meet the needs of students with gifts and talents.	
	Use problem-solving model strategies to meet the needs of students with gifts and talents.	
	Use inquiry models to meet the needs of students with gifts and talents.	
	3.5. Culturally Relevant Curriculum.	
	Develop and use challenging, culturally responsive curriculum to engage all students with gifts and talents.	Using culturally responsive curriculum is not mentioned in the Local Plan.
	Integrate career exploration experiences into learning opportunities for students with gifts and talents, e.g. biography study or speakers.	
	Use curriculum for deep explorations of cultures, languages, and social issues related to diversity.	
	3.6. Resources.	

Demonstrate familiarity with sources for high quality resources and materials that are appropriate for learners with gifts and talents.	Educator familiarity or knowledge of high quality resources/materials is not mentioned specifically in the Local Plan.